

**Masaryk University  
Faculty of Economics and Administration**



## **New Economic Challenges**

**2<sup>ND</sup> INTERNATIONAL PHD STUDENTS CONFERENCE**

**20. 1. – 21. 1. 2010**

**BRNO**

**Czech Republic**

Edited by: Mgr. Petr Červinek, Ing. Petr Musil, Ph.D.

Technical collaboration: Mgr. Petr Červinek

© Masarykova univerzita, 2010

ISBN 978-80-210-5111-9

The 2<sup>nd</sup> International PhD Students Conference – New Economic Challenges was held Under the Auspices of the Dean of the Faculty of Economics and Administration of Masaryk University. The two-day conference served as a forum to present research papers and gave PhD students the opportunity to network.

#### Scientific Committee

Chairman: doc. Ing. Martin Svoboda, Ph.D.	Dean of the FEA MU
Members: prof. Ing. Ladislav Blažek, CSc.	Head of the Department of Corporate Economy, FEA MU
prof. Ing. Antonín Slaný, CSc.	Head of the Department of Economics, FEA MU
doc. Ing. Eva Horvátová, CSc.	KBaMF NHF EU Bratislava, Slovakia
doc. JUDr. Ivan Malý, CSc.	Head of the Department of Public Economics, FEA MU
doc. RNDr. Milan Víturka, CSc.	Head of the Department of Regional Economics and Administration, FEA MU
Ing. Petr Valouch, Ph.D.	Head of the Department of Finance, FEA MU

#### Organizing Committee

Chairman: Mgr. Josef Menšík, Ph.D.	Vice dean of the FEA MU
Members: Ing. Petr Musil, Ph.D.	Department of Economics, FEA MU
Mgr. Petr Červínek	Department of Finance, FEA MU
Ing. Petr Smutný, Ph.D.	Vice dean of the FEA MU
Ing. Petr Valouch, Ph.D.	Head of the Department of Finance, FEA MU
Ing. Zdeněk Tomeš, Ph.D.	Department of Economics, FEA MU
Ing. František Svoboda, Ph.D.	Department of Public Economics, FEA MU
Ing. Naďa Voráčová	Department of Research and Science, FEA MU
Ing. Luděk Benada	Department of Finance, FEA MU
Ing. Dagmar Linnertová	Department of Finance, FEA MU
Ing. Jan Krajíček	Department of Finance, FEA MU
Mgr. Jiří Poláček	Scientific Information Centre, FEA MU

#### Reviewers:

doc. JUDr. Ivan Malý, CSc., Ing. Petr Smutný, Ph.D., Ing. Vladimír Žítek, Ph.D.,  
Ing. Petr Musil, Ph.D., Ing. Zdeněk Tomeš, Ph.D., Ing. Petr Valouch, Ph.D.,  
Mgr. Petr Červínek

#### Partner of the conference:

SULKO s.r.o.



## CONTENTS

FINANCIAL MARKETS – THEORY AND PRACTICE .....	7
Bučková - Special purpose entities as a form of off-balance sheet financing.....	8
Erdős, Ormos, Zibriczky - Kernel Based Asset Pricing.....	16
Kaszuba - Emerging markets in East and Central Europe .....	24
Kiss - Venture capital and pension system.....	30
Linnertová, Málek - The comparison of the index investing with the active investing .....	35
Lyčková - Pension reform in the Czech Republic.....	41
Maťovčíková - The important issues of the conversion to the Euro in the Slovak Republic .....	47
Mozdiakova, Czudek, Chalupecka - Compulsory Release of Information Published on the Capital Market .....	54
Murawski - Corporate Social Responsibility in the international banking .....	63
Mužáková - The Analysis of Technical Reserves in the Frame of Czech Insurance Market .....	70
Pathirawasam - An Econometric Analysis of Stock Market Reaction to Abrupt Political Events: Emerging Market Evidence from India .....	78
Reuse - Distribution of Share and Bond Prices – an Analysis with the Kolmogorov-Smirnov and Jarque Bera test via MS Excel at the Example of the German REX and DAX .....	85
Šikulová, Mokrička - Pricing of Structured Products Using Visual Basic in Excel .....	92
Valová - Risk management – Basel II and Solvency II .....	96
ACCOUNTING AND TAXATION OF PROFIT AND NON – PROFIT SECTOR.....	101
Konečný - Company combinations in the view of IAS/IFRS .....	102
Kútna, Gyurian - Tax burden in the Slovak Republic and its comparison with other states of the European Union .....	107
Petrenko - Local Taxes and Fees in European Countries: Experience that could be used in Ukraine.....	112
Randová - Analysis of Potential Impacts of Locally Supplied Services Inclusion into Reduced VAT Rate on these Services Suppliers .....	119
Rubáková - Relation between Management Accounting and Controlling.....	125
REGIONAL DEVELOPMENT AND ADMINISTRATION – THEORY AND PRACTICE.....	133
Bojová - Measuring of Direct and Indirect Economic Contributions of Tourism in Australia .....	134
Čechovičová - Economic impacts of tourism sector on the economy of Switzerland.....	141

Horváth - Business Angels and Love Money Investors: Characteristics, Aims and Motivation .....	147
Luštický, Kysela, Slabá - Evaluation of the Internal Links in the Programme Documents.....	153
Pařil - Methods and Techniques of Measuring Human Life value .....	160
Uhnava, Zvara - Assumptions and Opportunities for Tourism Development .....	168
DEVELOPMENT OF PUBLIC SECTOR – THEORY AND PRACTICE .....	173
Ali Taha, Čverhová - Education of the employees – a path towards learning organization? .....	174
Hálová - Intergenerational Redistribution and Solidarity as an Integral Part of a Pension System .....	183
Kadeřábková, Pokorná - Time requirements of doctoral study programs .....	189
Krůtilová - The impact of out-of-pocket payments in health care on family budgets .....	194
Martišková - Is the State International Security Contribution a Matter of National Interest or a Matter of Financial Affordability? .....	200
Pěkná - Participation and electronization in public administration.....	208
ECONOMIC THEORY, ECONOMIC POLICY AND ECONOMIC HISTORY .....	212
Balcarová - The generalized double diamond model – application for Czech Republic and Slovakia.....	213
Borcuch - Homo sociologicus vs. homo economicus – a comparison.....	220
Bryša - Agents' Behavior and Efficient Market Theory.....	225
Dzik - Price convergence on the European Union market, based on economic theory of the law of one price.....	231
Jašová - Comparison of the trade-off between unemployment and inflation rate in a broader as well as narrower conception as applied in the situation in the Czech Republic .....	238
Kotková - Czech outward foreign direct investments.....	246
Krčál - A Prospect Theoretical Model of Competition and Innovation.....	250
Krčál - Competition and Profitability.....	258
Staněk - Double Coincidence of Wants and the Essentiality of Money .....	265
BUSINESS ECONOMICS, MANAGEMENT AND MARKETING.....	273
Asamoah - Creating and managing global brand architecture .....	274
Belorid - Airport Charges and Government Taxes Benchmarking Methodology .....	279
Birtu - Expanding the pool of knowledge: Towards mutual competitive advantage.....	284
Flak - An example of project management in electronics.....	291
Franek - On-coming new opportunities and applications of web-based social networks in knowledge management .....	298

Gubíniová - Changes in the macro marketing environment and implementation of the marketing mix in the clothing industry .....	305
Hang - Knowledge management enablers in developing countries business management: toward the institution-based view .....	311
Hecker - Specific internal success factors for German direct investment in China.....	319
Hoffmann - The ROI methodology as an universal procedure of measuring the effectiveness of human resources' investments .....	329
Janicki - Crisis management within the confines of project .....	336
Kotulič - Innovation classification and corporate innovation recording system.....	341
Lesňáková - Financial management in the time of downturn .....	348
Lovas - Hungarian corporations in global perspectives – An analysis of strategic opportunities and threats .....	354
Matějovská - Characteristics of small and medium-sized innovative enterprises and problems affecting their activities .....	361
Mikus - Competitiveness of Czech cooperative.....	368
Molochny - Duality and Coexistence in Business Environment.....	374
Pospíšil - Post - modern marketing and marketing communications.....	380
Pulaj, Cipi - The necessity of information and communication technology to increase the competition of albanian SMEs .....	386
Pyszka - Outplacement as a management tool in the area of layoffs.....	392
Stuchlík - The role of M&A in Chinese expansion to the Czech Republic .....	399
Szűcs, Csapó - The product is better when it is branded.....	404
Tišlerová - The main pillars of the CRM .....	411
Urbancová - Knowledge Continuity and Knowledge Management .....	416
Zhang - The influence of digital technology on creative industries: An analysis based on value chain .....	421

# **FINANCIAL MARKETS – THEORY AND PRACTICE**

# **SPECIAL PURPOSE ENTITIES AS A FORM OF OFF-BALANCE SHEET FINANCING**

**Veronika Bučková**

## **ANNOTATION**

The paper is focused on special purpose entities as a form of off-balance sheet financing. It examines special purpose entities as a form of off-balance sheet financing, their characteristics and reasons for their creation. Furthermore, it is engaged in the possibilities of consolidation of SPE. The last part is devoted to global securitization and contains some facts about structured product market.

## **KEY WORDS**

Off-balance sheet financing, special purpose entity, risk transfer, securitization, consolidation of SPE

## **INTRODUCTION**

Besides a direct financing a company can use an indirect form of financing, called off-balance sheet financing. This represents a specific type of financing that does not influence the balance sheet of a company. There are many forms of financing in which capital expenditures are kept off of a company's balance sheet. A common form of off-balance-sheet financing is an operating lease. The asset itself is not kept on the balance sheet of the user (it remains on the balance sheet of the owner, i.e. the lessee). Thus, we talk about the off-balance sheet financing.

In practice, especially in US but also in other countries, the off-balance sheet financing is made by special entities created for a specific purpose, called special purpose entities.

Special purpose entities play an important role in company financing, especially in US and other developed countries. They have become an intermediary enabling some companies (mainly large banks) to transfer their risks to other participants of the market. However, their reputation worsened after the financial crisis had begun in 2007.

## **AIM AND METHODOLOGY**

The aim of the paper is to describe the principles of off-balance sheet financing in the form of special purpose entities and its characteristic features, to analyze the reasons for creation of special purpose entities and to find out the crucial differences between the accounting standards in the area of special purpose entities.

## **RESULTS**

Special purpose entity<sup>1</sup> (shortly SPE) can be described as a legal entity created at the direction of a sponsoring firm (sponsor, originator, seller or administrator). The sponsoring firm is usually a major bank, finance company, investment bank or insurance company. The SPE can be a part of a multinational company group. Very often the SPE is set up as a financing

---

<sup>1</sup> Sometimes called also „Special Purpose Vehicle“ (SPV) - used especially in european countries – or „Special Purpose Corporation (SPC).



company, factoring company or operational lease company. In some cases, the aim for creation of SPE is providing research and development in a specific area.<sup>2</sup>

The legal form of SPE differs across the jurisdictions. Even so, the typical SPE is created in the form of limited corporation in both Europe and the United States. Sometimes the SPE takes form of charitable trust, which is usual in Canada. Other common legal forms include a corporation, partnership, trust, unincorporated entity or others.<sup>3</sup>

There is a broad application of SPEs across financial sectors. SPEs are employed in programs for residential mortgage-backed securities (RMBS), commercial mortgage-backed securities (CMBS), collateralized debt obligations (CDOs), collateralized loan obligations (CLOs), asset-backed commercial paper (ABCP) programs, and structured investment vehicles (SIVs).<sup>4</sup> Besides the asset securitization, SPEs are largely used in products that transfer exposures to liabilities, especially bonds transferring catastrophic event risk to the capital markets.

The reason for creation of SPE is to fulfill some specific objectives. It can be used to fund a business project or simply do some operations outside of the original firm. The main goal pursuing by that is to transfer the risk from the firm to the SPE. This is put into practice by transferring firm's assets to the SPE.

There is an important difference in the case of the SPE and in the case of a subsidiary company. The SPE is distanced from the sponsoring company. If this condition were not met, it is only a subsidiary company. The distance guarantees that the performance of the SPE will not be affected by the development of the originating company and vice versa. This **bankruptcy remoteness** is a very important feature of an SPE. However, legal separateness of SPE is not well grounded worldwide. It is fairly well established in US, but is harder to achieve in countries where securitization is a relatively less developed. Not surprisingly, an amount of SPE is higher in US in relation with such countries. This goes along with the fact that US firms can more easily remove assets from their balance sheet, while European firms are much more limited.<sup>5</sup>

Many SPEs are set up as an "orphan companies", which means that they are owned by nobody (they have no owner). It is very important in the point of view of the possibility of bankruptcy. As orphan companies are bankruptcy remote from the sponsor or other companies of the group, the SPE can better achieve its goals. Orphan companies are created also for the reason of regulation avoidance.

### **The reasons for creation of SPE**

As I have already mentioned, the main and basic reason for establishment of SPE is the transferring the risk. Now, let's look at the uses of the SPE more closely. There are many uses of SPE. The most important are the following:

*Securitization.* SPE are usually used to securitize company's assets, especially various types of loans (mortgage loans, student loans, credit cards loans, etc.). The securitization through SPE is very often used by banks. In this way the banks issue asset-backed securities

---

<sup>2</sup> Jilek, J.: Finanční trhy a investování, pg. 42.

<sup>3</sup> Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities.

<sup>4</sup> Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities

<sup>5</sup> This will be discussed more closely later in the text.

(ABS), mortgage-backed securities (MBS), and others. Thanks to the transferring the loans from the banks to the SPE, the obligations are separated from the other obligations of the bank.

*Risk sharing.* By establishment the SPE, the risk is transferred from the originator (sponsor) to the SPE. The originator can transfer credit risk, interest rate risk and market risk. Thanks to SPEs, originator can finance some high risk projects. The risk is shifted to the investors who are willing to bear the risk. Instruments offering high level of risk transfer involve CDOs, CLOs or RMBS structures.

*Liquidity risk management.* To some degree, SPEs allow their originator to manage its liquidity risk by providing additional sources of funding. By creation SPE, the less liquid assets can be easily transformed into more liquid assets with relatively low costs.

*Reduction the cost of debt financing.* In the case of asset securitization, the company seeking financing establishes SPE. Then the assets are transferred from the originator to SPE. SPE issues obligations collateralized by this assets. Lenders evaluate the credit quality of the collateral and not the credit quality of the originator. Consequently, lower funding costs are possible.

*Asset transfer.* Some assets are non-transferable or very difficult to transfer. To do the transfer, many permits are needed. But things may be much easier by establishment an SPE. The assets can be easily transferred by selling the SPE which is the owner of the assets.<sup>6</sup>

*Financial engineering.* SPE is often used as a very important element of financial engineering. It can be an instrument for tax avoidance or manipulation of financial statements.<sup>7</sup>

*Regulatory reasons.* Among the objections achieved by having the SPE can be included the attempt to circumvent some regulatory restrictions. The moving assets off balance sheet could affect regulatory capital ratios.

*Property investing.* SPE can be used to lower the tax liability. In the case of different tax rates for capital gains and gains from property sales, it is very useful to establish the SPE owning the assets (property). Then by trading the SPE (instead of the property), it can bring more efficiency in the field of the tax liability.

### **Asset Transfers to SPEs**

The methods which can be used to transfer the assets from the company to the SPE involve<sup>8</sup>:

- *true sale* (there is a legal transfer or equitable assignment of the assets to SPE. It is often used in RMBS transactions),
- *sub-participation* (the SPE, as a sub-participant, typically makes a deposit with the originator. The originator is a borrower and pays the SPE interest and principal. This method is used usually by originating banks while financing of large loans),
- *synthetic risk transfer* (there is no transfer of assets from the originator to an SPE – neither legal nor economic. The risk transfer is done through a derivative contract. In

---

<sup>6</sup> For more details see the part „Asset transfers to SPEs“.

<sup>7</sup> Well-known example is Enron affair that was used to achieve the goal of manipulation of financial statements.

<sup>8</sup> Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities.

fact, the originator buys from SPE a credit protection. An example of this transaction can be an usage of credit default swaps),

- and others.

### **The accounting principles**

Why are SPEs so frequent in some countries (especially US) in relation with other countries? The reason is the different system of accounting. In some countries most transactions involving SPEs are treated as on-balance sheet, while similar transactions in other countries are treated as off-balance sheet. The removing assets from balance sheet and transfer them to off-balance sheet in the form of SPE is generally easier to achieve under US GAAP<sup>9</sup> than under IFRS<sup>10</sup>. However, in 2010 will become effective the new accounting rules US FASB<sup>11</sup> that will significantly reduce the ability of institutions to use SPEs to achieve off-balance sheet treatment.<sup>12</sup>

The main accounting issue raised by SPEs is whether they should be consolidated by the company. The consolidation of SPE depends on the accounting standards valid in the particular country. There are two current accounting treatments of SPEs – IFRS and GAAP.

#### *Consolidation of SPE under GAAP*

Till January 2003, a corporation under GAAP had to consolidate an SPE if it had a controlling financial interest. It means that the firm had a majority voting interest. Hence, not having the majority voting interest, consolidation was not necessary even if the corporation was the primary beneficiary of the SPE's activities.

Changes in regulations started after the Enron bankruptcy. It was clear that many SPEs were used to illegal purposes and Financial Accounting Standards Board (FASB) and Securities Exchange Commission (SEC) began modify accounting standards and regulation. On January 17, 2003 the FASB issued interpretation no. 46 (known as FIN 46) "Consolidation of Variable interest entities"<sup>13</sup> in which new rules and principles for consolidation were stated. If an SPE is consolidated, the fair market value of the assets is reported on the corporation's balance sheet as an asset.

In accordance to FIN 46 the consolidation is required if<sup>14</sup>:

- the corporation have enough equity at risk in the SPE
- the corporation is allowed to make decisions about the activities of the SPE by either voting rights or similar rights
- the corporation have an obligation to absorb a loss of SPE
- the corporation have the right to receive residual economic benefits expected from the activities of the SPE (if there are any).

The interpretation called **FIN 46** deals with consolidation of variable interest entities (i.e. special purpose entities). There are stated two key indices which tell what an SPE is. First, it

---

<sup>9</sup> Generally Accepted Accounting Principles.

<sup>10</sup> International Financial Reporting Standards.

<sup>11</sup> Financial Accounting Standards Board.

<sup>12</sup> Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities.

<sup>13</sup> Variable interest entity means a special purpose entity (in accounting jargon of FASB).

<sup>14</sup> Accounting Financial & Tax: Off Balance Sheet Financing with Special Purpose Entity (SPE)

is an inadequacy of capital; second, it is a lack of control by the apparent voting shareholders.<sup>15</sup> VIE satisfies at least one of the two features.

- Inadequacy of at-risk capital

This condition means that the equity investment at risk is not greater than the expected losses of the entity. The term “equity investment” involves for example the residual beneficiary capital (even in the case it is not entitled to voting rights). However, it doesn’t include amounts provided to equity owners (in the form of fees, contributions and others).

Similarly, the term “expected losses” need an explanation. Expected losses are considered to be losses in statistical or financial senses. Expected losses are the probability-weighted fair value of the deviations of various expected outcomes from their expected value.

The equity investment has to be higher than 10 % the total assets of the enterprise. Otherwise, it is inadequate.

- Absentee ownership

This condition means that the equity owners do not also really run the entity. They do not have the voting rights and financial control of the entity. If this condition is satisfied, we speak about a VIE (SPE).

Variable interest holder is a subject who bears expected losses or enjoys expected residual returns if they occur.

So, who will consolidate the VIE? The consolidation of VIE is based on variable interest instead of equity. The subject which has the majority of the variable interest consolidates the VIE. This subject is called the primary beneficiary. There can be a problem, if the variable interests are divided to more subjects, from whom one absorbs the expected losses and the second enjoys the residual returns. In this case the consolidation is based on expected losses.

*Consolidation of SPE under IFRS*

Under IFRS, the SPE is consolidated when the sponsor (originator) controls the SPE. Therefore, the SPE is consolidated in some of these conditions:

- the sponsor conducts the activities of SPE and obtains benefits from the operations of SPE,
- the sponsor has the decision-making power and is able to obtain most of the benefits,
- the sponsor has rights to obtain the majority of the benefits and so may be exposed to risks of SPE or its assets, or
- the sponsor retains the majority of the residual or ownership risks of SPE or its assets.

**Is the SPE good or not?**

There are many doubts about SPEs. The “goodness” or “badness” of SPE depends on the aims followed by its creation.

It is really not bad if the SPE was created to help finance some risky new projects (ventures). The risk is transferred from the parent company (sponsor) to another company (SPE) that is

---

<sup>15</sup> Vinod Kothari: FIN 46: consolidation of variable interest entities under US GAAPs

remote from the originator. Thanks to this, the sponsor and its shareholders are not threatened when the project goes wrong. If somebody is willing to bear the risk of the project, he can buy the shares of the SPE. For this purpose, SPE are often established by oil-drilling companies as a way to finance oil exploration projects.

However, some of the created SPEs are not with this fair purpose. Some of them are created for tax reasons and regulation avoidance. The establishment of the SPE is not illegal, but the law permits to use the SPE to achieve some illegal objections and that’s the problem. The regulation should go this direction and disallow these illicit and “bad” purposes.

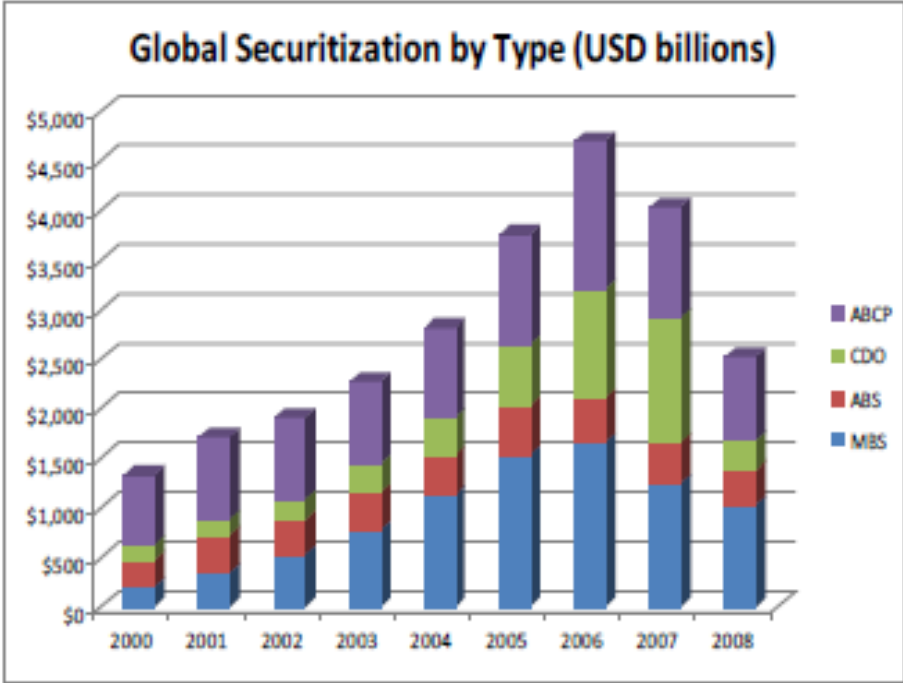
**SPEs and the market facts**

In mid-2007 the crisis in financial markets began. The causes include many factors such as macroeconomic factors, financial market factors and others.<sup>16</sup> However, one of the most important factors is the process of securitization through the SPEs.

The securitization is not a modern process invented in recent years. It has been used by mortgage lenders since the 1980s. The market expansion became lately. Since the mid-1990s the market had been growing till the mid-2000s when the demand for highly structured products was on the highest point. This led to development of new financial products, such as collateralized debt obligations (CDOs). CDOs were very attractive especially due to their ability to securitize debts and diversify away the risk.

Except the CDOs the market of MBS and ABS was expanding. Since 2000 the amounts of this structured products purchased had been steadily growing till 2006 when they reached the top. For more details see the Exhibit 1 below.

Fig. 1: Global Securitization by Type (\$ billions)



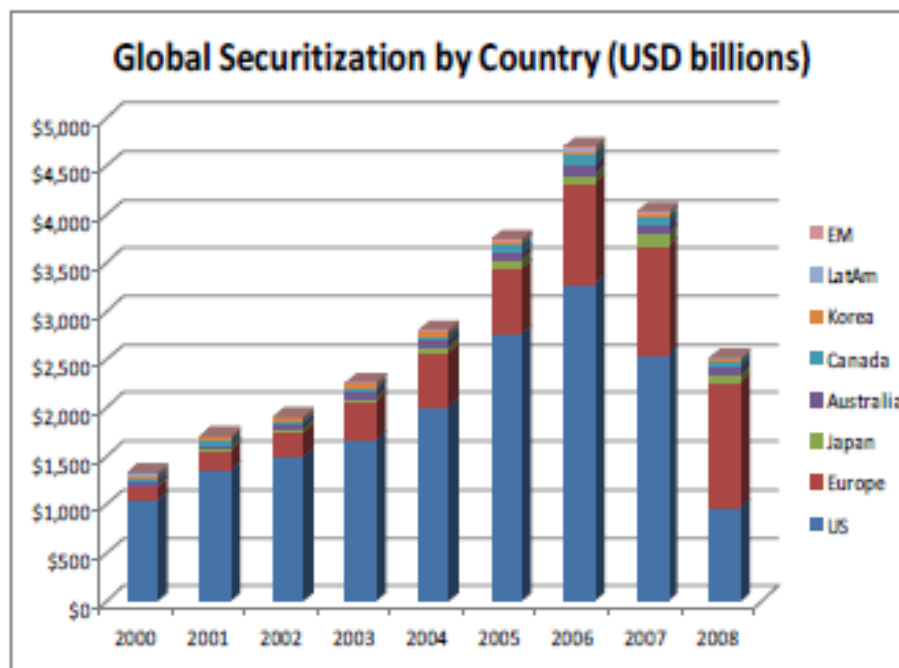
<sup>16</sup> Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities.

*Source: Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities*

Not surprisingly, till 2007 the leader of securitization through SPE was the US market. The next region with high developed securitization was the European region. In 2008, the roles were changed and the issuance of structured products in Europe had greater part of global securitization than US.

As we can see in Exhibit 2, the other countries have very small participation in global securitization.

Fig. 2: Global Securitization by Country (\$ billions)



*Source: Basel Committee on Banking Supervision: The Joint Forum. Report on Special Purpose Entities*

## CONCLUSION

In the area of off-balance sheet financing, the special purpose entities play a very important role. However, the possibilities and advantages offered by them were exploited and used for dishonest actions. The SPEs were used for securitization of poor-quality assets. This led to high losses and consequently to the insolvency of many market participants. These events undermined confidence in the technique of securitization. As of the beginning of the financial crisis in mid-2007 the structured finance market felt into deep mistrust. Due to the important role of SPEs in the process of securitization the SPEs do not have a good reputation.

To right their honor, it is required to make appropriate changes in regulation. The changes could take following directions<sup>17</sup>:

- to prevent officers of the parent from being officers of the off-balance-sheet subsidiary,
- to increase the percentage ownership by outside and non-affiliated companies, and

<sup>17</sup> Wayman, R.: Off-balance Sheet Entities – The Good, The Bad and The Ugly.

- to enforce disclosure rules so that investors can clearly understand the risk posed by off-balance-sheet companies.

## BIBLIOGRAPHY

- [1] Jílek, J.: *Finanční trhy a investování*. 1. release. Prague: GRADA Publishing, 2009. 648 pages. ISBN 978-80-247-1653-4.
- [2] Accounting Financial & Tax: *Off Balance Sheet Financing with Special Purpose Entity (SPE)*. [online]. From: <<http://accounting-financial-tax.com/2009/02/off-balance-sheet-financing-with-special-purpose-entity-spe/>>.
- [3] Basel Committee on Banking Supervision. The Joint Forum: *Report on Special Purpose Entities*. [online]. From: <<http://www.bis.org/publ/joint23.pdf?noframes=1>>.
- [4] Basel Committee on the Global Financial System. *Credit Risk Transfer statistics*. [online]. From: <<http://www.bis.org/publ/cgfs35.pdf?noframes=1>>.
- [5] Kothari, V.: *FIN 46: Consolidation of variable interest entities under US GAAPs*. [online]. From: <<http://www.vinodkothari.com/fin46vk.htm>>.
- [6] Wayman, R.: *Off-Balance Sheet Entities: The Good, The Bad and The Ugly*. [online]. From: <<http://www.investopedia.com/articles/analyst/022002.asp>>.
- [7] Investopedia: *Off-balance sheet financing*. [online]. <<http://www.investopedia.com/terms/o/obsf.asp>>.
- [8] Wikipedia: *Off-balance sheet*. [online]. From: <<http://en.wikipedia.org/wiki/Off-balance-sheet>>.
- [9] UBS: Annual Report 2008: Off-balance sheet. [online]. From: <[http://www.ubs.com/1/e/investors/annual\\_reporting2008/spr2008/0012.html](http://www.ubs.com/1/e/investors/annual_reporting2008/spr2008/0012.html)>.
- [10] Sarbanes Oxley. [online]. From: <<http://www.off-balance-sheet.com/SarbanesOxley.htm>>.

Ing. Veronika Bučková  
 Faculty of Economics and Administration of Masaryk University, Department of Finance  
 Lipová 41 a  
 Brno  
 v.buckova@mail.muni.cz

# KERNEL BASED ASSET PRICING

Péter Erdős – Mihály Ormos – Dávid Zibriczky

## ANNOTATION

We test the nullhypothesis of linearity of the Capital Asset Pricing Model (CAPM), we aim to test whether or not there is a linear relationship between risk and return (security market line) and between the return of a given stock and the return of the market portfolio (characteristic line). On the other hand, we question the validity of linearity when we derive the market risk measure. If we can reject the linearity of the characteristic line, new risk measures are required to derive. We apply our analysis on a random sample of 150 stocks of the Standard and Poor's large-, mid- and small cap components. We derive semiparametric risk measures since the linearity of the US stocks can be reject at every usual significance level. We show in our study that if the linearity of the characteristic line does not meet, the CAPM betas are significantly downward biased, thus the standard market risk measures cannot be used.

Keywords: asset pricing, kernel regression, risk measures, semiparametric models

## 1. INTRODUCTION

The standard asset pricing model (e.g. CAPM, Sharpe, 1964) tests decide on the validity of the model based on linear regressions which is a correct approach if the relationship between risk and return is indeed linear. If this assumption does not meet, then the estimated parameters by the Ordinary Least Squares (OLS) or by any other linear estimators are biased and inconsistent. The two estimated parameters of the characteristic line are the alpha and the beta; the former measures the abnormal return (see Jensen, 1968), the later measures the relevant risk of a given asset. As the CAPM states if the capital market is in equilibrium, the securities gain returns according to their market risk, that is, the expected value of the abnormal return is equal to zero. We approach the sketched questions from two different directions; first, we investigate the nullhypothesis of linearity in the case of the two relationships which can be derived from the CAPM; second, we consider deriving new risk measures („alpha” and „beta”) if we reject the nullity. The later is needed because if the linearity does not hold in general, the linear risk measures are false and the conclusions based on them are questionable.

We employ our analysis on a random sample from the S&P (Standard & Poor's) large-, mid- and small cap components (S&P 500, S&P MidCap 400, S&P SmallCap 600), for the period 1999-2008. We obtain the daily returns from Center for Research in Security Prices (CRSP) database. We pick 50-50-50 randomly chosen stocks from each size index. The linear nullity of the characteristic line as a general rule for the whole market can be rejected at any usual significance level. We estimate four security market lines; one-one for the chosen components of each index and another one for all companies. The linearity of the security market lines cannot be rejected. The slope of the security market line for the S&P small companies is negative, that is our results prove the small company effect (see, e.g., Banz, 1981; Basu, 1983; Fama and French, 1995). It is well-documented in the financial literature that small stocks have higher risk and because of it they provide higher expected return, that is the size of the company is a risk factor besides the market risk. It is striking that the linearity of the characteristic line of large cap firms can be rejected at any usual significance level. Since the linearity of the characteristic line of small and mid companies cannot be rejected at 95% significance level, the small company effect does not explain the fallacy of linearity.



## 2. APPLIED METHODOLOGY

*The difference between linear and non-linear regression and the goodness of fitting*

Assume two random variables which are in a relationship, that is one has explanatory power on the other one. In the most general form, the regression is a conditional expected value in the form

$$E(Y|X) = m(X) \quad (1)$$

where  $Y$  is the dependent and  $X$  is the explanatory variable. Assuming linear relationship, simple linear estimators can be applied (e.g., OLS Ordinary Least Squares, ML Maximum Likelihood, GMM – Generalized Method of Moments); however, if linearity does not hold the linear estimators induce biased and inconsistent parameter estimations. We need a distribution free, robust estimator for the tests sketched in the introduction section which induces precise estimations even in non-linear environment. If we assume that Eq. (1) is linear, the CAPM is

$$Y_{i,j} = \hat{\alpha}_j + \hat{\beta}_j X_{i,j} + \hat{\varepsilon}_{i,j} \quad i = 1, 2, 3, \dots, n; \quad j = 1, 2, 3, \dots, N, \quad (2)$$

where  $\hat{\alpha}_j$  and  $\hat{\beta}_j$  are the intercept and slope coefficients of the  $j$ th security respectively and the  $\hat{\varepsilon}_{i,j}$  is the residual series of the regression.  $Y_{i,j}$  and  $X_{i,j}$  are the risk premium of the  $j$ th security and the market in period  $i$ , respectively.

We do not assume linear relationship between the variables, that is the linear regression is not a suitable method for estimating Eq. (1). Nadaraya (1964) and Watson (1964) derive a kernel based regression estimator, which can estimate Eq. (1) without assuming any specific form of the relationship between the variables. The Nadaraya-Watson estimator is

$$\hat{m}_h(x) = \frac{1}{n} \sum_{i=1}^n W_{hi}(x) Y_i \quad (3)$$

where  $W_{hi}(x)$  is the so-called Nadaraya-Watson weighting function, that is

$$W_{hi}(x) = \frac{K_h(x - X_i)}{\frac{1}{n} \sum_{j=1}^n K_h(x - X_j)}, \quad (4)$$

where  $K_h(u)$  is the kernel function,  $h$  is a properly selected bandwidth. The estimation at each  $x$  is the average of  $Y_i$  observations in window  $h$ . The Nadaraya-Watson estimator determines the weighting vector based on the distance, that is the weight of  $Y_i$  is proportional to the distance  $x - X_i$ . If an  $X_i$  observation is far from the observation being estimated, the weight of  $Y_i$  will be smaller and vice versa. We need a measure to decide on which model estimates the best. To sustain comparability, we use the  $R^2$  which is frequently used to measure the goodness of fitting of linear regression. By definition, the  $R^2$  is

$$R^2 \equiv 1 - \frac{SSE}{SST}, \quad (5)$$

where  $SSE = \sum_{i=1}^n (Y_i - \hat{m}_h(X_i))^2$  and  $SST = \sum_{i=1}^n (Y_i - \bar{Y})^2$ . This definition is equivalent to the  $R^2$  used for linear regression; the difference is only that there is the kernel estimation,  $\hat{m}_h(X_i)$  instead of the parametric estimation,  $\hat{\alpha} + \hat{\beta}X_i$  in  $SSE$ . Since we calculate both measures in the same way, they can be compared.

*Hypothesis testing and test statistic*

We test whether or not the CAPM linear in the cases of the characteristic line and the security market line. We test the null hypothesis of linear regression against the kernel regression alternative. Let us assume the parametric model in the form

$$E(Y | X = x) = m_\theta(\bullet), \quad (6)$$

where  $\theta$  is a vector of parameters. We can draw our null hypothesis as the relationship between  $X$  and  $Y$  is parametric, that is  $H_0 : m(x) \equiv m_\theta(x)$ , which is tested against the  $H_1 : m(x) \neq m_\theta(x)$  alternative hypothesis. The  $\hat{\theta}$  vector is the estimation of the  $\theta$  parameter vector which can be estimated by standard parametric regressions.  $m(x)$  is unknown, so we use  $\hat{m}_h(x)$  to approximate it. If we cannot reject  $H_0$ , i.e. the kernel regression does not differ significantly from the parametric one. The difference between the two estimations can be measured by

$$\sqrt{h} \sum_{i=1}^n \{\hat{m}(X_i) - m_\theta(X_i)\}^2 w(X_i). \quad (7)$$

While  $m_\theta(\bullet)$  is asymptotically unbiased and the speed of convergence of the parameters is  $\sqrt{n}$ , the nonparametric estimation is biased because of smoothing and the speed of convergence is only  $\sqrt{nh}$ . Härdle and Mammen (1993) introduce artificial bias into the parametric estimation, they use kernel weighted regression in the form

$$\hat{m}_\theta(X_i) = \frac{\sum_{j=1}^n K_h(X_i - X_j) m_\theta(X_j)}{\sum_{j=1}^n K_h(X_i - X_j)}, \quad (8)$$

instead of  $m_\theta(x)$  and based on Eq. (8) they derive

$$T = \sqrt{h} \sum_{i=1}^n \{\hat{m}(X_i) - \hat{m}_\theta(X_i)\}^2 w(X_i) \quad (9)$$

test statistic. The distribution of  $T$  is unknown; however, it can be determined by wild bootstrap approach. The  $w(X_i)$  is a trimming function as previously defined. Hereinafter the  $w(X_i)$  is equal to one at each point.

#### *Wild bootstrap and linearity test*

Härdle and Mammen (1993) use the wild bootstrap approach for nonparametric hypothesis testing. The method generates new  $Y_i^*$  samples based on the residuals of the linear regression. The approach assumes that the first three moments of the residuals of the original and the new regressions are equal. The process of the hypothesis testing

- (1.) Compute the value of the  $T$  statistic defined in Eq. (9).
- (2.) Generate the residual series of the parametric regression.
- (3.) Determine  $\varepsilon_{i,j}^*$  based on the golden ratio, that is let  $\varepsilon_{i,j}^* = \frac{1-\sqrt{5}}{2} \hat{\varepsilon}_{i,j}$  with probability  $q$  and  $\varepsilon_{i,j}^* = \frac{1+\sqrt{5}}{2} \hat{\varepsilon}_{i,j}$  with probability  $1-q$  where  $\hat{\varepsilon}_{i,j}$  is the residual of the regression defined in Eq. (2).
- (4.) Generate for each  $j$  stock new  $\{(Y_{i,j}^*, X_{i,j})\}_{i=1, \dots, n}$  samples based on  $Y_{i,j}^* = m_\theta(X_i) + \varepsilon_{i,j}^*$ .
- (5.) Compute the  $T^*$  test statistic, that is  $T^* = \sqrt{h} \sum_{i=1}^n \{\hat{m}(X_i) - Y_i^*\}^2$ .
- (6.) Generate  $n_{boot}$  different samples repeating steps (3.)-(5.).
- (7.)  $H_0$  cannot be rejected if  $T < P_{(1-\alpha)^*100}(T^*)$ , that is  $T$  is smaller than a suitable quantile of  $T^*$ .

In the introduction we state that the CAPM assumes linearity. We aim to test the linearity of the security market line and the characteristic lines of each stock. Supposing that the investigated lines are adequate in describing the relationships, the expected return market

risk and the expected risk premium expected market risk premium are linearly related. In this case the use of linear regression is the most practical since parameters can be estimated, for example, by OLS which requires low computational capacity. Applying linear regression, the Eq. (6) is in the form

$$m_{\hat{\theta}}(x) = \hat{\alpha} + \hat{\beta}x \quad (10)$$

Substituting Eq. (8) and (10) into Eq. (9) the  $T$  statistic is

$$T = \sqrt{h} \sum_{i=1}^n \left\{ \frac{\sum_{k=1}^n K_h(X_i - X_k) Y_i}{\sum_{k=1}^n K_h(X_i - X_k)} - \frac{\sum_{k=1}^n K_h(X_i - X_k) (\hat{\alpha} + \hat{\beta} X_k)}{\sum_{k=1}^n K_h(X_i - X_k)} \right\}^2 w(X_i), \quad (11)$$

where  $w(X_i) = 1$  for each  $i$ . The testing procedure is according to the previously presented seven-step hypothesis testing. If the null hypothesis is rejected, the linear estimators cannot be used for parameter estimation since parameters would be biased and inconsistent. In this case we have to use other procedures.

### 3. RISK AND PERFORMANCE MEASUREMENT

According to the CAPM, in a linear world, the risk of a given security can be measured by the slope coefficient of the characteristic line, that is by the beta. The abnormal return, the Jensen (1968) alpha is the intercept of the same line.

*“Beta” estimation “Alfa” estimation*

The relevant, non-diversifiable risk can be measured linearly by  $\hat{\beta}$ , that is the slope of the characteristic line. In the case of non-linearity, this beta estimation cannot be used, so we approximate the market risk by semiparametric methods. Härdle et al. (2004) show that  $\hat{\beta}^*(x) = (\hat{\beta}_0(x), \hat{\beta}_1(x), \dots, \hat{\beta}_p(x))^T$  can be estimated by minimizing

$$\varepsilon(x) = \sum_{i=1}^n \left\{ Y_i - \hat{\beta}_0 - \hat{\beta}_1(X_i - x) - \dots - \hat{\beta}_p(X_i - x)^p \right\}^2 K_h(x - X_i). \quad (12)$$

This is the Weighted Least Squares (WLS) estimator where the weights defined in Eq. (4). In WLS sense, the semiparametric beta estimation is

$$\hat{\beta}^*(x) = (X^T W X)^{-1} X^T W Y, \quad (13)$$

where  $X$  is the data matrix and,  $p$  is the power of the regression,  $Y$  is the dependent variable vector and  $W$  is the Nadaraya-Watson weighting matrix. The estimation defined in Eq. (13) is called local polynomial regression (see Härdle et al., 2004). The  $\hat{\beta}^*(x)$  vector has as many elements as the power of the estimated equation, thus, for example,  $\hat{\beta}_0^*(x)$  is the local constant estimation of the  $\hat{m}_h(x)$  regression function, which is itself the Nadaraya-Watson kernel regression.  $\hat{\beta}_1^*(x)$  approximates the derivative of  $m(x)$  on which the average slope can be determined. The CAPM is a linear model, thus it assumes the power of the regression is one so we take the power of the polynomial regression one and estimate the „beta” semiparameter this way. Blundell (1991) shows that the „beta” is simply the expected value of the derivative estimation, that is

$$\hat{\beta}^* = E(\hat{m}'_h(x)) \approx \frac{1}{n} \sum_{i=1}^n \hat{\beta}_1(X_i). \quad (14)$$

Eq. (14) is adequate for estimating market risk even if the linearity does not hold. The advantage of this procedure is that it also considers cases if the linearity is not valid only over certain intervals; it is not necessary that the risk of a given asset is constant under any circumstances, it makes possible to estimate extreme risk under extreme circumstances, thus this risk measure is more realistic than the simple CAPM beta.

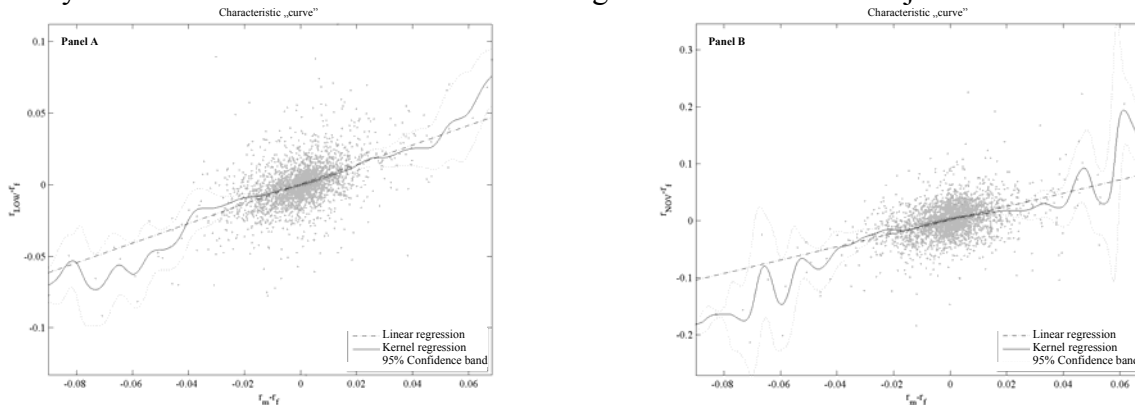
Jensen (1968) measures the difference between the normal return and the realized return by the intercept of the characteristic line. If the linearity does not hold, this approach cannot be used since the estimated alpha would be biased and inconsistent. Similarly to the derivative estimation, we derive a semiparametric measure. The average performance of an asset can be determined by the surplus over its risk-adjusted return (calculated by the CAPM substituting the semiparametric beta), this is called „alpha” or semiparametric alpha, that is

$$\hat{\alpha}^* = E(\hat{\alpha}^*(x)) \approx \frac{1}{n} \sum_{i=1}^n (Y_i - \hat{\beta}^* X_i), \quad (15)$$

where  $\hat{\beta}^*$  defined in Eq. (14). The Jensen alpha is an adequate performance measure only if the characteristic „curve” is over/under the theoretical characteristic line exactly by alpha, which is true only if the linearity holds. On the other hand Eq. (15) estimates the abnormal return at each point which can vary point to point and the average performance is the mean of the point estimations.

#### 4. RESULTS

We present our results on the randomly chosen Lowe’s Companies Inc. Figure 4 Panel A shows the characteristic line of the Lowe’s Inc. The bold curve is the kernel regression defined in Eq. (3), the dotted-dashed line is the linear regression defined in Eq. (2), the dotted curves are the confidence band of the kernel regression at 95% level. The  $R^2$  of the kernel regression is almost 4% higher (0.369 vs. 0.356-tal), the alphas are significantly not different (they are the same up to four decimals); however, the linear beta is significantly downward biased (1.15 vs. 1.09). We cannot reject the linearity of the characteristic line of the Lowe’s Inc., which result is also maintained by the 95% confidence band. On the other hand, the linearity of the National Oilwell Varco Inc. in Figure 1 Panel B can be rejected at 95% level.



**Figure 1 The characteristic curve of the Lowe’s Companies (A) and the National Oilwell Varco (B)**

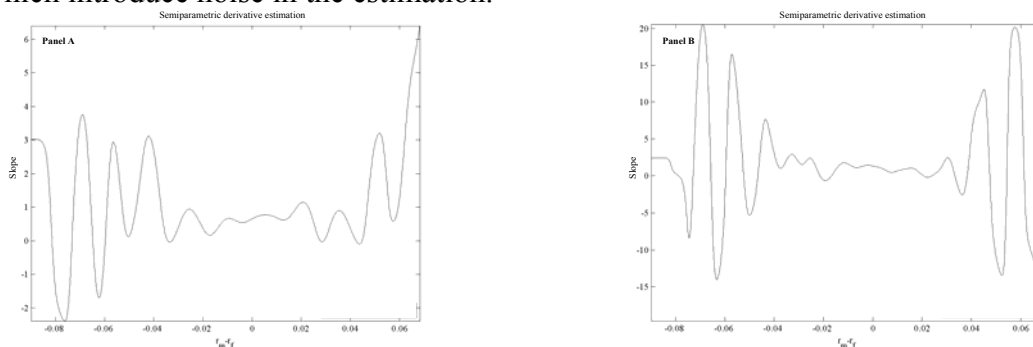
We apply the above calculations for all the 150 randomly selected stocks in our database. The results are divided into three parts based on the market capitalization: large-, mid- and small cap. The average  $R^2$  is higher for the kernel regression in all three segments. Considering the large cap stocks, the linearity of the characteristic lines can be rejected in 9 cases out of 50 at 95% significance level. This result is significant on which we can reject the linear relation between the returns of S&P 500 components and the market return. In the case of mid- and small capitalization stocks we can reject the linearity of the characteristic line in two-two cases which means we cannot reject the nullhypothesis. However, we have to note that at 94% confidence level the linearity can be rejected also for the small and mid cap equities. All together in 13 cases (8.7%) out of 150 we can reject the nullhypothesis, that is at 95% confidence level the linearity of the characteristic lines of US stocks can be rejected

We reject the linear nullhypothesis at 18% of the S&P 500 companies and at 8.7% of all the companies, in these cases the parameters estimated by linear regression are biased, thus the market risk („beta”) and the abnormal return („alpha”) should be estimated by

nonparametric methods. The parametric and semiparametric alphas are not significantly different; however, the average difference between linear and kernel betas is 11% which is significant. The linear characteristic line of mid- and small cap firms cannot be rejected, thus linear regression can be used. The abnormal returns of large cap stocks estimated by both methods do not differ significantly; the average alphas of those stocks which exhibit non-linearity are 0.05 vs. 0.05 and which exhibit linearity are 0.04 vs. 0.04. However, the average nonlinear kernel betas are significantly higher than the OLS estimated (1.13 vs. 1.21) while if the linearity holds there is not such a significant difference (0.90 vs. 0.92). There is no significant difference between alphas of mid cap stocks, if linearity can be rejected 0.14 vs. 0.13 and if cannot be rejected, they are the same (0.05). The betas are different, if linearity does not hold, they are 1.72 vs. 1.39; however, if we are not able to reject the linearity, there is no significant difference (0.93 vs. 0.94). In the case of small firms, the average alphas do not differ if linearity holds (0.07); however, betas are slightly different, 1.00 vs. 0.91. If we reject the linearity, alphas are still the same on average (0.08) and betas do not differ significantly (1.33 vs. 1.34).

Summarizing the results of parameters estimation, we can argue that the kernel and the OLS alphas are almost the same; it does not matter whether or not the linearity holds. On the other hand, the OLS parameter estimation is significantly downward biased when the linearity of the characteristic line can be rejected. The average beta is inversely related to firm size confirming the small firm effect (see, e.g., Banz, 1981; Basu, 1983). Those stocks which feature nonlinear characteristic curve have higher betas which are a sign that extremes cause the invalidity of linearity since outliers raise the risk; on the other hand, the extremes are hard to be explained by the market inducing nonlinearity. It is a striking result that if linearity can be rejected, the difference in betas estimated by both methods is not the largest among small firms but among mid caps; however we have to note that in the database there are only two mid cap stocks whose characteristic curve exhibit nonlinearity. If linearity can be rejected the difference is also significant at large cap stocks which along with the previous result indicate that linearity is not connected with firm size.

Figure 2 shows the derivative estimation of the characteristic curve of Lowe's Inc. in the function of the market risk premium. It can be seen that the estimated relevant risk is not constant, it behaves very volatile at the tails, in addition, on the positive tail the risk rises along with the market risk premium. Figure 2 Panel B shows the derivative estimation of the National Oilwell Varco Inc. which is randomly selected from those stocks which have nonlinear characteristic curve. The estimated market risk is similar to the one in Panel A; under normal circumstances, the beta is constant; however, under extreme circumstances, the estimation is very volatile. The „beta” is constant at the central part of the distribution maintaining the CAPM; however, at the tails behaves differently. The non constant risk estimation has several reasons. First, it can be imagined that linearity does not hold at the tails causing nonconstant derivative estimation. Second, the number of observations is low at the tails which introduce noise in the estimation.



### Figure 2 Semiparametric derivative estimation.

Figure 3 Panel A shows the performance estimation of Lowe's Inc. in the function of the market risk premium. Under normal circumstances, the „alpha” is stable and close to zero; however, the security reacts differently to the extreme negative and positive movements of the market. The stock price can overreact the market movements on the extreme negative side inducing significant negative „alpha”; however, on the positive tail we measure significant positive performance, the bigger the extreme market movement, the larger the abnormal return is. We have to note that the regression estimate less precise at the tails, since the probability of extreme movements is relatively low, the probability of occurrence declines departing from normal level of market movements. Figure 3 Panel B shows the performance estimation of National Oilwell Varco Inc. The results are similar in the case of the Lowe's Inc., under normal circumstances, the „alpha” is relatively stable and significantly not different from zero; while under extreme circumstances, the performance is significantly negative at the negative tail and significantly positive on the positive tail. This result has an important notice for the mutual fund industry; managers can beat the market only when extreme market movements occur.

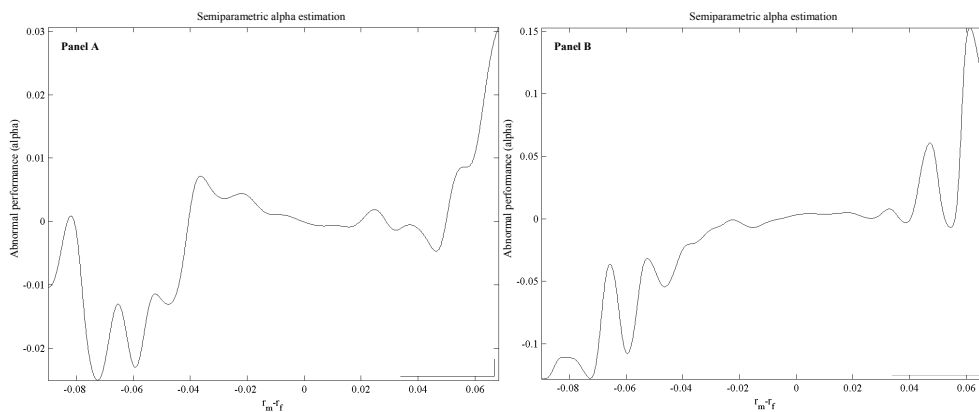


Figure 3 Semiparametric alpha estimation

We use the semiparametric betas as explanatory variable and the average daily returns as the dependent variable to estimate the security market lines. The mid cap security market line has the highest slope coefficient (0.0407), the slope of the large cap line is very small (0.0081), the curve is almost flat. The slope of the security market line estimated for S&P SmallCap 600 stocks is negative (-0.0344), that is larger risk would induce smaller expected return. This result is connected to the small firm effect; small firms gain relatively large expected return (see, e.g., Banz, 1981; Basu, 1983; Fama and French, 1995; 1996). The security market line estimated for all the 150 companies in our database has a slope coefficient of 0.0085 which is still very flat. Applying wild bootstrap linearity test for security market lines and we conclude that linearity cannot be rejected at any usual significance level.

## 5. CONCLUDING REMARKS AND FUTURE RESEARCH PURPOSE

Based on our results, the linearity of the characteristic line can be rejected in certain cases so the standard linear estimators cannot be used for parameter estimations of market risk and performance. We propose using semiparametric approaches for estimating „alphas” and „betas” since these methods provide more precise parameter estimation under nonlinearity. As a future research project, the analysis should be extended with multifactor models.

## REFERENCES

- Blundell, R. - Duncan, A. [1991]: Kernel regression in empirical microeconomics. *Journal of Human Resources*, 33. 62-87.
- Banz, R.W. [1981]: The relationship between return and market value of common stocks. *Journal of Financial Economics*, 9. 3-18.
- Basu, S. [1983]: The relationship between earnings yield, market value and return for NYSE common stocks: Further evidence. *Journal of Financial Economics*, 12. 129-156.
- Fama, E. F. - French, K. R. [1995]: Size and book-to-market factors in earnings and returns. *The Journal of Finance*, 50. 131-155.
- Fama, E. F. - French, K. R. [1996]: Multifactor explanations of asset pricing anomalies. *The Journal of Finance*, 51. 55-84.
- Härdle, W. - Mammen, E. [1993]: Comparing nonparametric versus parametric regression fits. *The Annals of Statistics*, 21. 1926-1947.
- Härdle, W. - Müller, M. - Sperlich, S. - Werwatz, A. [2004]: *Nonparametric and Semiparametric Models*. Springer Series in Statistics, Chapter 1-4.
- Jensen, [1968]: The performance of mutual funds in the period 1945-1964. *The Journal of Finance*, 23. 389-416.
- Nadaraya, E. A. [1964]: On estimating regression. *Theory of probability and its applications*, 9. 141-142.
- Sharpe, W. F. [1964]: Capital asset prices: A theory of market equilibrium under conditions of risk. *The Journal of Finance*, 19. 425-442.
- Silverman, B. W. [1986]: *Density Estimation for Statistic and Data Analysis*. Monographs on Statistic and Applied Probability. London, Chapman and Hall.
- Watson, G. S. [1964]: Smooth regression analysis. *Sankhya Series*, 26. 359-372.

Full name: Péter Erdős

Institution: Budapest University of Technology and Economics, Department of Finance

Street: Műegyetem rkp. 11

City: 1111 Budapest

Email: [erdos@finance.bme.hu](mailto:erdos@finance.bme.hu)

Full name: Mihály Ormos

Institution: Budapest University of Technology and Economics, Department of Finance

Street: Műegyetem rkp. 11

City: 1111 Budapest

Email: [ormos@finance.bme.hu](mailto:ormos@finance.bme.hu)

Full name: Dávid Zibriczky

Institution: Budapest University of Technology and Economics, Department of Computer Science and Information Theory

Street: Magyar tudósok körútja 2.

City: 1117 Budapest

Email: [zibriczky@finance.bme.hu](mailto:zibriczky@finance.bme.hu)

# EMERGING MARKETS IN EAST AND CENTRAL EUROPE

Stanislaw Kaszuba

## ANNOTATION

**Objective:** Key characteristics of East and Central Europe Stock Exchange Markets can be seen as similar. The aim of this article is to try place Stock Exchange Markets in Poland, Czech Republic, Austria and Hungary as one multinational East and Central European Emerging Markets.

**Background:** East and Central Europe is an unique place for investors. Its geopolitical placement is not only the place were “Solidarność” was born but it is a value itself. It is a place of post-communist countries which came into capitalism in early 90. in last century.

**Methods:** Polish Stock Exchange (WSE), *Burza cenných papírů*, Prague (Czech Republic), *Wiener Börse AG* (Austria), *Budapesti Értéktőzsdse Rt.* (BET) (Hungary) have been characterized and analyzed in order to place these markets in global financial world as one Eastern and Central European Emerging Market. Author used scientific articles and Federation of European Securities Exchanges reports as data sources.

**Results:** Overall it is significant to say that post-communist countries of Eastern and Central Europe are taking important part in global emerging market. There are several definitions of emerging market and countries which may belong to this group but it is obvious that each countries development level varies. Moreover the transformation processes differs because of different geopolitical position, natural resources, scale of each country and of course its culture. It is important to underline that each country has very similar economy development level and they should be recognized by foreign investors as one Eastern and Central European Emerging Market.

**Conclusion:** Every financial market in the world is linked with each other. In my opinion the knowledge of foreign investors of every single national Stock Exchange in Czech Republic, Hungary, Austria or Poland is very low. Thinking about integration of these Stock Exchange Markets in future is making possible the next step of European Union financial integration.

## KEY WORDS

Emerging markets, Warsaw Stock Exchange (WSE), *Wiener Börse AG*, *Burza cenných papírů*, *Budapesti Értéktőzsdse Rt.* (BET)

## INTRODUCTION

Actual situation of financial markets is very difficult. Globalization is progressing and world is still increasing the density of integration. World of future will be much more higher correlated and every nation will cooperate with each other. European Union already showed how the integration of several countries can look like. Moreover it is still developing it in order to place itself in global world as a very good economic partner for United States, Asian Markets and many others. European Union integration had been started in early 50. of the last century as European Coal and Steel Community. After almost fifty years of economic integration the next natural step is financial markets integration. European Union had already integrated Stock Exchange Markets in France, Netherlands, Belgium and Portugal by creation in the year 2000 - EURONEXT Stock Exchange. Scandinavia countries also had created the OMX group which is concentrating Stock Exchanges from Denmark, Sweden, Finland, Estonia, Latvia, Lithuania, Iceland and even Armenia (from November 2007). Further financial integration is unavoidable, the only question is when will it happen and under which circumstances.



## AIM AND METHODOLOGY

Last decade of XX century and great impact of Polish “Solidarność” had pulled down Berlin Wall and gave the possibility to pull down soviet communism and Soviet Union. This impact allowed several countries to start their transformation processes in order to change their central-planning economy model to the free-market, wide open economy. After twenty years of transformation post-communist countries can start thinking not about international, macro-regional concurrence but about their integration and making the value for investors from themselves. Post-communist countries has a great potential on building this kind of international financial platform.

The aim of this article is to try briefly characterize four Stock Exchange Markets of East and Central Europe and place them as one international Stock Exchange platform. It is important to underline the role of Polish Stock Exchange as a largest market. It is also significant to explain the reason of Austrian choice. It is obvious that Austria is not a post-communist country but several characteristic of this market and geopolitical location is making this country as a natural business partner for East and Central Europe countries. Moreover Austrian Stock Exchange is the majority shareholder of Prague Stock Exchange. In addition it is important to say that the experience of past financial markets integration unquestionably developed them and place new international market on the good position in global economy. The article is basing on Federation of European Securities Exchanges reports and scientific articles published in press and post-conference proceedings.

## RESULTS

East and Central Europe Stock Exchange Markets were founded on the beginning of 90. In XX century. It was the natural next step of change of economy type into free-market economy. Although there are certain differences in transformation processes, culture, country localization and size, Poland, Czech Republic and Hungary can be compared because of its similar growth and development level.

### **Warsaw Stock Exchange (WSE), Poland – genesis, development, challenges**

First Stock Exchange in Poland was founded in 1817 and it was fully operational till 1939. It was a place for trading bonds and bills of exchange. In 1938 it was relatively big Stock Exchange in which 130 securities were listed. Because of the World War II and communism, capital market in Poland didn't exist until 1991. In the year 2000, new electronic system WARSET was implemented, in 2007 Alternative Stock Exchange Market – NewConnect was founded and in 2009 WSE launched new Bond Exchange Market – CATALYST. The key characteristic for Warsaw Stock Exchange is the national stakeholder. It is important to underline that State of Treasury hold 98,8% of shares. Demutualization of WSE is planned for the year 2010.<sup>1</sup>

Warsaw Stock Exchange is the biggest Stock Exchange Market in East and Central Europe. It this the reason of geopolitical location and country size and entrepreneurship possibilities. In 2007 WSE was listing 375 companies, in 2008 it was 458 companies. This is the result of new, Alternative Stock Exchange Market – NewConnect implementation. NewConnect was launched in august 2008 as a market for innovative companies with no reliable opinion because of very short business history and with high fast development level potential. Two years after the implementation of NewConnect the main problem for trade is liquidity of the market. WSE is still working on further popularization of this capital market.

---

<sup>1</sup> Cieślak E., Koźliński M., *Demutualizacja Giełdy Papierów Wartościowych w Warszawie* pp. 505-516[in:] Pawłowicz L., Czerwińska M., *Spoleczno-ekonomiczne wymiary globalnego kryzysu finansowego*, Prace i materiały Wydziału Zarządzania Uniwersytetu Gdańskiego, Sopot 2009.

The bond market Catalyst was launched on 30 September 2009. It operates on transaction platforms of the Warsaw Stock Exchange and BondSpot. The creation of a public market of municipal and corporate bonds under the Warsaw Stock Exchange brand gives local governments and companies a new opportunity of raising inexpensive capital for necessary investments. It makes issuers more reliable to investors and contractors and can work as a great marketing tool to promote an issue of bonds as well as the issuer: a municipality, a district, or a company.

The great challenge of WSE is discussed from the early 90. of the last century privatization. This kind of company and financial institutions shouldn't be national one. There are several (not only scientific) opinions that WSE should be privatized fast. However the privatization processes are usually long-term venture. Moreover macroeconomic circumstances must be revised if joint stock company is making a debut on the capital market. Instead of very good, over 1,1% of GDP growth in 2009<sup>2</sup>, the financial moods are still unstable. The second issue about the challenges is the conspectus of future cooperation WSE with other financial markets. There are opinions that Polish Stock Exchange can draw two scenarios of its future development: collaboration with German-Swiss centre and East European centres.<sup>3</sup> In my opinion the second one is much more interesting and gives big future development opportunities.

#### **Burza cenných papírů, Czech Republic – genesis, development, challenges**

Efforts to create a stock exchange date back to the reign of the Empress Maria Theresa, but success was not achieved until 1871. Initially, both securities and commodities were traded at the Prague exchange. The Prague exchange enjoyed great success in the sugar trade, becoming a key market for the whole Austro-Hungarian Empire. After World War I, however, this type of transaction declined, so thereafter only securities were traded. For the Prague exchange, the interwar period became the era of its greatest boom. The Prague exchange even surpassed the Vienna exchange in importance. This period of prosperity was, however, interrupted by the arrival of World War II, bringing an end to trading at the Prague exchange for more than 60 years. Not until after the fall of Communism was it possible to follow up on the exchange's heritage of success and prosperity.<sup>4</sup>

With the first trades made on the floor of the renewed exchange on 6 April 1993, the Prague Stock Exchange began to write its modern history.<sup>5</sup> In 1994 the initiation of new official PX index (PX 50) took place. In 2006 Prague Stock Exchange started to trade with first primary issues (IPO), investment certificates, futures and warrants. In 2007 sectorial indices development took place. At the end of 2008 Wiener Börse AG became the majority shareholder of Prague Stock Exchange (holding 92.739% shares).

The main challenge for Prague Stock Exchange for following years is to go out from the global financial crisis as fast as possible. It is important to underline that Czech Republic needs the stabilization as well as other countries. In January 2009 Czech government announced the willingness to introduce the European currency – euro in following years.

---

<sup>2</sup> European Commission Report, *Autumn forecast 2009-2011: EU economy on the road to a gradual recovery*, 2009.

<sup>3</sup> Antkiewicz S., *The Scenarios of Warsaw Stock Exchange Strategic Alliance with Another Western European Stock Exchange*, *Pieniądze i Wież* 4(29), 2005, pp. 159-165.

<sup>4</sup> Prague Stock Exchange – homepage, <http://www.bcpcz.cz>, 10.12.2009.

<sup>5</sup> *Ibidem*.

### **Budapesti Értéktőzsdse Rt. (BET), Hungary – genesis, development, challenges**

Hungary was the first country from the Communist Bloc which reactivated capital market. In 1990, in only two weeks after the first free elections the first step of market liberalization was made. There were 41 shareholders including banks, brokerage houses, financial institutions and National Bank of Hungary. In 1995 the listings of main index BUX was launched. In 2001 new electronic system was implemented, which gave the possibility to make trade through the Internet. Dotcom crisis caused the large architecture changes in Hungarian Stock Exchange. In 2005 the fusion between Budapest Stock Exchange (BET) and Budapest Commodity Exchange (BAT) took place. It is important to say that Stock Exchange in Budapest is taking part in many international projects with Czech, Slovenian, and Polish Stock Exchange Markets.<sup>6</sup> In 2007 *Wiener Börse AG* made an offer to Hungarian government to buy the majority of shares and in 2008 it became a majority share holder (with 50,25% shares)<sup>7</sup>.

The great challenge for Hungarian Stock Exchange Market and national economy is to stabilize the monetary policy and monetary market. Global financial crisis had demolished Hungarian economy as a whole. Hungarian national economy and financial market integration with other countries from the region can help to get out from the crisis.

### **Wiener Börse AG, Austria – genesis development, challenges**

Austrian Stock Exchange was founded in 1771 by Marie Therese. In the early years of its existence it was a place of bonds, bills of exchange and foreign currencies trade. Only chosen official brokers were responsible for the trade process and only they have the permission to charge the trade operations. First securities listing was made in 1881, the issuer was National Bank of Austria. Thanks to political and economic strong position in Europe, Austrian Stock Exchange become recognisable very fast. Fast Austrian economy development and speculative trade in XIX century caused a big slump in 1873 – almost 90% of companies went bankrupt. First World War had great impact in Austrian capital market and until 1960s it was a place almost only for bonds trade.

In 1989 new system PATS was introduced which made the market more attractive for foreign investors. The great change was made in 1999, when the new electronic system –*Xetra* was implemented which made the trade much easier for investors.<sup>8</sup> It is important to add that Austrian Stock Exchange is constantly trying to give very positive impression for foreign investors. Wiener Börse AG had bought majority packet of shares in Budapest's and Czech Republic's Stock Exchanges. However in 2006 its capitalization was on very low level. It is important to say that Austrian Stock Exchange had built and is still building very strong position of international, regional stock exchange area.

The main challenge for Wiener Börse AG is to get back investors thrust after global crisis situation. It is also important to increase the level of capitalization and try to possess new foreign investors. Austrian economy is basing on export to Germany and it is significant to take a look at Austrian financial market from German point of view. The issues connected with debt on Eastern and Central European Stock Exchanges shares must be also strongly underlined.<sup>9</sup>

---

<sup>6</sup> Kaszuba S., *East and Central Europe Stock Exchange Markets in global financial crisis*, CBETM2010 – Conference Proceedings.

<sup>7</sup> Hungarian Stock Exchange – homepage, <http://www.bse.hu>, 12.12.2009.

<sup>8</sup> Ziarko-Siwiek U., *Giędy papierów wartościowych w Europie*, CeDeWu, Warszawa 2008, pp. 293-294.

<sup>9</sup> Wiener Börse AG – homepage, <http://www.wienerborse.at>, 14.12.2009.

### East and Central European Financial Integration Hypothesis

East and Central European Stock Exchanges can and should be compared to the global Stock Exchange Markets as well as to the Regional Stock Exchange Markets such as Nasdaq OMX Group. One national market cannot be compared to large European Stock Exchanges. There are several barriers such as market history or finally market development differences. None of Stock Exchanges in post-soviet countries cannot be compared with global financial market. But if compared as a whole, several conclusions can be made (see Table 1.)

Table 1. Comparison of Eastern and Central European Stock Exchanges and Euronext.

	Warsaw Stock Exchange	Austrian Stock Exchange	Prague Stock Exchange	Hungarian Stock Exchange	Eastern and Central Europe	NASDAQ OMX	Euronext
	1	2	3	4	1+2+3+4	5	6
Capitalization 2008 (EUR m)	65.178	54.752	29.615	13.326	162.871	404.137	1.508.423
Notional Turnover on Derivatives 2008 (EUR m)	88.932	17.912	28.000	7.988	142.832	559.295	10.588.405
Number of listed companies (2008)	458	118	29	43	648	824	1002

Source: Own elaboration based on European Exchange Report 2007 and 2008, Federation of European Securities Exchanges.

Market capitalization of every Stock Exchange cannot be compared to amount presented by Euronext or Nasdaq OMX Group. However, the comparison of number of listed companies is very interesting. It can be seen that four countries can start to compete with largest European markets. Moreover, lower capitalization level can be easily described with lower countries development level. It is important to add that post-communist countries are the *emerging markets*. In my opinion it is interesting to characterize also a Notional Turnover on Derivatives in 2008. Amount of 142.832 million euro is almost only 15 % of the Notional Turnover on the European Stock Exchange. This signify the maturity of Stock Exchange and very short modern history of capital market.

### CONCLUSION

Globalization is an unavoidable process started at the turn of XXI century. Nothing can stop this process nowadays. Very important role of this process are playing Small and Medium Companies listed on Stock Exchange Markets. The potential of them is giving picture on the Stock Exchange Markets. Financing their activity, innovative businesses will increase their level of competitiveness not only in local area but also at regional and European level. Described in the article countries are the members of the European Union which is integrating itself closer and closer. The next natural step of integration will be financial market integration with only one currency, monetary policy, fiscal policy, one budget and finally one

European financial market. It is the very high time to start discussion of stopping local concurrence in order to create regional cooperation and be competitive in global world.

#### BIBLIOGRAPHY

- [1] Antkiewicz S., *The Scenarios of Warsaw Stock Exchange Strategic Alliance with Another Western European Stock Exchange*, Pieniądze i Więż 4(29), 2005.
- [2] Cieślak E., Koźliński M., *Demutualizacja Giełdy Papierów Wartościowych w Warszawie* [in:] Pawłowicz L., Czerwińska M., *Spoleczno-ekonomiczne wymiary globalnego kryzysu finansowego*, Prace i materiały Wydziału Zarządzania Uniwersytetu Gdańskiego, Sopot 2009.
- [3] European Commission Report, *Autumn forecast 2009-2011: EU economy on the road to a gradual recovery*, 2009.
- [4] European Exchange Report 2007, Federation of European Securities Exchanges, 2008.
- [5] European Exchange Report 2008, Federation of European Securities Exchange, 2009.
- [6] Hungarian Stock Exchange – homepage, <http://www.bse.hu>, 12.12.2009.
- [7] Kaszuba S., *East and Central Europe Stock Exchange Markets in global financial crisis*, CBETM2010 – Conference Proceedings.
- [8] Prague Stock Exchange – homepage, <http://www.bcpcp.cz>, 10.12.2009.
- [9] Wiener Börse AG – homepage, <http://www.wienerborse.at>, 14.12.2009.
- [10] Ziarko-Siwiek U., *Giełdy papierów wartościowych w Europie*, CeDeWu, Warszawa 2008.

Stanisław Kaszuba  
Faculty of Economic Sciences and Management  
Nicolas Copernicus University in Torun  
ul. Gagarina 13A,  
87-100 Torun, POLAND  
[stanislaw.kaszuba@gmail.com](mailto:stanislaw.kaszuba@gmail.com)

# VENTURE CAPITAL AND PENSION SYSTEM

Gábor Dávid Kiss

## ANNOTATION

This study deals with the possible link between pension funds, venture capital and innovation to manage the challenge of aging. Institutional capacities of Hungarian second pillar is engrossed by the reallocation of it's bond and stock portfolio - therefore "exotic" investments as selected investment into the real economy by means of venture funds is uninterested. Innovative SME-s have low share on venture capital market of Visegrad countries. This is in connection with the neofordist or knowledge user profile of the subnational regions of these countries.

## KEY WORDS

second pillar, pension portfolio, innovation, FDI, venture capital

## INTRODUCTION

Share of economic inactive cohorts is rising due to the improvements of life expectations and ageing in developed countries on the long run – while transitional V4 countries have to face with similar results in present days caused by transitional unemployment<sup>1</sup>. Therefore both the supply and the demand side is affected of the GDP production, because structural changes in consumption are could be influenced by these processes<sup>2</sup>.

Pension systems and real economies are pressured by transitional unemployment and ageing based reduction of economic active population. The possible aim of establishment of World Bank's multipillar pension scheme could be the compensation of demographic deficit by the expected positive returns on the capital market<sup>3,4</sup>.

The weakest point of this logic is the central assumption of continuous economic growth which is indicated by capital markets – under structural changes of demographic and consumption structures. While strong correlation could be possible between capital market returns and economic growth on the long run (at least 18 years<sup>5</sup>), productivity and adaptability are the main the premises of continuous economic growth under these circumstances<sup>6,7</sup>.

Acceleration of innovation and new technologies could be the key in this case, which could be supported by pension fund's investments into venture capital funds<sup>8</sup>. Venture capital could be the missing link between the long term investor pension funds and the innovative enterprises.

---

<sup>1</sup> Kiss, G. D., Dudás L. 2009. Faces of Ageing and Fundamental Background of Pension Investments – in East Central Europe, Russia and Scandinavia. In: Procházka, David - Korda, Jan (ed.): The 10th Annual Doctoral Conference of the Faculty of Finance and Accounting, University of Economics, Prague – Collection of Papers 2009. Vysoká škola ekonomická v Praze, Nakladatelství Oeconomica, ISBN 978-80-245-1522-9, pp. 77-86.

<sup>2</sup> Botos K. 2009 Az idősödés gazdasági hatásai – egy stratégiai jellegű kutatás vázlat. In: Botos Katalin (szerk.): Idősödés és globalizáció – Nemzetközi pénzügyi egyensúlytalanság. Tarsoly Kiadó, Budapest, 1-8. oldal

<sup>3</sup> Schmidt-Hebbel, K. 1998 Does Pension Reform Really Spur Productivity, Saving and Growth? Documentos de Trabajo del Banco Central Chile, N°33 April 1998

<sup>4</sup> Holzmann. – Hinz, R.: Old-Age Income Support in the 21st Century: An International Perspective on Pension Systems and Reform. World Bank 2005

<sup>5</sup> Hagstrom, R.G. 2000 Warren Buffet portfolió. Panem, Budapest

<sup>6</sup> Botos K. 2009 Az idősödés gazdasági hatásai – egy stratégiai jellegű kutatás vázlat. In: Botos Katalin (szerk.): Idősödés és globalizáció – Nemzetközi pénzügyi egyensúlytalanság. Tarsoly Kiadó, Budapest, 1-8. oldal

<sup>7</sup> Schmidt-Hebbel, K. 1998 Does Pension Reform Really Spur Productivity, Saving and Growth? Documentos de Trabajo del Banco Central Chile, N°33 April 1998

<sup>8</sup> Hartmann, P. – Heider, F. – Papaioannou, E. - Lo Duca, M. 2007 The Role Of Financial Markets And Innovation in Productivity and Growth in Europe. ECB Occasional Paper Series, No 72 / September 2007

This study analyzes the existence of this bridging phenomenon in Hungary in the light of pension reforms in 1997 and 2006 – showing the innovation capacities and knowledge based economies in the subnational regions.

### **PENSION REFORMS IN HUNGARY**

Returns of mandatory funded pillar (established by 132<sup>nd</sup> law of 1997) remained significantly lower than another multipillar user emerging countries (as Poland or countries of Latin America) and followed the MNB base rate<sup>9</sup> – partially due to the conservative bond-oriented investment strategies<sup>10</sup> and high transactional costs<sup>11</sup>. Market competition and economic growth was not accelerated by this reform due to the under-informed fund members or the awfully capitalized domestic capital market<sup>12 13</sup>.

These problems were corrected by the modification of edict of the government 282/2001 with the introduction of eligible portfolios in 2006. Share of equities reached a 40% weight in the case of the most popular “balanced” and “growth” portfolios and holding of venture fund units were allowed with 3% or 5% share (but one fund could have at most 2% share).

Therefore Hungarian pension system became compatible with the main logic issues as acceleration of real economy through financing. But, as the Yearbook of Association of Pension and Health Funds Stabilitás suggests, there is no such development in the case of domestic mandatory pension funds – venture fund units are lacking from second pillar’s portfolios both in 2007 and 2008.<sup>14</sup>

It is necessary to study the competitive development and the role of domestic institutions to understand the difference between de jure and de facto conditions. This study based both on secondary (processing of academic literature sources) and primer (interview) methodology. Open questions were send in e-mail both to the entire membership of the Association of Pension and Health Funds Stabilitás and the Hungarian Venture Fund Association.

### **COMPETITIVE DEVELOPMENT IN HUNGARY**

Enterprises with enormous growth potentials implying unmanageable risks for the bank sector, but they are the main markets for the venture funds – while the role in employment<sup>15</sup> is unquestioned of these SME’s in the US<sup>16</sup>.

Only 2 thousand European enterprise gained venture capital support in their seeding and starting up phase in 2007 – while this number is only 30-40 in the Visegrad Countries (V4). Only 0.36%-6.22% of European venture and private capital investments were channelled into these enterprises between 2003 and 2007 (this share at the V4 remained between 0.1%-2.36%), and only 1% of SMEs negotiated and planned to use this financing channel<sup>17</sup>. Subnational causes have to be beyond this supranational phenomenon as the upper developments suggested.

---

<sup>9</sup> MNB 2008 Ábrakészlet a legfrissebb gazdasági és pénzügyi folyamatokról. Magyar Nemzeti Bank, 2008. augusztus 29., Budapest

<sup>10</sup> PSZÁF 2008 Nyugdíjpénztári hozamok (2003-2007). PSZÁF

<sup>11</sup> Czajlik I. – Szalay Gy. 2006 A magánnyugdíjpénztárak működése és szabályozása. MNB-tanulmányok 48.

<sup>12</sup> Palmer, E. 2007 Pension Reform and the Development of Pension Systems: An Evaluation of World Bank Assistance. WB 39146, IEG

<sup>13</sup> Impavido, G. – Rocha, R. 2006 Competition and Performance in the Hungarian Second Pillar. WB 3876

<sup>14</sup> Stabilitás 2008 Stabilitás évkönyv 2008. Stabilitás Pénztárszövetség

<sup>15</sup> With 10.4 million employed people and 2.3 trillion USD incomes in 2006.

<sup>16</sup> Sprague, C. 2008 Venture Capital & the Finance of Innovation. EBSCO Research Starters

<sup>17</sup> Karsai, J. 2009 The End of the Golden Age - The Developments of the Venture Capital and Private Equity Industry in Central and Eastern Europe. MT-DP 2009/01

Imre Lengyel's (2006) pyramid model was used to study this strange preference of financing expansive enterprises<sup>18</sup> or buy outs<sup>19</sup>. Cross-border development of value chain caused the concentration of knowledge intensive activities and the decentralisation of processing activities – which affected strongly the subnational regions in Hungary and the other V4 countries.

Centrum-peripheral relationships are strongly connected to the creation and application of knowledge. Therefore three types of regions could be defined: knowledge creator<sup>20</sup>, knowledge user<sup>21</sup> and neofordist<sup>22</sup>.

Selection of knowledge intensive enterprise's sites depends from the quality issues and intergration of human resources, physical infrastructure and institutional environment<sup>23 24</sup>.

Hungarian regions are in knowledge user and neofordist categories – which means a semi knowledge creator Central-Hungarian Region, the investment driven knowledge user Western- and Central-Transdanubian regions. They are circled by a static and dynamic half-periphery with sealed knowledge islands – cities with universities and academic research facilities as Szeged, Pécs or Debrecen. A significant patent activity is concentrated there on the base of qualified professor-researcher and PhD student staff on the area of medical, biologic and chemistry sciences (engineering and economic education is still concentrated in Budapest). These rural development poles have weak connections to the local industry –they are connected directly to the networks of the knowledge creator regions during their research and development activities. The same insular phenomenon exists on national level too, in the financing sources<sup>25</sup> of R&D. Financing of R&D from industrial sources in the case of the V4 countries remained 44.3% (abroad sources were 5.8%) after the Millennium, while it was 58% in the Euro-area, 71.4% in the US, and 81% in Japan<sup>26</sup>.

Classical FDI type investments are preferred in the knowledge user and neofordist regions, and the financing of expansive enterprises from venture capital. While privatization was the main target of FDI in the nineties, transport machinery, electronics, food processing and

---

<sup>18</sup> Their average share was 23.16% in the V4 and 18.76% in the EU between 2003 and 2007 (Karsai 2009).

<sup>19</sup> Their average share was 69.76% in the V4 and 61.42% in the EU between 2003 and 2007 (Karsai 2009).

<sup>20</sup> Enterprises are:

- individual products or services with own trade marks;
- global distribution, essential need for expansion on international markets;
- development of new technology based products and services which can satisfy new customer demands;
- success depend on innovation;
- high wages can cover only by innovative activities. (Lengyel 2006)

<sup>21</sup> Enterprises are:

- using modern technology, which is financed partially by FDI;
- focus on scale of economy and productivity;
- mass production of goods and services. (Lengyel 2006)

<sup>22</sup> Enterprises are:

- price competition and cost advantages;
- cost advantages are based on cheap inputs;
- imported low technology. (Lengyel 2006)

<sup>23</sup> Lengyel I. 2006 A regionális versenyképesség értelmezése és piramismodellje. *Területi Statisztika*, 2. pp. 131-147.

<sup>24</sup> Lengyel I. 2007 Fejlesztési pólusok, mint a tudásalapú gazdaság kapuvárosai. *Magyar Tudomány*, 6. pp. 749-758.

<sup>25</sup> Hungary between 2000 and 2007: financed by government (51,25%), industry (38,2%) and abroad (10,55%). (Eurostat:

<http://epp.eurostat.ec.europa.eu/tgm/refreshTableAction.do?tab=table&plugin=0&init=1&pcode=tsiir030&language=en>)

<sup>26</sup> Arratibel, O. – Heinz, F. – Martin, R. – Przybyla, M. – Rawdanowicz, L. – Serafini, R. – Zumer, T. 2007 Determinants of Growth in the Central and Eastern European EU Member States – a Production Function Approach. Paper Series, No 61 / April 2007



chemic industry became the most preferred areas of the FDI after the EU membership of the V4 countries – while venture capital targeted the telecom, media, financial services, transportation and life sciences<sup>27 28</sup>.

Venture capital fits into the development issues of pyramid model on the following ways: they need a stable physical and human infrastructure (hiring up to par management to elaborate and implement value as well as scale focused strategies), a certain level of business to business cooperation (local knowledge, which means a cooperation between global and domestic venture funds to identify enticing enterprises) and a developed capital market (to borrow cash flow based loans, and to secure the exit opportunity after 4-5 years of operation). The demands for liquid capital market is served by the Warsaw Stock Exchange, which capitalisation was higher than Wiener Börse in 2008, and gained a first place at IPO's on the entire continental Europe<sup>28 29</sup>.

## **RELATIONS OF PENSION FUNDS AND VENTURE CAPITAL FUNDS IN HUNGARY**

Venture capital funds are acting in the V4 countries, but their behavior differs from the general premises – which were defined on US experiences. Lack of financing innovative SMEs was explained by the pyramid model, but this chapter deals with the financing sources. The main investors of these funds were funds of funds (23.5%), western-European pension funds (13.4%), individuals (10.4%), government organizations<sup>30</sup> (10.3%), and banks (10.2%). Only 5.4% of the entire venture capital (4.2 million Euro) were allocated into the V4 countries in 2007, but this is a dramatic growth after the 496 million Euro in 2004 (and share of 1.8%). Pension fund's share were 18% on the entire Union, so there is no significant difference – but there is a lack of V4 pension funds. They are extruded by JEREMIE (Joint European Resources for Micro to Medium Enterprises) program of the EU, the big western-European pension funds and US/global venture funds.

Answers (N=8) of interviewed Hungarian pension funds and venture funds confirmed this statement, but other problems were signed as the lack of benchmarks (opposite to government and stock markets), the low scale of the pension funds, the low level of possible allocation at pension portfolios or lack of know-how. In addition, pension funds are afraid from the market competition caused by free change of funds – so to avoid scandals of high losses, they want to follow the same conservative strategies again. This attitude is the opposite of the issues of sustainable growth<sup>31</sup>.

## **BIBLIOGRAPHY**

- [1] Arratibel, O. – Heinz, F. – Martin, R – Przybyla, M. – Rawdanowicz, L. – Serafini, R. – Zumer, T. 2007 Determinants of Growth in the Central and Eastern European EU Member States – a Production Function Approach. Paper Series, No 61 / April 2007
- [2] Botos K. 2009 Az idősödés gazdasági hatásai – egy stratégiai jellegű kutatás vázlatja. In: Botos Katalin (szerk.): Idősödés és globalizáció – Nemzetközi pénzügyi egyensúlytalanság. Tarsoly Kiadó, Budapest, 1-8. oldal

---

<sup>27</sup> Arratibel, O. – Heinz, F. – Martin, R – Przybyla, M. – Rawdanowicz, L. – Serafini, R. – Zumer, T. 2007 Determinants of Growth in the Central and Eastern European EU Member States – a Production Function Approach. Paper Series, No 61 / April 2007

<sup>28</sup> Karsai, J. 2009 The End of the Golden Age - The Developments of the Venture Capital and Private Equity Industry in Central and Eastern Europe. MT-DP 2009/01

<sup>29</sup> Sprague, C. 2008 Venture Capital & the Finance of Innovation. EBSCO Research Starters

<sup>30</sup> Necessity of these was analyzed by Kosztopolosz (2004).

<sup>31</sup> Hesse, A. 2008 Long-Term and Sustainable Pension Investments. ASSET4 and the German Federal Environment Ministry

- [3] Czajlik I. – Szalay Gy. 2006 A magánnyugdíjpénztárak működése és szabályozása. MNB-tanulmányok 48.
- [4] Hagstrom, R.G. 2000 Warren Buffet portfolió. Panem, Budapest
- [5] Hartmann, P. – Heider, F. – Papaioannou, E. - Lo Duca, M. 2007 The Role Of Financial Markets And Innovation in Productivity and Growth in Europe. ECB Occasional Paper Series, No 72 / September 2007
- [6] Hesse, A. 2008 Long-Term and Sustainable Pension Investments. ASSET4 and the German Federal Environment Ministry
- [7] Impavido, G. – Rocha, R. 2006 Competition and Performance in the Hungarian Second Pillar. WB 3876
- [8] Karsai, J. 2009 The End of the Golden Age - The Developments of the Venture Capital and Private Equity Industry in Central and Eastern Europe. MT-DP 2009/01
- [10] Kiss G. D. 2009 Az idősödés arcai. In: Botos Katalin (szerk.): Idősödés és globalizáció – Nemzetközi pénzügyi egyensúlytalanság. Tarsoly Kiadó, Budapest, 115-121. oldal
- [11] Kiss, G. D., Dudás L. 2009 Faces of Ageing and Fundamental Background of Pension Investments – in East Central Europe, Russia and Scandinavia. In: Procházka, David - Korda, Jan (ed.): The 10th Annual Doctoral Conference of the Faculty of Finance and Accounting, University of Economics, Prague – Collection of Papers 2009. Vysoká škola ekonomická v Praze, Nakladatelství Oeconomica, ISBN 978-80-245-1522-9, pp. 77-86.
- [12] Kosztópulosz A. 2004 Az Európai Unió kockázati tőkével kapcsolatos politikája és intézményei. In Botos K. (szerk.): Pénzügyek a globalizációban. JatePress, Szeged, 68-88. o.
- [13] Lengyel I. 2006 A regionális versenyképesség értelmezése és piramismodellje. Területi Statisztika, 2. pp. 131-147.
- [14] Lengyel I. 2007 Fejlesztési pólusok, mint a tudásalapú gazdaság kapuvárosai. Magyar Tudomány, 6. pp. 749-758.
- [15] MNB 2008 Ábrakészlet a legfrissebb gazdasági és pénzügyi folyamatokról. Magyar Nemzeti Bank, 2008. augusztus 29., Budapest
- [16] Palmer, E. 2007 Pension Reform and the Development of Pension Systems: An Evaluation of World Bank Assistance. WB 39146, IEG
- [17] PSZÁF 2008 Nyugdíjpénztári hozamok (2003-2007). PSZÁF
- [18] Schmidt-Hebbel, K. 1998 Does Pension Reform Really Spur Productivity, Saving and Growth? Documentos de Trabajo del Banco Central Chile, N°33 April 1998
- [19] Sprague, C. 2008 Venture Capital & the Finance of Innovation. EBSCO Research Starters
- [20] Stabilitás 2008 Stabilitás évkönyv 2008. Stabilitás Pénztárszövetség [2] source

Gábor Dávid Kiss, Ph.D student  
 University of Szeged, Faculty of Economics and Business Administration, Doctoral School in Economics  
 Kálvária sugárút 1.  
 Szeged  
 Kiss.Gabor.David@eco.u-szeged.hu

# **THE COMPARISON OF THE INDEX INVESTING WITH THE ACTIVE INVESTING**

**Dagmar Linnertová, Petr Málek**

## **ANNOTATION**

The aim of this proceeding is comparison of the active managed funds performance with index managed instruments (their performance is reflected by a market index) that can be represented by index certificates (very popular in the Europe) or ETFs funds with an index underlying (popular in the United States). The comparison will be implemented in a particular time period and in particular markets.

## **KEY WORDS**

Collective investment, investment funds, passive and active investment, ETFs, investment certificates

## **INTRODUCTION**

The first passive investing product was launched more than 30 years ago when Wells Fargo Bank introduced their first passive managed fund. Main difference between index fund and active managed funds are the following:

Managers of active funds are evaluated companies which are either undervaluated or do have an expected earnings growth, which should result in a price performance better than the average company in the market place.

The most important reason why is so hard to overperformance an index are costs that can be divided in the visible and invisible costs. With active managed funds there are related management fees, custody fees, and other additional trading costs.

Index funds do minimalist of trading costs and furthermore they do not need market analysis or researchers and thus reduce the management fees of the fund.

For the indexing investing is a suitable financial tool an ETF. The ETFs have changed the segment of the mutual funds significantly. Firstly, ETFs can be bought and sold like a stock. Secondly, they are passively managed. ETFs represent attractive investing opportunity that limited costs and offer the same performance as an index. It meant that ETFs represent positive characteristics of both stocks and passive funds.

## **AIM AND METODOLOGY**

Analysis, comparison, synthesis

## **RESULTS**

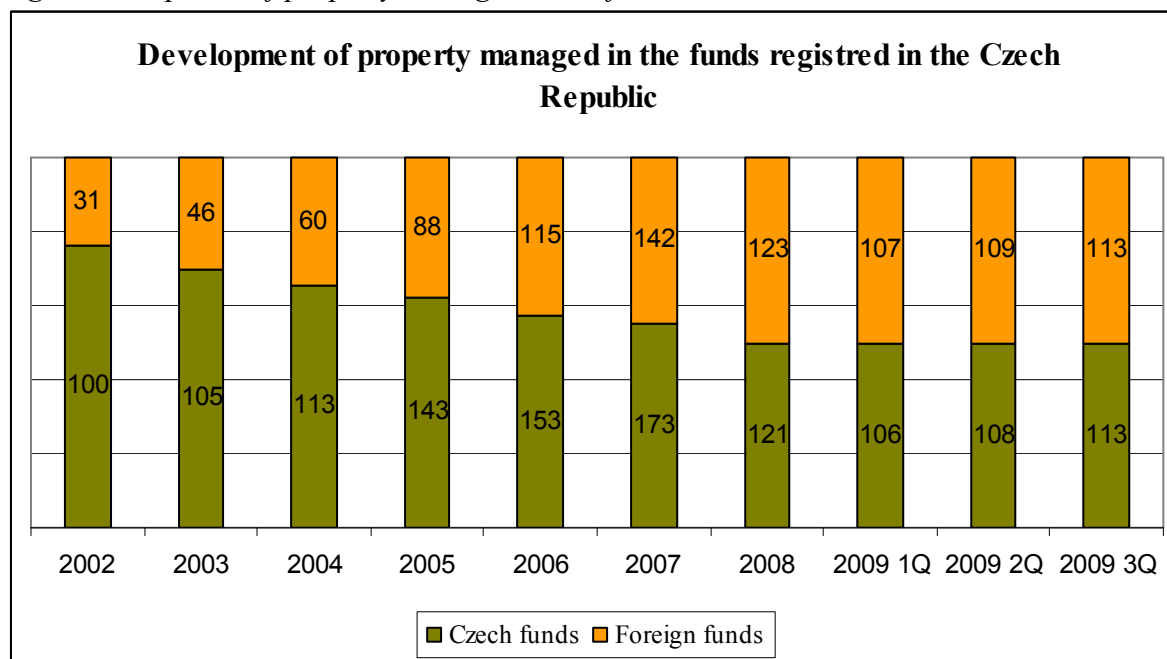
### **Analysis and Facts**

The most important subjects of the Czech collective investment segment are concentrated in the organization AKAT (The Association for the Capital Market of the Czech Republic). In 2008 members of AKAT managed 243,88 billion CZK<sup>1</sup> that reflects total value of property invested in Czech and foreign funds registered and distributed in the Czech Republic. This property is divided in Czech funds (120,88 billion CZK) and foreign funds (122,99 billion CZK).

---

<sup>1</sup> [www.akatcr.cz](http://www.akatcr.cz)

Fig 1 Development of property managed in the funds



Source: AKAT, [www.akater.cz](http://www.akater.cz)

Fig 2 Property according of kind of fund

Property according of kind of fund in billion CZK in 2008

Money market fund	88,06
Guaranteed fund	65,1
Equity fund	23,46
Bond fund	26,53
Mutual fund	26,07
Fund of funds	12,9
Real Estate fund	1,75

Source: AKAT, [www.akater.cz](http://www.akater.cz)

In our analysis we will look if funds were able to outperform an index in a certain time period. For this purpose we will create homogeneous group of funds. We will concentrate on equity funds it means funds that invest at most in equities that are registered for distribution in the Czech Republic. As a benchmark we will use index PX that is an index of Prague Stock Exchange.

If you look at the scale of equity funds offer in the Czech capital market there is difficult and impossible to find pure Czech equity market fund. It means a fund that invested only in Czech equities. There are several Czech equity funds but they are mostly on Central and East capital market as a whole focused. All these funds can be divided in three groups:

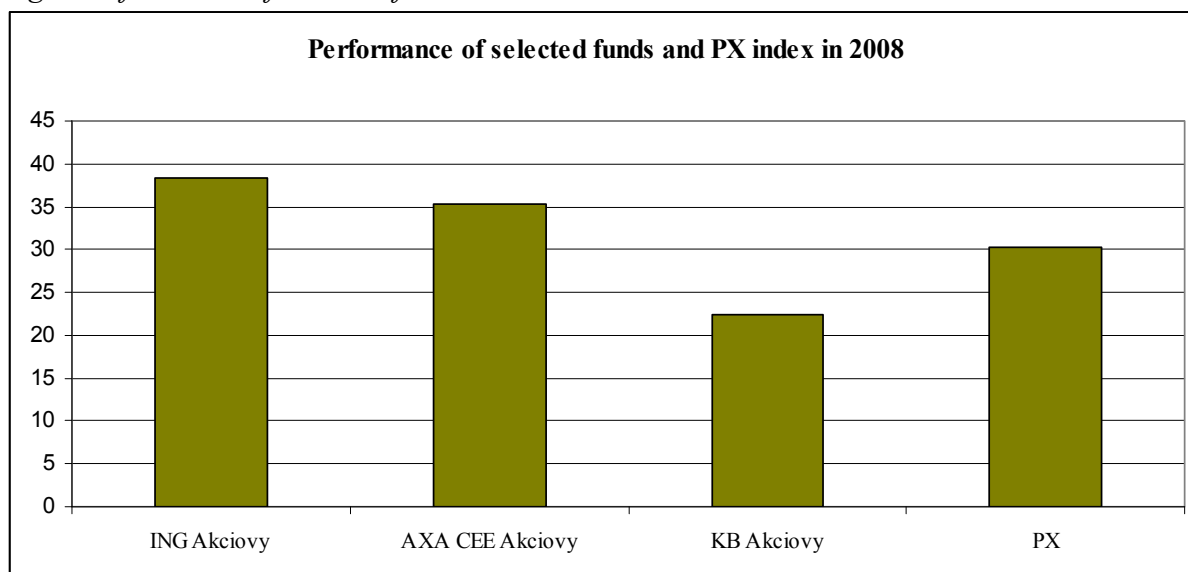
The smallest group of funds their portfolio is at most focused on Czech blue chips (more than 50 % of portfolio) and the rest is supplemented by Polish or Hungarian titles. The second group is represented by Polish and Hungarian blue chips together with Czech blue chips but they do not play a dominant role and the third group of equity funds invested in central and eastern capital markets e.g. equities from Russia or Turkey. In our analysis we will focused on equity funds where the most of investment portfolio property is invested in Czech blue chips. We selected following funds for the comparison:

ING Cesky akciovy fond that invests more than 50 % in Czech blue chips, 22 % is invested in Polish capital market, approx. 13 % in Hungarian capital market and approx. 1 % in Slovakia capital market, rest is invested in other Emerging Markets and about 6 % is held in cash.

AXA CEE Akciovy fond that invests in equities of the Central and Eastern Europe. At most it invests in the Czech, Polish and Hungarian equities.

KB Akciovy that invests in blue chips traded in PSE and the portfolio is supplemented by blue chips from Hungary and Poland. All these foreign equities are added because in the PSE there is limited number of blue chips.

Fig 3 Performance of selected funds and PX index in 2008



Source: Patria, a.s., [www.patria.cz](http://www.patria.cz)

According to the data we are able to express an outperformance of particular funds.

Fig 4 Outperformance of funds

Outperformance of funds (as compared with PX)

ING Akciovy	8,25
AXA CEE Akciovy	5,06
KB Akciovy	-7,72

Source: Patria, a.s., [www.patria.cz](http://www.patria.cz)

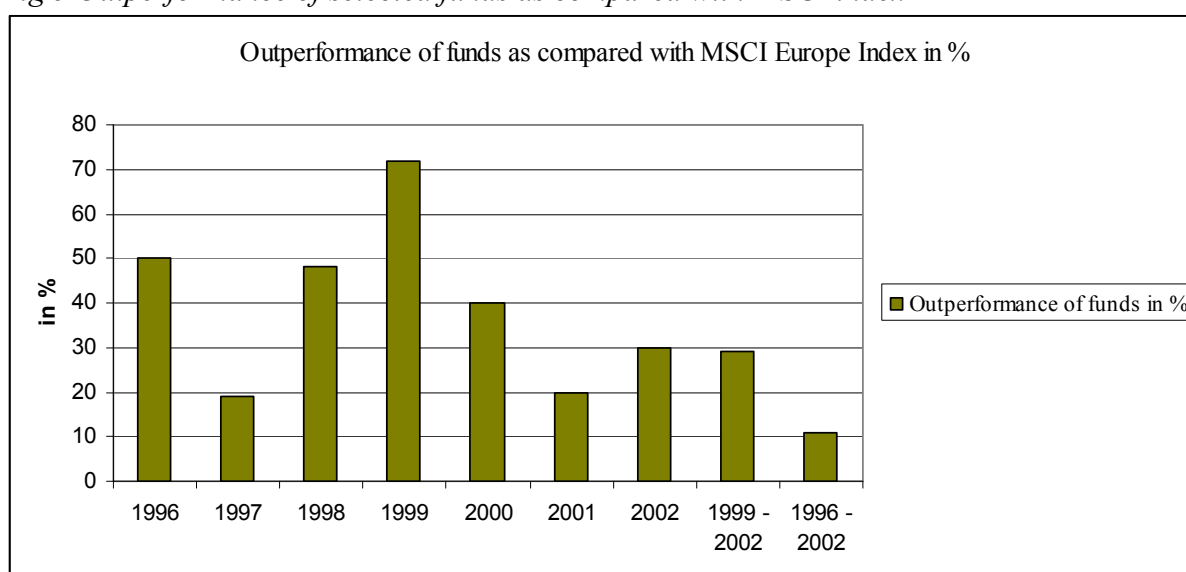
These results can be explained by the argument that index funds do perform better in a bull market environment while they lag in a bear market. The reason for this pattern has to do with the cash holding. Index funds are always fully invested while actively managed funds do typically have a cash holding of 2-3 %.<sup>2</sup>

<sup>2</sup> Hubscher, Marcus: The Role of Exchange Traded Funds in the Active vs. Passive Debate. 2005. Springer. p. 74, 76.

Another argument is the market efficiency that suggests that it is almost impossible to have an information advantage about any company. This piece of information would allow a fund manager to achieve an above benchmark performance. At the same time is argued that the outperformance possibilities in less efficient markets are much bigger. Less efficient markets are typically emerging markets – markets of countries in the process of transformation e.g. Czech Republic or in the market consists of smaller companies (mid - and small- cap markets).<sup>3</sup>

Same analysis was also done for European Equities using the MSCI Europe as a benchmark. The analysis was implemented for the time period 1996 – 2002. According the results only in 1999 a majority of the fund managers were able to outperform the index. In the long run, a little more than 10 % of the managers did outperformance the index MSCI Europe.<sup>4</sup>

*Fig 5 Outperformance of selected funds as compared with MSCI index*



*Source: Hubscher, Marcus: The Role of Exchange Traded Funds in the Active vs. Passive Debate.*

The most important reason for is for the fund managers difficult outperform an index are costs. Cost can be dividend in visible and invisible costs. The number which is used in the fund industry is the total express ratio called TER. TER is defined as a total fund costs to total fund assets. The size of the TER is important to investors, as the costs come out of the fund, affecting investors' returns. For example, if a fund generates a return of 7% for the year but has a TER of 4%, the 7% gain is greatly diminished (to roughly 3%).<sup>5</sup>

<sup>3</sup> Hubscher, Marcus: The Role of Exchange Traded Funds in the Active vs. Passive Debate. 2005. Springer. p. 76.

<sup>4</sup> Hubscher, Marcus: The Role of Exchange Traded Funds in the Active vs. Passive Debate. 2005. Springer. P 74 -75.

<sup>5</sup> www.investopedia.com

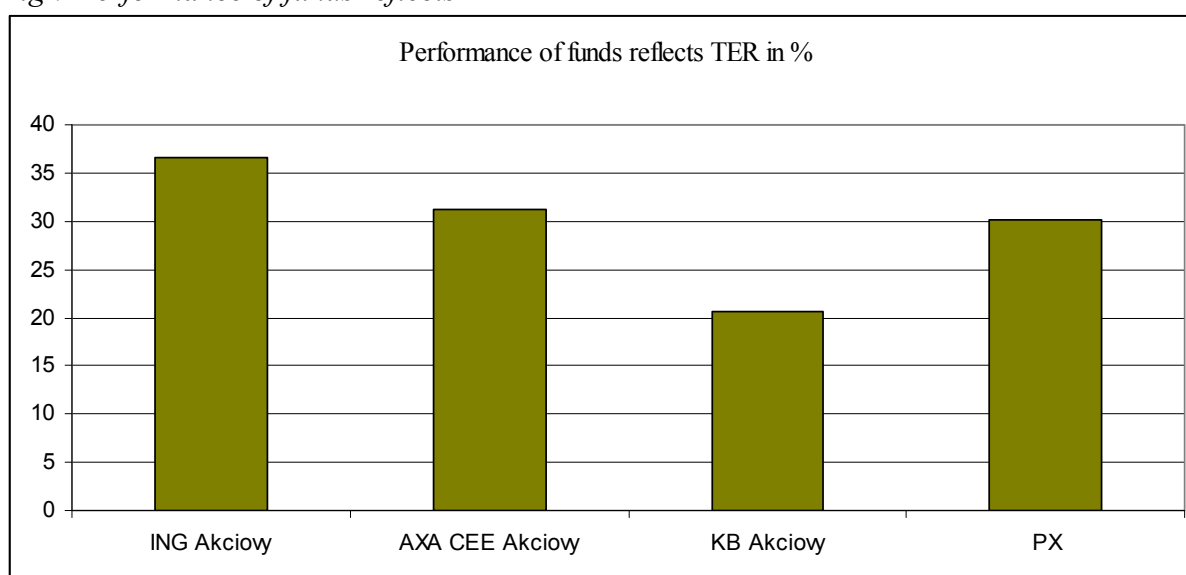
*Fig 6 Outperformance of funds reflected TER*

Outperformance of funds reflected TER (compared with PX)

	TER in %	Outperformance of fund reflected TER
ING Akciovy	1,78	6,47
AXA CEE Akciovy	4,11	0,95
KB Akciovy	1,83	-9,55

Source: [www.produktovelisty.cz](http://www.produktovelisty.cz)

*Fig 7 Performance of funds reflects TER*



Source: [www.produktovelisty.cz](http://www.produktovelisty.cz)

A typical TER for an equity fund is depending on the market and product between 1 – 2 % p.a. But there are also other costs that are not included in the TER of a fund. Also visible and invisible costs can be divided in visible and invisible. There are brokerage fees, bid/ask spread etc.

### **Possibilities how to passively invest**

Passive investment products in the US have been offered for 30 years but at first these products were used only by institutional investors but during the time they became popular by retail investors as well. In the Europe during the 1990's so called investment certificates became very popular. Their main advantage was the fact that they are traded continuously because mutual funds are opened only once a day.

Exchange funds combine advantages of both – investment funds or mutual funds and investment certificates. They are continuously traded as well they have a regular market and proper method of valuation. In the following table there are compared main and the most popular investment products. Nowadays there are a few active so called ETFs, but these products do not fulfill a classic characteristic of ETFs like continuous trading, permanent calculation of NAV and daily distribution of the fund holdings.

Fig 8: Comparison of the main investment products

Characteristics	ETFs	Index funds	Index certificates	Equities
Financial instrument	Mutual fund	Mutual fund	Bond	Equity
Pricing	continuous	daily	continuous	continuous
Market liquidity	high	no exchange trading	medium	high
Maturity	none	none	limited time period	none
Reinvestment risk	none	none	yes	none
Costs for purchase/sale	brokerage fees	front/back - load	purchase and reinvestment costs	brokerage fees

Source: Hubscher, Marcus: *The Role of Exchange Traded Funds in the Active vs. Passive Debate*.

## CONCLUSION

The aim of this proceeding is analysis of passive and active way of investment. In the Czech Republic active investment is represented by segment of collective investment. There is wide range of investment funds but we focused only on equity funds that are active managed by fund managers. We chose three main equities funds and compared they performance with the performance of benchmark represented by PX index. Unfortunately we were not able to get necessary data so we implemented our analysis only for year 2008. Our results suggested that active managed funds achieved outperformance as compare with benchmark PX. We also suggested two reasons of these results – cash holding and efficiency of the Czech market. We also adopted another analysis that was implemented for European capital market as a whole for the time period 1996 – 2002 with different results. We also described two possibilities of passive investment index certificates that are very popular in the Europe and ETFs more popular in the US. These products at most are not issued to cover Czech capital market and the Czech Republic is cover only in portfolio of Central Europe equities or emerging market equities. At the end we compared the most popular investment products according main characteristics.

## BIBLIOGRAPHY

- [1] Hubscher, Marcus: *The Role of Exchange Traded Funds in the Active vs. Passive Debate*. 2005. Springer. 13 p.
- [2] Linnertová, D.; Málek, P. Role ETFs v indexové formě investování. In *Evropské Finanční systémy 2009*. Brno, 2009. 290 s. ISBN 978-80-210-4882-9.
- [3] Reumann-Brunner, U.: *Exchange Traded Funds form a Lawyer's Perspective – The Case of Germany*. Springer. 2005.
- [4] [www.patria.cz](http://www.patria.cz)
- [5] [www.akatcr.cz](http://www.akatcr.cz)
- [6] [www.produktovelisty.cz](http://www.produktovelisty.cz)

Dagmar Linnertová  
 Ekonomicko-správní fakulta  
 Masarykova univerzita  
 Lipová 41a  
 Brno  
[Dagmar.Linnertova@seznam.cz](mailto:Dagmar.Linnertova@seznam.cz)

Petr Málek  
 Ekonomicko-správní fakulta  
 Masarykova univerzita  
 Lipová 41a  
 Brno  
[Malek.Petr@seznam.cz](mailto:Malek.Petr@seznam.cz)



# PENSION REFORM IN THE CZECH REPUBLIC

Tat'ána Lyčková

## ANNOTATION

Currently, the situation of the state pension schemes is being reformed in many European countries due to the demographic changes (increasing number of the people drawing pensions and decreasing number of the people contributing to the social insurance scheme). Even the Czech Republic could have insolvency problem if no changes of the current pension scheme based on the PAYG (pay-as-you-go) financing are implemented. The scope of the paper is to describe the present state of the pension reform in the Czech Republic.

## KEY WORDS

Pension schemes, reform, insurance, PAYG (pay-as-you-go) financing.

## INTRODUCTION

Czech pension scheme is currently very expensive, extremely egalitarian and totally unprepared for the forthcoming rapid rate of growth of the population in retirement age. Even during the second half of the nineties, the state pension scheme has undergone several modifications in order to reduce the excessive generosity and improve the impending financial imbalance. In concrete, there was a gradual increase of the retirement age started, derivation of retirement pensions based on lifetime earnings implemented and the rules for early retirement and disability pensions tightened.<sup>1</sup> But, these changes can only be considered as cosmetic adjustments - they did not prevent further deepening of the deficit of the state pension scheme.

## AIM AND METODOLOGY

Aim of the paper is to describe the present situation of the pension scheme in the Czech Republic, its current problems and insufficiency, possibilities of its recovering with regard to the experiences of the well-developed European countries and the latest proposal of the pension reform in the Czech Republic. For this purpose will be used the methods of analysis, synthesis and description.

## RESULTS

### **Pension scheme in the Czech Republic – current situation**

The current pension scheme in the Czech Republic is built on two pillars – the mandatory state pillar and supplementary, purely voluntary pillar represented by private pension funds and commercial life insurance companies. The first one, the state pension scheme, is based on the principle of pay-as-you-go (PAYG) funding from the state budget. Its funds are generated from the contributions of the economically active population to the social pension scheme. At the same time, the Czech state pension scheme is described as defined-benefit, which means that it guarantees a certain level of pension benefits. The total amount of a pension is represented by the sum of so-called percentage assessment (representing 1.5 % of the calculation base, minimum CZK 770 per month), which reflects the size of an individual's income for a particular period and the basic pension (representing CZK 2170 per month since August 1st, 2008), which is the same for all pensioners regardless of their income in the

---

<sup>1</sup> Source: BEZDĚK, V. *Penzijní systémy obecně i v kontextu české ekonomiky (současný stav a potřeba reformem) – II. Díl*, 2000, p. 70.

economically active age. State pension scheme is mandatory and covers 100 % of the population in retirement age. The contribution rate is 28 % of gross wage and is paid both by employees (6.5 %) and employers (21.5 %).

To the second one, the voluntary scheme, people currently contribute about 2% of the average wage. Even after fourteen years of its existence, with the support of employers, with tax allowances, government contributions, there has been accumulated approximately 170 billion CZK in the private pension funds, i.e. only 5 % GDP.<sup>2</sup>

### **Problems of the Czech pension scheme**

Czech state pension scheme suffers from several insufficiencies. First, it is excessively intergenerational redistributive. Second, it began to generate a financial deficit, which will be ceteris paribus even deepening due to the “unfavourable” demographic development.<sup>3</sup> Except of the population ageing and low fertility, the other trends seriously affecting the social pension schemes are: the growing participation of women in the labour market; permanent long-term unemployment, especially among older workers; early retirement etc.<sup>4</sup>

According to the actual demographic forecast of the Czech Statistical Office the population ageing in the Czech Republic will be one of the most rapid in the European Union. There will be about 22.8 % people over 65 in 2030 (in comparison with 14.6 % in 2007) and even 31.3 % in 2050. The most significant changes are expected in the number of people over 85; in 2050, there will be about half a million people over 85 living in the Czech Republic (in comparison with 124 937 in 2007). On the other hand, the proportion of the economically active people (roughly 22-60 years old) will drop to less than 43 % in 2055 (in comparison with 57 % in 2004). Life expectancy will be 78.9 years for males and 84.5 years for females in 2050 (in comparison with 73.7 years for men and 79.9 years for women in 2007). Fertility in the Czech Republic is one of the lowest in the world (1.44 in 2007) and is expected to be increasing in the future. Standard level of fertility needed for natural recovery of the population is 2.1.<sup>5</sup>

The demographic trends mentioned above exert pressure on the necessity of implementation of a pension reform in the Czech Republic which would establish multi-source financing of pension schemes similarly as in the most of the European countries.

### **Pension schemes in the European countries – a potential inspiration**

The main objectives of the European Union in the field of pension policy are pension adequacy, financial sustainability, sufficient transparency and flexibility of the system. Currently, in almost all European countries, the pension schemes are based on the principle of multi-source financing through a three-pillar scheme:<sup>6</sup>

The first pillar is based on an intergenerational solidarity; provides a state-guaranteed pension and is financed from mandatory basic pension insurance using the principle of “pay-as-you-go”.

---

<sup>2</sup> Source: BEZDĚK, V. *Na jediné strategii stavět nelze*. Pojistný obzor vol. 85, no. 3, 2008, p. 4-5.

<sup>3</sup> Source: BEZDĚK, V. *Penzijní systémy obecně i v kontextu české ekonomiky (současný stav a potřeba reforem) – II. Díl*, 2000, p. 69-70.

<sup>4</sup> Source: SLANÝ, A., KREBS, V. a kol. *Sociální ochrana a důchodový systém*, 2004, s. 27.

<sup>5</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Příprava na stárnutí*, 1.8.2008.

<sup>6</sup> Source: BRDEK, M. a kol. *Trendy v evropské sociální politice*, 2002, p. 108; KREBS, V. a kol. *Sociální politika*, 2007, p. 197.

The second pillar consists of real personal accounts. Policyholders (employers and employees) contribute regular, voluntary or mandatory part of the revenue on real personal account. The money cumulated on those accounts is being invested and interest shall be deposited back to the account.

The third pillar represents private activities of citizens through a supplementary, purely voluntary insurance (life insurance, group pension insurance, mutual investment funds, etc.)

As indicated above, a three-pillar pension scheme has been implemented in most of the European countries. However, it has been adjusted with regard to the national traditions and economic opportunities in each country. The main differences between countries are in the proportion of each pillar in the overall system. Some countries (Germany, Austria, Italy) put a bigger emphasis on the state pension (1st pillar), others (the Netherlands, Great Britain, Switzerland) on the contrary, give priority to the funded scheme (2nd pillar).

Differences in the pension schemes of the European countries can be found also in the concept of 2nd pillar. For example, Germany, together with Austria is characterized by its unique method of financing the pension scheme based on the so-called reserve accounts. The employers are obliged to meet the future demands of employees without any real financial backing. This allows them to invest the funds (which would be otherwise held on an account) in their own development. But, this way of pension funding can be functional only in case of strong and stable employers.<sup>7</sup> In Italy, on the other hand, the second pillar is represented by the supplementary employees' funds, which are optional and therefore not playing a significant role yet.

Sweden is a typical representative of the Scandinavian model based on a strategy called NDC ("national-account defined contribution"). This strategy keeps being based on the PAYG financing, but the total amount of a pension depends on the current balance of the funds held on the individual account, i.e. depends on the amount of contributions paid during the economically active age. United Kingdom, together with the Netherlands has the most advanced second pillar in the world. It is represented by private pension funds which are used by almost 95% of the population, even though they are not mandatory. In the Slovak Republic, the second pillar is represented by the so-called pension management companies. A condition for participation in the second pillar is to opt-out half (9 %) of the total contribution from the state pension scheme to the pension management companies.

### **Pension reform in the Czech Republic**

Due to the significant demographic changes, the current pension scheme based on the PAYG financing is becoming insufficient. In order to improve this situation, a special commission under the leadership of Vladimír Bezděk has been established. Its aim was to prepare a detailed analysis needed for a final decision on a pension reform. The proposal for a pension reform considered all five alternatives submitted by various political parties represented in the Parliament CR, including a "no policy" case (projection of a situation if no changes are implemented). With regard to the confrontation of all those different alternatives, the pension reform has been finalized. As in other developed countries, even in the Czech Republic the pension reform should establish a multi-source financing of a pension scheme through a three-pillar scheme. In 2006, the Government CR has announced that the pension reform will be implemented in three stages.

---

<sup>7</sup> Source: SLANÝ, A., KREBS, V. a kol. *Sociální ochrana a důchodový systém*, 2004, p. 47.

During the first stage of the pension reform, in July 2008, the Parliament CR has authorized Act No. 306/2008 Coll., which implements parametric changes to the basic state pension insurance. They come into force in 1<sup>st</sup> of January 2010 and are as the following<sup>8</sup>:

- Progressive increasing of the retirement age up to 65 years for male (in 2030) and female (in 2030-2043 according to the number of children).
- Extending the insurance period up to 35 years of insurance (including substitutes for insurance period), respectively 30 years of insurance (without substitutes for insurance period).
- Excluding the years of studying (after the age of 18) as a substitute for insurance period.
- Implementation of the possibility to supplement a half of the retirement pension with an income from employment.
- Establishment of a three-level disability.

Retirement age starting at 65 years is not any extreme compared to other well-developed countries. A number of European countries has already defined the same retirement age (Belgium, Ireland, Finland, Germany, Spain, Netherlands, Portugal, Luxembourg), and in other countries is expecting its increase to 65 years anyway. Furthermore, in USA, Norway or Iceland a retirement age begins at 67.<sup>9</sup>

The first stage of the pension reform has been the most significant change in the pension scheme since the nineties of the 20th century. It should improve its financial sustainability and long-term stability for at least next 30 years. Expenditure on the basic state pensions is currently 8.1 % of GDP; without any changes, according to the original legislation, it would be 11.7 % of GDP in 2050. But due to the changes mentioned above, the costs are expected to increase only to 10.5 % of GDP.<sup>10</sup>

The main task of the second stage of the pension reform is to establish a "reserve pension fund", a separate category of the state budget specialized for the financing of pensions. The second task was to implement changes in the private supplementary pension scheme, such as a separation of the assets owned by the pension fund and the participants; ability to provide various targeted pension plans, including the guaranteed; incentives to increase a motivation for higher contributions and wider participation of employers; support of drawing perpetual annuities from private supplementary pension schemes.<sup>11</sup>

The first task was fulfilled by adopting Act No. 26/2008 Coll. with effect from 1st of March 2008, which modifies the existing budget rules. It enabled a separate reserve account for a pension reform to be established. Also, this Act allows an investing of the funds accumulated on the reserve account for pension reform.<sup>11</sup>

With regard to the second task, a new concept of supplementary pension scheme has been submitted. Existing private pension funds will remain temporarily unchanged. The new system will be represented by newly established subjects – pension companies, which will

---

<sup>8</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *První etapa*, 8.11.2007.; MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Důchodová reforma*, 27.11.2008.

<sup>9</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *První etapa*, 8.11.2007.

<sup>10</sup> Source: : MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Dva roky sociálních reforem*, 4.12.2008.

<sup>11</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS, *Aktuální stav II. etapy důchodové reformy*, 30.6.2008.

hold the funds of the participants in several funds with different investment strategy.<sup>12</sup> Due to the limited ability of pension funds (newly called pension company) to pay perpetual annuities, this activity will be probably carried out by life insurance companies. As in the Slovak Republic, after reaching retirement age, everybody will have to buy the annuity from the commercial life insurance company using the savings accumulated in the fund (2nd pillar).

Within the third stage of the pension reform a key focus of Ministry of Labour and Social Affairs CR is diversification of the sources of the funds for retirement pensions based on the principle of "opt-out" (possibility to pay a part of the mandatory contributions not only to the basic state pension insurance but also to the private supplementary pension scheme). Policyholders would thus be given the opportunity to voluntarily choose whether their pension will be paid only from the state basic pension (1st pillar) or partly also from the new savings pillar (2nd pillar). The current size of the proposed opt-out is 4 %, supplemented by 2 % paid by participant of 2nd pillar moreover. Premiums to the second pillar for people, who voluntarily decide to enter it, would therefore be set at 6 % of the calculation base. In this case, the pension will be granted partly from the 1st pillar as a basic pension and partly from the 2nd pillar calculated according to the actual balance on the saving account.<sup>13</sup>

## CONCLUSION

Due to the significant demographic changes, the current pension scheme based on the PAYG financing is becoming insufficient. The pension system has already begun to generate a financial deficit, which is expected to be *ceteris paribus* even deepening. This fact exerts pressure on the necessity of implementation of a pension reform in the Czech Republic. Pension reform can consist of parametric changes to the state pension scheme or represent a complex approach including establishment of a new source of pension funds, usually based on the principle of real personal accounts. Proposal of the pension reform in the CR includes both of the measures mentioned above. Modification of the parameters in the pension scheme is generally sufficient tool to achieve long-term equilibrium, but usually results in a worsening financial situation of citizens, i.e. lower pension income, while maintaining or increasing the level of contributions. The only possibility to increase the overall pensions for a majority of the population without a significant increase of the contributions is an implementation of "opt-out" strategy (possibility to pay a part of the mandatory contributions not only to the basic state pension insurance but also to the private supplementary pension scheme). It would reduce the current excessive intergenerational redistribution and improve justice of the whole system.

Generally, I can not say that the principle of real personal accounts is better than the PAYG financing or vice versa. Both systems have their advantages and disadvantages, they are facing different risks. Therefore, most economic experts advise to diversify, i.e. implement a multi-source financing through a three-pillar scheme using the advantages of both of them while elimination of the overall risk.

Unfortunately, there is still dominated scepticism in private pension funds resulting from the unpleasant experience of voucher privatization and subsequent wild development of stock market in the Czech Republic, especially after the recent financial crisis. However, the losses, caused by the financial crisis (on average 10-20 % of their value), are the pension funds able

---

<sup>12</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS, *Aktuální stav II. etapy důchodové reformy*, 30.6.2008.

<sup>13</sup> Source: MINISTRY OF LABOUR AND SOCIAL AFFAIRS, *Důchodová reforma*, 27.11.2008.

to compensate in 3-4 years and in 30 or more years, their value will be always higher than in the state pension pillar.

### BIBLIOGRAPHY

- [1] BEZDĚK, V. *Na jediné strategii stavět nelze*. Pojistný obzor vol. 85, no. 3, 2008.
- [2] BEZDĚK, V. *Penzijní systémy obecně i v kontextu české ekonomiky (současný stav a potřeba reformy) – II. Díl*, First edition Praha: Česká národní banka, 2000, 131 p., VP ČNB no. 25.
- [3] BRDEK, M. a kol. *Trendy v evropské sociální politice*. First edition Praha: ASPI Publishing, 2002, 252 p. ISBN 80-86395-25-1.
- [4] KREBS, V. a kol. *Sociální politika*. Fourth edition Praha: ASPI Publishing, 2007, 504 p., ISBN 978-80-7357-276-1.
- [5] MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Příprava na stárnutí*, [on-line], 1.8.2008, <<http://www.mpsv.cz/cs/2856>>.
- [6] MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *První etapa*, [on-line], 8.11.2007, <<http://www.mpsv.cz/cs/4782>>.
- [7] MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Důchodová reforma*, [on-line], 27.11.2008. <[http://www.mpsv.cz/files/clanky/5934/27\\_112008.pdf](http://www.mpsv.cz/files/clanky/5934/27_112008.pdf)>.
- [8] MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Dva roky sociálních reformy*, [on-line], <[http://www.mpsv.cz/files/clanky/5945/04122\\_008.pdf](http://www.mpsv.cz/files/clanky/5945/04122_008.pdf)>.
- [9] MINISTRY OF LABOUR AND SOCIAL AFFAIRS CR, *Aktuální stav II. etapy důchodové reformy*, [on-line], 30.6.2008. <<http://www.mpsv.cz/files/clanky/5512/30062008.pdf>>.
- [10] SLANÝ, A., KREBS, V. a kol. *Sociální ochrana a důchodový systém*. First edition Brno: Masarykova univerzita v Brně, 2004, 71 p., ISBN 80-210-3390-8.

Ing. Taťána Lyčková  
Department of Finance  
Faculty of Economics and Administration  
Masaryk University  
Lipová 41a  
602 00 Brno  
[lyckova.t@seznam.cz](mailto:lyckova.t@seznam.cz)

# **THE IMPORTANT ISSUES OF THE CONVERSION TO THE EURO IN THE SLOVAK REPUBLIC**

**Daniela Mat'ovčíková**

## **ANNOTATION**

While the debut of the euro and the foundation of the Eurozone at the beginning of 1999 amounted to a very important point in the international monetary system, Slovakia was not directly affected. At that time the country only kept hoping to enter the European Union, never imagining that a membership in the Eurozone could possibly take the place almost promptly afterwards. As a fully legitimate member of the Union from 2004, we are already 16<sup>th</sup> member of the Eurozone from 1st of January 2009. This research investigates varied issues citizens have been facing after the currency changeover and even prior to that event.

## **KEY WORDS**

The euro, the European Union, the Eurozone, the currency changeover, the euro illusion.

## **INTRODUCTION**

June 2008 represents an important milestone in lives of Slovak population. The Slovak Republic was approved by the European commission to become 16<sup>th</sup> member of the Eurozone after reaching the Maastricht criteria. While it gave the country a stronger status, the people experienced mixed feelings. Logically it was expected that a new currency would have some implications. From a technical point of view the whole process was not complicated, yet a new currency led to a cultural change. Even though many people had already experienced the euro currency while travelling, for many more it was an utter novelty. Nevertheless both groups started to go through a long process of adjustment that consists of “thinking” in a new money terms and finishes with a behaviour that does not refer back to an old currency. Needless to say, based on experience from other Eurozone countries (Marques and Dehaene 2004; Missier et al. 2007; Ranyard 2007), it will take a long time.

The euro started to circulate on 1st of January 2009 in the Big Bang scenario. Dual circulation with a former Slovak crown and a new euro lasted only 16 days with all prices converted by the official conversion exchange rate (1 EUR = 30.1260 Slovak crowns) set by the Council of the European Union. The main slogan was not to damage people.

The euro has been around for almost 12 month and had definitely an impact on the whole country. This paper confirms that the attitudes and feelings of people have changed from the first round of the survey, the euro illusion has been observed (Burgoyne et al. 1999; Gamble et al 2002, Gamble 2007) and the people use different currency adaptation strategies (Hofmann et al. 2007, Gärling and Thøgersen 2007).

## **THE THEORETICAL PLATFORM**

Expert's opinions on the single currency are diversified. Some claim there are factors discouraging country from joining in, such as the want of the country to use the instruments of monetary and exchange rate policy to influence and regulate the employment status of trade and balance of payments or an interest into an inflation rate different from the rate of inflation in a monetary union. In addition a country might prefer to use monetary expansion and refinancing of government spending (which would prevent the required discipline in terms of fixed exchange rates) or is not willing to give up seignorage. Furthermore the reason might be

in an existence of domestic political and economic elite that is able to maintain a system of fixed exchange rates in balance or an inability of a state to accept a degree of integration set by the agreement on optimum currency areas, such as common standards, immigration, tax legislation or labour law.

On contrary, those who promote the euro bring up the massive reduction of transaction costs in international trade, the elimination of exchange rate movements, close cooperation and coordination of higher participation in the money and capital markets and, ultimately, currency manipulation, which strengthens its international status as an international currency and is a worthy adversary to the U.S. dollar. From the above it is clear that the views for joining vary. They are professionals who understand this step as an inevitable condition for further integration process in Europe. Conversely, there are Euroskeptics who reject the whole project of European political and economic integration and have resistance to join or stay in the EU. (Lipková 2006)

Every currency changeover brings certain complications. Getting used to new coins and notes definitely takes some time, even though it is not such a complicated task. However, the more worrying mission for the people is to learn the value of the money. Shoppers who are dealing with more than one currency are frequently exposed to ‘the money illusion’. It is linked to the nominal value of the currency and causes a different perception of the real value of money. Otherwise said, it’s psychologically easier for Slovak to leave 1 euro in tips compared to 30 Slovak crowns. Consumers are willing to pay more for a given product when it is priced in a less numerous currency than in a one that is more numerous. This phenomenon is called the euro illusion (Burgoyne et al. 1999, Gamble et al. 2002). The euro illusion thus suggests that due to the change of the currency, prices and salaries appear smaller in euro compared to the old currency. While consumers might feel poorer, because they “earn less”, the paradox is that prices look lower than before.

There are several strategies that have been observed over the time. Hofmann et al. (2007) came up with the anchor, conversion, intuitive and market strategies that are described in Table 1. The authors noted a different level of accuracy as well as a different level of effort. According to their research people generally used more than one strategy, but the market value strategy dominated.

**Table 1. Strategies by Hofmann et al (2007).**

The type of strategy	Characterization
The anchor strategy	Prices of frequently bought products are learnt and then used to evaluate prices of other products.
The conversion strategy	Every price is converted to the old currency by means of either exact calculation or an approximate conversion rule.
The intuitive strategy	Comparison with the old currency is not made a people intuitively buy what they need.
The market value strategy	The associations are made between some values in the new and old currencies.



## THE METHODOLOGY AND THE MAIN AIM

This paper and a preceding research focus on three basic areas - attitudes towards a new currency and people's feelings, euro price evaluation and the observed euro illusion and four currency adaptation strategies that are used by people. The data for a paper was collected at 3 different times, between May 2008 and April 2009. The first round of anonymous questionnaires took place right before the decision about Slovakian entrance into the Eurozone was made; the second almost immediately before the dual circulation and the third one was four month after the currency changeover.

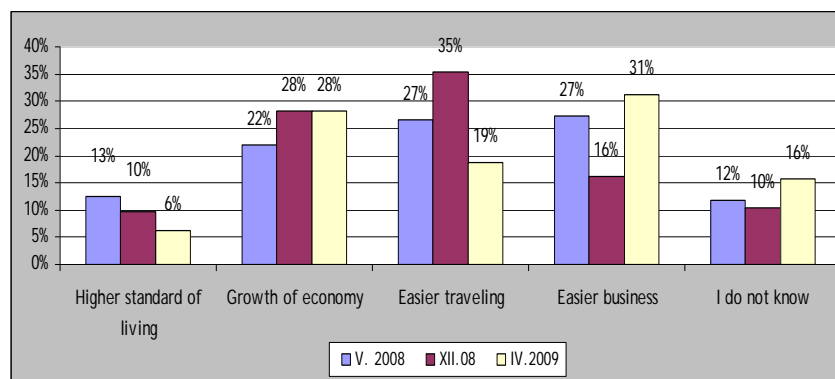
Participants were asked to answer 27 questions. First five of them were socio-demographic questions – the age, sex, earnings, size of the town they live in. Following eight questions were monitoring their general knowledge about the European Union and opinions on what would change once the new currency will be introduced. The rest were directed at their feelings and attitudes, both positive and negative, tipping in both currencies and people's experience with the currency and the conversion.

This research was conducted as a part of the dissertation and another round of survey is already planned for December 2009 in order to evaluate one year of the euro circulation. The current literature about the transition to the euro in Slovakia mostly consists of the newspapers and magazines articles and a sufficient research is lacking. The Slovak Republic is the first country of the Visegrad 4 (the Czech Republic, Poland, Hungary and the Slovak Republic) that has been using the euro as a mean of payment and is the youngest one as well. As the country is very close economically and geographically especially to the Czech Republic, the results and findings might be interesting for citizens of this neighboring country.

## RESULTS

Attitudes and feelings are reflected in people's perceptions of pluses and minuses about a new currency. As Figure 1 shows, Slovak's opinions on four given options - higher standard of living, growth of economy, traveling and business - has changed over the observed period. While over the year ago they emphasized higher standard of living, in April 2009 almost one third of respondents saw positive effect of the euro on growth of economy and easier business.

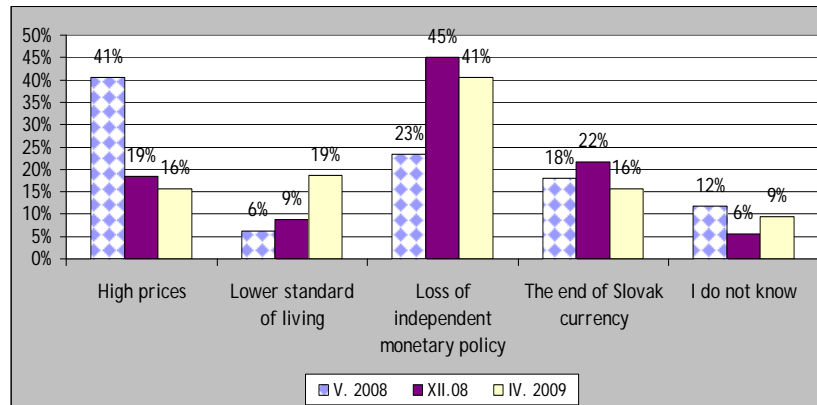
**Figure 1. The pluses of a new currency.**



On the other hand, participants were asked about the minuses and could have chosen from four specific examples – high prices, lower standard of living, the loss of independent monetary policy and the end of Slovak currency. While they were afraid of higher prices in

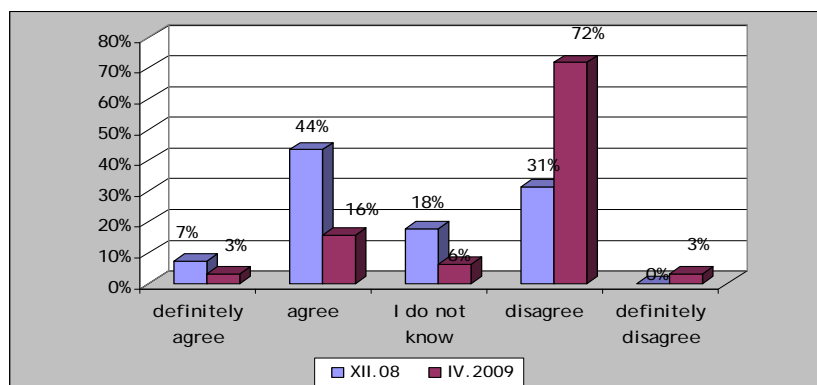
the first round, as the date of the currency changeover came closer, they started to worry about the loss of independent monetary policy. What is interesting, but not surprising, only 22% felt immediately before the changeover “sadness” about the end of Slovak currency, what can be explained by the fact that it has not been around for such a long time in the first place. Moreover, while high prices were not worrying, the respondents were concerned about the lower standard of living.

**Figure 2. The minuses of a new currency.**



Further questions were included in two rounds only, as respondents could not have answered them before Slovakia was approved to go ahead and enter the Eurozone. One of the questions was given in order to see how participants evaluated the whole conversion process. The results in Figure 3 clearly show that while in December 2009 51% of participants expected difficulties with the whole process, four month later 75% disagreed with the statement.

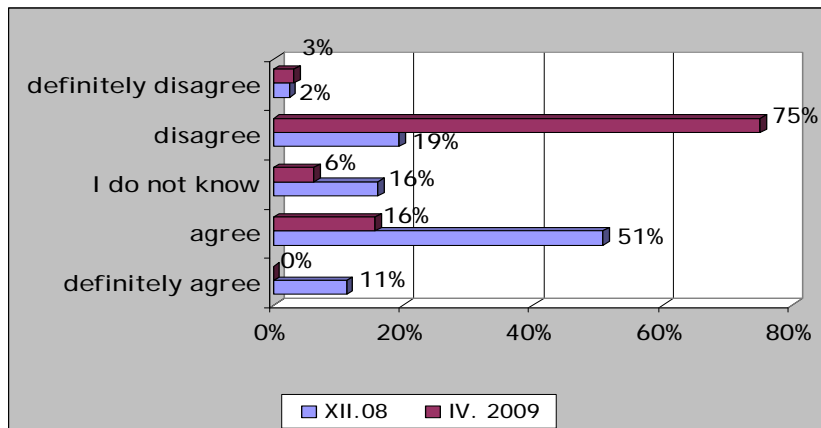
**Figure 3. The currency changeover causes loads of difficulties.**



In another query respondents were asked to comment on the sentence “I am worried that shopkeepers would cheat”. Again, while 62% agreed in December 2008, 75% with this sentence disagreed four month later.

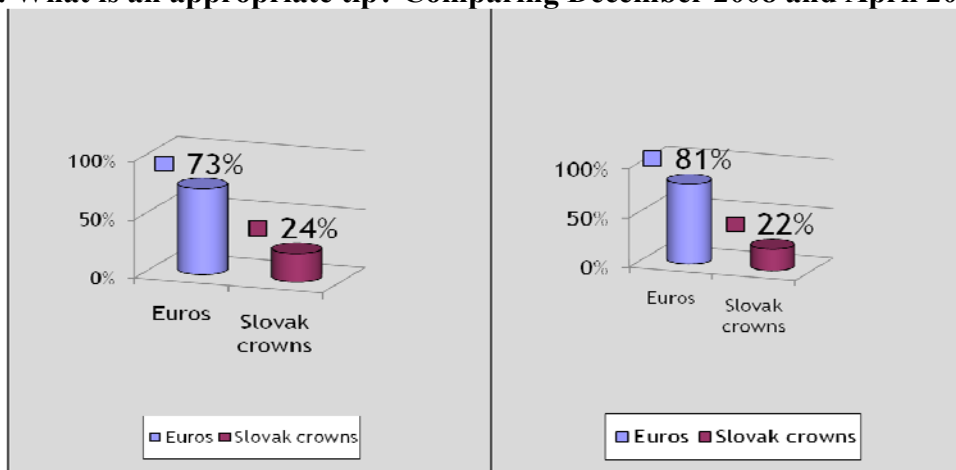
The last task in this part was to comment on a sentence “The euro causes that I would feel more European”. 52% of respondents agreed or definitely agreed in December 2008, but the percentage rose by further 17% only four month later. This might have been caused by a short history of the Slovak Republic in the first place (established 1<sup>st</sup> of January 1993.)

**Figure 4. I am worried that shopkeepers would cheat.**



The euro illusion was described earlier and has been observed in Slovakia as well even though this issue has been addressed in four questions only. They were placed in the different part of the questionnaire as the close order could have distorted results. The participants had to comment on an appropriate tip. The values were chosen in both currencies and were comparable taking into account the conversion exchange rate. The results are in Figure 5. In December 2008 over 73% of respondents gave tips in euros compared to 24% tipping in Slovak crowns. In April 2009 almost 81% appreciate the service in euros and 22% in Slovak crowns. The question at that time was put into the past tense. Surprising was the fact that all those who gave tips in both currencies gave higher tips in euros. This confirms the theory about a perception of a currency with a lower nominal value that is generally underestimated

**Figure 5. What is an appropriate tip? Comparing December 2008 and April 2009.**



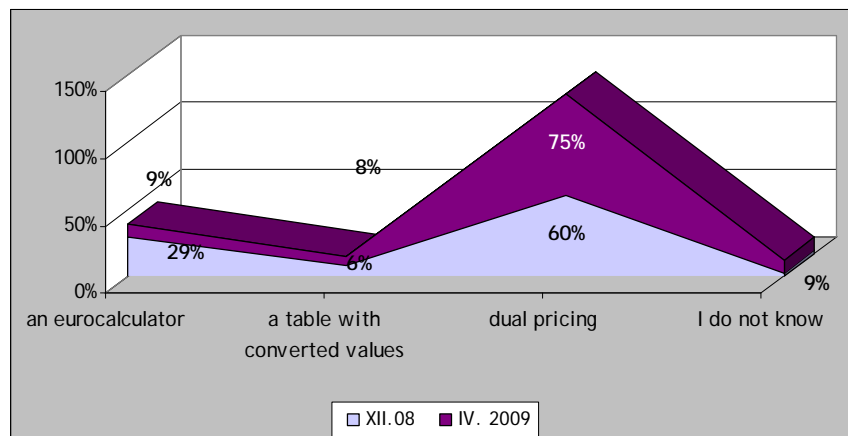
The last part discussed is linked to currency adaptation strategies. Out of four discussed by Hofmann, the conversion strategy prevailed at the time of the last round of survey. The participants used a very handful conversion rate of 30 Slovak crowns for one euro. Further factor that might have been beneficial is that respondents were used to dealing with another currency already (76% used another currency while travelling) and out of that 74% computed the sum needed for travel themselves without waiting to find out until going to a bank. They have experience with converting values.

The respondents did not manage to learn the prices yet, so do not use any anchor. This might be caused by the fact that shops and other institutions use dual pricing. People therefore rely on fairness in denomination and do not pay that much attention to thoughts about whether the new euro price is correct or not. They can check themselves straight on the spot.

The market value strategy and the intuitive strategy were not observed yet. The main factor causing this trend might be dual prices because people can still see prices in both currencies and are not encouraged to manipulate with some set values between the new and the old currency.

In order to ease the whole process of currency changeover the government has allocated 110 million Slovak crowns and National bank of Slovakia 70 million. Each household received printed information material together with an Euro calculator and a tables with converted values, a dedicated website was set up and toll-free telephone line for questions about the euro as well. Figure 6 displays the preferred methods used while converting one currency into another one.

**Figure 6. Which method are you using in order to estimate the value of goods?**



## DISCUSSION AND CONCLUSION

Generally, it can be claimed that the transition in the Slovak Republic went smoothly and people welcomed very well new money unit. More than 75% of respondents did not feel any difficulties within the observed period, 78% were not worried of shopkeeper's cheating and more than 69% of participant felt more European as a result of a new money. Only 16% felt nostalgic leaving the old currency behind.

It seems that people are very enthusiastic about the new currency, even though the whole process is not completed yet. They think it is necessary for the further economic growth and easier business (over 59%) especially during the financial crises. Slovakia is the only country that accepted new currency during this difficult time and it is seen as a good move. The financial crisis has changed the situation in many countries in the space of a few months and the newly visible costs of not using the euro have made politicians with the independent currencies to rethink their standings (f.e. Poland, Denmark, and Iceland).

The euro illusion was observed in the last two rounds of interviews, but in order to make definite claim further and a more detailed research is needed. In general, people have a tendency to overspend - as confirmed in tipping - as nominal values of goods and services are

lower than before, even though they feel poorer than previously. This is a typical phenomenon for the money illusion.

Slovaks prefer to use the market value strategy and four months after new currency has been circulating converted the prices using the official exchange rate. The further research is needed to see when they start learning new prices. It is expected that once dual pricing system is not obligatory, they will be forced to imply further strategies because of their inability to remember old prices in an old currency forever. The whole duty to publish both prices ends in December 2009.

The presence of the euro illusion is a sign of an incomplete adaptation process. This calls for an additional appropriate information campaign and effective government policies that should facilitate the whole course of actions. This shall represent the next part of the dissertation research.

### BIBLIOGRAPHY

1. Burgoyne, C. B., Routh, D. A., & Ellis, A.-M. (1999). The transition to the euro: Some perspectives from economic sociology. *Journal of Consumer Policy*, 22, p.91-116.
2. Gamble, E., Gärling, T., Charlton, J. & Ranyard, R. (2002). Euro illusion: Psychological insights into price evaluations with a unitary currency. *European Psychologist* 7, 302-311.
3. Gärling, T., & Thøgersen, J. (2007). Effects of the euro changeover on consumers behaviour: Introduction to the special issue. *Journal of Consumer Policy*, 30, p. 303-311.
4. General code # 659/2007 (2007). Retrieved July 17, 2009, from <http://www.azss.sk/doc/aktualinf/Generalny%20zakon%20659%20z%202007.pdf>
5. Hofmann, E., Kirchler, E., & Kamleitner, B. (2007). Consumer adaptation strategies: From Austrian shilling to the euro. *Journal of Consumer Policy*, 30, p. 367-381.
6. Lipková, Ľ. et al. (2006). *Európska únia [the European Union]* Bratislava: Sprint vďaka, p.148-149.
7. Marques, J. F., & Dehaene, S. (2004). Developing intuition for prices in euros. Rescaling or relearning prices? *Journal of Experimental Psychology*, 10, No.3, 148-155.
8. Missier, F., Bonini, N., & Ranyard, R. (2007). The Euro illusion in consumers' price estimations: an Italian-Irish comparison in the third year of the euro. *Journal of Consumer Policy*, 30, p. 337-354.
9. Národná banka Slovenska. (2006). *Vplyv zavedenia eura na slovenské hospodárstvo [The influence of the euro introduction on Slovak economy]*. Retrieved July 17, 2009, from [http://www.nbs.sk/\\_img/Documents/PUBLIK/06\\_kol1.pdf](http://www.nbs.sk/_img/Documents/PUBLIK/06_kol1.pdf)
10. Ranyard, R. (2007). Euro stories: The Irish experience of currency change. *Journal of Consumer Policy*, 30, p. 313-322.

Full name: Ing. Daniela Maťovčíková  
Institution: VŠM/ City University  
Street: Bezručova 64  
City: 911 01 Trenčín  
Email: dmatovcikova@vsm.sk

# COMPULSORY RELEASE OF INFORMATION PUBLISHED ON THE CAPITAL MARKET

Michaela Mozdiakova, Damian Czudek, Kristyna Chalupecka

## ANNOTATION

In this paper, we will focus in the first place on the analysis of primary legislation, which concerns the protection of the capital market and the investors on the capital market. This is a very current topic, particularly in relation to changes brought about by the recent implementation of the EU regulation.

The paper will examine both the introduction of the so-called location for central storage of regulated information on the capital market, which should be a place where the information obligations of issuers of certain securities, shareholders and other entities, and compulsory information obligations of individual entities themselves would be released.

## KEY WORDS

Bonds, central storage of regulated information, Czech National Bank, issuer, obligation to disclose information, quoted securities, regulated market, stocks.

## INTRODUCTION

Among the European Communities basic priorities within the achievement of Pillar I objectives (e.g. sustainable and non-inflationary growth, a high degree of competitiveness etc.)<sup>1</sup> is the creation of a single internal market with four basic freedoms, which are the free movement of persons, goods, services and capital. Free movement of capital does not mean only the free movement of payments (payment for imported goods and services, etc.), but also the free movement of capital itself (direct and portfolio investment, real estate investment, financial markets transactions, collective investments, deposits, loans, insurance, etc.).<sup>2</sup> Detailed law at Community level is generally provided by regulations (directly applicable) or directives (it is necessary to transpose them into national law).

Due to capital allocation and cost reduction support, the Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and the amending Directive 2001/34/EC (hereinafter referred as "the transparency directive") were adopted in the area of integration of securities markets. The purpose of the transparency directive is to improve investor protection and market efficiency by communicating accurate, complete and timely information about issuers of securities to the investors and the public. It allows the investors and the public to make an informed evaluation of business performance and activities of issuers and to make their investment decisions accordingly.

---

<sup>1</sup> Art. 2 of the Treaty establishing the European Community stipulates that the mission of European Community is to support harmonious, balanced and sustainable development of economic life, high level of employment and social protection, equality between men and women, sustainable and non-inflationary growth, high degree of competitiveness and convergence of economic performance, high level of protection and improvement of the environment, raising the standard of living and quality of life, economic and social cohesion and solidarity among Member States.

<sup>2</sup> *Euroskop: free capital movement.* [online]. [quotation 2009-11-07]. Available at: <<http://www.euroskop.cz/8737/sekce/volny-pohyb-kapitalu/>>

Although the implementation period of the transparency directive expired on 20 January 2007 the national legislation requirements were not taken into account in the Czech rule of law until 1 August 2009.<sup>3</sup> On the 1 August 2009, two important rules became effective:

- the Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended, and other related laws, as amended, and
- the Decree No. 234/2009 Coll., on the Protection against Market Abuse and on Transparency, as amended.<sup>4</sup>

These significant changes will be discussed in the following text.

## **AIM AND METODOLOGY**

The aim of this paper is to analyze the part of the institute of capital market and investors protection which concerns the obligation of certain capital market entities to release information for the investors and for the public. The paper describes the current situation in the Czech Republic and evaluates recent major changes in this field. The purpose is to provide a well-arranged summary of information available on the analyzed issue, which has not been projected into almost any essays due to its novelty.

The theoretical analysis is based on the currently effective legislation in the Czech Republic, i.e. the Act No. 256/2004 Coll., on Business Activities on Capital Market, as amended (also known as the Capital Market Undertakings Act, hereinafter referred as "CMUA") and Decree No. 234/2009 Coll., on the Protection against Market Abuse and on Transparency (hereinafter referred as "the transparency decree"). On European Community level, the most significant source of regulation is certainly the transparency directive mentioned before as well as articles published in professional journals and monographs relating to capital markets and financial law in general.

## **RESULTS**

The result of this paper is a comprehensive and coherent overview of knowledge concerning certain obligations of capital market entities to disclose (publish) information for the investors and the public, the method, form and periodicity of reporting and disclosure of such information, and in particular establishing the location for central storage of regulated information.

### **Issuers' obligation to disclose information**

The securities issuers have a wide range of dissimilar disclosure obligations, which differ both in content and method in which the information is disclosed by the securities issuers.

However, before we will deal with the specific disclosure obligations and their form, we should answer the question which securities issuers are regarded by the CMUA as the compulsory entities (subjects), i.e. which securities issuers have to comply with these obligations in the Czech Republic.

---

<sup>3</sup> Due to non-transposition of the transparency directive the Czech Republic has gotten into the second phase of the infringement procedure (procedure for violation of Article 226 TEC) when the European Commission, after the first phase (a formal warning to a Member State), shall send a reasoned opinion to the Member State. After two months from sending the reasoned opinion the European Commission can bring the Member State before the European Court of Justice.

<sup>4</sup> The Czech Republic took the advantage of the opportunity given by the transparency directive to correct the basic principles and minimal standards relating to mandatory disclosures by law and technical details that tend to frequent changes by decree of the Czech National Bank. This method of implementation is also supported by the Lamfalussy final report on the Regulation of European Securities Regulators (a result of EU expert group proceedings).

### Who is considered as the securities issuer?

Disclosure obligations that will be mentioned below relate to issuers whose securities are admitted to trading on a regulated market established within the European Economic Area ("EEA")<sup>5</sup> for which the Czech Republic is considered as the *home country*.<sup>6</sup> Although it is assumed that in the Czech Republic, primarily domestic issuers will meet the disclosure obligations, an opportunity is given to certain issuers (both domestic and foreign) to make their own decisions about which state they will consider as their home country. It can thus be argued that determining the home country scheme may be *mandatory* (the issuer must comply with the disclosure obligation in the Czech Republic) or *optional* (the issuer chooses as their home country the state in which they have a registered office or the securities issued by this issuer was admitted to trading on a regulated market, for a period of 3 years minimum). Issuers could be classified according to many criteria, but for the purposes of this text it will be useful to categorize them according to whether the disclosure obligations are met in the Czech Republic on an obligatory or a facultative basis.

Issuers under the obligatory scheme:

- the issuer of shares or similar equity securities<sup>7</sup> whose registered office is located in the Czech Republic,
- the issuer of shares or similar equity securities whose registered office is located in a country outside the EEA and the prospectus of securities has been approved by the Czech National Bank,<sup>8</sup>
- the issuer of a bond or similar debt securities, whose nominal value on the date of issue is less than 1000 EUR<sup>9</sup> and whose registered office is located in the Czech Republic,
- the issuer of a bond or similar debt securities, whose nominal value on the date of issue is less than 1000 EUR and whose registered office is located in a country outside the EEA and the prospectus of securities has been approved by the Czech National Bank
- the issuer of other investment securities,<sup>10</sup> whose registered office is located in the Czech Republic,

---

<sup>5</sup> CMUA refers only to a regulated market established in a Member State of the European Union, but CMUA § 195 provides that where it is listed in CMUA European Union, it meant the European Economic Area, namely the Member States of the European Community (Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Ireland, Italy, Cyprus, Latvia, Lithuania, Luxembourg, Hungary, Malta, Netherlands, Poland, Portugal, Austria, Greece, Romania, Slovakia, Slovenia, Spain, United Kingdom, Sweden) and Iceland, Liechtenstein and Norway.

<sup>6</sup> Home country is in an EEA State in which the securities issuer carries out the disclosure and information duties.

<sup>7</sup> Between stocks and similar equity securities in accordance with § 117a CMUA belongs the priority and the removable bonds, which are not for the purpose of CMUA treated as debt securities, because after the transfer or enforcement of the right entitles to acquire shares or similar equity securities.

<sup>8</sup> The Czech National Bank approve a prospectus according to § 36c/2 CMUA to those issuers whose securities were admitted to trading in the Czech Republic like the first in the EEA (principle of priority).

<sup>9</sup> At this point it should be pointed out that this is a simplification. Specific CMUA diction is "whose nominal value is not nearly equal to or greater than 1000 EUR". That in practice means that for the reason of possible changes in the course of the bond or the debt security in the time of its emission, the law takes while determining home country scheme into account deviation of the nominal value by  $\pm 5$  -10% (in particular in maximum range from 900 to 1100 EUR). The authors consider this diction as questionable and too vague (lack of a mechanism for determining the precise percentage of deviation) and believe that the particular provision under which it is driven home country issuers should bring more legal certainty.

<sup>10</sup> As investment securities are considered all other securities that are not shares or similar equity securities or bonds or similar debt securities. It is therefore a residual category.



- the issuer of other investment securities, whose office is located in a country outside the EEA and the prospectus of securities has been approved by the Czech National Bank.

Issuers under the facultative scheme:

- the issuer of a bond or similar debt securities, whose nominal value is on the date of issue more than 1000 EUR, and whose registered office is located in the Czech Republic,
- the issuer of a bond or similar debt securities, whose nominal value on the date of the issue is more than 1000 EUR, and whose registered office is located in a country outside the EEA and the prospectus of securities has been approved by the Czech National Bank
- other issuers of other investment securities.

Fig.1 Categorization of issuers

Issuer by the type of security	Registered office	Nominal value	Scheme
shares or similar equity securities	in the Czech Republic	irrelevant	obligatory
shares or similar equity securities	outside the EEA	irrelevant	obligatory
bond or similar debt securities	in the Czech Republic	less than 1000 EUR	obligatory
bond or similar debt securities	outside the EEA	less than 1000 EUR	obligatory
bond or similar debt securities	outside the EEA	more than 1000 EUR	facultative
bond or similar debt securities	in the Czech Republic	more than 1000 EUR	facultative
other investment securities	in the Czech Republic	irrelevant	obligatory
other investment securities	outside the EEA	irrelevant	obligatory
other investment securities	N/A	irrelevant	facultative

Source: Own figure.

Summing up the above, the conclusion is that the Czech Republic must be regarded as a home country on an obligatory basis for issuers of shares or similar equity securities, issuers of bonds or similar debt securities only if the nominal value of bonds issued by them is less than 1000 EUR on the day of issue, and some issuers of other investment securities. The other issuers have the option to choose for its home country another EEA state.

It should be noted that if the securities were admitted for trading on a regulated market without the consent of the issuer (so-called secondary listing), the disclosure obligation has to be fulfilled either by:

- the other entity who has applied for the admission to a regulated market, or
- the organizer of the regulated market who received the securities.

It follows that if the application for adoption of securities is submitted by the issuer, the issuer is required to disclose the information. If the application for adoption of securities is submitted by another entity or the organizer of the regulated market, they are required to disclose the information instead of the issuer (this means to disclose mandatory information without delay right after it is published by the issuer as a liable entity).<sup>11</sup>

### Specific disclosed information and their categorization

The information obligations can be divided according to whether their nature is regular or irregular. *Periodic* (regular) information is typically provided within certain intervals regardless whether the state of affairs has changed. In contrast, the so-called *ad hoc* (irregular)

<sup>11</sup> If the language requirements are met the disclosure of a reference is enough.

information is connected to a situation which is not certain to occur. At this point it should be noted that the following text takes into account only the information obligations of issuers having their duty to disclose a mandatory disclosure of information in the Czech Republic.

Among the **regular** information obligations belongs the disclosure of annual reports (or consolidated annual reports), semiannual reports (or consolidated semi-annual reports) and reports of the issuer's executive body. *Annual reports* are required to be disclosed by all issuers<sup>12</sup> within 4 months from the end of the accounting period (financial year). The annual report must be publicly available for at least 5 years, must provide a true and fair view, in particular of the financial situation and economic results of the issuer for the previous financial year and future development prospects. It must include audited financial statements.<sup>13</sup> *Semiannual reports* are required to be disclosed by all other issuers than issuers of securities within 2 months after the first 6 months of the financial year. The semiannual report must be publicly available for at least 5 years, must provide a true and fair view, in particular of the financial situation and economic results of the issuer for the previous financial year, future development prospects, financial statement and information about whether it has been reviewed by the auditor. Compared to the annual report, it is not subject to such high content requirements.<sup>14</sup> *Issuer's executive body reports*<sup>15</sup> are required to be disclosed by the issuer of shares or similar equity securities always in the period within the first 10 weeks of a half of the financial year but not later than 6 weeks before the end of the half of the financial year. Issuer's executive body reports inform about important events, transactions and their impact on the financial situation or the result of which occurred in interim.<sup>16</sup> All periodic disclosure obligations are summarized for greater clarity in the following table.

Fig.2 Periodic disclosure obligations

Issuer	Disclosure obligation	Periodicity (deadline)
S, B, OIS	annual reports and consolidated annual reports	within 4 months from the end of the financial year
S, B	semiannual reports and consolidated semi-annual reports	within 2 months after the first 6 months of the financial year
S	issuer's executive body report (management, interim or quarterly report)	after the first 10 weeks of the half of the financial year but not later than 6 weeks before the end of the half of the financial year

Note: S = shares or similar equity securities; B = bonds or similar debt securities; OIS = other investment securities

Source: Own figure

Some issuers may not disclose periodical information at all. Further is an enumerative list of issuers who are exempt from the obligation to disclose periodical information (annual report, semi-annual report and the issuer's executive body report):

- Member States of the European Economic Area,
- Member States of a federation, which is a member of the European Economic Area,

<sup>12</sup> This means issuers of shares and similar equity securities, bonds and similar debt securities and other investment securities.

<sup>13</sup> Details of the annual report, its form and structure contains § 118 CMUA and § 9 of the transparency decree.

<sup>14</sup> Details of the semi-annual report, its form and structure contains § 119 CMUA and § 9 of the transparency decree.

<sup>15</sup> Also is called management, interim or quarterly report.

<sup>16</sup> Details of the issuer's executive body report, its form and structure contains § 119a CMUA and § 9 of the transparency decree.

- the local government of a Member State of the European Economic Area,
- Central bank of a Member State of the European Economic Area or the European Central Bank,
- international organization, among whose members is at least one Member State of the European Economic Area,
- an issuer issuing only bonds or similar debt securities, whose nominal value is on the date of issue greater than 50000 EUR.<sup>17</sup>

Issuers are after 1 August 2009 obliged to prepare and disclose an annual report, consolidated annual report, semi-annual report, consolidated semi-annual report and issuer's executive body report for the first time in the subsequent period.<sup>18</sup>

**Irregular** information obligations are fulfilled by an obliged entity only on condition that there was a situation entailing the duty to disclose irregular information. Not all of these obligations apply to issuers of all types of securities. Furthermore, we can distinguish the information that the issuer is obliged to disclose without undue delay and the information that the issuer is required to disclose or send to the owners of securities.

The first type of ad hoc obligation to disclose certain information is absolute – the recipient of information is considered to be the general public. It includes following situations:

- disapproving of financial statements by the general meeting or by a court decision on the invalidity of the general meeting which approved the financial statements,
- change of the rights attached to certain shares or similar equity securities,
- change of the rights attached to certain bonds or similar debt securities or other investment securities, especially when changing the issue conditions,
- release of a new issue of securities by the same issuer, accepting a loan or credit.<sup>19</sup>

For the second type of ad hoc obligations to disclose certain information it is characteristic that the number of recipients may be limited. The legislature gives the issuer the choice to provide this information to the general public, or to send it only to the owners of securities. It includes following situations:

- taking place of a general meeting that should decide on payment of proceeds of shares or similar equity securities, increase or decrease of registered capital, splitting, merger, change of the form or nature of such security,<sup>20</sup>
- law enforcement, payment of revenue, subscription, cancellation or redemption of bonds or similar debt securities.

Fig.3 Ad hoc disclosure obligations

Issuer	Disclosure obligation	Fulfill by
S, B, OIS	disapproving of financial statements by the general meeting or by a court decision on the invalidity of the general meeting which approved the financial statements	disclosure

<sup>17</sup> § 119c CMUA.

<sup>18</sup> More in Section II Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended, and other related laws, as amended.

<sup>19</sup> By general meeting is meant here also similar meeting of the owners of securities and by financial statements potential consolidated financial statements. The information also includes the method of solving reservations for the case of disapproval of the financial statement by general meeting.

<sup>20</sup> Information includes reports about taking place of such general meeting, the proposed method of solution and the impact of decisions on the rights of the owner of such security. Subsequently, the issuer must disclose the outcome of the general meeting. For more see § 120a / 2 and § 120a / 3 CMUA.

S	change of the rights attached to certain shares or similar equity securities	disclosure
B, OIS	change of the rights attached to certain bonds or similar debt securities or other investment securities, especially when changing the issue conditions	disclosure
S, C, OIS	release of a new issue of securities by the same issuer, accepting a loan or credit	disclosure
S	taking place of a general meeting that should decide on payment of proceeds of shares or similar equity securities, increase or decrease of registered capital, splitting, merger, change of the form or nature of such security	disclosure or sending
B	law enforcement, payment of revenue, subscription, cancellation or redemption of bonds or similar debt securities	disclosure or sending

*Note:* S = shares or similar equity securities; B = bonds or similar debt securities; OIS = other investment securities

*Source: Own figure*

Besides the above outlined structure of obligations to disclose information stands the obligation of issuers who have facultative choice of home country to disclose information about the EEA State they chose for fulfilling the disclose information obligations mentioned above.

#### **Terms of the disclosure of information obligation**

The obliged entity must disclose the obligatorily disclosed information free of charge and without restriction, in entire version, enabling full remote access. The obliged entity must disclose the information as a data file convenient to be downloaded and in the form not allowing any changes,<sup>21</sup> easily searchable and not easily confused with other business or marketing communications. The obliged entity has to ensure that the information remains publicly available for at least 5 years from its disclosure.<sup>22</sup> In fulfilling the obligation to disclose required information, the issuer is prohibited from using false, deceptive or misleading information, concealing the facts relevant to the decisions of the investors, offering benefits which cannot be guaranteed or reliable, or putting incorrect information about issuer's economic situation.<sup>23</sup>

#### **Location for central storage of regulated information**

Both the protection of the capital market and investor protection on the capital market<sup>24</sup> are closely related to the transparency of capital markets at national and at European level. It is necessary to build and strengthen investor confidence in particular by setting high standards imposed on the frequency and the quality of disclosed information. A desirable situation means that the investors are provided with a reasonable degree of confidence that in the case they would like to they may obtain, by using the standard methods, the secured information which is necessary for their investment decisions. This information should have a reliable track of the origin and should be standardized.

The transparency directive aimed at promoting stability on financial markets requires the Member States to introduce at least one officially appointed mechanism for central storage of regulated information that meets the minimum standards of safety and will collect the information from all reporting entities in a clear structure.

<sup>21</sup> Portable Document Forma is recommended.

<sup>22</sup> § 19 and § 20 of the transparency decree.

<sup>23</sup> § 121 CMUA.

<sup>24</sup> Investors (both professional and non-professional) are at the capital markets regarded as consumers of various investment services.

In the Czech Republic, this task was entrusted to the supervisory and regulatory body of the capital market, which is the Czech National Bank.<sup>25</sup> This step is quite logical because the entities that are required to disclose information concerning the capital market to general public are also required to report all above mentioned information obligations towards the Czech National Bank. The Czech National Bank consequently evaluates the information for its own needs, which means that there already exists a practice of the issuers sending obliged information and the Czech National Bank processing them.

The current reporting system used by the Czech National Bank for the implementation of various reporting obligations<sup>26</sup> consists of two subsystems. The first is the SDNS<sup>27</sup> system, oriented primarily on the internet technologies. Reporting entities (registered users are non-banks) are required to manually type the data or load them into SDNS using MS Excel. All communication is encrypted and transmitted messages are provided with a digital signature. The operation on the side of the Czech National Bank (the so-called Information Service) is fully automated. The second system is EDI,<sup>28</sup> designed primarily for bank entities, based on the secure exchange of data structures between an application of the reporting entity (entities using their own software) and applications of the Czech National Bank.

Although the Czech National Bank, as is apparent from the foregoing text, already uses a reporting system, it is rather a system for collection and subsequent evaluation of the information, therefore this system is not configured to allow unregistered entities (the general public) to view the data reported by the entities. The Czech National Bank will invest approximately 16,000,000,- CZK<sup>29</sup> to establish the SIPReS system,<sup>30</sup> the applications for collecting information obligations and registration of entities. Although the legal regulation introducing the requirement for the establishment of an officially appointed mechanism for the central storage of regulated information into Czech legal system came into effect on 1 August 2009, the legislature left to the Czech National Bank a period of one year to adapt to new conditions. The Czech National Bank is not obliged to follow § 127a CMUA until 1 August 2010.<sup>31</sup>

## CONCLUSION

The transparency directive was implemented into Czech law with effect from 1 August 2009. Since that date the securities issuers who perform information obligations in the Czech Republic will be obliged in the subsequent financial year to fulfill the periodic and ad hoc reporting obligations not only to the Czech National Bank, but in particular disclose them to the general public in a standardized way. The authors consider these changes as "necessary evil" due to the fact that most of the current financial services have a cross-border character and it seems inevitable to make steps to unification of the single internal market, investors' protection and transparency.

To protect investors, it is necessary to give them the standardized information and the same form of disclosures. The authors consider as the most important aspect the easy availability,

---

<sup>25</sup> Act No. 15/1998 Coll., the Supervision on the Capital Market and amending other laws, as amended.

<sup>26</sup> Known as MTS-ISL-SUD.

<sup>27</sup> Available at: <https://wsn.cnb.cz/ewi/>.

<sup>28</sup> Acronym from „Electronical Data Interchange“.

<sup>29</sup> Approximately 615000 EUR.

<sup>30</sup> For more, see Statement to Decree No. 234/2009 Coll., on the Protection against Market Abuse and on Transparency.

<sup>31</sup> Temporary provisions of the Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended, and other related laws, as amended.

which should be ensured by a location for central storage of regulated information operated by the Czech National Bank. It should help the investors to find all information important for taking investment decisions about whichever issuer on one spot.

## BIBLIOGRAPHY

- [1] Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended, and other related laws, as amended.
- [2] Act No. 256/2004 Coll., on Business Activities on Capital Market, as amended
- [3] Decree No. 234/2009 Coll., on the Protection against Market Abuse and on Transparency, as amended.
- [4] Directive 2004/109/EC of the European Parliament and of the Council of 15 December 2004 on the harmonisation of transparency requirements in relation to information about issuers whose securities are admitted to trading on a regulated market and amending Directive 2001/34/EC.
- [5] *Euroskop : free capital movement*. [online]. [quotation 2009-11-07]. Available at: <<http://www.euroskop.cz/8737/sekce/volny-pohyb-kapitalu/>>.
- [6] Parliament of the Czech Republic: Statement to Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended, and other related laws, as amended.
- [7] Parliament of the Czech Republic: Act No. 230/2009 Coll., the Act amending Act No. 256/2004 Coll., on Business Activities on the Capital Market, as amended and other related laws, as amended.
- [8] Parliament of the Czech Republic: Decree No. 234/2009 Coll., on the Protection against Market Abuse and on Transparency, as amended.

Michaela Mozdiakova  
Faculty of Law, Masaryk University  
Veveri 70  
Brno  
[michaela.mozdiakova@law.muni.cz](mailto:michaela.mozdiakova@law.muni.cz)

Damian Czudek  
Faculty of Law, Masaryk University  
Veveri 70  
Brno  
[damian.czudek@law.muni.cz](mailto:damian.czudek@law.muni.cz)

Kristyna Chalupecka  
Faculty of Law, Masaryk University  
Veveri 70  
Brno  
[kristyna.chalupecka@law.muni.cz](mailto:kristyna.chalupecka@law.muni.cz)

# **CORPORATE SOCIAL RESPONSIBILITY IN THE INTERNATIONAL BANKING**

**Tomasz Piotr Murawski**

## **ANNOTATION**

The conception of Corporate Social Responsibility takes a specially position in today's economy. It has a reflection on many planes of operating activity of enterprises, financial institutions as well as the consumers. CEO of many banks introduces to their activity many aims from this conception. It's came many activities, that promote responsible working. It's have a reflection in three dimensions: ecological, economic and social-cultural. The aim of this article is to present the activity of banks and financial institutions in global sense in order to present their social responsibility. It gives series of examples of banks and financial institutions shown from both sides, positive and negative approach to this topic..

## **KEY WORDS**

Corporate Social Responsibility, bank

## **INTRODUCTION**

The subject of international banking touches particularly the level of socially responsible business. It has own reflection in many planes of operating activity of financial institution in relation to cooperants and consumers. Further considerations will concern CSR problem at banks on international arena. Article will be contain the positive examples, however the author, in aim of objective look on data this question, it will quote also negative aspects of this activity.

## **CORPORATE SOCIAL RESPONSIBILITY – ATTEPMT OF DEFINITION**

The concept CSR appeared already in 70. years last age. To this day is no worked out one definition of this conception. I in this work I will bring closer, in my opiniion the most general definition, which promote European Union. UE it treats these question as essential in frames of policy of sustainable development as well as the improvement of competitiveness of European economies on international market. According to this, the European Commission proposed in 2001 year the definition of Corporate Social Responsibility in Green Paper, which is in force to today. "Being socially responsible means not only fulfilling the applicable legal obligations, but also going beyond compliance and investing "more" into human capital, the environment and relations with stakeholders."<sup>1</sup>

## **THE UNIFICATION DEVELOPMENT OF PRINCIPLES IN CSR RANGE IN GLOBAL ASPECT**

Global Compact was first serious worldwide initiative which was begun on World Economic Forum in Davos in 1999. During Forum Koffi Annan – the General Secretary of UN submit to businessmen the manifesto about implementation to activity of enterprises 10 rules from human rights, labor law, protection of natural environment and counteraction of corruption. Collection of these principles is compilation of several key documents (The Universal

---

<sup>1</sup> *Green Paper for Promoting a European Framework for Corporate Social Responisibility*, Commission of the European Communities, COM (2001)306 final, Brussel, 2001, p. 6.

Declaration of Human Rights (UDHR), Declaration on Fundamental Principles and Rights at Work, Declaration from World Summit on Sustainable Development – Agenda 21 and United Nations Convention against Corruption).<sup>2</sup>

Fig. 1 The Ten Principles of *Global Compact*

Human Rights	Principle 1: Support and respect the protection of internationally proclaimed human rights.
	Principle 2: Make sure that they are not complicit in human rights abuses.
Labour Standards	Principle 3: the freedom of association and the effective recognition of the right to collective bargaining.
	Principle 4: the elimination of all forms of forced and compulsory labour.
	Principle 5: the effective abolition of child labour.
	Principle 6: the elimination of discrimination in employment and occupation.
Environment	Principle 7: support a precautionary approach to environmental challenges.
	Principle 8: undertake initiatives to promote environmental responsibility.
	Principle 9: encourage the development and diffusion of environmentally friendly technologies.
Anti-Corruption	Principle 10: Businesses should work against corruption in all its forms, including extortion and bribery.

Source: self-reported based on "The Global Compact: Corporate Citizenship in the World Economy", Global Compact Office, United Nations Global Compact Office, October 2008.

To applying principles *Global Compact* admits over 5000 enterprises, non - governmental organizations as well as associations which come from whole world. The more and more larger generality informs, as significant is the social consciousness and the social education upon formation the image of world business.<sup>3</sup>

The next example of unification was release of Global Sullivan Principles. The were created in 1977 by a member of the board of General Motors. Principles were directed to international corporations working in Republic of South Africa. The basic message was the assurance of human rights, justice, non paying the attention on colour of skin and equal rights. In 1999 they became up to date to present principles of doing business activity:<sup>4</sup>

„Accordingly, we will:

1. Express our support for universal human rights and, particularly, those of our employees, the communities within which we operate, and parties with whom we do business.
2. Promote equal opportunity for our employees at all levels of the company with respect to issues such as color, race, gender, age, ethnicity or religious beliefs, and operate without unacceptable worker treatment such as the exploitation of children, physical punishment, female abuse, involuntary servitude, or other forms of abuse.
3. Respect our employees' voluntary freedom of association.
4. Compensate our employees to enable them to meet at least their basic needs and provide the opportunity to improve their skill and capability in order to raise their social and economic opportunities.
5. Provide a safe and healthy workplace; protect human health and the environment; and promote sustainable development.
6. Promote fair competition including respect for intellectual and other property rights, and not offer, pay or accept bribes.

<sup>2</sup> Żemigala M., *Etyczna busola w biznesie*, „MANAGER”, nr 4/2004, p.41.

<sup>3</sup> Ki-moon B., *We have to turn responsibility of business into business of responsibility*, Opening remarks - by H.E. UN Secretary-General Ban Ki-moon, UN Private Sector Forum, UN Headquarters, New York, 24 September 2008.

<sup>4</sup> Nakonieczna J., *Spoleczna odpowiedzialność przedsiębiorstw międzynarodowych*, Difin, Warszawa 2008, p. 100-101 and <http://www.thesullivanfoundation.org>



7. Work with governments and communities in which we do business to improve the quality of life in those communities – their educational, cultural, economic and social well-being – and seek to provide training and opportunities for workers from disadvantaged backgrounds.
8. Promote the application of these principles by those with whom we do business.“

The indication of global view on CSR question was the co-operation of representatives of USA, Europe and Japan, which brought to acceptance in 1994 Rules from Caux. They introduced seven principles, which join in one two ideologies: the Japanese conception the *kyosei* and the dignity. Japanese example *kyosei* is moral order according to him people lived and worked for common good. European idea of dignity is the approval of sanctity and every person's value. By uniting these two roads were received was following principles: <sup>5</sup>

Principle 1 - Respect stakeholders beyond shareholders

Principle 2 – Contribute to economic, social and environmental development

Principle 3 – Respect the letter and the spirit of the law

Principle 4 – Respect rules and conventions

Principle 5 – Support responsible globalisation

Principle 6 – Respect the environment

Principle 7 – Avoid illicit activities

## **CORPORATE SOCIAL RESPONSIBILITY IN INTERNATIONAL ASPECT**

The social responsibility from one side has to guarantee the firms the realization of mission, to warrant the stockholders stood and the attractive growth of value of firm (or her the minimum fall in conditions the deconjuncture) and it has to support idea sustainable development. This activity is first of all contained in protection of natural environment. In the next part of the article attention will be concentrated on banks activity in this ecological subject.

In activity of financial institutions we can mark out five categories of activity ecological field:

1. “Policy of green office” – she incorporates questions connected with lowering waste of resources (water, paper, energy, CO<sub>2</sub> emission). This activity has an aim of education and change of the workers' consciousness on ecological questions.
2. Ecological activity – it is a social campaigns which join environmental and image dimensions of financial institutions.
3. *Green Banking* – the special branch of bank, where the customers can be informed about environmental policy of bank, to find out about climate changes and how to use from bank service.
4. Ecological risk as a factor in credit scoring – this includes including ecological matters to credit activity of banks.
5. Green products and service – this is whole range of products from “green” group (ecofunds, loan on preferential terms, environmental index).

Every of above mentioned activities are visible in international banking. Practical solutions be presented become below.

---

<sup>5</sup> Filek J., *Wolność i odpowiedzialność w działalności gospodarczej*, [in:] Gasparski W., Lewicka-Strzałecka A., Miller D. (red.), *Etyka biznesu, gospodarki i zarządzania*, Wyd. WSHE w Łodzi, Fundacja „Wiedza i Działanie” im. L. Von Misesa i T. Kotarbińskiego, Warszawa 2002, p. 62.

### **Greece - Piraeus Bank<sup>6</sup>**

Piraeus Bank started first branch *Green Banking* in Athens. This is first office of this type in Greece. She makes up the inseparable part of whole bank as well as she be written in environmental policy of Greek bank. For aim of branch was put it promoting among customers and local community possibility of investments in clean technologies and the friendly to the natural environment services. In frames *Green Banking* customers can introduced with environmental policy of bank. Special with practical activities supported by *GreenBanking4Life* – project of European Union. Customers get to know UE environmental policy and they get to know the risk of changes of climate. *Green Banking* is a innovative channel of communication and the distribution of bank products.

### **Germany - GLS Bank<sup>7</sup>**

The bank can be proud of 35 years experience in social and ecological bank activity. He funded so far over 6 500 projects connected with protection of environment. In offer he's got the wide fan of deposit and credit products which aim: the investing in biotrade, the renewable energy, but also in protection of health, the help the older persons or extension of kindergarden and the schools. On these aims was designed over 613,3 million EUR (it's concern 6 656 given credits). In spite of break down on financial market in 2008, this year brought growth of customers (from 55 000 at the end of 2007 to 62 000 at the end 2008; until end of June 2009 it was already 66 000 customers of this bank). GLS Bank noted also growth about 27,4% of bank's total assets (from 795,6 Mio. EUR on 31.12.2007 to 1 013,4 Mio. EUR on 31.12.2008).

### **France - Credit Agricole SA<sup>8</sup>**

Representative of French banking is the Credit Agricole SA. This Bank found in bank's services niches, which be connected with protection of environment. Bank gives loans on organic certifications. By giving these loans it takes under attention not only financial risk, but also the sustainable development. Group Credit Agricole can be proud of possession of certification ISO 14001, which confirms standard the applying the norms of environmental management. In natural environment activity the French bank can be proud:

- "environmental loan" – which the funding the renewable sources of energy and termoisolations.
- offset 10% CO<sub>2</sub> emission in 2008.
- from 2005 Credit Agricole contributes to water cleaning in region of Paris.
- "covoiturage" idee, that is common drives to work by one car, which has on aim the limitation of emission of dioxide carbon to atmosphere.

### **Poland - Bank Ochrony Środowiska SA<sup>9</sup>**

The BOŚ SA is the example of bank which name and the mission will be connected with ecology. It was funding as element of system of environmental protection in Poland. Proecological orientation of bank has reflection in products and services, and also in over business activity. The basic matter, who mark out BOŚ SA from another institution is possession in organizational frames Department of Ecological Projects and in every branch is main ecologist position. In June 2008 BOŚ SA has began with the Programme "BOŚ SA – friendly climate". The bank, as first financial institution in Poland, he committed oneself the surrender the audit studying the influence of functioning the bank (the waste of electric energy and the warmth, emission of fumes from vehicles, the production the wastes and different everyday, burdening environment of working) on state of climate. Effects of these activity became counted on emission of dioxide of carbon. The calculations showed, that in

---

<sup>6</sup> www.piraeusbank.gr oraz www.greenbanking.gr

<sup>7</sup> www.gls.de oraz *Bankspiegel*, Ausgabe 01/2009, Heft 2005, p. 22.

<sup>8</sup> www.credit-agricole.com

<sup>9</sup> www.bosbank.pl

result of activity of Bank Ochrony Środowiska SA the total emission of greenhouse gases in 2007 carried out ca. 7 700 Mg CO<sub>2</sub>. The next stages, planned on 2009 will take over the offset the emission of dioxide of carbon and saving the difficulty of functioning bank for environment (for example it was conducted the action the afforestation 2,74 ha of forest inspectorate of Celestynów and forestry the Otwock). The Bank offers a wide range of credit facilities for financing investments in environmental protection (Pro-ecological preferential credits from the resources, or with subsidies of, earmarked ecological funds [National Fund for Environmental Protection and Water Management, Provincial Funds for Environmental Protection and Water Management]), pro-ecological investments carried out in the third-party formula, credits in co-operation with foreign banks: Kreditanstalt für Wiederaufbau, Nordic Investment Bank, Council of Europe Development Bank) and also deposit products (pro-ecological deposits – part of profit be passed on protection of perishing species). During last 18 years of activity the BOS SA allowed over 8,5 billion PLN (ca. 2,1 bn EUR) for 29 thousand of investments about value 30 bn PLN (ca. 7,1 bn EUR). In part of products the bank engages however also his owns resources.

### **CSR: PRO AND CONTRA IN ONE BANK**

Among row of banks came into being new initiative, which connected eleven banks. This initiative was named *Wolfsberg Group*, because 11 world banks met in midwives in Switzerland city Wolfsberg and the resolved the standards of Best practices. The Wolfsberg Standards concerned on Anti-Money Laundering, on The Suppression of the Financing of Terrorism and on know-your-customer. To this group belong: Banco Santander, Bank of Tokyo - Misubishi UFI, Barclays, Citigroup, Credit Suisse, Deutsche Bank, Goldman Sachs, HSBC, J. P. Morgan Chase, Societe General and UBS.<sup>10</sup>

They be quoted two examples, which shows, as theoretical principles so wide propagated among public opinion pass with the hard reality.

#### **Citibank<sup>11</sup>**

Citibank can be proudly in multiaspectual approach to CSR. In his activity has got many projects: the voluntary, foundation and also education activity witha climate save aim. Citi is a *Global Compact* memembr and also implement principles created by United Nations.

However excepting good side it turns out, that the Citibank - as the bank correspondent of bank in Liberia - allowed to transfer of capital Charlesowi Taylorowi, former president of the Liberia which passes for war crimes. He helped funding terroristic activity in Sierra Leone. Taylor hasn't got account in Citit, but he, by transfers made by this institution, helps brought weapon. The money come from sale of Liberian wood on president's private account. The Citibank didn't see in this case nothing weird, despite universally the announced information on subject of corruption character of Taylor's government and the funding weapon for rebels from government resources, and also general breaking human rights in Liberia.

#### **Barclays<sup>12</sup>**

This Bank i also *Wolfsberg Group* memembr. In his activity be guide to values describes in ethical code. He declares the even treatment the customers, to oppose corruption, co-operation in fighting the crime and Anti-Money Laundering, fair treatment the workers. In aspect of social responsibility bank concerns on the natural environment activity.

However these bearing watchwords and principles were violated. In Barclays has got an account Teodorin Obiang – the son of president of the Equatorial Guinea which is famous

---

<sup>10</sup> [www.wolfsberg-principles.com](http://www.wolfsberg-principles.com)

<sup>11</sup> [www.citigroup.com](http://www.citigroup.com) oraz *Undue Diligence: How banks do business with corrupt regimes*, Global Witness, March 2009.

<sup>12</sup> [www.group.barcalys.com](http://www.group.barcalys.com) oraz *Undue Diligence: How banks do business with corrupt regimes*, Global Witness, March 2009.

with corruption, abuse of power, breaking human rights and own person's cult. The Equatorial Guinea is rich state in deposit of petroleum, however fact of possession of this source does not be to reflect in life of population – they exist on edge of poverty. In the same the time Obiang is the owner among other things of estates in Malibu about value 35 million USD and a lot of quick sport cars. It is easy to prove, that property comes from trade with petroleum, which instead go to the budget, the money goes to the private Obiang's account. Barclays Bank knew who it is and where from possesses the money his customer, and first of all he knew inglorious opinion about his father. However the Board of Barcalys Bank did not make anything, to break this business.

## CONCLUSION

The above examples do not give the unambiguous certainty, that the conscious membership to team of institution, who applying definite principles, will make assurance, that will be respected. Banks which to this time made up the pillar of stability and social conviction about high reigning in bank sector standards showed "second face". Simultaneously many examples from economic life showed, that in international banking exist banks, which can boldly deserve on name the "institution of public confidence", and simultaneously applying determinants with conception of Corporate Social Responsibility build their own picture not only among local communities but also on international arena.

## BIBLIOGRAPHY

- [1] Bankspiegel, Ausgabe 01/2009, Heft 2005
- [2] Filek J., Wolność i odpowiedzialność w działalności gospodarczej, [in:] Gasparski W., Lewicka-Strzałecka A., Miller D. (red.), Etyka biznesu, gospodarki i zarządzania, Wyd. WSHE w Łodzi, Fundacja „Wiedza i Działanie” im. L. Von Misesa i T. Kotarbińskiego, Warszawa 2002
- [3] Green Paper for Promoting a European Framework for Corporate Social Responsibility, Commission of the European Communities, COM (2001)306 final, Brussel, 2001
- [4] Ki-moon B., We have to turn responsibility of business into business of responsibility, Opening remarks - by H.E. UN Secretary-General Ban Ki-moon, UN Private Sector Forum, UN Headquarters, New York, 24 September 2008
- [5] Nakonieczna J., Społeczna odpowiedzialność przedsiębiorstw międzynarodowych, Difin, Warszawa 2008
- [6] The Global Compact: Corporate Citizenship in the World Economy, Global Compact Office, United Nations Global Compact Office, październik 2008
- [7] Undue Diligence: How banks do business with corrupt regimes, Global Witness, March 2009
- [8] Żemigala M., Etyczna busola w biznesie, „MANAGER”, nr 4/2004
- [9] <http://www.bosbank.pl>
- [10] <http://www.credit-agricole.com>
- [11] <http://www.globalcompact.org.pl>
- [13] <http://www.gls.de>
- [14] <http://www.greenbanking.gr>
- [15] <http://www.group.barcalys.com>
- [16] <http://www.piraeusbank.gr>
- [17] <http://www.wolfsberg-principles.com>

Tomasz Piotr Murawski  
The Faculty of Economic Sciences and Management  
Nicolaus Copernicus University  
Gagarina 13A  
Toruń, Poland  
murawski.tomasz@gmail.com

# THE ANALYSIS OF TECHNICAL RESERVES IN THE FRAME OF CZECH INSURANCE MARKET

**Karina Mužáková**

## ANNOTATION

This paper deals with the time series analysis of technical reserves in the frame of the Czech insurance market and their development prediction by years 2009 and 2010. However, this analysis doesn't include economic factors (for example: inflation, economic progress, economic recession, economic shocks). Technical reserves, financial health, insurance companies, insurance market.

## KEY WORDS

Insurance market, technical reserves, time series.

## INTRODUCTION

By the characterising the Czech insurance market we will appear from several basic economic indicators (for example: gross premium written of life and non-life insurance, number of insurance contracts, number of employees in insurance companies, etc.). In this paper important economic indicator will be analyzed, namely technical reserves of life and non-life insurance at years 1999 - 2008 and their development prediction by years 2009 and 2010. About time series analysis there exist many textbooks, see Hamilton (1994) [3]; Hindls, Hronová and Novák (2000) [1]; Chatfield (2003) [4] and Tsay (2005) [2].

In the first part of this paper elementary characteristic development of time series will be analyzed.

The second part will be aimed at identification of the trend; by means of hypothesis tests acceptable model with prediction by the years 2009 and 2010 will be chosen. The estimate of trend function values will be analyzed by using the statistic program Statgraphic Centurion XV. In the final tables RMSE (root mean square error),  $R^2_{adjusted}$  (adjusted index of determination), t-tests (tests criterion), P-values (critical significance limits) and total F-test will be presented.

## AIM AND METODOLOGY

The aim of this paper is analysis and prediction to next two years of development of technical reserves of insurance companies in the frame of the Czech Republic. This prediction is based on time series analysis.

## RESULTS

### Elementary characteristic development of time series

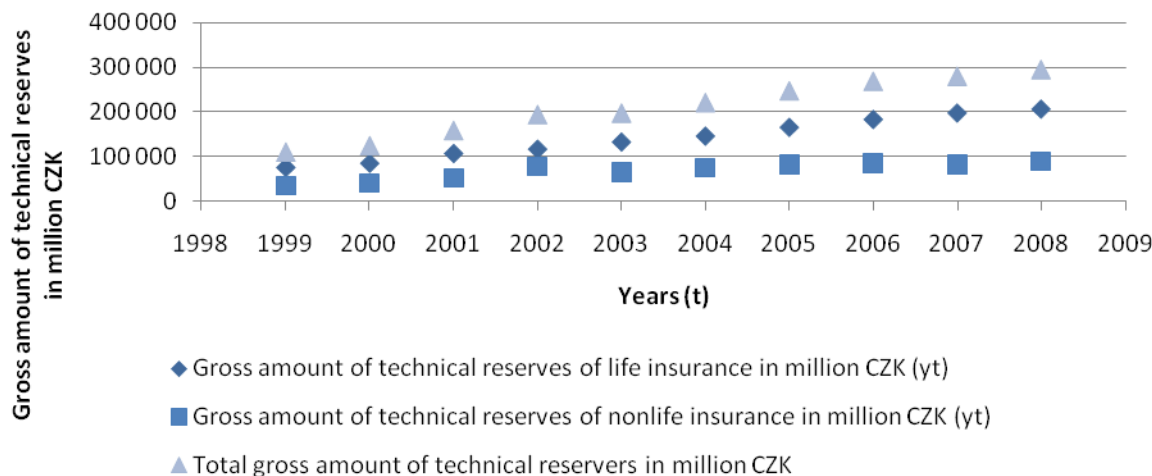
For calculation of elementary characteristic development of time series it is necessary to adduce data about development of gross amount of technical reserves of life and non-life insurance and their percentage proportion (see figure 1 and figure 2).

Fig. 1 Development of technical reserves of life and non-life insurance

Year (t)	Gross amount of technical reserves of life insurance in million CZK ( $y_t$ )	Gross amount of technical reserves of nonlife insurance in million CZK ( $y_t$ )	Total gross amount of technical reserves in million CZK	Percentage share of gross amount of technical reserves of life insurance	Percentage share of gross amount of technical reserves of nonlife insurance	Percentage share check
1999	75 069	35 273	110 342	68,03	31,97	100
2000	84 522	40 323	124 845	67,70	32,30	100
2001	106 848	52 183	159 031	67,19	32,81	100
2002	116 581	78 231	194 812	59,84	40,16	100
2003	132 786	65 389	198 175	67,00	33,00	100
2004	146 082	75 850	221 932	65,82	34,18	100
2005	165 925	82 328	248 253	66,84	33,16	100
2006	183 901	85 821	269 722	68,18	31,82	100
2007	198 396	82 618	281 014	70,60	29,40	100
2008	207 201	89 032	296 233	69,95	30,05	100

Source: Czech National Bank, own elaboration

Fig. 2 Development of technical reserves



Source: own elaboration from figure 1

The values  $y_t$  for life insurance are in the figure 3 and for non-life insurance in the figure 4. The subscript  $t$  in next equations characterises time period (in this paper one year).

The results of next five indicators [1]:

the first difference (absolute gain)  ${}_1\Delta_t = y_t - y_{t-1}$  (1)

the second difference  ${}_2\Delta_t = {}_1\Delta_t - {}_1\Delta_{t-1}$  (2)

the growth coefficient  $k_t = \frac{y_t}{y_{t-1}}$  (3)

the growth rate  $T_{y_t} = k_t \cdot 100$  (4)

the increase rate  $\delta_{y_t} = T_{y_t} - 100$  (5)

are presented for life insurance in the figure 3 and for non-life insurance in the figure 4. The average absolute gain (6) and the average growth coefficient (7) belong to the important characteristics [1].

$${}_1\bar{\Delta} = \frac{\sum_{t=2}^n {}_1\Delta_t}{n-1} = \frac{(y_2 - y_1) + (y_3 - y_2) + \dots + (y_n - y_{n-1})}{n-1} = \frac{y_n - y_1}{n-1} \quad (6)$$

The results of average absolute gain is for life insurance 14 681 330 CZK and for non-life insurance 5 973 220 CZK.

$$\bar{k} = \sqrt[n-1]{\frac{y_2}{y_1} \cdot \frac{y_3}{y_2} \cdot \dots \cdot \frac{y_n}{y_{n-1}}} = \sqrt[n-1]{\frac{y_n}{y_1}} \quad (7)$$

where  $n$  is the number of values (in this paper  $n = 14$ ).

The results of average growth coefficient are for life insurance 1,1194 (which corresponds to 111,94 %) and for non-life insurance 1,108353 (which corresponds to 110,84 %).

Fig. 3 Elementary characteristic development of technical reserves of life insurance

Year (t)	Gross amount of technical reserves of life insurance in million CZK ( $y_t$ )	${}_1\Delta_t$	${}_2\Delta_t$	$k_t$	$T_{y_t}$	$\delta_{y_t}$
1999	75 069	x	x	x	x	x
2000	84 522	9453	x	1,125924	112,5924	12,59241
2001	106 848	22326	12873	1,264144	126,4144	26,41442
2002	116 581	9733	-12593	1,091092	109,1092	9,109202
2003	132 786	16205	6472	1,139002	113,9002	13,90021
2004	146 082	13296	-2909	1,100131	110,0131	10,0131
2005	165 925	19843	6547	1,135835	113,5835	13,58347
2006	183 901	17976	-1867	1,108338	110,8338	10,83381
2007	198 396	14495	-3481	1,07882	107,882	7,881958
2008	207 201	8805	-5690	1,044381	104,4381	4,438094

Source: Czech National Bank, own elaboration



Fig. 4 Elementary characteristic development of technical reserves of nonlife insurance

Year (t)	Gross amount of technical reserves of nonlife insurance in million CZK ( $y_t$ )	${}_1\Delta_t$	${}_2\Delta_t$	$k_t$	$T_{yt}$	$\delta_{yt}$
1999	35 273	x	x	x	x	x
2000	40 323	5050	x	1,143169	114,3169	14,3169
2001	52 183	11860	6810	1,294125	129,4125	29,41249
2002	78 231	26048	14188	1,499166	149,9166	49,91664
2003	65 389	-12842	-38890	0,835845	83,58451	-16,4155
2004	75 850	10461	23303	1,159981	115,9981	15,9981
2005	82 328	6478	-3983	1,085405	108,5405	8,540541
2006	85 821	3493	-2985	1,042428	104,2428	4,242785
2007	82 618	-3203	-6696	0,962678	96,26781	-3,73219
2008	89 032	6414	9617	1,077634	107,7634	7,763441

Source: Czech National Bank, own elaboration

#### Identification of the trend

The results of tests of parameters of individual trend functions are in the figure 5 and 7.

The root mean squared error “RMSE” (8) is calculated as:

$$RMSE = \sqrt{\frac{1}{n} \sum (y_i - \hat{T}_i)^2} \quad (8)$$

The adjusted index of determination (9) is defined by:

$$I_{adjusted}^2 = 1 - \frac{(n-1) \left[ \sum (y_i - Y_i)^2 \right]}{(n-p) \left[ \sum (Y_i - \bar{y})^2 + \sum (y_i - Y_i)^2 \right]} = 1 - \frac{(n-1)S_R}{(n-p)(S_T + S_R)} = 1 - \frac{(n-1)S_R}{(n-p)S_y} \quad (9)$$

where  $S_T$  is the theoretical sum of squares and  $S_R$  is residual sum of squares. Test criterion (10) by the prove the hypothesis  $H_0$  has distribution  $F$  by  $(p - 1)$  and  $(n - p)$  degrees of freedom.

$$F(p-1, n-p) = \frac{\frac{\sum (Y_i - \bar{y})^2}{(p-1)}}{\frac{\sum (y_i - Y_i)^2}{(n-p)}} = \frac{S_T}{(p-1)} \cdot \frac{(n-p)}{S_R} \quad (10)$$

### Identification of trend in technical reserves of life insurance

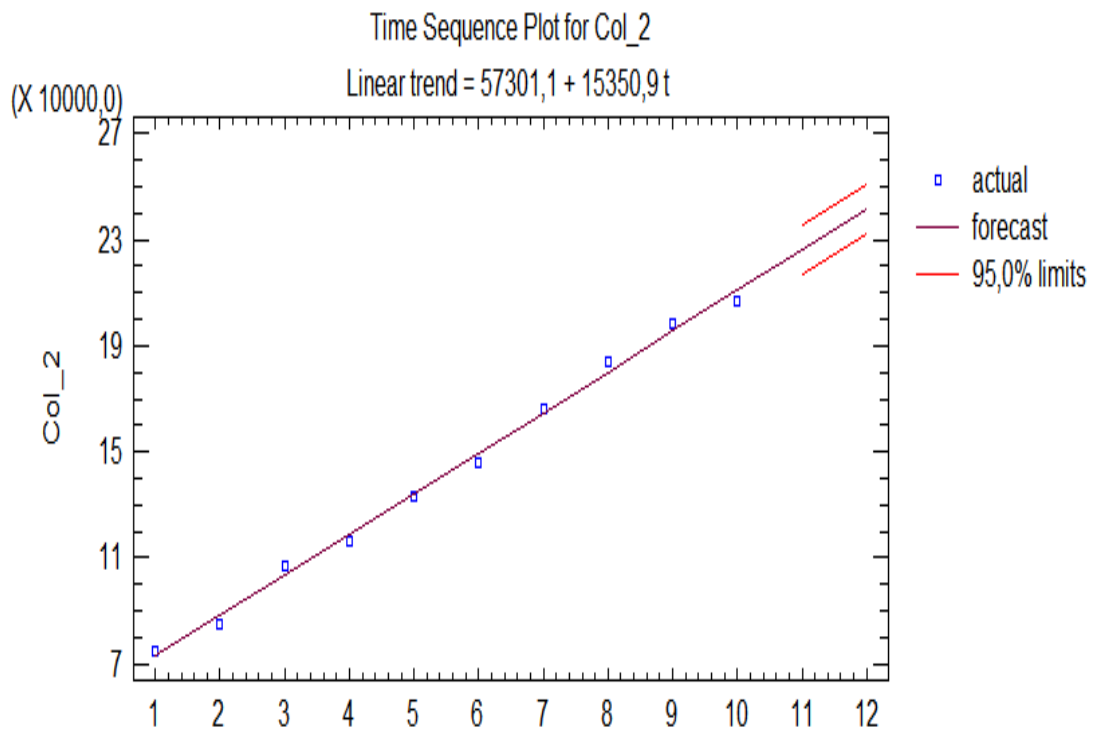
Fig. 5 Linear, quadratic and exponential trend

Trend	Linear trend	Quadratic trend	Exponential trend
<b>Trend function</b>	$T_t = \beta_0 + \beta_1 t$	$T_t = \beta_0 + \beta_1 t + \beta_2 t^2$	$T_t = e^{(\beta_0 + \beta_1 t)}$
<b>Trend function forecast</b>	$\hat{T}_t = 57301100 + 15350900t$	$\hat{T}_t = 57777600 + 15112700t + 21655,3t^2$	$\hat{T}_t = e^{(11178,9 + 118,027t)}$
<b>RMSE</b>	3 254 620	3 474250	8 326 310
<b><math>\bar{r}^2_{adjusted}</math> (%)</b>	99,5118	99,4436	97,5337
$H_0 :$	$\beta_0 = 0$	$\beta_0 = 0$	$\beta_0 = 0$
$H_1 :$	$\beta_0 \neq 0$	$\beta_0 \neq 0$	$\beta_0 \neq 0$
$\hat{\beta}_0$	57 301 100	57 777 600	11 175,9
<b>Tests criterion t-test</b>	25,7727	14,1395	295,827
<b>P-value</b>	$0,000000 < 0,05$	$0,000002 < 0,05$	$0,000000 < 0,05$
<b>Test conclusion</b>	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .
$H_0 :$	$\beta_1 = 0$	$\beta_1 = 0$	$\beta_1 = 0$
$H_1 :$	$\beta_1 \neq 0$	$\beta_1 \neq 0$	$\beta_1 \neq 0$
$\hat{\beta}_1$	15 350 900	15 112 700	115,027
<b>Tests criterion t-test</b>	42,8411	8,8555	18,8924
<b>P-value</b>	$0,000000 < 0,05$	$0,000047 < 0,05$	$0,000000 < 0,05$
<b>Test conclusion</b>	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .
$H_0 :$		$\beta_2 = 0$	
$H_1 :$		$\beta_2 \neq 0$	
$\hat{\beta}_2$		21 655,3	
<b>Tests criterion t-test</b>		0,143225	
<b>P-value</b>		$0,890148 > 0,05$	
<b>Test conclusion</b>		Disapprove $H_1$ , prove $H_0$ .	
$H_0 :$	Linear trend isn't acceptable model.	Quadratic trend isn't acceptable model.	Exponential trend isn't acceptable model.
$H_1 :$	Non $H_0$	Non $H_0$	Non $H_0$
<b>Tests criterion t-test</b>	1835,6	805,33	356,92
<b>P-value</b>	$0,0000 < 0,05$	$0,0000 < 0,05$	$0,0000 < 0,05$
<b>Test conclusion</b>	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .

Source: own elaboration

According to the results of RMSE, adjusted index of determination, t-tests, P-values and total F-test the linear trend is available [2], [3], [4]. The forecast of life insurance model see figure 6.

Fig. 6 Time series equalization by linear trend and forecast of development by next two years



*Source: own elaboration*

According to the results of statistic program Statgraphics the predicted values of technical reserves of life insurance with 95 % confidence level will be in the year 2009 in the interval 217 072 000 CZK – 235 250 000CZK (with point prediction 226 161 000 CZK) and in the year 2010 in the interval 231 983 000 CZK – 251 041 000 CZK (with point prediction 241 512 000 CZK).

### Identification of trend in technical reserves of nonlife insurance

Fig. 7 Linear, quadratic and exponential trend

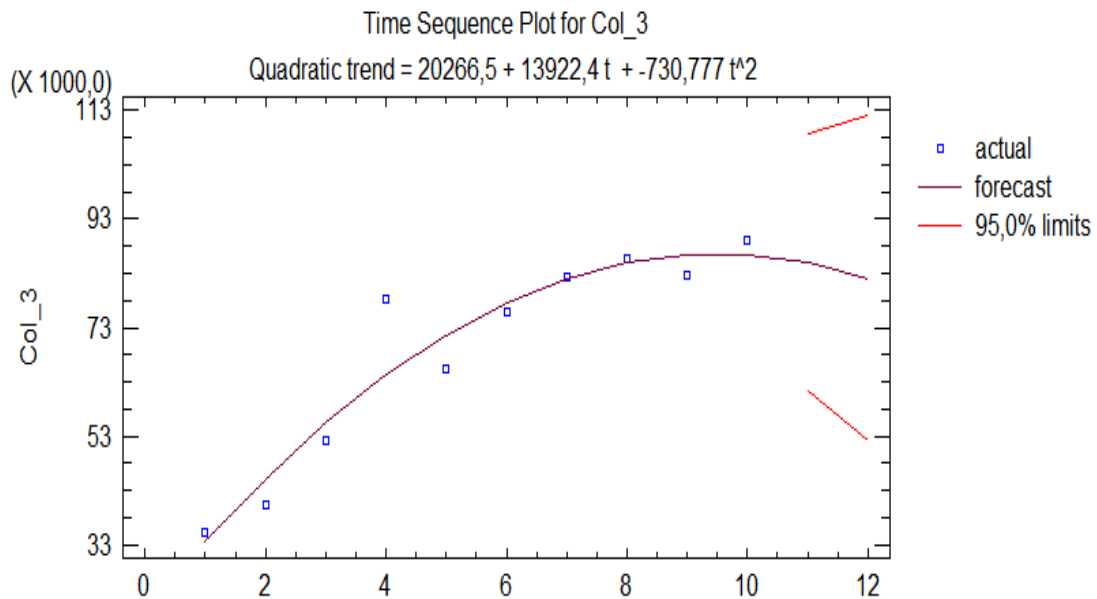
Trend	Linear trend	Quadratic trend	Exponential trend
Trend function	$T_t = \beta_0 + \beta_1 t$	$T_t = \beta_0 + \beta_1 t + \beta_2 t^2$	$T_t = e^{(\beta_0 + \beta_1 t)}$
Trend function forecast	$\hat{T}_t = 36343500 + 5883870t$	$\hat{T}_t = 20266500 + 13922400t - 730777t^2$	$\hat{T}_t = e^{(10884,6 + 97,8371t)}$
RMSE	8 501 220	6 504 900	10 707 400
$I^2_{\text{adjusted}}$ (%)	81,0606	88,9112	76,653
$H_0$ :	$\beta_0 = 0$	$\beta_0 = 0$	$\beta_0 = 0$
$H_1$ :	$\beta_0 \neq 0$	$\beta_0 \neq 0$	$\beta_0 \neq 0$
$\hat{\beta}_0$	36 343 500	20 266 500	10 554,6
Tests criterion t-test	6,2581	2,64895	96,0963
P-value	0,000244 < 0,05	0,032992 < 0,05	0,000000 < 0,05
Test conclusion	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .
$H_0$ :	$\beta_1 = 0$	$\beta_1 = 0$	$\beta_1 = 0$
$H_1$ :	$\beta_1 \neq 0$	$\beta_1 \neq 0$	$\beta_1 \neq 0$
$\hat{\beta}_1$	5 883 870	13 922 400	97,8371
Tests criterion t-test	6,28649	4,35719	5,5271
P-value	<b>0,000236</b> < 0,05	<b>0,003326</b> < 0,05	<b>0,000556</b> < 0,05
Test conclusion	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .
$H_0$ :		$\beta_2 = 0$	
$H_1$ :		$\beta_2 \neq 0$	
$\hat{\beta}_2$		-730 777	
Tests criterion t-test		-2,58143	
P-value		0,036396 < 0,05	
Test conclusion		Disapprove $H_0$ , prove $H_1$ .	
$H_0$ :	Linear trend isn't acceptable model.	Quadratic trend isn't acceptable model.	Exponential trend isn't acceptable model.
$H_1$ :	Non $H_0$	Non $H_0$	Non $H_0$
Tests criterion t-test	39,52	37,08	30,55
P-value	0,0002 < 0,05	0,0002 < 0,05	0,0006 < 0,05
Test conclusion	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .	Disapprove $H_0$ , prove $H_1$ .

Source: own elaboration

According to the results of RMSE, adjusted index of determination, t-tests, P-values and total F-test the quadratic trend is available. The forecast of this model see figure 8.

According to the results of statistic program Statgraphics the predicted values of technical reserves of nonlife insurance with 95 % confidence level will be in the year 2009 in the interval 61 242 700 CZK – 108 735 000 CZK (with point prediction 84 989 000 CZK) and in the year 2010 in the interval 52 113 100 CZK – 112 094 000 CZK (with point prediction 82 103 500 CZK).

Fig. 8 Time series equalization by quadratic trend and forecast of development by next two years



Source: own elaboration

## CONCLUSION

The development of technical reserves of life insurance recorded in the years 1999 to 2008 permanent increase character. The development of technical reserves of nonlife insurance recorded in the years 2003 and 2007 decrease.

This analysis doesn't include economic factors (for example: inflation, economic progress, economic recession, economic shocks).

## BIBLIOGRAPHY

- [1] HINDLS, R., HRONOVÁ, S. a NOVÁK, I. *Metody statistické analýzy pro ekonomy*. Edition 2. Praha: Management Press, 2000. ISBN 80-7261-013-9.
- [2] TSAY, S. R. *Analysis of financial time series*. Edition 2. Chicago: John Wiley and Sons, 2005. ISBN 0471690740.
- [3] HAMILTON, J. D. *Time Series Analysis*. Edition 1. Princeton: Princeton University Press, 1994. ISBN 0691042896.
- [4] CHATFIELD, CH. *The analysis of time series: an introduction*. Edition 6. London: CRC Press, 2003. ISBN 1584883170.

Ing. Karina Mužáková  
 Technical University of Liberec  
 Faculty of Economics  
 Department of Insurance Management  
 Studentská 2  
 Liberec  
 karina.muzakova@tul.cz

# **AN ECONOMETRIC ANALYSIS OF STOCK MARKET REACTION TO ABRUPT POLITICAL EVENTS: EMERGING MARKET EVIDENCE FROM INDIA**

**Chandrapala Pathirawasam**

## **ANNOTATION**

There is extensive argument that political risk is an imperative and increasing influence on international portfolio allocation decisions. The purpose of this paper is to investigate the relation between abrupt political events and stock returns of Bombay Stock Exchange in India. The issue is examined using a dummy variable regression model controlled for the effect of lag market returns. Consistent with the paper's predictions, the findings reveal that abrupt political risk is important in explaining returns variation in Bombay Stock Exchange in India.

## **KEY WORDS**

Abrupt political events, Bombay stock exchange, Political risk

## **INTRODUCTION**

The purpose of this study is to test for an association between political risk and emerging stock market returns. As emerging stock markets are located in developing countries, which are proved to be periods of political instability (Diamonte, Liew & Stevens 1996), they provide a useful setting for an examination of the relation between political risk and stock market returns.

Returns and risks in emerging markets have generally been found to be higher relative to developed markets (Errunza, 1983). Further, due to the weak correlations between the returns in emerging markets and those in developed economies, investment in emerging markets increase the opportunity set for investors allowing them to improve the risk-return-trade-off<sup>1</sup> in their portfolios (Divecha, Drach, & Stefak, 1992).

The concept of political risk has changed over the time from its origin in 1960s. Many of the earlier works on political risk (Lindeberg & Morndal, 2002) defined political risk as government interference with business operations.

Later, Kennedy (1987) define political risk event as

*“the risk of a strategic, financial, or personnel loss for a firm because of such nonmarket factors as macroeconomic and social policies (fiscal, monetary, trade, investment, industrial, income, labour, and developmental), or events related to political instability (terrorism, riots, coups, civil war, and insurrection)”*.

In developed markets political risk is measured in terms of non market factors such as macroeconomic and social policies (Swansbrough, 1972; Kelly and Philippatos, 1982). However in developing markets many abrupt political events takes place frequently. These

---

<sup>1</sup> The principle that potential return rises with an increase in risk. Low levels of uncertainty (low risk) are associated with low potential returns, whereas high levels of uncertainty (high risk) are associated with high potential returns. According to the risk-return tradeoff, invested money can render higher profits only if it is subject to the possibility of being lost.

sudden political events may have serious effects on the running of businesses that can be quickly reflected in the market whereupon investors would react accordingly.

This study intends to find whether there is any direct relationship between the domestic political unrest and the stock price movement in emerging markets and if there is an impact how long does it takes to reflect new information in the share prices.

For this purpose the Bombay Stock Exchange (BSE) was selected due to several reasons. First, BSE is one of the world largest stock exchanges in terms of number of listed companies and trading volume. Second, India is not a politically stable country with a collision government and continuing problems with neighboring Pakistan on the Kashmir issue. Further, BSE is a highly attractive market for the foreign investors. Prasanna (2008) noted

*“As the Indian equity market is growing, the trend and future prospects in foreign institutional investments has become a topic of great concern. A recent research survey by Japan Bank for international operation (JBIC), shows that in the next 3 years, India will be the third most favoured investment destination for Japanese investors. A Smith Barney (a CITI group Division) study says estimated market value of foreign institutional investment in the top 200 companies in India (including ADRs and GRDs) at current market prices is US\$43 billion. This is 18% of the market capitalization of BSE 200.” (P.42).*

Findings of the study can have various implications for corporations in emerging markets. Corporations will be able to set their policies on how to handle domestic political risk and will be able to minimize its effect on their share value. This type of studies also help us to understand how political events affect the stock prices in emerging markets and how investors should react to unexpected political events in any given emerging financial market.

## **REVIEW OF LITERATURE**

Chan and Wei (1996) study the impact of political news on the stock market volatility in Hong Kong. The results indicate that political news increases the stock volatility of both blue-chip and red-chip shares. Also, they find that favorable (unfavorable) political news is correlated to positive (negative) returns for the Hang Seng Index.

Kim and Wei (2001) find that market returns have a clear relationship with the political events in the Taiwan stock market. They employ a components-jump volatility filter to investigate the possible market impact of political risk. The filter operates by identifying jump return dates, which are then associated with political events that allow them to measure the market return and volatility effects of political announcements. Clearly, they find an asymmetric response to positive versus negative political news, with negative announcements resulting in larger volatility responses.

Bilson, Brailsford, and Hooper (2002) investigate the relation between political risk and stock returns, after controlling for the share price impact of local factors, within the context of emerging markets in the Pacific-Basin. The study use market indices of 17 emerging markets and 18 developed markets over the period 1985-1997. Their findings reveal that political risk is important in explaining return variation in individual emerging markets, particularly in the Pacific-Basin, but not in developed markets.

Robbani and Anantharaman (2002) examine the price reaction on three selected election based political events occurred in India. They find that non of the selected events has a

significant coefficient. One reason for non response to those events may be that these types of political events are not new in a country like India with parliamentary system of government.

Chen, Bin and Chen (2006) investigate the possible impact of various political events on Taiwan's stock performance. When market-adjusted techniques are applied, seemingly Taiwan's stock market often reacts to the occurrences of political incidents with a significant abnormal price performance. However after employing a Multivariate Regression Model framework that accounts for market risk differences across firms and for distributional tendencies in daily returns, they find that price reactions to most of the political events are rather insignificant.

### **Bombay Stock Exchange**

BSE is the oldest stock exchange among emerging markets with 133 years of existence. Today, BSE is the world's number 1 exchange in terms of the number of listed companies and the world's 5th in transaction numbers. The market capitalization as on December 31, 2007 stood at USD 1.79 trillion. There are 4700 listed companies and for easy reference they are classified into A, B, S, T and Z groups. The BSE Index, SENSEX, is India's first stock market index and is tracked worldwide. It is an index of 30 stocks representing 12 major sectors. The SENSEX is constructed on a 'free-float' methodology<sup>2</sup>, and is sensitive to market sentiments and market realities. BSE has entered into an index cooperation agreement with Deutsche Börse. This agreement has made SENSEX index available to investors in Europe and America.

### **Major Abrupt Political Events Related to India during 2003-2008**

All the selected events have taken place at Mumbai. Mumbai is the commercial and entertainment centre of India, generating 5% of India's GDP and accounting for 25% of industrial output, 40% of maritime trade, and 70% of capital transactions to India's economy.

Information on important dates and events are obtained from the Wikipedia, the free encyclopedia and three main abrupt political events are selected as follows.

1. On 25 August 2003 two bombs exploded in South Mumbai, one near the Gateway of India and the other at Zaveri Bazaar in Kalbadevi. At least 44 people were killed and 150 injured. No group claimed responsibility for the attack, but it had been hinted that the Pakistan-based lashkar-e-Taiba was behind the attacks.
2. On 11 July 2006 seven bombs exploded over a period of 11 minutes on the Suburban Railway in Mumbai at Khar, Mahim, Matunga, Jogeshwari, Borivali, and between Khar and Santa Cruz. 209 people were killed, and over 700 injured. According to Mumbai Police, the bombings were carried out by Lashkar-e-Taiba and Students Islamic Movement of India (SIMI).
3. The 2008 Mumbai attacks were more than ten coordinated shooting and bombing attacks across Mumbai, India's financial capital and its largest city. The attacks, which drew

---

<sup>2</sup> A method by which the market capitalization of an index's underlying companies is calculated. Free-float methodology market capitalization is calculated by taking the equity's price and multiplying it by the number of shares readily available in the market. Instead of using all of the shares outstanding like the full-market capitalization method, the free-float method excludes locked-in shares such as those held by promoters and governments.



widespread condemnation across the world, began on 26 November 2008 and lasted until 29 November, killing at least 173 people and wounding at least 308.

## DATA AND METODOLOGY

In order to study the trading behavior of stock returns around the occurrence of political events, daily prices of the BSE Index, SENSEX is used from January 2003 to February 2009. The study use three major terrorist attacks as described above. The following table summarized the three political events.

Table. 1 Selected political events from 2003 to 2008 related to India

Event	Occurrence Date	Event Date t = 0
I. Two bombs exploded in <u>South Mumbai</u>	25 August 2003	25 August 2003
II. Seven bombs exploded on the <u>Suburban Railway</u>	11 July 2006	11 July 2006
II. 2008 Mumbai attacks	26 November 2008 to 29 November	02 December 2008

Note: In this table the occurrence (calendar) date is not necessarily the event (trading) date t = 0. For the third event, the event date t = 0 is defined as the first market opening day after the occurrence date.

To measure the abnormal returns around the political events, daily index returns are computed as follows.

$$R_t = \ln P_t - \ln P_{t-1} \quad \text{-----} \quad 1$$

Where,  $P_t$  the closing price of SENSEX on day  $t$ ,  $R_t$  is the natural logarithm form of return for stock  $i$  on day  $t$ .

To measure any relationship between the stock market movement and the political events, the following dummy variable regressions are used. Equation 2 below is employed to find the price impact of overall abrupt political events where as the equation 3 will help to ascertain the price impact of individual political events.

$$R_t = \alpha + \beta RM_{t-1} + \gamma D_t + \varepsilon_t \quad \text{-----} \quad 2$$

$$R_t = \alpha + \beta RM_{t-1} + \sum_{k=1}^3 \gamma_k D_{kt} + \varepsilon_t \quad \text{-----} \quad 3$$

Where,  $R_t$  is the closing price of SENSEX on day  $t$ , lag market returns  $RM_{t-1}$  is introduced to deal with returns distributional problems associated with nonsynchronous trading,  $D_t$  is the dummy variable in the equation 2 which is 1 if the day  $t$  is a event day and 0 otherwise.  $D_{kt}$  is the dummy variable in the equation 3 that captures the impact of  $k$  events on index returns and equals 1 if day  $t$  is a event day and 0 other wise and  $\varepsilon_t$  is the random error term.

## RESULTS

The table 2 gives the dummy variable regression results of stock price reactions to the overall and individual abrupt political events. The price impact of the overall events on the event day (t = 0) is negative 0.023 and it is statistically different from zero at 5 percent level (p-value is

0.026). Even though the market returns within 2-days and 3-days after the event day are negative they are not statistically significant. It shows that Indian market come to normality soon after an abrupt political event.

The price effect of event 1 (Two bombs exploded in South Mumbai) on the event day is negative (0.031) and statistically significantly different from zero at 10 percent level. However, the 2-days and 3-days post event period returns are positive even though not statistically significant.

Table. 2 Returns impact for selected political events surrounding each event date

Event Period	Coefficients		Dummy Variables			
	Constant	Lag Returns	All Events	Event I	Event II	Event III
t = 0 P-value	0.001 0.163	0.076 0.003***	-0.023 0.026**	-0.031 0.083*	-0.008 0.634	-0.029 0.098*
t = 0 to -1 P-value	0.001 0.189	0.074 0.004***	-0.002 0.794	0.004 0.780	0.010 0.408	-0.020 0.119
t = 0 to -2 P-value	0.001 0.190	0.074 0.003***	-0.001 0.850	0.006 0.592	0.004 0.710	-0.013 0.217

\* Significantly different from zero at the 10% level

\*\* Significantly different from zero at the 5% level

\*\*\* Significantly different from zero at the 1% level

Seven bombs explosion on the Suburban Railway in Bombay on 11 July 2006 has not made any significant impact to the Bombay stock market even though market reflects negative returns on the day of the event. It is proved by the positive index returns during the 2-day and 3-day period after the event day.

The most recent terrorist attack in Bombay during 26th to 29th November 2008, shows significant negative price reactions on the day after (t = 0) the attack. The negative index returns during the 2-day and 3-day window period after the event day show that this event has made a greater shock to investment community than the two previous attacks.

This study further finds that the coefficient for one day lag return have a significant value. This means that the past returns have a significant influence on the current returns for the BSE. After controlling for all 3 political events one day lag returns have a coefficient of 0.076 which is highly statistically significant being the p-value of 0.003.

This study adds new evidence to the finance literature. Even though past studies show that political risk and stock returns are related those past studies have taken political decisions of governments, election results and war treats as political risk variables. However this study considers only abrupt political events as the political risk variables and find statistically significantly negative price reaction to abrupt political events at BSE.

This basic finding can be further researched based on other regional markets like Sri Lanka, Pakistan, Bangladesh and Israel etc. it is better to examine the relation between political risk and stock returns based on a sample of individual company returns rather than market indices employing Multivariate Regression Model that is built upon a system of portfolio return equations for multiple event announcements.<sup>3</sup>

<sup>3</sup> see Chen, Bin and Chen. (2005) P. 173 and 174

## CONCLUSION

This study examines the returns behavior of SENSEX index for the three selected abrupt political events occurred in India from the period 2003- 2008. Study uses the dummy variable regression model controlled for the lag effect to examine the impact of abrupt political events around the selected political events. The study is rather different from the previous findings on political risk because this considered only abrupt terror attacks as political events. The main purpose of the study is to see whether there is any impact of abrupt political events on stock returns and to see whether the impact is statistically significant.

The study finds that there is an overall negative impact of abrupt political events on the share prices at BSE and it is statistically significant. Further, the stock prices react only on the event day and after wards market comes to the normality. Hence the BSE is a semi strong form efficient market.

## BIBLIOGRAPHY

- Bilson, C. M., T. Brailsford and V. C. Hooper, 2002, "The Explanatory Power of Political Risk in Emerging Markets," *International Review of Financial Analysis* 11, 1-27.
- Chan, Y., and J. Wei, 1996, "Political Risk and Stock Price Volatility: The Case of Hong Kong," *Pacific Basin Finance Journal* 4, 259-275.
- Chen, Bin and Chen, 2005, "The Impacts of Political Events on Foreign Institutional Investors and Stock Returns: Emerging Market Evidence from Taiwan," *International Journal of Business*,10(2).
- Chan, Yue-cheong and K.C. John Wei, July 1996, "Political Risk and Stock Price Volatility: The Case of Hong Kong," *Pacific-Basin Finance Journal* 4 (2-3), 259-275.
- Diamonte, R., Liew, J., & R. Stevens,1996, "Political risk in emerging and developed markets," *Financial Analysts Journal* 52, 71-76.
- Divecha, A., J. Drach, & D. Stefak, 1992, Emerging markets: a quantitative perspective," *Journal of Portfolio Management* 4, 41-50.
- Errunza, V., 1983, Emerging markets: a new opportunity for improving global portfolio performance, *Financial Analysts Journal* 39, 51-58.
- [http://en.wikipedia.org/wiki/November\\_2008\\_Mumbai\\_attacks](http://en.wikipedia.org/wiki/November_2008_Mumbai_attacks)
- Kennedy, C.,1988, Political Risk Management: A Portfolio Planning Model, *Business Horizons* 31, 26-33.
- Kelly. Marle Wicks, Phillippatos, and C. Georage, 1982, "Comparative Analysis of the Foreign Investment Valuation Practices by US Based Manufacturing Multinational Companies." *Jorurnal of International Business Studies* 3, 19-42.
- Prasanna, P. K.,2008, "Foreign Institutional Investors: Investment Preferences in India" *JOAAG* 3.(2)
- Robbani.M.G and S. Anantharaman, 2002, "An Econometric Analysis of Stock Market Reaction to Political Events in Emerging Markets," *Second Annual ABIT Conference*, Pittsburgh, Pennsylvania New York University,1-11
- Swansbrough, H.Robert, 1972, "The American Investor's View of Latin American Economic Nationalism," *Inter-American Economic Affairs*,61-82.
- Martin Lindeberg & Staffan Mörndal, 2002, "Managing Political Risk - A contextual approach". <http://www.ep.liu.se/exjobb/eki/2002/iep/012/>

Full name: Chandrapala Pathirawasam  
Institution: Tomas Bata University in Zlin  
Street: Mostni 5139  
City: 760 01 Zlin  
Email: pathi3@yahoo.com

# **DISTRIBUTION OF SHARE AND BOND PRICES – AN ANALYSIS WITH THE KOLMOGOROV-SMIRNOV AND JARQUE BERA TEST VIA MS EXCEL AT THE EXAMPLE OF THE GERMAN REXP AND DAX**

**Svend Reuse**

## **ANNOTATION**

Yields of market price assets as shares or bonds are often treated as normal distributed. But do these yields really follow the normal distribution? This article answers this question by applying the Kolmogorov-Smirnov and Jarque Bera test onto DAX and Rexp yields since 1967.

## **KEY WORDS**

Normal distribution, Kolmogorov-Smirnov, Jarque Bera, DAX, Rexp

## **INTRODUCTION**

In order to apply a classical Markowitz approach onto historical data, the normal distribution has to be proven. But do lognormal yields follow a normal distribution? Therefore, two classical asset classes, the Rexp and the DAX are introduced. They are analysed according to the normal distribution of their yields. The article shall answer the question if risk management by using the normal distribution makes sense

## **AIM AND METHODOLOGY**

The question whether yields are normally distributed or not is discussed contrary in literature. Banks e.g. often use the classical variance/covariance approach to optimize their portfolio according to Markowitz<sup>1</sup>. Further, risk parameters in market price risk management are often modelled by transforming the standard deviation into a Value at Risk (VaR) by the relevant z-factors (1.645 for 95% and 2.326 for 99% confidential level). If the normal distribution cannot be proven, these procedures lead to an underestimation of risk and should thus lead to modified risk quantification in market price risk. The main hypothesis of this paper is that classical market prices do not follow a normal distribution. The aim is give first hint for alternative risk measurement methods for market price risk analysis.

Therefore this article is divided into four sections. After the presentation of the asset classes in section 1, section 2 specifies the tests for normality used in this paper. Section 3 deals with modulation of these tests in MS Excel. Section 4 discusses the proof of the normal distribution of the DAX and the Rexp by using Kolmogorov-Smirnov and Jarque-Bera. Section 5 sums up the main results and gives hints for a practical risk management.

### **1. Analysed Asset Classes**

In order to get representative asset classes, the German DAX (Deutscher Aktienindex) and Rexp (Rentenperformance Index) are chosen. The DAX represents the development of the major 30 German shares while the Rexp consists of German sovereign bonds with a fixed

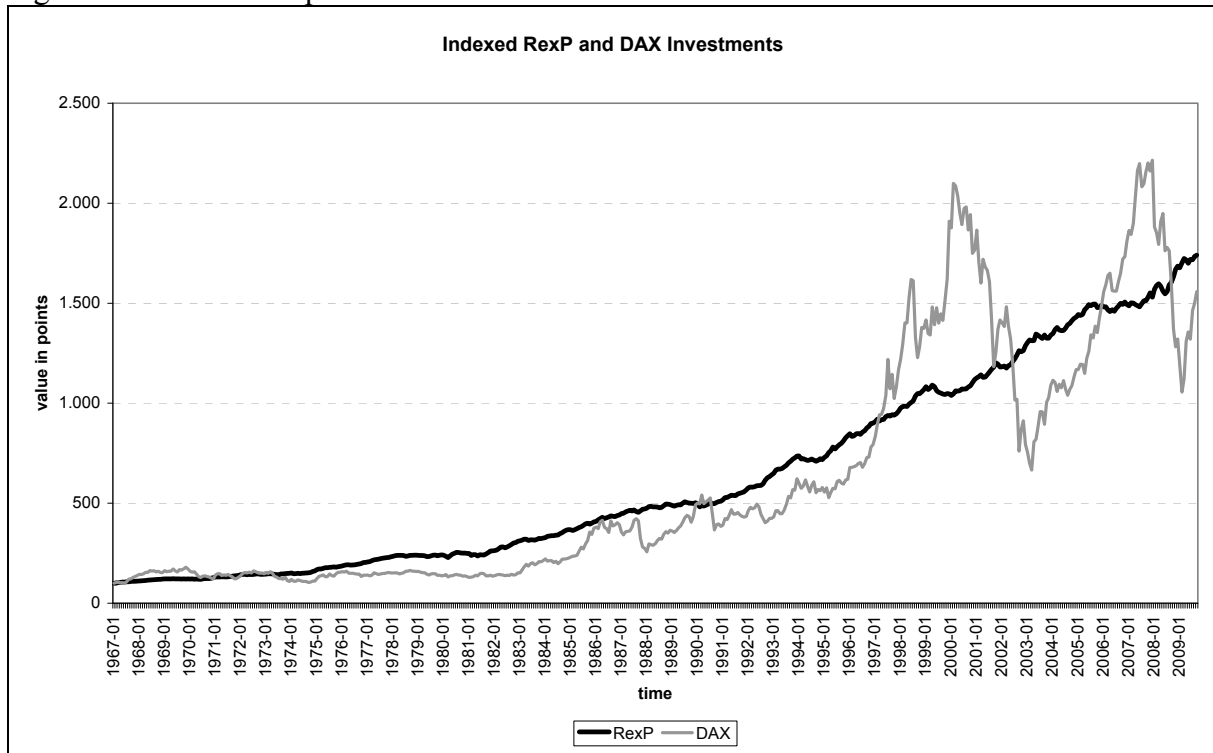
---

<sup>1</sup> Cf. Markowitz (1952), pp. 77.

maturity<sup>2</sup>. Indexed onto January 1967, figure 1 offers the development of the asset classes, based on monthly index values<sup>3</sup>.

Analysing figure 1 leads to several results. Share investments have a much higher volatility compared to bond investments. Further, the absolute return of shares is lower than the bond investment. Only during the hype in 2000, the DAX outperformed the RexP. The basic assumption that share investments have a higher return in the long run cannot be proven by a 42 year history. As this is not the main focus of this work, this aspect should be discussed in another context.

Fig. 1: Indexed Development of DAX and RexP



Source: Own calculations based on Bundesbank (2009a, 2009b)

## 2. Used Tests

In order to test the normal distribution of the monthly yields, two tests will be used. The first one is the **Kolmogorov-Smirnov** test, which is well known since 1950<sup>4</sup>. This approach compares the cumulated distribution function, in this case the normal distribution

$$F(x) = \int_{-\infty}^x \frac{1}{\sigma\sqrt{2\pi}} \cdot e^{\left[-\frac{1}{2}\left(\frac{v-\mu}{\sigma}\right)^2\right]} dv \quad (1)$$

with the approximation of this cumulated function given by the sample,

$$F_n(x_i) = \frac{i}{n} \quad (2)$$

<sup>2</sup> Cf. Svoboda (2008), p. 2, 230.

<sup>3</sup> Cf. Bundesbank (2009a) and Bundesbank (2009b).

<sup>4</sup> Discussed e.g. in Darling (1957); DESY (2008), pp. 108.

sorted by value of  $x$ . The test variable  $t$  is defined as:

$$t_{KS} = \max |F_n(x_i) - F(x_i); F_n(x_{i-1}) - F(x_i)| \quad (3)$$

This test variable has to be compared to a significance level of  $t_0$  at a certain degree of freedom respectively number of  $n^5$ . As long as  $t$  is smaller than  $t_0$ , the normal distribution can be assumed at the relevant confidential level. This article chooses 5% confidential level for both tests.

The second test used is the **Jarque Bera** test, which is often used for samples with high numbers<sup>6</sup>. The test formula is defined as follows<sup>7</sup>:

$$t_{JB} = n \cdot \left[ \frac{SK^2}{6} + \frac{(KU - 3)^2}{24} \right] \quad (4)$$

with skewness SK

$$SK = \frac{\sqrt{\left( \frac{1}{n} \sum (x_i - \bar{x})^3 \right)^2}}{\sqrt{\left( \frac{1}{n} \sum (x_i - \bar{x})^2 \right)^3}} \quad (5)$$

and kurtosis KU:

$$KU = \frac{\frac{1}{n} \sum (x_i - \bar{x})^4}{\left( \frac{1}{n} \sum (x_i - \bar{x})^2 \right)^2} \quad (6)$$

As the kurtosis of a normal distribution is 3 and the skewness is 0,  $t_{JB}$  should be very small in order to prove a normal distribution. The resulting  $t_{JB}$  has to be compared to a normality chi with two degrees of freedom at a certain confidential level, again 5%. As long as  $t_{JB}$  is smaller than this value, a normal distribution can be assumed.

Both tests have advantages and disadvantages. While the Jarque Bera tests reacts very sensible to changes in the sample, the Kolmogorov-Smirnov test does not reflect the fat tails of the given sample. Further, the Kolmogorov-Smirnov test becomes inexact at higher quantity of sample.

### 3. Modelling the Tests in MS Excel

Nevertheless, both approaches will be applied onto both indices in order to analyse the normal distribution. Both approaches are modelled in MS Excel. Figure 2 shows the used functions in MS Excel for the Kolmogorov-Smirnov test while figure 3 shows the relevant functions for the Jarque Bera test.

<sup>5</sup> These t-variables can be found e.g. in *Lee (2005); Dutter (2005)*.

<sup>6</sup> Cf. *Jarque/Bera (1980)*.

<sup>7</sup> Discussed in *Jarque/Bera (1980)*.

Fig.2: MS Excel program source for Kolmogorov-Smirnov

```
Function T_KS_WERT(data As Range) As Variant

n = data.SpecialCells(xlCellTypeConstants, 1).Count
DataMean = WorksheetFunction.Average(data)
DataStDev = WorksheetFunction.StDev(data)

For i = 1 To n

zahl = WorksheetFunction.Small(data, i)
z_Wert = (zahl - DataMean) / DataStDev
standnormwert = WorksheetFunction.NormSDist(z_Wert)
vergleich = i / n
vergleich2 = (i - 1) / n
test1 = (standnormwert - vergleich) ^ 2 ^ 0.5
test2 = (standnormwert - vergleich2) ^ 2 ^ 0.5
test = WorksheetFunction.Max(test1, test2)

Select Case test
Case Is > Max
Max = test
Case Is < Max
nothing happens
End Select

Next i

T_KS_WERT = Max

End Function

Function T_KS_Test(data As Range, Konfidenz As Double, detail As Double) As Variant

ks2 = T_KS_WERT(data)
n = data.SpecialCells(xlCellTypeConstants, 1).Count

Select Case Konfidenz

Case Is = 0.1
Select Case n
Case Is = 1
testwert = 0.95
Case Is = 2
testwert = 0.7764
Case Is = 3
testwert = 0.636
Case Is = 4
testwert = 0.5652
Case Is = 5
testwert = 0.5094
Case Is = 6
testwert = 0.468
Case Is = 7
testwert = 0.4361
Case Is = 8
testwert = 0.4096
Case Is = 9
testwert = 0.3875
Case Is = 10
testwert = 0.3687
Case Is = 11
testwert = 0.3524
Case Is = 12
testwert = 0.3382
Case Is = 13
testwert = 0.3255
Case Is = 14
testwert = 0.3142
Case Is = 15
testwert = 0.304
Case Is = 16
testwert = 0.2947
Case Is = 17
testwert = 0.2863
Case Is = 18
testwert = 0.2785
Case Is = 19
testwert = 0.2714
Case Is = 20
testwert = 0.2647
Case Is = 21
testwert = 0.2586
Case Is = 22
testwert = 0.2528
Case Is = 23
testwert = 0.2475
Case Is = 24
testwert = 0.2424
Case Is = 25
testwert = 0.2377
Case Is = 26
testwert = 0.2332
Case Is = 27
testwert = 0.229
Case Is = 28
testwert = 0.225
Case Is = 29
testwert = 0.2212
Case Is = 30
testwert = 0.2176
Case Is = 31
testwert = 0.2141
Case Is = 32
testwert = 0.2108
Case Is = 33
testwert = 0.2077
Case Is = 34
testwert = 0.2047
Case Is = 35
testwert = 0.2018
Case Is = 36
testwert = 0.1991
Case Is = 37
testwert = 0.1965
Case Is = 38
testwert = 0.1939
Case Is = 39
testwert = 0.1915
Case Is = 40
testwert = 0.1891
Case Is > 40
testwert = 1.22 / (n ^ 0.5)
End Select

Case Is = 0.05
Select Case n
Case Is = 1
testwert = 0.975
Case Is = 2
testwert = 0.8419
Case Is = 3
testwert = 0.7076
Case Is = 4
testwert = 0.6239
Case Is = 5
testwert = 0.5633
Case Is = 6
testwert = 0.5193
Case Is = 7
testwert = 0.4834
Case Is = 8
testwert = 0.4543
Case Is = 9
testwert = 0.43
Case Is = 10
testwert = 0.4092
Case Is = 11
testwert = 0.3912
Case Is = 12
testwert = 0.3754
Case Is = 13
testwert = 0.3614
Case Is = 14
testwert = 0.3489
Case Is = 15
testwert = 0.3376
Case Is = 16
testwert = 0.3273
Case Is = 17
testwert = 0.318
Case Is = 18
testwert = 0.3094
Case Is = 19
testwert = 0.3014
Case Is = 20
testwert = 0.2941
Case Is = 21
testwert = 0.2872
Case Is = 22
testwert = 0.2809
Case Is = 23
testwert = 0.2749
Case Is = 24
testwert = 0.2693
Case Is = 25
testwert = 0.264
Case Is = 26
testwert = 0.2591
Case Is = 27
testwert = 0.2544
Case Is = 28
testwert = 0.2499
Case Is = 29
testwert = 0.2457
Case Is = 30
testwert = 0.2417
Case Is = 31
testwert = 0.2379
Case Is = 32
testwert = 0.2342
Case Is = 33
testwert = 0.2308
Case Is = 34
testwert = 0.2274
Case Is = 35
testwert = 0.2242
Case Is = 36
testwert = 0.2212
Case Is = 37
testwert = 0.2183
Case Is = 38
testwert = 0.2154
Case Is = 39
testwert = 0.2127
Case Is = 40
testwert = 0.2101
Case Is > 40
testwert = 1.36 / (n ^ 0.5)
End Select

Case Is = 0.025
Select Case n
Case Is = 1
testwert = 0.99
Case Is = 2
testwert = 0.9
Case Is = 3
testwert = 0.7846
Case Is = 4
testwert = 0.6889
Case Is = 5
testwert = 0.6272
Case Is = 6
testwert = 0.5774
Case Is = 7
testwert = 0.5384
Case Is = 8
testwert = 0.5065
Case Is = 9
testwert = 0.4796
Case Is = 10
testwert = 0.4566
Case Is = 11
testwert = 0.4367
Case Is = 12
testwert = 0.4192
Case Is = 13
testwert = 0.4036
Case Is = 14
testwert = 0.3897
Case Is = 15
testwert = 0.3771
Case Is = 16
testwert = 0.3657
Case Is = 17
testwert = 0.3553
Case Is = 18
testwert = 0.3457
Case Is = 19
testwert = 0.3369
Case Is = 20
testwert = 0.3287
Case Is = 21
testwert = 0.321
Case Is = 22
testwert = 0.3139
Case Is = 23
testwert = 0.3073
Case Is = 24
testwert = 0.301
Case Is = 25
testwert = 0.2952
Case Is = 26
testwert = 0.2896
Case Is = 27
testwert = 0.2844
Case Is = 28
testwert = 0.2794
Case Is = 29
testwert = 0.2747
Case Is = 30
testwert = 0.2702
Case Is = 31
testwert = 0.266
Case Is = 32
testwert = 0.2619
Case Is = 33
testwert = 0.258
Case Is = 34
testwert = 0.2543
Case Is = 35
testwert = 0.2507
Case Is = 36
testwert = 0.2473
Case Is = 37
testwert = 0.244
Case Is = 38
testwert = 0.2409
Case Is = 39
testwert = 0.2379
Case Is = 40
testwert = 0.2349
Case Is > 40
testwert = 1.52 / (n ^ 0.5)
End Select

Case Is = 0.01
Select Case n
Case Is = 1
testwert = 0.995
Case Is = 2
testwert = 0.9293
Case Is = 3
testwert = 0.829
Case Is = 4
testwert = 0.7342
Case Is = 5
testwert = 0.6685
Case Is = 6
testwert = 0.6166
Case Is = 7
testwert = 0.5758
Case Is = 8
testwert = 0.5418
Case Is = 9
testwert = 0.5133
Case Is = 10
testwert = 0.4889
Case Is = 11
testwert = 0.4677
Case Is = 12
testwert = 0.449
Case Is = 13
testwert = 0.4325
Case Is = 14
testwert = 0.4176
Case Is = 15
testwert = 0.4042
Case Is = 16
testwert = 0.392
Case Is = 17
testwert = 0.3809
Case Is = 18
testwert = 0.3706
Case Is = 19
testwert = 0.3612
Case Is = 20
testwert = 0.3524
Case Is = 21
testwert = 0.3443
Case Is = 22
testwert = 0.3367
Case Is = 23
testwert = 0.3295
Case Is = 24
testwert = 0.3229
Case Is = 25
testwert = 0.3166
Case Is = 26
testwert = 0.3106
Case Is = 27
testwert = 0.305
Case Is = 28
testwert = 0.2997
Case Is = 29
testwert = 0.2947
Case Is = 30
testwert = 0.2899
Case Is = 31
testwert = 0.2853
Case Is = 32
testwert = 0.2809
Case Is = 33
testwert = 0.2768
Case Is = 34
testwert = 0.2728
Case Is = 35
testwert = 0.269
Case Is = 36
testwert = 0.2653
Case Is = 37
testwert = 0.2618
Case Is = 38
testwert = 0.2584
Case Is = 39
testwert = 0.2552
Case Is = 40
testwert = 0.2521
Case Is > 40
testwert = 1.63 / (n ^ 0.5)
End Select

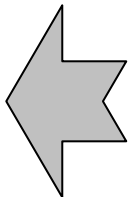
End Select

T_KS_Test = "Confidential level not possible - Please insert 0.100 0.050 0.025 0.010 !"

Case Is > 0
Select Case detail
Case Is = 0
T_KS_Test = t_Ks
Case Is = 1
T_KS_Test = "Value of Kolmogorov-Smirnov = " & Round(ks2, 4) & " Test value = " & Round(testwert, 3) & " n = " & n & " Normal distribution confirmed: " & t_Ks
End Select

End Function
```

*This list of relevant Kolmogorov-Smirnov values Has to be inserted here*



Source: Own program code



Fig.3: MS Excel program source for Jarque Bera

```
Function T_JB_Wert(data As Range, detail As Double) As Variant
    Dim n As Long, i As Long, DataMean As Double, DataStDev As Double

    n = data.SpecialCells(xlCellTypeConstants, 1).Count
    DataMean = WorksheetFunction.Average(data)

    For i = 1 To n
        hoch_2 = hoch_2 + (data(i) - DataMean) ^ 2
        hoch_3 = hoch_3 + (data(i) - DataMean) ^ 3
        hoch_4 = hoch_4 + (data(i) - DataMean) ^ 4
    Next i

    sk = (((hoch_3 / n) ^ 2) / ((hoch_2 / n) ^ 3)) ^ 0.5
    ku = (hoch_4 / n) / ((hoch_2 / n) ^ 2)

    jb = n * ((sk ^ 2) / 6 + (ku - 3) ^ 2 / 24)

    Select Case detail
        Case Is = 0
            T_JB_Wert = jb
        Case Is = 1
            T_JB_Wert = "Value Jarque-Bera = " & Round(jb, 4) & "    SK = " & Round(sk, 4) & "    KU = " & Round(ku, 4) & "    n = " & n
    End Select
End Function

Function T_JB_Test(data As Range, SignificanceLevel As Double, detail As Double) As Variant
    normality_chi = Round(WorksheetFunction.ChiInv(SignificanceLevel, 2), 2)
    risk = Round(WorksheetFunction.ChiDist(T_JB_Wert(data, 0), 2), 2) * 100
    jb2 = T_JB_Wert(data, 0)

    Select Case (normality_chi - jb2)
        Case Is < 0
            t_jb = "NO"
        Case Is > 0
            t_jb = "YES"
    End Select

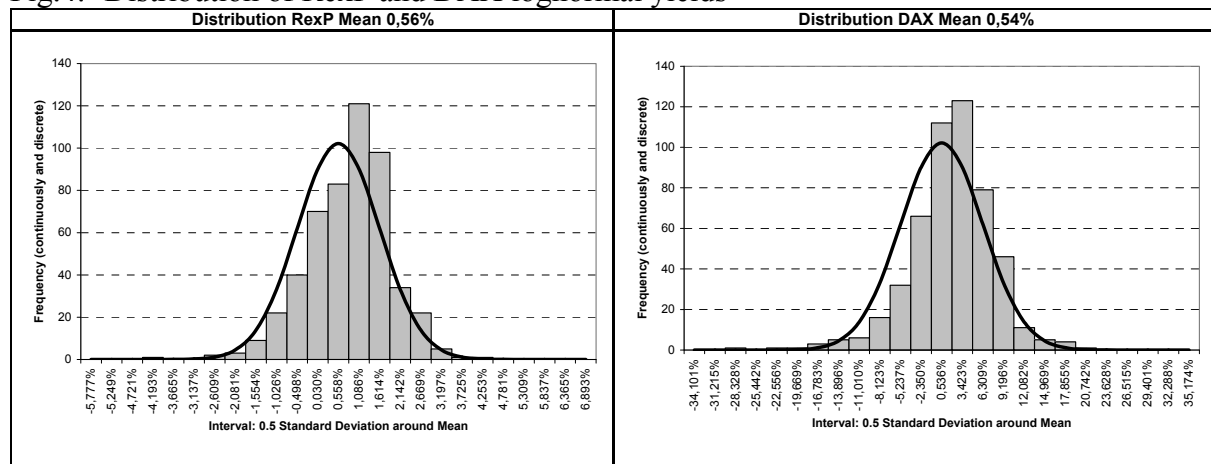
    Select Case detail
        Case Is = 0
            T_JB_Test = t_jb
        Case Is = 1
            T_JB_Test = "Normal distributed: " & t_jb & "    with: JB = " & Round(jb2, 4) & " & Chi-Wert = " & Round(normality_chi, 4)
    End Select
End Function
```

Source: Own program code

#### 4. Applying the Tests onto DAX and Rexp

In a first step, the monthly yields have to be transformed into a clustered distribution function. Assuming a cluster of a half standard deviation, this leads to the following results, represented in figure 4:

Fig.4: Distribution of Rexp and DAX lognormal yields



Source: Own calculations

Analysing these data leads to the result that the lognormal yields seem to be normal distributed as the discrete distribution does not differ too much from the steady distribution. But a visual comparison often leads to wrong results. Therefore, the relevant tests have to be applied onto the samples. Figure 5 shows the results.

Fig.5: Results of the tests for lognormal yields

Jarque Bera		
<b>RexP</b>	<b>Value</b>	Value Jarque-Bera = 43,815 SK = 0,3959 KU = 4,1946 n = 512
	<b>Test</b>	Normal distributed: NO with: JB = 43,815 & Chi = 5,991
<b>DAX</b>	<b>Value</b>	Value Jarque-Bera = 193,0983 SK = 0,7065 KU = 5,6561 n = 512
	<b>Test</b>	Normal distributed: NO with: JB = 193,0983 & Chi = 5,991

Kolmogorov Smirnov		
<b>RexP</b>	<b>Value</b>	0,059159581
	<b>Test</b>	Value of Kolmogorov-Smirnov = 0,0592 Test value = 0,06 n = 512 Normal distribution confirmed: Yes
<b>DAX</b>	<b>Value</b>	0,05679885
	<b>Test</b>	Value of Kolmogorov-Smirnov = 0,0568 Test value = 0,06 n = 512 Normal distribution confirmed: Yes

Source: Own calculations

While the Kolmogorov Smirnov test confirms a normal distribution, the Jarque Bera test fails. These results are equal independent if lognormal or discrete yields are used. Analysing risk and performance by using the normal distribution shall be discussed critically according to the results.

## 5. Final Conclusion and Recommendation

This article has shown that several tests of normal distribution lead to different results. The reason why the Kolmogorov Smirnov test leads to positive results is that it neglects fat tail problems. But this is one of the main problems in market price risk. While most values of the sample can be treated as normal distributed, the extreme values should not be modelled by normal distribution models. The Jarque Bera test reacts more sensible, it negates the normal distribution.

Nevertheless, the recommendation for market price risk management is that the normal distribution has to be negated as it fails especially in extreme market situations. Historical simulation, Monte Carlo, Copula functions or even Peaks over threshold methods might be better to quantify risk of market price assets especially at high confidential levels.

## BIBLIOGRAPHY

- [1] *Bundesbank* (2009a): Zeitreihe WU046A: REX Performanceindex / Basis: Ultimo 1987 = 100 / Monatsendstand, available from: [http://www.bundesbank.de/statistik/statistik\\_zeitreihen.php?lang=de&open=wertpapiermaerkte&func=row&tr=WU046A](http://www.bundesbank.de/statistik/statistik_zeitreihen.php?lang=de&open=wertpapiermaerkte&func=row&tr=WU046A), accessed on October 20<sup>th</sup>, 2009.
- [2] *Bundesbank* (2009b): Zeitreihe WU3141: DAX Performanceindex / Basis: Ultimo 1987 = 1000 / Monatsendstand, available from: [http://www.bundesbank.de/statistik/statistik\\_zeitreihen.php?lang=de&open=wertpapiermaerkte](http://www.bundesbank.de/statistik/statistik_zeitreihen.php?lang=de&open=wertpapiermaerkte)

[erkte&func=row&tr=WU3141](#),  
accessed on October 20<sup>th</sup>, 2009.

- [3] *Darling, D.A. (1957):* The Kolmogorov-Smirnov, Cramer-von Mises Tests, in: The Annals of Mathematical Statistics, Vol. 28, No. 4 (Dec., 1957), pp. 823 – 838.
- [4] *DESY Deutsches Elektronen Synchotron (2008):* Signifikanzanalysen, available from: [http://www-zeuthen.desy.de/~kolanosk/smd\\_ss08/skripte/signifikanz.pdf](http://www-zeuthen.desy.de/~kolanosk/smd_ss08/skripte/signifikanz.pdf), accessed on October 20<sup>th</sup>, 2009.
- [5] *Dutter, R. (1995):* Kolmogorov-Smirnov Distribution, available from: [http://www.statistik.tuwien.ac.at/public/dutt/vorles/mb\\_wi\\_vt/node98.html](http://www.statistik.tuwien.ac.at/public/dutt/vorles/mb_wi_vt/node98.html), accessed on October 20<sup>th</sup>, 2009.
- [6] *Jarque, C. / Bera, A. (1980):* Efficient Tests for Normality, Heteroscedasticity, and Serial Independence of Regression Residuals, Economics Letters, 6, pp. 255 – 259.
- [7] *Lee, P. M. (2005):* Kolmogorov-Smirnov One-Sample Test, available from: <http://www.york.ac.uk/depts/maths/tables/kolmogorovsmirnov.ps>, accessed on October 20<sup>th</sup>, 2009.
- [8] *Markowitz, H. M. (1952):* Portfolio Selection. The Journal of Finance, Vol. 7(1), pp. 77–91.
- [9] *Svoboda, M. (2008):* Index Investing, Brno 2008

Dipl.-Betriebsw. (FH) / Dipl.-Inform. (FH) **Svend Reuse** MBA

*Member of PhD study program of Masaryk University / Brno*

*Lecturer at the FOM University of Applied Science*

*Leader of Controlling Department, Sparkasse Mülheim an der Ruhr, Germany*

Svend.Reuse@gmx.de

Luxemburger Allee 121

45481 Mülheim, Germany

+49 172 2842093                      mobile

+ 49 208 3005 163                      work

+ 49 208 3006 161                      fax

+ 49 208 84709949                      home

# PRICING OF STRUCTURED PRODUCTS USING VISUAL BASIC IN EXCEL

Miroslava Šikulová, Peter Mokrička

## ANNOTATION

This paper deals with usage of Visual Basic in Excel in pricing of structured products. The pricing is implied on the example of guarantee certificates which can be constructed from a bond and an option, so it is shown how to price these components, and then also a guarantee certificate in Excel using Black-Scholes Model.

## KEY WORDS

Structured products, guarantee certificates, options, pricing, Visual Basic, Black-Scholes Model

## INTRODUCTION

Structured products are investments products available to the public whose repayment value derives from the development of one or several underlying assets<sup>1</sup>. Structured products are a combination of a traditional investment (e.g. share or bond) and derivative financial instruments (more often options, but also swaps, forwards and futures).<sup>2</sup>

## AIM AND METODOLOGY

The aim of this paper is to provide one of pricing possibilities of structured products using Visual Basics in Excel. Methods of literature research, description, induction and analysis were used in the paper.

## RESULTS

To appreciate a structured product we need to know the value of all its components. Determining of the price of share or bond is fairly simple; evaluation of options or other derivatives before maturity is more complicated. In the following, we focus on options as the most common derivative component of structured products.

Pricing of options can be solved for example by two well-known models, e.g. the binomial model and the Black-Scholes Model. We chose the Black-Scholes Model due to its simplicity and easy implementation.

### The Black-Scholes Model

In the early 1970s, Fisher Black, Myron Scholes, and Robert Merton achieved a major breakthrough in the pricing of stock options.<sup>3</sup> The Black-Scholes Model is the most popular option pricing model, which values a European call option<sup>4</sup> with maturity T and with strike price K on a stock with price S. The price of this call option is:

$$C = S * N(d) - e^{-rT} * K * N(d - \sigma * \sqrt{T})$$

---

<sup>1</sup> E.g. shares, interest, foreign currency, raw materials

<sup>2</sup> See <<http://www.asps-association.ch/home/generelles.aspx?lang=en>>

<sup>3</sup> HULL, J. *Options, Futures and Other Derivatives*. Pearson, 2009. ISBN 978-0-13-500994-9. pp. 277

<sup>4</sup> A call option is a financial contract, where the buyer has the right to buy an agreed quantity of an underlying instrument from the seller at maturity time for the strike price.

where

$\sigma$  ... annual stock return volatility

$r$  ... annual risk-free interest rate

$T$  ... time to maturity (in years)

$N(d)$  ... cumulative distribution function of a standard normal variable

$$d = (\log(S/K) + T * (r + \sigma^2/2)) / (\sigma * \sqrt{T})$$

This formula can be counted in the Excel using Visual Basic code:

```
Function Gauss (X)
```

```
Gauss = Application.NormSDist(X)
```

```
End Function
```

```
Function BS_call(S, K, r, T, v)
```

```
d = (Log(S/K) + T * (r + 0.5 * v ^ 2)) / (v * Sqr(T))
```

```
BS_call = S * Gauss(d) - Exp(-r * T) * K * Gauss(d - v * Sqr(T))
```

```
End Function5
```

The price of put option<sup>6</sup> can be determined by using the put-call parity relation:

$$P = C - S + K * e^{-rT}$$

In Visual Basic we can type:

```
Function BS_put(S, K, r, T, v)
```

```
BS_put = BS_call(S, K, r, T, v) - S + K * Exp(-r * T)
```

```
End Function
```

### **Pricing of Structured Products**

As mentioned above to determine the price of structured products we value all its components. Because of limited scope of the paper we show the valuation of structured products on the example of guarantee certificates.

The guarantee certificates offer the possibility of investing in an underlying. If underlying price rises, investors participate in profits, otherwise if it decreases below the level of emissions, investors receive back the paid-up capital.<sup>7</sup>

Guarantee certificates can be constructed with zero-coupon bonds and call options:

$$\text{Guarantee certificate} = \text{zero-coupon bond} + \text{call option}$$

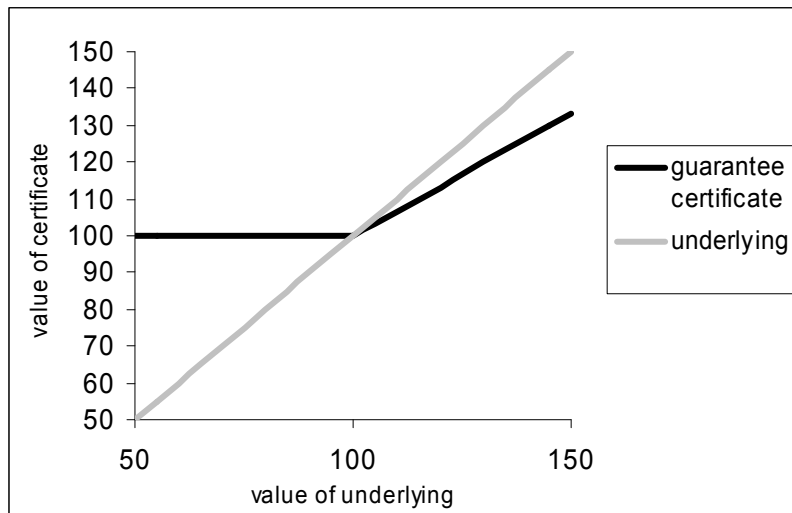
---

<sup>5</sup> WILEY, J. *Option pricing models and volatility using Excel-VBA*. New Jersey: John Wiley & Sons. 2007. ISBN 978-0-471-79464-6. pp. 112-113

<sup>6</sup> A put option is a financial contract where the buyer exercises his right to sell option.

<sup>7</sup> MICHALKY, M. *Das grosse Buch der Börse*. München: Finanzbuch Verlag. 2008. ISBN 978-3-89879-265-3. pp. 811-812

Fig. 1 Guarantee certificate (with full capital guarantee)<sup>8</sup>



Source: authors

Considering certificate with the full capital guarantee, zero-coupon bond is due for its par price corresponding to the guarantee level of the certificate. Before maturity zero-coupon bonds are always priced at a discount.<sup>9</sup> Zero-coupon bond price is present value of par price:

$$\text{Zero-coupon bond price} = M / (1 + i)^n$$

where

M ... value at maturity, par value

i ... interest rate

n ... number of periods

The difference between underlying price and zero-coupon bond price (in this case, the discount from zero-coupon bond) is used for buying call options. The nominal value of call options should be in the guarantee level. Because option price is often higher than the discount from zero-coupon bond, participation is lower than 100%. Size of participation is determined by how much of a call option can be purchased from that discount:

$$\text{Participation} = (\text{Underlying price} - \text{Zero-coupon bond}) / \text{Call option price}$$

Guarantee certificate price before maturity is:

$$\text{Guarantee certificate price} = \text{Zero-coupon bond} + \text{Participation} * \text{Call option price}$$

In Visual Basic we type:

```
Function Zerobond(S, r, T)
```

```
Zerobond = S / (1 + r) ^ T
```

```
End Function
```

<sup>8</sup> The underlying is worth 100 EUR at the beginning of the duration.

<sup>9</sup> Investopedia: Advanced Bond Concepts: Bond Pricing, available at <<http://www.investopedia.com/university/advancedbond/advancedbond2.asp>>

*Function Participation(S, r, T, v)*  
 $Participation = (S - Zerobond(S, r, T)) / BS\_call(S, S, r, T, v)$   
*End Function*

*Function GuaranteeC(S\_beg, S\_act, r, T\_beg, T\_act, v)*  
 $GuaranteeC = Zerobond(S_act, r, T_act) + Participation(S_beg, r, T_beg, v) * BS\_call(S_act, S_beg, r, T_act, v)$   
*End Function*

where

S\_beg, T\_beg ... data at the beginning of the duration

S\_act, T\_act ... data before time of maturity, during the duration

Note that the full capital guarantee does not mean the value of guarantee certificate is always higher than the guarantee level. This condition has to be valid in time of maturity only. During the duration, price of guarantee certificate may also be less than the guarantee level.

## CONCLUSION

The value of structured products depends on the value of all their components. These products are usually a combination of share or bond and one or more kind of options. To appreciate options can be used Black-Scholes Model, whose implementation is quite easy. An example of structured products is guarantee certificate. It is constructed with zero-coupon bond and call option. Price of this financial product can be counted also with Visual Basic in Excel.

## BIBLIOGRAPHY

- [1] HULL, J. *Options, Futures and Other Derivatives*. Pearson, 2009. ISBN 978-0-13-500994-9.
- [2] MICHALKY, M. *Das grosse Buch der Börse*. München: Finanzbuch Verlag. 2008. ISBN 978-3-89879-265-3.
- [3] WILEY, J. *Option pricing models and volatility using Excel-VBA*. New Jersey: John Wiley & Sons. 2007. ISBN 978-0-471-79464-6.
- [4] Investopedia: Advanced Bond Concepts: Bond Pricing, available at <<http://www.investopedia.com/university/advancedbond/advancedbond2.asp>>.
- [5] Swiss Structured Products Association, available at <<http://www.asps-association.ch/home/index.aspx?lang=en>>.

Miroslava Šikulová  
 Faculty of Economics and administration  
 Masaryk University  
 Lipová 41a  
 Brno  
[sikulova@econ.muni.cz](mailto:sikulova@econ.muni.cz)

Peter Mokrička  
 Faculty of Economics and Administration  
 Masaryk University  
 Lipová 41a  
 Brno  
[mokricka@econ.muni.cz](mailto:mokricka@econ.muni.cz)

# **RISK MANAGEMENT – BASEL II AND SOLVENCY II**

**Ivana Valová**

## **ANNOTATION**

Risk management is important to efficient business operations. We can say risk management is more important in the financial sector than in other parts of the economy because financial activities are increasingly being affected by the global economy. Importance of financial risk management proves the fact that the main procedures of risk measurement and management are included in many legal documents. The article attends to problems of risk management in financial institutions, Basel II and Solvency II.

## **KEY WORDS**

Basel II, financial institutions, risk management, Solvency II.

## **INTRODUCTION**

A stable financial sector is one the basic preconditions for a functioning economy. But such stability is not guaranteed by market mechanisms alone. The activities of financial institutions are governed by a number of injunctive regulations.

Risk management is important to efficient business operations. We can say risk management is more important in the financial sector than in other parts of the economy because financial activities are increasingly being affected by the global economy. Importance of financial risk management proves the fact that the main procedures of risk measurement and management are included in many legal documents.

## **AIM AND METODOLOGY**

The article gives brief information on risk management in financial institutions, Basel II and Solvency II. The aim of the paper is emphasized importance of risk management according to Basel II and Solvency II, and compared risk management access of banks and insurance companies.

The basic method of submitted article is the deduction. It is gone from common pieces of knowledge and theory to particulars.

## **RISK MANAGEMENT IN BANKS**

The purpose of this paper is to inform about the current situation in the field of risk management in banks and insurance companies and to characterize, analyze and compare the main principles of regulation according to Basel II and Solvency II.

By the mid-70th years, there was no institution for the international coordination of local banking regulation. In 1975 the governors of central banks of the G-10 created a standing committee of banking supervisors (*Committee on Banking Regulation and Supervision Practices* - CBRSP), which was later renamed the Basel Committee on Banking Supervision (*Basle Committee on Banking Supervision*, hereinafter referred to as "Basel Committee").

Covenants published by the Basel Committee are not legally binding. The covenants are intended as a common framework for banking supervision in order to promote convergence



towards common approaches and to create concurrent competitive conditions for international banks. Documents of the Basle Committee are recommendations for member countries of the character of G-10, but it is assumed to be incorporate into legal norms and regulations. The adoption of the rules is also recommended to other countries.

By contrast Directives of the European Union (EU) establish requirements for member countries, and therefore they are indirectly binding on them.

### **Basel II**

Basel Capital Accord (hereinafter referred to as "Basel I") was published in 1988. It was a major new regulatory directive under which the G-10 agreed to a minimum standard of capital adequacy for international banks. It was the first step towards global harmonization of banking supervision. This differs from the regional harmonization within the European Union. Basel I set the capital requirements for credit risk.

The increasing complexity of banking had shown that a simple framework of Basel I was not sufficient for the needs of banking practice. In 2004 the Basel Committee agreed to the final version of new rules for the performance of banking activities and to exercise supervision over banks (*International Convergence of Capital Measurement and Capital Standards*, hereinafter referred to as "Basel II"). In the same period, the European Commission presented the final draft amendment to the existing directives 2000/12/EC and 93/6/EEC.

Basel II is a revision of the original agreement on capital adequacy Basel I. A new concept responds to the rapid development of financial markets. Its aim is:

- Increase security and stability of financial systems,
- The introduction of more accurate and sensitive rules on risk management and the calculation of regulatory capital,
- Convergence of regulatory capital requirements with risk measurement,
- Motivate of banks for expanded disclosure of risk exposures to play a partial role of regulator and market.

These objectives are reflected in the more sensitive approach to measuring risk in relation to the risk profile of banks and precise quantification of regulatory capital practices of each individual bank.

The new Basel Accord is based on the 3 pillars:

#### The first pillar - minimum capital requirements

This pillar is a direct continuation of Basel I and set the minimum regulatory capital requirements for credit, market and recently also for operational risk and provides a wider range of options - risk measurement methods for determining capital requirements, including the models banks.

#### The second pillar - the process of supervision

This pillar provides assessment process of the bank supervisory authority to consider capital adequacy, then the reliability and quality of management and control mechanisms banks.

### The third pillar - market discipline

The third pillar is primarily focused on issues of transparency and disclosure by banks. New concept determines requirements in various areas, including the disclosure of the methods used in the calculation of capital adequacy.

With regard to access to the Czech Republic and Slovakia to the European Union should be noted that the Czech Republic and Slovakia is and will remain the standard form of Basel II, after transformation into Community law. This concept can be in some cases the sub more or less different from the default document issued by the Basle Committee.

## **RISK MANAGEMENT IN INSURANCE COMPANIES**

Not only banks but also insurance companies must be concerned in their risks and their management. In this sense, we can talk of Basel I, respectively Basel II, for banks and Solvency I, respectively Solvency II, for insurance companies.

In 2001, on the initiative of the European Commission, the revision of the current Solvency I was initiated. It was launched the process of updating the existing rules and began work to develop a new directive which was given the name of Solvency II. New concept of legal regulation of insurance Solvency II will replace the currently applied scheme Solvency I. Original assumption of the full implementation of the Directive allowed for the year 2008 is already clear, however, that the earliest realistic date the introduction of Solvency II in 2012.

### **Solvency II**

Till this time valid Solvency I is relatively easy to implement and provide sufficient results. Why does the market need a new regulation?

The current solvency system is proven concept that had fulfilled its role fairly reliable, but currently there are no doubts that this antiquated system need reform.

The reason for the need of new regulation is to simplify the calculation, which ignores the existence of different risks in the insurance market and the development environment. Solvency II should be able to assess the overall solvency of using the new risk-oriented approach. In practice this means that there will be taken into account operational risk. The new concept extends the first pillar of the two pillars more.

Lack of continuity on the real risks of Solvency I is proved in particular for the lack of recent developments in international finance markets. Another impetus for change is the progress in the field of international accounting standards for insurance companies, which seek to liability valuation methods based on market principles of consistency.

Solvency II is similar to Basel II based on 3 pillars:

### The first pillar - quantitative requirements

The first pillar defines the financial resources which the undertaking must hold to be considered solvent. Is defined capital requirement for solvency (*Solvency Capital Requirement - SCR*), which sets the threshold at which gets heightened interest in the insurance regulator. Furthermore, the minimum capital requirement (*Minimum Capital Requirement - MCR*), under which insurance may not fall, otherwise it threatens to remove the license.

### The second pillar - quality requirements

This pillar provides principles for insurance supervision and internal risk management system. Important elements of the internal system are stress testing, transfer of risk, the principle of insurance management and internal control system. Risks which can not be quantified in the first pillar, they should be assessed at least qualitatively, in the second pillar.

### The third pillar - market discipline

The third pillar is based on disclosure and increasing transparency of the market. Its aim is to provide clients with insurance companies, rating agencies and other parties a clear picture of risk insurance.

Solvency II is a much more comprehensive view of the state insurance companies. It is obvious that the creators of the proposal based on the recently implemented Basel II.

## **COMPARISON OF CONCEPTS**

If we compare the new Basel II with the upcoming Solvency II proposal, we can find a number of common elements. Both standards are based on three pillars, which include quantitative and qualitative requirements and market discipline. Both concepts allow the use of internal models for quantifying risk and take into account in their calculations for the minimum amount of capital, but also operational risk.

The basic difference is seen in the fact that Basel II focuses on the quantification of credit, market and operational risk, while the Solvency II deals with the analysis of portfolio risk using an integrated approach, taking into account the dependencies between risk categories. Another difference is the fact that the Basel II risk management focuses primarily on assets, while the Solvency II monitors both the asset and the liability side.

### **Advantages of Solvency II**

Benefits of Solvency II, whose full implementation is calculated in 2012, include:

- Reduction in capital requirements (due to more sophisticated approaches and improve risk management process),
- Greater diversification of investments (capital will be released to further invest),
- Greater potential for profit,
- Increased transparency of risk.

## **CONCLUSION**

Risk management has become an integral part of capital management and daily operations for most financial institutions. The main motive is control of the authorities of the European Union and individual countries, but the positive impact of risk management at various management companies. In particular, the Czech insurance companies, however is lagging well behind the global trend and risk management options are still very interested. Better are the only ones which capital management methodology and risk management provided by their foreign owner.

Time delay implementation of Solvency II (as compared to the Basel II) is an opportunity for insurance companies that can begin to focus on the setting of risk management associated with the formation of internal regulations, changes in organizational structure, requirements to change IT systems, operational risk management, improved functionality author and internal compliance, internal control system, streamlining processes and increased demands on IT security, etc. Another important step is to build a quality data base with the possibility of

future integration of data for risk management but also financial management. It is important to also accede to the integration of risk themselves (to risk management in a single financial institution) and to deepen cooperation between the departments of finance and risk management department.

Solvency II will impact on all my insurance companies operating within the European Union. With companies with good risk management system will benefit, thus reducing their demands on capital. At the same time the possibility of using internal models of opportunities for more effective planning of capital.

Experience with implementation of Basel II in the banking environment has shown that the development of models is required and costly and requires high quality human and technical resources. Models also require a large amount of data, the acquisition of the required structure is very difficult. Of these introductions is needed cooperation between the regulator and the insurance company.

Despite all the difficulties of implementing the new concept, preliminary surveys show that the future implementation of Solvency II for insurance companies will benefit and competitive advantage.

## BIBLIOGRAPHY

- [1] BERAN, P.: Solvency II: větší ochrana klientů a něco navíc. *Bankovníctví*. Číslo 11/2006, s. 35-36, rubrika: Pojišťovnictví. ISSN 1212-4273.
- [2] CIPRA, T.: *Kapitálová přiměřenost ve financích a solventnost v pojišťovnictví*. Praha: Ekopress, 2002. ISBN 80-86119-54-8.
- [3] ČAP: Solvency II (2006)
- [4] LOZSI, I.: Co znamená Solvency II pro pojišťovny. *Bankovníctví*. Číslo 2/2006, s. 27-29. ISSN 1212-4273.
- [5] ONDER, Š.: Regulace bank a pojišťoven v Evropské unii. *Bankovníctví*. Číslo 3/2007, s. 30-31, rubrika: Měna a regulace. ISSN 1212-4273.
- [6] PE: Řízení rizik: výzva pro pojišťovny. *Bankovníctví*. Číslo 8/2006, s. 28-30, rubrika: Pojišťovnictví. ISSN 1212-4273.
- [7] Directive 2006/48/EC of the European Parliament and of the Council of 14 June 2006 relating to the taking up and pursuit of the business of credit institutions (recast version of Directive 2000/12/EC)
- [8] Directive 2006/49/EC of the European Parliament and of the Council of 14 June 2006 on the capital adequacy of investment firms and credit institutions (recast version of Directive 93/6/EC)

**Ing. Ivana Valová**

Masaryk University

Faculty of Economics and Administration

Lipová 41a

602 00 Brno

valova@mail.muni.cz

**ACCOUNTING AND TAXATION OF PROFIT AND NON –  
PROFIT SECTOR**

# **COMPANY COMBINATIONS IN THE VIEW OF IAS/IFRS**

**Alois Konečný**

## **ANNOTATION**

In the paper “Company combination in the view of IAS/IFRS” I will view company combinations from the position of accounting. Firstly the accounting attitude will be shown in the view of historic genesis. Secondly this article will describe for better understanding what exactly should be imagined under the conception of business combinations according to selected international standards and than I will deal with some accounting problem arising by accounting of mergers and acquisitions. Finally I will compare these attitudes.

## **KEY WORDS**

Company combinations - business combination - International accounting standards - International financial reporting standards – development – goodwill - bargain purchase

## **INTRODUCTION**

The branch of company combination is wide and can not be narrowed down to the only field. In this paper it will be viewed from the position of accounting. The accounting view of the whole process is highly important because it consequently causes the impacts on managing of joining companies and also their economic result. It has influence not only on accounting loss or profit (gain) but also (due to differences between particular ways of these processes and their accounting and in consequence due to differences in tax legislation set-out) on tax profit or loss.

In the beginning I would like to say that all current problems concerning IAS/IFRS were elaborated according to IAS/IFRS effective up to date 12.12. 2009.

## **AIM AND METODOLOGY**

The aim of this paper is implemented analysis of the attitudes that determine the ways of accounting of particular transactions originating by company combinations. When we deal with these problems, we need exactly apprehend what mean the idea of business combination. That is why I have it described in the beginning of the article. The ways will be defined according to their historical genesis and there will be founded reasons that lead to particular ways of depiction of these transactions. Than will the article concentrate on selected problems depicted in each way. In my research I will use these scientific methods: Analysis, synthesis, depiction and comparison.

## **RESULTS**

In this paper I will deal with company combinations from the view of accountant aspects. However I will not describe the whole branch of accounting but I would like describe the topic in that way as it is depicted in International Accounting Standards/International Financial Reporting Standards<sup>1</sup>. At these standards you can clearly see the evolution of solving and receptiveness of particular problems connected with business combinations and with transformations of entrepreneurial companies.

---

<sup>1</sup> in the following text only as abbreviation IAS/IFRS

Attempts to company harmonisation arose from 80's in twenty century. Concretely the first standard dedicated to company combinations was taken in effort in 1983 – it was standard IAS 22 Business combinations. Consecutively it was revised more times, for example in 1998 and then there were led discussions regarding mainly difference between total acquisition cost and sum of company net assets valued in its fair value. All these efforts finally arrived at substitution of this standard by a new IFRS 3 Business combination that has become in force for company combinations accomplished after 31<sup>st</sup> March 2004. It replaced IAS 22 and three Interpretations:

- SIC - 9 Business Combinations—Classification either as Acquisitions or Unitings of Interests
- SIC - 22 Business Combinations—Subsequent Adjustment of Fair Values and Goodwill Initially Reported
- SIC - 28 Business Combinations—“Date of Exchange” and Fair Value of Equity Instruments

But it was not the last change in this branch - in January 2008 the International accounting standards board<sup>2</sup> issued a revised IFRS 3. Below you can see interpretations that refer to IFRS 3:

- SIC-32 Intangible Assets—Web Site Costs (issued March 2002 and amended by IFRS 3 in March 2004)
- IFRIC 9 Reassessment of Embedded Derivatives (issued March 2006)
- IFRIC 17 Distributions of Non-cash Assets to Owners (issued November 2008).<sup>3</sup>

### **Business combinations under IFRS 3**

First of all, when we are going to talk about the conception of company combinations in the way as it is perceived in IAS/IFRS, we should understand what exactly IAS/IFRS comprehend under the “Business combination” respectively for what type of transactions is (nowadays effective) IFRS 3 Business combinations intended.

Business combination is uniting of independent accountant units or companies into one reporting unit. There is only one possible result of almost all company combinations – one accountant unit (named as acquirer) gains control of one or more companies (named as acquiree). We should notice that the accountant unit should be at the same time also company<sup>4</sup>. Unless it is company as well the unification is not named as business combination (and does not come under IFRS 3). In this case accountant unit will allocate acquisition costs of gained assets or net assets to particular identifiable assets and liabilities in the group based on their relative real values at the date of acquisition.

Company combination can be realized in a lot of forms that originate from legal, tax and other reasons. For example we can mention the ways how can accountant unit buy share on own capital of other accountant unit, all net assets of other accountant unit, assume liabilities of other accountant unit or buy net assets of other unit that is together comprised of one or more companies. It can be paid by own equity tools, by cash, cash equivalents or other assets, or by variations of the possibilities mentioned above. The transaction can be performed between shareholders of combining accountant units or between one accountant unit and shareholders of the other unit. The combination can also result into new accountant

---

<sup>2</sup> in the following text only as abbreviation IASB

<sup>3</sup> but effective date was 1st July 2009

<sup>4</sup> in this paper we will use the conception „company“ in the way as it is used in the IAS/IFRS nor in Czech Business Code

unit foundation that will control combining units or transferred net assets, or into restructuring of one or more accountant units.

Business combination is beside shares on own equity purchase also net assets purchase including related goodwill. Changes in reporting and comprehension of goodwill will be a topic of this paper as well. However net assets purchase does not lead to reciprocal parent and subsidiary company relationship.

Under this standard comes such company combinations in which one accountant unit gains control over other unit but the acquisition date (date of control gaining) is different from date/s of interest gaining (date/s of exchange). Situation like this can e.g. emerge when a company contract with some of its investors shares re-buy deal and as a consequence there arise change of control over this company.

In the previous text we have disputed what company combination exactly is in the view of IAS/IFRS. But under the mentioned definitions come some kinds of combinations that do not belong to IFRS 3 combinations. These we can find defined in the paragraph A2 of IFRS 3 that told us that this IFRS does not apply to<sup>5</sup>:

(a) the formation of a joint venture.<sup>6</sup>

(b) the acquisition of an asset or a group of assets that does not constitute a *business*. In such cases the acquirer shall identify and recognise the individual identifiable assets acquired (including those assets that meet the definition of, and recognition criteria for, *intangible assets* in IAS 38 Intangible Assets) and liabilities assumed. The cost of the group shall be allocated to the individual identifiable assets and liabilities on the basis of their relative *fair values* at the date of purchase. Such a transaction or event does not give rise to goodwill.

(c) a combination of entities or businesses under common control<sup>7</sup>

However mainly due to exception c) and b) there arise recently very intensive discussions whether the standards should also contain these saving clauses.

### **Methods of accounting of business combinations**

The aim of defining of business combinations in IAS/IFRS is unification of accounting and mainly valuation methods used by depicting of such transactions in accountancy. This unification should led to the state when there will not be primarily determining selected legal form for accounting solution, however the material substance of these processes. It means that there should be a few methods that will in application on the same business combination lead to combination result financial information and these information should

---

<sup>5</sup> IFRS 3, paragraph A2, p.338, up to date 13.12. 2009

<sup>6</sup> An equivalent of this notion can we find in Czech legislation in Act No. 143/2001 Coll. of 4 April 2001 on the Protection of Competition and on Amendment to Certain Acts. There is it named as “collectively controlled company” („společně kontrolovaný podnik“) and it is defined as agreements concerning collective (collectively managed) companies of several mutually independent competitors that have to meet functions of independent business unit in the long term.

<sup>7</sup> „A *business combination involving entities or businesses under common control* is a business combination in which all of the combining entities or businesses are ultimately controlled by the same party or parties both before and after the business combination, and that control is not transitory.“ – IFRS 3, Appendix B, paragraph B1, page 354.



be comparable in their content. During the period of accounting harmonization in international accounting standards there were generalized three main methods:<sup>8</sup>

- acquisition method or purchase method
- method of shares unification
- method of new unit

*Acquisition method* is based on the idea that amalgamation of companies is always proceeded as a purchase, i.e. that the economically stronger company buys other company as a complex for the total purchase price that is consequently equal to cost of company combination or to historical cost of this acquisition. As a counter value it gains and then will possess conformable company assets but will also assume related liabilities. It has to be adopted in the accountancy of course and the total cost has to be allocated to particular items of assets and liabilities afterwards. In this moment the accounting unit solves which kind of assets can be reported in its accountancy – the answers can be found in the IFRS concept framework – and the second problem is in which kind of valuation will be these overtaken assets and liabilities reported.

We should notice that this method as a separate asset item recognizes goodwill that is positive difference between total costs on company combination and between the share of acquirer on net real value of identifiable assets, liabilities and conditional liabilities<sup>9</sup>. Acquirer thus evaluates overtaken assets and liabilities in his accountancy on fair value base nay on the base of accounting values gained from acquired unit accountancy<sup>10</sup>. If there was negative difference, i.e. acquirer paid less than the net real value of gained assets and liabilities, it is according to effective IFRS depicted as prompt from the transaction<sup>11</sup>.

*Method of shares unification* is on the contrary based on the idea of union that means unification of shareholders shares and therefore joining of assets and liabilities of participating units, none of the amalgamated companies gains in the process decisive influence but they are managed on the basis of co-decision-making. There therefore originate neither goodwill nor potential profit from company combination. Unified unit embraces joined assets, liabilities as well own equity in the values that were assumed from the accountancy of joined units.

*Method of new unit* is based on the concept that says that during unification there emerge new unit overtaking amalgamated units for real value of theirs net assets. For evaluation of assets both liabilities is therefore used fair value. In this case does not originate neither positive nor negative goodwill once again, the differences in valuation of overtaken assets and liabilities are in the balance sheet expressed on the assets side in particular

---

<sup>8</sup> VOMÁČKOVÁ, H.: *Fúze a další přeměny obchodních společností*. 1. vyd. Praha; Agentura BOVA, 2008. 30 pages. Without ISBN. – page. 1,2.

<sup>9</sup> IFRS 3 (Appendix A, page 352) says that goodwill is: „An asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognised.“

<sup>10</sup> There is worth to say here that consequently goodwill and other intangible assets without accurately defined durability life are according to IFRS 3 depreciated but there has to be at least once per year tested for possible decrease in value. Guidelines for depreciation tests executing are described in the standard IAS 36. That is very significant modification from IAS 22 that claimed that gained goodwill have to be amortized for its whole durability life, whereas there was refutable assumption that durability life can not exceed twenty years since it was firstly recognized and reported in company accounting.

<sup>11</sup> „If the acquirer has made a gain from a bargain purchase that gain is recognised in profit or loss.“ – IN 10, p. 337, IFRS 3

items of revaluated assets and on the liabilities side in own equity as a difference from revaluation.

## CONCLUSION

Along with the progression of harmonisation efforts there were changed methods of valuation used during the period too. The first harmonisation act from this branch was already mentioned IAS 22 that enabled company combinations both by method of shares unification and acquisition method. New and at present effective IFRS 3 nonetheless requires that all business combination that come under it will be reported in the way named acquisition or purchase method.

Method of shares unification was in praxis only marginal method anyway because there it was very strange to fulfil its factual essence. The last named method, method of new unit, is not up to now incorporated in effective version IAS/IFRS but it is one of several main topics by every forthcoming revision of standards.

## BIBLIOGRAPHY

[1] INTERNATIONAL ACCOUNTING STANDARDS BOARD: Mezinárodní standardy účetního výkaznictví (IFRSTM) 2005 včetně Mezinárodních účetních standardů (IASTM) a Interpretací k 1. lednu 2005. 1. vyd. Praha; Svaz účetních, 2005. 2 249 stran. ISBN 1904230-79-2.

[2] INTERNATIONAL ACCOUNTING STANDARDS BOARD: Mezinárodní standardy účetního výkaznictví (IFRSTM) včetně Mezinárodních účetních standardů (IASTM) a Interpretací k 1. lednu 2006. Dodatek k IFRS 2005 – změny roku 2006. 1. vyd. Praha; Svaz účetních, 2006. 215 stran. ISBN 80-239-7171-9.

[3] SKÁLOVÁ, J., ČOUKOVÁ, P.: *Účetní a daňové dopady transakcí v kapitálové společnosti*. 2. actualized and enlarged edition. Praha: Wolters Kluwer ČR, a.s., 2009. 430 pages. ISBN 978-80-7357-485-7

[4] VOMÁČKOVÁ, H.: *Fúze a další přeměny obchodních společností*. 1. edition. Praha; Agentura BOVA, 2008. 30 pages. Without ISBN

### Legislation

[5] CONSOLIDATED ACT ON THE PROTECTION OF COMPETITION - ACT No. 143/2001 Coll. of 4 April 2001 on the Protection of Competition and on Amendment to Certain Acts

### Web Sites:

[6] [www.damodaran.com](http://www.damodaran.com)

[7] INTERNATIONAL ACCOUNTING STANDARDS BOARD. [on-line]. 2009, [cit. 14. 12. 2009]. Available at: [www.iasb.org](http://www.iasb.org)

Alois Konečný  
Department of Finance, FEA MU  
Lipová 41a  
Brno, 602 00  
[alois@econ.muni.cz](mailto:alois@econ.muni.cz)

# **TAX BURDEN IN THE SLOVAK REPUBLIC AND ITS COMPARISON WITH OTHER STATES OF THE EUROPEAN UNION**

**Angelika Kútna, Norbert Gyurian**

## **ANNOTATION**

The paper concerns about the development in total tax burden in the European Union countries and the Slovak republic during the period 1995-2006. The paper compares the tax burden in the Slovak republic with the tax burden of the other members of the European Union as a whole during the period 1995-2006. The paper briefly reviews the Slovak tax reform in 2004. It includes the description of the main features of the tax reform in the Slovak republic in 2004 as the main reason of the great decreasing of the tax burden in Slovak republic.

## **KEY WORDS**

taxation, tax burden, tax ratio, tax reform, the European Union, the Slovak Republic

## **INTRODUCTION**

The slow decline in total tax burden in the European Union has had not only one reason. There are several reasons for which the total tax burden can decrease. Lowering the tax ratios causes less tax revenues to the state on the other side but it can help encourage investments and increase employment.. The Slovak republic is the country with the most significant decreasing of total tax burden among all EU members . The paper 'Tax burden in the Slovak Republic and its comparison with other states of the European Union' presents one of the most important reason of this decreasing – total restructuring of the tax system.

The paper is set out as follows. Section II looks at the total tax burden and its development over the time in EU and also looks at the total tax burden and its development in the Slovak republic during the period 1995-2006. Section III briefly outlines the tax reform in the Slovak republic introduced in 2004, its main goals and principles. The paper argues that the reform has helped to decline the total tax burden in the Slovak republic. Section IV includes comparison of tax revenue data from national accounts for the twenty-five Member States of the European Union including the Slovak republic and tax revenue data from the Slovak republic separately. Section V concludes.

## **AIM AND METODOLOGY**

The main aim of the paper is description of the development total tax burden in the European Union countries and the Slovak republic during the period 1995-2006. The paper compares the tax burden in the Slovak republic with the tax burden of the other members of the European Union as a whole during the period 1995-2006. The methods of analysis and selection were used in this paper.

## **RESULTS**

### **Total tax burden**

The breakdown of the tax revenue (including social security contributions) computed in percentage of GDP provides indicator of the tax burden as well as of the structure of the

taxation in all Member States and also in the Slovak Republic. The tax-to-GDP ratio is a widely used measure of the overall tax burden. Nevertheless, as an indicator it suffers from certain limitations. In particular, the extent by which Member States provide social or economic assistance via tax expenditures rather than direct government spending, and whether or not social transfers are subject to taxes and social contributions affects the level of the tax-to-GDP ratios.

To compare a given Member State with the EU average the arithmetic average of all Member States is used. For comparison between the EU as a whole and third countries the GDP-weighted average is instead normally utilized.

There are wide differences in tax levels across the European Union, what, of course influences indicator of the tax burden. These differences do not only reflect social choices such as public or private provisions of social services, e.g. old age and health risk protection, but also technical factor, e.g. benefits provided by employers through labour contracts.

There are substantial differences in total tax burden not only between the EU-15 and the new Member States but also within the new Member States. Among the EU-15, only Ireland has a total taxes-to-GDP ratio lower than the average of this second group of the new Member States. Each country accessing to the EU has usually significantly lower tax rates and it resulted in a decline for the EU average. In 2004 the GDP-weighted average for EU-15 was 39,6% while the new Member states average was 34,5%. In 2006 all Member States average was 37,1% and in Slovakia it was 29,3%, which was the second lowest ratio in the Union after Romania.

Second main reason of slow decline in overall tax to GDP ratio in the Member States are (except the enlargement of the EU) changes in economic programs based on reducing taxes, which found growing political support.

In the Slovak Republic we can speak not about slow decline but about significant decreasing as well. The Slovak Republic thus changed its ratio significantly, from being above the average of the old Member States average (39,6%) in 1995 as 40,2% of GDP, to having the fourth – lowest ratio in the EU-25 in 2004. The tax ratio in Slovakia has declined again in 2005 by one full additional point. (Other EU countries which witnessed large changes in their tax ratios were Poland and Baltic countries). In 2004 ratio was 31,6% of GDP and the trends were still decreasing. In 2006 decreased at 29,3% . The difference between 1995 and 2006 is highest from all EU counties and is at + 10,3 % , what is highly above the EU average - 0,5%. This decreasing trend in the tax burden is most of all the result of major tax reform in 2004.

### **Tax reform in the Slovak republic**

Overall, over the entire 1995-2008 period, Slovakia stands out as the Member State which has carried out the most profound restructuring of its tax system, with the tax ratio declining by one quarter.

The Slovak republic introduced a major tax reform that came into force on 1 January 2004. The main goal of the reform was the competitive tax system. The reform was based on following principles :

- broad revenue neutrality with a shift the tax burden from direct to indirect taxes
- low standard tax rates, financed by eliminating special treatments and exemptions (notably tax holiday for newly established firms)
- minimizing distortions in the economic from taxes used for 'no-fiscal' goals and
- minimizing double taxation of income.

The main objectives of the reform were the establishment of the business and investment and making a friendly environment for both individuals and companies, the reduction of

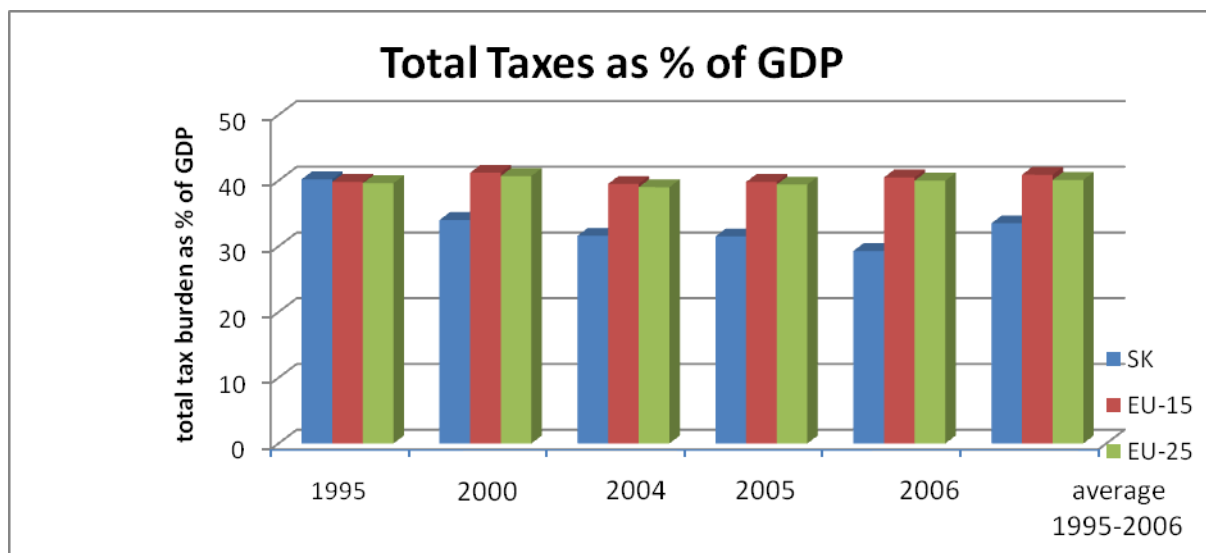
the distortionary effects of tax legislation and the introduction of equal taxation of all types of income. This was achieved by a shift of the tax burden from direct towards indirect taxes. Since 2004 Slovakia has switched over to a comprehensive flat tax system featuring a low 19% tax rate for direct and indirect taxes as well (1 tax bracket replaced 21). This reform also limited the number of allowances (195 exemptions from 212 were cancelled). More recent tax changes following this major tax reform have generally aimed at shifting the taxable base closely with the accounting base.

### Comparison of tax burden

The analysis is based on the comprehensive and harmonized framework of the European system of national and regional accounts (ESA95), which has been implemented throughout Europe. The ESA methodology has contributed to major improvements and progress in the national accounts data. The paper presents comparison of tax revenue data from national accounts for the twenty-five Member States of the European Union including the Slovak republic and tax revenue data from the Slovak republic separately.

Fig. 1 illustrates the total tax burden in the Slovak republic and European Members countries and its development through time. In 1995 the GDP weighted average for EU-15 was 39,6%. Slovakia's ratio was markedly above this average. The ratio tax-to- GDP (including social security contribution) was above the 40,2% in 1995 and it decreased by one quarter during the period 1995-2006. In 2000 it was about 34% and in 2004 it declined at 0,4%. In 2006 Slovakia had the second lowest ratio from all Member states (29,3%). The 2004 accession of ten new Member States resulted in a decline for the EU average. In 2004 the GDP-weighted average for the EU-15 was 39,5%, while the new Member States average was 34,5%. Thus the ratio tax-to-GDP in EU-25 decline from 40,7% in 2000 to 39% in 2004. After 2004 the decreasing of ratio has been reversing into slow increasing in EU-25. In 2006 it was about 40%.

Fig. 1 Total tax burden in EU countries and Slovak republic



Source: Structures of the taxation systems in the European Union, Eurostat, 2006, 422 s.

<sup>1</sup> SK = Slovak republic

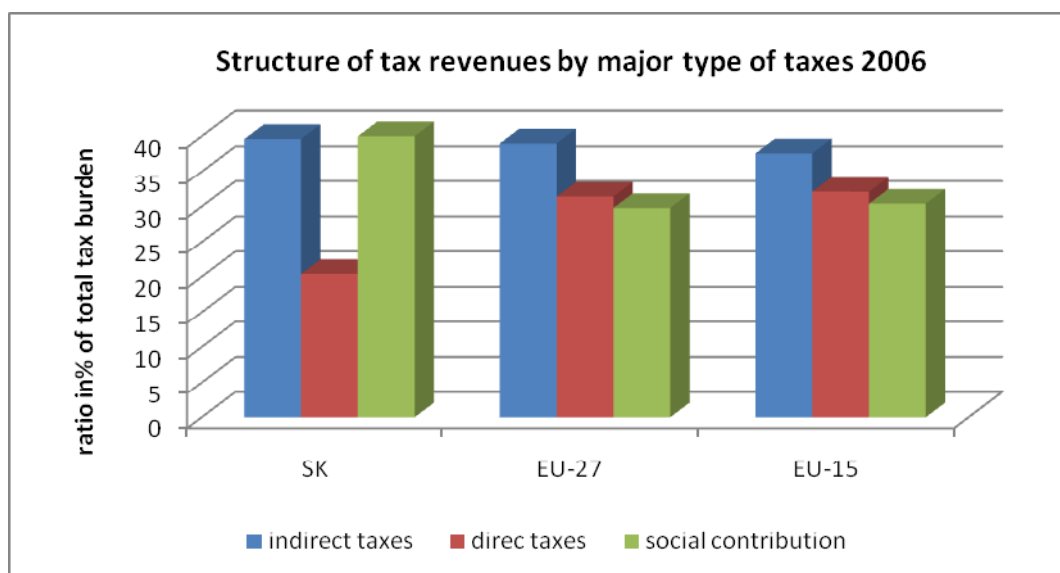
<sup>2</sup> EU-15 = The 15 old Member States

<sup>3</sup> EU-25 = The enlarged EU (25 members)

<sup>4</sup> GDP = Gross Domestic Product

Structure of tax burden can break down by type of taxes according to different classifications: by type of taxes (direct taxes, indirect taxes, social contributions), by level of government, and by economic function (consumption, labor, capital). Fig. 2 illustrates structure of tax revenues by major type of taxes 2006 in % at the total tax burden in Slovak Republic, EU-27 and EU-15.

Fig. 2 Total tax burden in EU countries and the Slovak republic



Source : Structures of the taxation systems in the European Union, Eurostat, 2008, 448 s.

<sup>1</sup> SK = Slovak republic

<sup>2</sup> EU-15 = The 15 old Member States

<sup>3</sup> EU-27 = The enlarged EU (27 members)

In 2006 the highest share of tax revenue in the Slovak republic had indirect taxes. It was 39,6% of total tax burden. It was the third highest share from all Member States. Only the Czech Republic (44,7%) and Germany (40,6%) had a higher share. The share of indirect taxes of the total tax burden was above EU-27 average (39%) and also above EU-15 average (37,9%). On the other side Slovakia had the second lowest ratio of direct taxes in % of the total tax burden from all Member States. It was 20,4% and only Bulgaria had lower (20,1%). This ratio was markedly below EU-27 average (31,4%) and EU-15 average (32,1%). For interest, absolutely highest share of direct taxes in total tax burden in 2006 had Denmark (61,5%). Ratios both direct and indirect taxes in % of total tax burden are result of the tax reform in 2004, which shifted the tax burden from direct to indirect taxes. They play a much more important role in Slovakia than direct taxes. The direct taxes revenue lies below European average and indirect taxes revenues above. The ratio of tax revenues from social security contribution to GDP has decreased over the last 10 years from 15 % of GDR in 1995 to 11,72 % of GDP in 2006. This reflects a significant reduction of social security contribution on the side of employers. The share of social security contributions in % of the total tax burden is 40% in 2006. The Slovak republic is in the middle of the scale of all Member States and is highly above EU-27 average (29,8%) and also above EU-15 average (30,4%).

## CONCLUSION

Taxation has and will retain a central place in economic policy. This paper sheds some lights on current trends in taxation in the Slovak Republic as a Member State of the European Union and in the European Union as a whole. It focus on total tax burden and also analyzed it by type of taxes and compares it with EU average. Divergences from EU averages are results not only tax reform in 2004 in Slovakia but have any causal relations. As usual, however, investigation, by answering some questions, opens new ones. Given, that EU is, in general, one of the most highly taxes areas in the world and Slovakia is a full member of EU has the similar problems with taxations.

## BIBLIOGRAPHY

- [1] EUROPEAN COMISSION, DIRECTORATE-GENERAL TAXATION AND CUSTOMS UNION. 2006, Structures of the taxation systems in the European Union, Eurostat, 2006, 422s.
- [2] EUROPEAN COMISSION, DIRECTORATE-GENERAL TAXATION AND CUSTOMS UNION. 2007, Structures of the taxation systems in the European Union, Eurostat, 2007, 454s.
- [3] EUROPEAN COMISSION, DIRECTORATE-GENERAL TAXATION AND CUSTOMS UNION. 2008, Structures of the taxation systems in the European Union, Eurostat, 2008, 448s.
- [4] BAŠTINCOVÁ, A. 2005. Koncepcia daňovej reformy Slovenskej republiky a jej praktická aplikácia. In: Účetníctví, č.4 (Duben 2005), s.77-84
- [5] LENÁRTOVÁ, G. 2003. Pripravovaná daňová reforma v Slovenskej republike podľa kritérií daňovej teórie a praxe. In: Ekonomický časopis, roč.51, 2003, č.6, s.664/676. ISSN 0013-3035
- [6] MOORE, D. 2005. Slovakia's 2004 Tax and Welfare Reforms, IMF Working paper.

Ing. Angelika Kútna

Slovak University of Agriculture in Nitra, Faculty of Economics and Management

Trieda A. Hlinku 2

949 76 Nitra

Slovak republic

[angelika.kutna@nr.drsr.sk](mailto:angelika.kutna@nr.drsr.sk)

# **LOCAL TAXES AND FEES IN EUROPEAN COUNTRIES: EXPERIENCE THAT COULD BE USED IN UKRAINE**

**Yuliya Petrenko**

## **ANNOTATION**

The article is dedicated to local taxes and fees. The current system of local taxes and fees in Ukraine is not effective. The detailed scientifically grounded revision of fiscal policy at local level is necessary. Taking into account the European integration ambitions of Ukraine, the thorough study of the positive experience of European countries in this case is needed. The theoretical and practical aspects of levying local taxes and fees are considered. Proposals as for improvement of local taxes and fees system in Ukraine on the basis of European countries' experience are worked out.

## **KEY WORDS**

Fiscal relations, financial resources, own revenues, local taxes and fees

## **INTRODUCTION**

During recent years, the attempt to reform intergovernmental fiscal relations in Ukraine have failed. The reason is that most problems of the local budgets are mostly treated by local authorities in the context of the need to provide local budgets with "sufficient" financial resources. Weakness of the profitable base of local budgets is a characteristic feature of local finances of Ukraine. In this connection, a search of forms and methods of strengthening finances of local authorities in Ukraine is an urgent task. The local taxes and fees must become the basic source of such facilities.

## **AIM AND METODOLOGY**

The main aim of the article is to find possible solutions as to improve the system of local taxes and fees of Ukraine.

The method of comparative analysis is used to compare quantity and bases of local taxes and fees in Ukraine with European Union countries. The statistical method is used to compare shares of local taxes and fees in the total revenues of local budgets.

## **RESULTS**

The major elements that must be considered in developing a sound municipal finance system in any developing or transitional economy country are the next. While there is no such thing as an "ideal" local government finance system, there is general agreement on the standards that should govern the allocation of fiscal authority to local government. These standards are best presented in the European Charter of Local Self Government [1]. In addition to this, it is should be examined actual practice among western industrialized countries to see just how the municipal finance systems levy their local taxes and fees.

### **Definitions**

As with local functions and responsibilities, the dialog on local financial resources is complicated by a lack of uniformity in the use of key terms from country to country. This article uses the term own resources in the meaning where "own" tends to connote some authority to vary the amount of revenues by "own" rate and/or tax base changes. The difference in the use of the term "local" taxes usually revolves around the same point as with



own resources, that is, the degree of local discretion or authority to vary the amount of the tax. This article uses “local” taxes in the broadest sense to encompass all instances of the use of this term in Central and Eastern Europe. The term “fee” refers to a payment made in exchange for a service received by the person or firm making the payment. This article uses “fee” as a general term that encompasses user charges and tariffs.

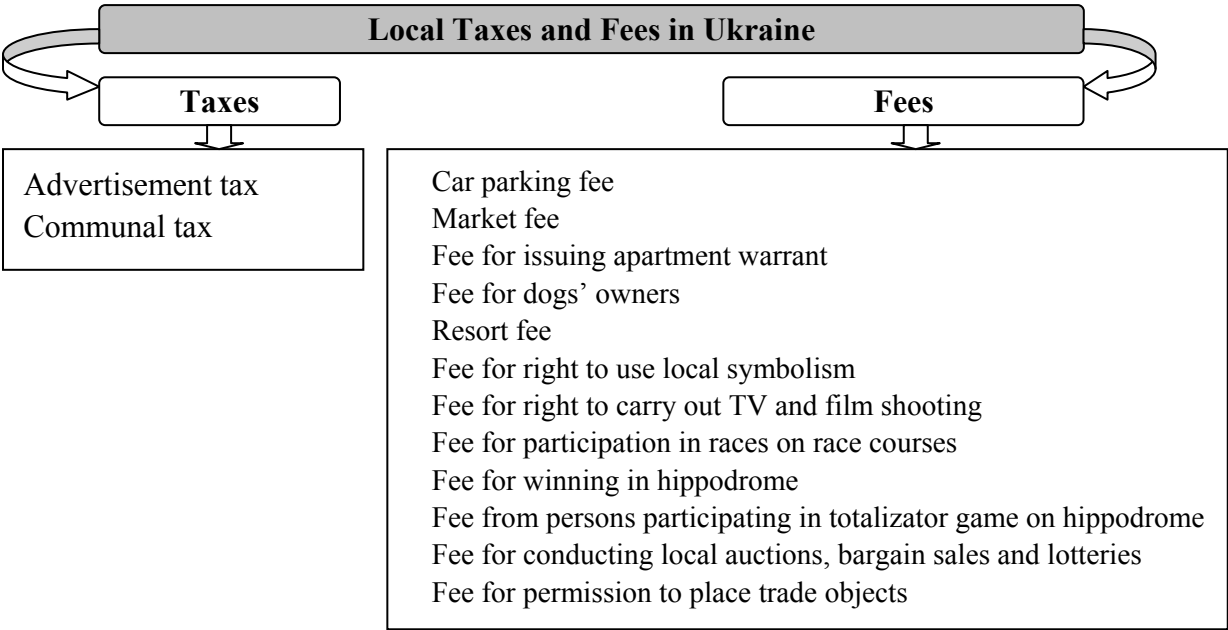
**The Case of Ukraine**

Ukraine is a unitary state with, broadly, three tiers of local government, namely oblasts, rayons and cities, and villages and settlements. The Constitution of Ukraine differentiates oblast and rayon level of power from other kinds of the local self-governments. Villages, settlements and cities have the right to manage property in their communal jurisdiction, approve and implement socio-economic and cultural development programmes, approve budgets of their respective administrative and territorial units and oversee their continued implementation, establish and level local taxes in accordance with the law and to resolve other issues of local importance within their capacity as provided under law.

Ukrainian local government budget revenues can be divided into four groups: 1) Own revenues. These revenues are collected in each local jurisdiction and assigned to the respective local government; they are composed of local taxes and duties, user charges, revenue from municipal property, etc. 2) Fixed revenues. The state levies and administers taxes and duties, which are transferred to local budgets. 3) Regulated revenues. These are revenues transferred to local budgets for financial equalization. These revenues come from shares in state taxes such as VAT, PIT and excise tax. The amounts from own and national taxes, assigned to the local governments long-term are small. 4) Intergovernmental transfers. The main sources of local government revenues are subventions and transfers from the central budget.

Local taxes and fees are levied grounding on the Decree of the Cabinet of Ministers of Ukraine as of May 20, 1993 No56-93 “On Local Taxes and Fees” with changes and amendments. The decree foresees the presence of two local taxes and twelve fees [2].

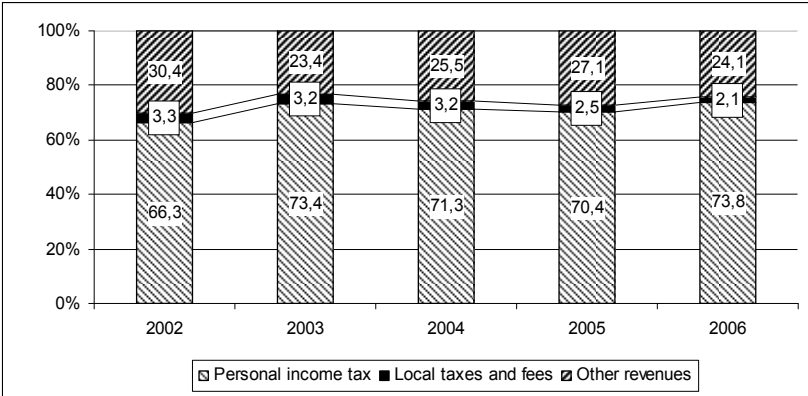
Fig.1. Local taxes and fees in Ukraine



Source: the Decree of the Cabinet of Ministers of Ukraine “On Local Taxes and Fees” [2]

Local taxes and fees, the mechanism of levying and the procedure of their payment are established by bodies of local self-government and are valid on their territory. In Ukraine today, revenues of local budgets do not depend on taxes, collected by local governments in their jurisdictions, but rather on resources provided by the central budget. The receipts from local taxes and fees account for a minor portion in the General Fund revenues of local budgets. In 2006 they only accounted for 2.1 %. Compared to the same period in 2002, the share of these revenues decreased by 1.2 pct due to increase in other revenues of local budgets.

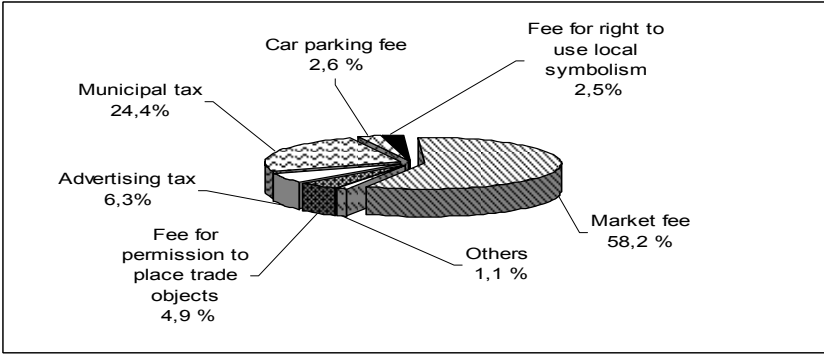
Fig.2. Share of local taxes and fees in the General Fund of local budgets in 2002-2006



Source: *The Budget Monitoring: Analysis of Budget Execution in 2006* [3]

A detailed structure of local taxes and fees in 2006 is shown in Fig. 3. Other local taxes and fees only play a very minor role in the formation of local budgets. Unfortunately, there are still numerous local taxes and fees, whose administration costs are much higher than the revenue yield. Such taxes include: resort fee; fee for issuing apartment warrant; fee for dogs' owners; fee for winning in hippodrome; fee for right to carry out TV and film shooting, etc. The revenues from these sources amounted 1.1 % of the total revenues from local taxes and fees in 2006.

Fig.3. Structure of local taxes and fees in Ukraine in 2006



Source: *The Budget Monitoring: Analysis of Budget Execution in 2006* [3]

There are many deficiencies in levying local taxes and fees in Ukraine. For example, there are no incentives to collect taxes at the local level. Local authorities that collected greater taxes were penalized by having a large share withdrawn to the central budget. The system of

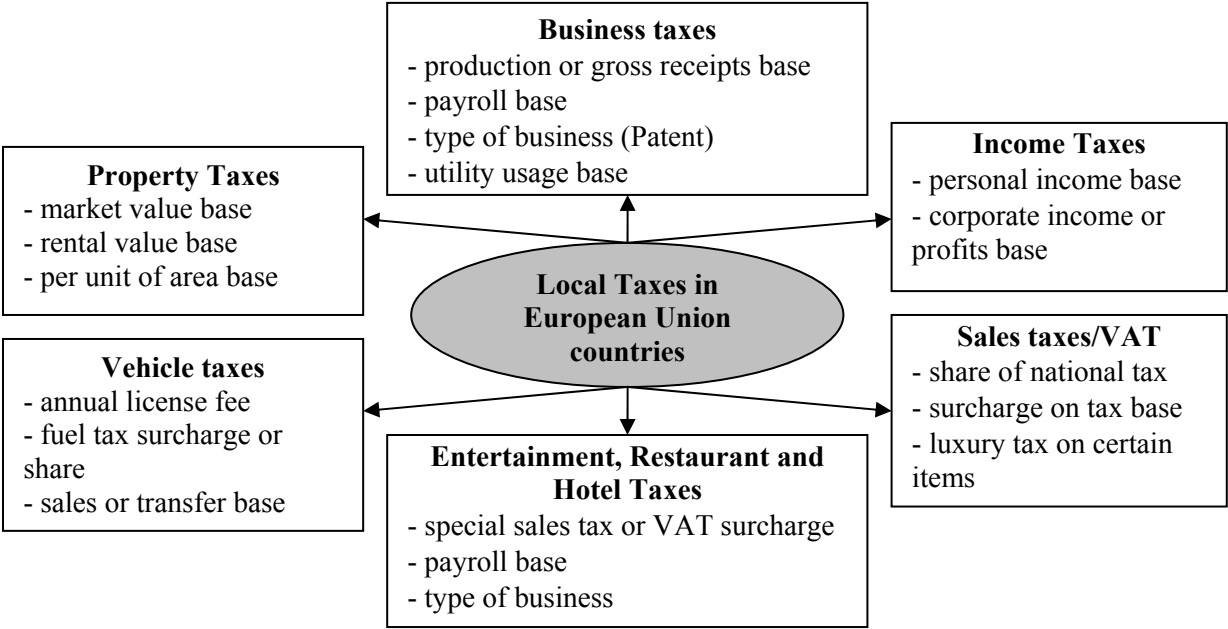
revenue mobilization is irrational. Lower level budgets (villages, towns and cities), although ostensibly the backbone of the budgetary system (as per the Constitution), received low levels of revenues. For instance in 2006, these local governments’ revenues amount to less than 4% of GDP [3]. There is no institutional or legal framework for forecasting revenue and medium-term planning. Revenue distribution changed dramatically each year.

The existing Ukrainian base of local taxes and fees is outdated and requires radical reform in accordance with the present-day needs and requirements. Thus, in order to further the fiscal decentralization in Ukraine and strengthen the financial position of local budgets, there is a need of amending the Cabinet of Ministers’ Decree “On Local Taxes and Fees”, which was passed back in 1993 and has lost its relevance in the present environment. The approaches to administration of a number of local taxes and fees should be changed and the tax base should be expanded through imposing new taxes and eliminating inefficient ones. Among other things, there is a need to amend the rules for imposing and administration of the advertisement tax, communal tax, and parking fee. It is recommended by Municipal Budget Reform experts to supplement the list of local taxes and fees with a tax on buildings and structures, hotel and tourism tax instead of the hotel tax, which was abolished in 2004, and tax on commercial public entertainment events [3].

**Experience of EU Countries regarding System of Local Taxes and Fees**

Local taxes and fees in European Union are commonly termed “own source revenues” since they are under the control of local governments. Typically, they are directly collected by local government and the local governments generally have some discretion in setting the rate structures – although these rates are often limited by higher levels of governments. Fig. 4 shows the list of the most common types of local taxes used across European countries.

Fig.4. Local taxes in European Union



Source: made on the base of [4]

Local governments are typically given control over three of the six categories as owns source revenues: property tax, business taxes, and entertainment, restaurant and hotel taxes. They may be given control over vehicle licenses and transfer taxes but typically do not have control

over motor fuel taxes. Income and sales taxes are almost always administered by higher levels of government but are often shared with local governments. Fees and charges are normally set to recover some, or all, of the cost of providing a specific service [5].

The local taxes and fees, which are the most important for local budget revenues (less borrowing) in EU Member-States, are as follows [6]:

- fee for services provided by local government are paid by citizens mainly for provision of municipal services, including water supply and sewerage, waste removal; use of municipal swimming pools; use of public transport; etc. In some EU countries, local governments are authorized to independently set the rates of this fee; however, in the majority of countries the ceilings of this fee are set at the national level;
- the revenues from local communal property are generated by receipts from lease or sale of municipal property. In some EU countries, especially those, which joined the Union recently, this is an important source of local budget revenues;
- taxes and contributions into social funds, being tax contributions paid by both legal entities and private individuals, serve to finance all the national and local expenditures. The share of these contributions transferred to local budgets depends on the amount of functions delegated to local government: the greater the scope of functions, the greater the share of revenues from this source.

Local governments in all EU Member-States, except for Malta, have their own local taxes and fees. There is a great variety of local taxes and fees collected by local governments in the EU Member-States. Fig. 5 shows the main own tax sources at sub-central level in the EU.

However, there are three main taxes: tax on real property; local corporate tax (tax on business activity); and local income tax [7].

Depending on the country, the local corporate tax is levied on the wages fund (Austria, Italy) or based on the number of staff (Hungary), appraised value of owned land (Denmark, Ireland), value of manufactured products (France), profit (Germany, Italy, Luxembourg, Portugal, and Hungary), or even depending on the industry, installed electric power and floor space (Spain). The local corporate tax includes the real property tax, which is paid by legal entities in Denmark and Ireland. Ceilings for this tax are set at the national level in EU countries, therefore, local governments have certain leeway in applying specific rates of this tax (except for Austria, where the tax rates are rigidly regulated at the national level). The revenues from this tax present a rather stable source for local budgets. The share of this tax in own-source revenues of local budgets varies from 20 % in Portugal and Spain, to 35 % in France, 50 % in Austria, 70 % in Germany, and 90 % in Luxembourg [6].

The local income tax is an important source of local budget revenues in the countries where it is applied (Belgium, Denmark, Finland, Italy, Spain, Sweden, and UK). The local income tax is collected as a local surcharge to the national personal income tax. In some EU countries (Belgium, Finland, and Sweden), local government are authorized to determine the share of local surcharge to the personal income tax, mostly, within the limits set at the national level. Receipts from the local income tax serve as a quite substantial source of local budget revenues. The share of this tax in all tax revenues of local budgets varies from 40 % in Belgium to more than 90 % in Denmark, 95 % in Finland, and nearly 100 % in Sweden.

Normally, in addition to the three key local taxes and fees, local governments also receive revenues from other local taxes and fees, which vary widely depending on the country. In particular, such taxes include: tax on real property transactions; inheritance tax; tourist tax; tax on dog owners; advertisement tax; tax on owners of motor vehicles; tax on sales of tobacco products; tax on gaming; fee for issuance of permits or license; hotel fee; market fee, and tax on conducting tourism business [6].

Fig.5. Main own tax sources at sub-central level in the EU

Country	Main own taxes	
	Intermediate level	Local level
Austria	Payroll tax, business tax, beverage tax, land tax	Payroll tax, business tax, beverage tax, land tax
Belgium	Inheritance, tax on games and bets, tax on electronic games, tax on alcohol licence	Surcharges on real estate advanced tax, provincial taxes on a variety of tax base (e.g. economic activities, hunting, arms, etc.) supplementary tax on personal income tax
Denmark		Personal income tax, land tax (supplemented, urban areas, by commercial property tax)
Finland		Income tax
France	Housing tax, property tax, professional tax, tax on car licences, immatriculation certificates, tax driving licences, additional tax on registration right	Housing tax, property tax on developed land, property tax on non-developed land, <i>vignette automobile</i> property transfer tax
Germany		<i>Gewerbsteuer</i> (trade tax), property tax A (agricultural immovables), B (urban immovables)
Italy	Tax on circulating vehicles, surtax on state registration fees, oil tax	Communal tax on business and the professions (ICIAP), communal tax on immovables (ICI), tax on garbage collection and disposal (TARSU), fees for occupying municipal space and public areas (TOSAP)
Luxembourg		Tax on property, business payrolls and earnings
Netherlands		Environmental taxes, surtax on motor vehicles, broadcasting licence fees, tax on immovables, tax on benefits, tax on building sites
Spain		Tax on property (IBI), tax on motor vehicles, tax on business (IAE), tax on professions
Sweden		Local income tax
UK		Council tax

Source: made on the base of [8]

The share of these local taxes and fees in local budget revenues is normally quite small. The only exceptions could include such local taxes and fees, as tax on property transactions, inheritance tax, and tax on owners of motor vehicles, which sometimes generate quite substantial revenues.

Typically, the list of local taxes and fees is stipulated by legislative acts adopted at the national level. Local governments in the majority of countries (except for Belgium, Germany, and autonomous regions in Spain) have no authority to introduce new local taxes and fees. In the majority of EU countries, if the national government grants tax remissions for certain taxes and fees or abolishes some local tax altogether, local budgets are provided with a compensation in the form of new taxes or additional grants [6].

## DISCUSSION

From a systemic perspective, the most desirable way of financing local expenditures is the own-revenue way because it reflects the normative principle that own functions should be financed to the greatest degree possible from own revenues. The principle is founded in theory and in practice on the gains made in the efficiency, effectiveness, and accountability of local government when locally elected officials are made responsible for setting taxes, and

community residents express their investment and service preferences at the ballot box. In no country, however, are local governments financed exclusively by own revenues, principally because poorer communities must be supported through grants and subsidies of one sort or another if they are to provide minimally acceptable levels of public services. In Ukraine this will be particularly true because of the large disparities in the revenue-generating capacities of different municipalities.

## CONCLUSION

The conclusion of the European Union countries' experience study is that nearly all of the western European nations studied have a large degree of control over their local tax and fee sources. This means that they are free to set rates on a significant percentage of their local revenues within certain boundaries established by the Central government. In Ukraine while a local government revenue base needs to be sufficiently broad, it should not be fragmented into too many small taxes and fees - these are simply too costly to administer. There is also a tendency for local governments to try to keep local tax and fee rate low enough so that they do not impose a financial hardship on citizens. This is a worthy goal but local governments, in most countries, cannot be primarily concerned with income redistribution through the local tax code. Current revenue source of local budgets in Ukraine needs to be reformed and the following is suggested: to eliminate ineffective local taxes and fees; to improve principles of the remaining taxes and fees administration; based on the best international practices, add the list of local taxes and fees with new taxes and fees, such as property tax, tourist fee, fee on paid entertainment activities, construction fee, etc. and transfer some state taxes to the jurisdiction of local authorities, for example, land tax if the land is a community property, individual income tax, etc.

## BIBLIOGRAPHY

- [1] European Charter for Local Self-Government. Strasbourg: Council of Europe, 1985.
- [2] "On Local Taxes and Fees". Decree of the Cabinet of Ministers of Ukraine. May 20, 1993 No56-93.
- [3] The Budget Monitoring: Analysis of Budget Execution in 2006. Municipal Budget Reform Project in Ukraine, RTI International – K.: 2006. – 139 p.
- [4] Conway, Francis. 2005. Intergovernmental fiscal relations in Central and Eastern Europe: a source book and reference guide. Washington, D.C.: The Urban Institute.
- [5] Corvetto, Jeanine. Tax and Fee Authority of Local Governments in Western Europe. Paper presented at the Conference on Local Taxes and Fees, National Association of Municipalities of the Republic of Bulgaria. Sofia, June 2000.
- [6] Local Finance in the Twenty Five Countries of the European Union. Dexia Editions, May 2004.
- [7] OECD (2009), "Taxes and Grants: on the Revenue Mix of Sub-Central Governments", OECD Working Papers on Public Governance, 2009/7, OECD Publishing.
- [8] Fiscal federalism in the European Union. Edited by [Amedeo Fossati](#), [Giorgio Panella](#). Routledge, 1999.

Yuliya Petrenko  
Donbas National Academy of Civil Engineering and Architecture (Ukraine);  
Masaryk University (Czech Republic)  
Lipova, 41a  
Brno  
[yuliyape@mail.ru](mailto:yuliyape@mail.ru)

# **ANALYSIS OF POTENTIAL IMPACTS OF LOCALLY SUPPLIED SERVICES INCLUSION INTO REDUCED VAT RATE ON THESE SERVICES SUPPLIERS**

**Kateřina Randov**

## **ANNOTATION**

The Value Added Tax Act, No. 235/2004 Coll. (hereinafter referred to as the „VAT Act“), came into the force on the day of the Czech Republic entrance to the European Union. The provisions of this VAT Act were based on the relevant Directive, concretely Six Council Directive 77/388/EEC of 17 May 1977 on the harmonization of the laws of the Member States relating to turnover taxes - Common system of value added tax: uniform basis of assessment.

## **KEY WORDS**

Value Added Tax, Harmonization, Directive, VAT Act, Tax Rates, Supply of Services, European Union, Legislation, Amendment, Taxable Person

## **INTRODUCTION**

The Six Directive was amended several times and 1 January 2007 replaced by Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax (hereinafter referred to as "VAT Directive"). The VAT Directive still has been passing through further amendments and changes since its entering into force. In 2009 was also amended by Council Directive 2009/47/EC of 5 May 2009 amending Directive 2006/112/EC as regards reduced rates of value added tax (hereinafter referred to as "Council Directive 2009/47/EC“), which entered into force on 1 June 2009.

## **AIM AND METODOLOGY**

The aim of this paper is to analyse the potential impact of possible implementation of Council Directive 2009/47/EC into the Czech VAT Act, application of reduced VAT rate to locally supplied services. Above all analyse impact of these legislative changes on tax liability and on amount of free funds for taxable person, supplier of these services and the possible impact on decision of person exempt from VAT application to become a voluntary taxable person. The paper is based on the comparison of national legislation and Community law, their analysis, furthermore is used deductive method.

## **RESULTS**

Legal framework for application of VAT rates in Member States is included in the VAT Directive, in particular in Articles 93 to 130 and in its relevant Annexes.

The basic rule for application of VAT rates in Member States:

- supplies of goods and services subject to VAT are normally subject to a standard rate of at least 15%;
- Member States may apply one or two reduced rates of not less than 5% to goods and services enumerated in a restricted list.<sup>1</sup>

---

<sup>1</sup> [http://ec.europa.eu/taxation\\_customs/taxation/vat/how\\_vat\\_works/rates/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/vat/how_vat_works/rates/index_en.htm)

However most of Member States had derogations that bring inequality of treatment of Member States.

According to the Directive Member States could include into reduced VAT rates limited range of goods and services until the end of 2010.

In 2007 was carried out by company Copenhagen Economics a study on reduced VAT rates applied to goods and services in the Member States of the European Union. This study mainly examined the impact of reduced vat rates and of derogations on locally supplied services, especially in terms of job creation, economic growth and the proper functioning of the internal market.

In 2008 European Commission carried out an on-line consultation to ascertain the views of the public and businesses on the review of existing legislation on VAT reduced rates. On the basis of these consultations were found rather convincing economic arguments for the application of reduced VAT rates in very particular sectors.

European Commission concluded that the application of reduced VAT rates to labour intensive services, which are rather intended for the local market, poses no real threat to the proper functioning of the internal market. On the contrary, transfer of these services from the standard to the reduced VAT rates can foster economic growth, the transfer of these services from the informal economy into the legal sphere and also to promote job creation.

For these reasons was adopted the Council Directive 2009/47/EC, which authorises Member States to apply reduced VAT rates in certain sectors on a permanent bases.

These are services that were listed in Annex IV of the VAT Directive and after the approval of the Council Directive 2009/47/EC are inserted to Annex III:

- minor repairing of bicycles, shoes and leather goods, clothing and household linen (including mending and alteration);
- renovation and repairing of private dwelling, excluding materials which account for a significant part of the value of the service supplied;
- window-cleaning and cleaning in private households;
- domestic and care services such as home help and care of the young, elderly, sick or disabled;
- hairdressing.

Furthermore:

- restaurant and catering services (including or excluding of supply of alcoholic and non-alcoholic beverages);
- supply of books on all physical means of support.

#### **Analysis of the Current State of Czech Legislation in this Area**

Since 1 January 2010 the Czech Republic has been applying a standard rate of 20 % and reduced rate of 10 %.

Currently, according to Annex No. 2 to the VAT Act are under the reduced VAT rate from the above mentioned services:

- window-cleaning services carried out in the households;
- traditional cleaning services performed in the interior of the households;
- home care for children, elderly, sick and disabled citizens.



Application of reduced VAT rate on housing construction is defined in Section 48 of the VAT Act.

According to this section the reduced VAT rate shall apply to a supply of building and erection works relating to an alternation of a completed residential building, family house or flat, including appurtenances, as laid down in the Building Code, or relating to a repair of any such building, house or flat. If these works are carried out on some other building of which a certain part is intended for housing, the reduced VAT rate shall apply to those works which are exclusively carried out on the part of building intended for housing.

But Section 48 of the VAT Act shall cease to be in legal force on 1 January 2011.

That provision does not affect the VAT rates on buildings for social housing, which is separately regulated in the Section 48a of the VAT Act. The reduced VAT rate on buildings for social housing can be applied permanently.

### **First Example of the Potential Impact of Council Directive 2009/47/EC Implementation on the Czech Taxpayers – Hairdressing Services**

The first example analyses potential impact of these possible legislative changes on the small entrepreneur – supplier of hairdressing services. Data are expressed in CZK and are counted in a month period.

Fig.1 Hairdressing services (self – employed person) – major expenditures (CZK)

Major expenditure subject to VAT (CZK):	Taxable amount	VAT (input tax)	Price including VAT
- rental of business premises <sup>2</sup>	10.000	2.000	12.000
- electricity	1.000	200	1.200
- water (reduced VAT rate)	2.000	200	2.200
- common repair and maintenance of premises equipment	2.000	400	2.400
- material	30.000	6.000	36.000
<b>TOTAL</b>	<b>45.000</b>	<b>8.800</b>	<b>53.800</b>

Source: *own source*

Among other major expenditures belongs advance on social and health insurance, which would be in this counted revenues and expenditures about 3.877 CZK per month. But of course, this expenditures are not subject to VAT.

Revenues of this supplier of hairdressing services are 70,000 CZK per month. If he becomes a VAT payer, there are therefore revenues including VAT.

Fig.2 Hairdressing services (self – employed person) – comparison of monthly revenues according to VAT rates without changes in prices for the final consumer (CZK)

Revenues (CZK)	Taxable amount	VAT (output tax)	Price including VAT
VAT rate 20%	58.331	11.669	70.000
VAT rate 10%	63.637	6.363	70.000

Source: *own source*

<sup>2</sup> lease of non-residential places to person exempt from VAT application is VAT-exempt

Fig.3 Hairdressing services (self – employed person) – comparison of tax liability according to application of reduced or standard VAT rate (CZK)

	VAT rate 10 %	VAT rate 20 %
Input tax	8.800	8.800
Output tax	6.363	11.669
Tax liability	- 2.437	2.869

Source: *own source*

The comparison in Figure 3 shows that in case of application of VAT rate 10 % arises to this tax payer excess deduction in amount of 2.437 CZK. According to results of the calculation is clear that in case of reduced VAT rate applicable to hairdressing would be advantageous for these service providers to become a voluntary taxpayer. Excess deduction 2.437 CZK per month could help him remain on the market.

### **Second example of the Potential Impact of Council Directive 2009/47/EC Implementation on the Czech Taxpayers – Restaurant Services**

The second example analyses the potential impact of these possible legislative changes on the supplier of restaurant services. Data are expressed in CZK and are counted in a month period.

In Figure 4 are presented the main current expenses in a selected restaurant. It is supposed that the stocks, which are purchased during the month period are consumed in this period too.

Fig.4 Restaurant services – major expenditures subject to VAT (CZK)

Major expenditure subject to VAT (CZK):	Taxable amount	VAT (input tax)	Price including VAT
- foodstuffs including non-alcoholic beverages (reduced VAT rate)	120.000	12.000	132.000
- alcoholic beverages	30.000	6.000	36.000
- tobacco products	10.000	2.000	12.000
- rental of business premises	20.000	4.000	24.000
- electricity	8.000	1.600	9.600
- water (reduced VAT rate)	3.000	300	3.300
- gas	5.000	1.000	6.000
- common repair and maintenance of premises equipment	5.000	1.000	6.000
- advertising	3.000	600	3.600
- fuels	4.000	800	4.800
- common repair and maintenance of the vehicle	2.000	400	2.400
<b>TOTAL</b>	<b>210.000</b>	<b>29.700</b>	<b>239.700</b>

Source: *own source*

Among other major expenditures that are not subject to tax belongs for example personnel costs (salaries and advances on social and health insurance).

Revenues of this restaurant are about 350.000 CZK per month. This revenues are therefore including VAT.

Fig.5 Restaurant services – monthly revenues in case of application of standard VAT rate (20%) to supply of meal including non-alcoholic beverages (CZK)

Revenues – restaurant services (CZK)	Taxable amount	VAT (output tax)	Price including VAT
- supplies of meal including non-alcoholic beverages	232.557	46.523	279.080
- supplies of alcoholic beverages	48.000	9.600	57.600
- supplies of tobacco products	11.100	2.220	13.320
<b>TOTAL</b>	<b>291.657</b>	<b>58.323</b>	<b>350.000</b>

Source: *own source*

Fig.6 Restaurant services – monthly revenues in case of application of reduced VAT rate (10%) to supply of meal including non-alcoholic beverages, the rest of services shall apply standard VAT rate (CZK)

Revenues – restaurant services (CZK)	Taxable amount	VAT (output tax)	Price including VAT
- supplies of meal including non-alcoholic beverages (10% VAT rate)	253.712	25.368	279.080
- supplies of alcoholic beverages	48.000	9.600	57.600
- supplies of tobacco products	11.100	2.220	13.320
<b>TOTAL</b>	<b>312.812</b>	<b>37.188</b>	<b>350.000</b>

Source: *own source*

Fig.7 Restaurant services – comparison of tax liability according to VAT rates applied to restaurant services including supply of non – alcoholic beverages, the rest of these services shall apply standard VAT rate (CZK)

	VAT rate 10 %	VAT rate 20 %
Input tax	29.700	29.700
Output tax	37.188	58.323
<b>Tax liability</b>	<b>7.488</b>	<b>28.623</b>

Source: *own source*

The comparison in Figure 7 shows that in case of VAT rate 10 % applied to restaurant services including supply of non – alcoholic beverages reduces the tax liability of tax payers in the amount of 21.135 CZK per month without changes in prices for the final consumer. This difference between tax liability the supplier of restaurant services could use for example on personal cost of his employees.

## CONCLUSION

With respect to the Council Directive 2009/47/EC was prepared amendment to the VAT Act, which would implement the provisions of this Directive with effect from 1. 1. 2010. But finally this amendment did not find sufficient political support for approval.

One of the reasons for disapproval of this amendment was that it would cause an increase in public budgetary shortfall for 2010 approximately by 4 – 5 milliard CZK. Another serious argument against the approval was that the effect of this tax relief is not measurable.

The result of this paper is an ascertainment that transfer of these services from the standard to the reduced VAT rate for the Czech tax payers would cause a considerable reduction of their tax liability. Although there were not too much supposed that these service suppliers would largely lower the prices of their services in case of implementation of this Directive, but the

remaining funds could be used for developing their business or to labour costs. Consequently the government would have saved financial resources used on unemployment and social benefits. A lot of companies that were not tax payers would begin to consider their registration for VAT and this situation would have also influence their decision when selecting a suppliers of their inputs, they would probably choose a VAT payer. Furthermore, it is very likely supposed that there would be changes in lease agreements, the exempted transactions without entitlement to VAT deduction would be transferred to taxable transactions (with entitlement to VAT deduction).

Unfortunately, the most unpleasant situation is in the restaurant and catering services, most of the inputs is subject to a reduced tax rate and all outputs are still subject to standard VAT rate.

## BIBLIOGRAPHY

[1] MATTHAUSOVÁ Blanka; RAMBOUSEK Jan. *Daň z přidané hodnoty – Směrnice Rady o společném systému daně z přidané hodnoty a zákon o dani z přidané hodnoty*. 2. vyd. Praha: ASPI, 2008. 508 s. ISBN 978-80-7357-369-0.

[2] Council Directive 2009/47/EC of 5 May 2009 amending Directive 2006/112/EC as regards reduced rates of value added tax. [on line]. Publication office, Official Journal of the European Union, 2009. [cit. 2009-12-15]. Available form WWW: <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:116:0018:0020:EN:PDF>>

[3] European Commission, Taxation and Customs Union. How VAT works. [on line] 2009, last modif. on 31 November 2009. [cit. 2009-12-15]. Available form WWW: <[http://ec.europa.eu/taxation\\_customs/taxation/vat/how\\_vat\\_works/rates/index\\_en.htm](http://ec.europa.eu/taxation_customs/taxation/vat/how_vat_works/rates/index_en.htm)>

Full name: Ing. Kateřina Randová

Institution: VŠB – Technical university of Ostrava, Faculty of Economics

Street: Sokolská 33

City: 701 21 Ostrava 1, Czech Republic

Email: katerina.randova@vsb.cz

# **RELATION BETWEEN MANAGEMENT ACCOUNTING AND CONTROLLING**

**Věra Rubáková**

## **ANNOTATION**

This contribution deals with the relation between management accounting and controlling. The main aim is to define the problems of the categories of controlling and management accounting, based on the sources available, and their fundamental system relations to other accounting subsystems. In this article I would like to focus primarily on the objectives of management accounting, its inner structure and relation to superordinate systems of management, or controlling, and its modern trends. An important matter is a specification of these terms both within the control method and management system information tool. The attempt of this contribution is to point out that management accounting is closely connected with the concept of controlling as a management tool.

## **KEY WORDS**

Management Accounting, Financial Accounting, Cost Accounting, Controlling

## **INTRODUCTION**

The environment of global competition dramatically changes the character of organization demeanour and management, which is then logically to be reflected in the demands on required information needed for decision-making processes and management. The different demand on accounting information gave rise to two accounting components, namely financial accounting and management accounting. The criteria causing differences between these two segments are as follows:

- content,
- primariness of information determination,
- observance of accounting principles and canons,
- ways and methods of finding information,
- use of units of measure,
- reporting time intervals,
- degree of information credibility.

Due to a turbulent and constantly changing entrepreneurial situation, every business organization is exposed to a competitive environment in the first place. Companies go through different stages of development and face environment and situation changes with bigger or smaller success. These do not always reflect a manager's or management's conduct directly – they are very often influenced by the extent and quality of information needed for corporate management. Along with the effort to improve management systems in companies, the term controlling has recently been appearing more frequently even in our country.

## **AIM AND METHODOLOGY**

In my habilitation thesis I intend to look into “The use of cost controlling for more efficient corporate management”; for the time being, I can only state theoretical grounds of management accounting and controlling which made me ponder upon these issues and decide on this very area.

## RESULTS

Based on the literature available, it can be concluded that the merit of controlling is recognized in a process of enriching the information gained (the main source being management accounting) with information of non-monetary character and transforming them into a form which serves the particular senior executives best as a support for their decision-making and corporate management activities. On the grounds of such information, options of future development can be considered, and that even within a strategic measure. The term controlling is not determined in the literature unequivocally and the views of individual authors do not agree on an unanimous stance regarding its content. According to some authors, it is identified solely with a sort of control which compares the reality with the plan, others understand it as a mere reporting and there are also opinions stating that the content of controlling comprises all – data collection, processing and analyzing (that is, it substitutes circulation of documents, cost accounting, budgeting and calculation within a company). Considering the vagueness and ambiguity of this term, it is difficult to adopt an attitude to controlling. [Šiška, 2006] claims that there is a close relation between controlling and management accounting and from the general point of view he can see the differences between them only in the territorial preference of whichever of the terms. He concludes that in the professional literature written in Czech the authors follow the terminology of the foreign language originals, irrespective of the origins of the terms used, which do not correspond with the historical development of the particular discipline in our country.

### Defining the Term Controlling

The term controlling is derived from the English word to control. Its translation into Czech is complicated because dictionaries offer about fifty content entries. Thus no translation is used in Europe. However, it must not be identified with either control or management.

The term controlling was created in American corporate practice and its origins are connected with the job referred to as a controller. The post of a controller appeared in developing companies at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries. It experienced its flowering during the time of the world economic crisis when the companies began to put emphasis on corporate planning and accounting. Gradually, improvements happened in the field of cost accounting, which developed from mere cost recordings to cost monitoring depending on the source or accountability. In 1931, Controllers Institute of America was established.

In Europe, the term controlling appeared after the Second World War and the posts of controllers can be found mostly in American subsidiary companies. The boom of this position came in the 1960s when some industrial branches were facing economic stagnation and sales on the consumer goods market were dropping. The focus was turned to frugality and efficient corporate management. By 1974, most of the largest German companies integrated controlling into their organizational structure.

In the Czech Republic, controlling appeared after 1989. In 1994, a branch of Controller-Institut was established in our country.

The term controlling is not unequivocally defined and understood and also its practical application very often varies. This term can be met on different levels of conception: in a narrow interpretation – sales, claims, financial, human resources, supplies or production controlling – as well as in a broader interpretation as a way of management.

Literature offers a lot of definitions describing controlling:

[Hilman, Vollmuth, 1998] approach the concept of controlling as a control tool which is to support senior executives in their decision-making processes, and also as a feedback provided through the comparison of variances between the plan and reality.

[Hermann, Lazar, 1992] introduce controlling on several levels: as a corporate philosophy, a system of rules for corporate management and a project of corporate management. They

concentrate particularly on cost controlling as a specific tool for business economics management.

According to [Hofmann, Werner, Slovák, 1999], controlling is an attempt to establish control over economic activities of a particular company, well in advance to be able to take suitable counter-measures in case of potential existential crises. The term of controlling is understood here as “to keep under control”.

[Horvath, 1995], who is considered to be one of the most significant experts on controlling, claims that controlling consists of three parts: management-oriented accounting, reporting and planning and controlling system.

[Vysušil, Zralý, 2006] understand controlling as a stage of development in management of advanced companies. They put emphasis on such control that can keep the corporate processes within the predetermined limits. These are established in a way which aims at ensuring fulfilment of the predetermined objectives. For controlling it is necessary to stress the importance of combination of diverse viewpoints which must be respected in corporate management. One of the reasons of its emergence was an urge to provide interconnection (relations) within a company.

### **Modern Trends in Controlling**

[Štreit, 2007] claims that nowadays a lot of companies noticed modern trends in controlling, which they are trying to transmit into their controlling departments in such a form that enables them to not only monitor deviations from the plan and expose ineffective use of company sources, but mainly to prevent these happenings. They then understand controlling as a certain system of modern, future-oriented way of corporate control, stressing the correct formation and quantification of corporate objectives and ensuring a long-time existence of the company. This new view has conditioned appearance of new approaches regarding corporate control such as Business Intelligence (BI) and especially Competitive Intelligence (CI), which are often supported by very sophisticated information systems leading to systematization of decision-making processes on all levels of company management. [Špingl, 2007] states that Competitive Intelligence (CI) is a set of specific preconditions of a business subject enabling successful managing new market conditions and solving situations where established practices based on information, knowledge and managerial skills which brought the subject competitiveness in previous time cannot be applied. [Petrášek, 2009], to the contrary, says that Business Intelligence (BI) is a process or a set of tools, material sources and special knowledge used to support business activities and processes. A certain similarity between these two above mentioned terms can be traced. However, CI rather focuses on the external environment, primarily on competitors' conduct, while BI focuses mainly on the internal environment. In other words, BI works with information existing inside a company (including data about the external environment) and CI works particularly with information existing outside a company. The difference then can be found in information sources. In this respect, experts are generally in agreement. BI is thus mostly mentioned in relation with “data mining”. The question is whether we are taking the right direction and whether the effort will bring an expected benefit in the future. The answer is not unequivocal. Companies and top managers in particular need information of an interdisciplinary nature comprising possibilities and capacities of a firm projected into the changing external market environment, which in many respects modern systems provide. As far as that, everything is in order. Nevertheless, the attempt to systemize decision-making processes especially concerning the strategic control level is rather disputable. The extent and mainly the structure of the data needed for decision-making create such a large scale of options determining the eventual outcome which along with the variation of initial conditions with time almost contradicts systematization of these processes. The added value brought by this approach is not insignificant both in the

sphere of ineffectively expended investment savings and in the form of accuracy improvement of a firm strategy projected into the specific market conditions while taking into consideration the expected trends. If we become aware of the fact that the primary source of a success of a company is its ability to find new opportunities by means of correct future prediction, it is obvious that a modern approach to controlling is a suitable tool to reach the expected success.

### **User Structure of Accounting Information**

According to [Král, 2006], one of the basic ideas affecting development of accounting in the 21<sup>st</sup> century is a realization that the way of business process treatment needs to be differentiated depending on the particular user of the accounting information and the sort of decision-making tasks to be dealt with. Gradually then, a content department is becoming an essential accounting feature of advanced market economies.

In contradistinction to financial and tax accounting, where the users' pressure on unanimous interpretation and comparability of presented information leads to the conceptual tools unity, contents of accounting information intended for managers are not typically an issue of external regulation. The fact manifests itself to such an extent that this accounting subsystem is neither unanimously defined regarding the aim, content and structure, nor is there an identical term used in the world.

### **Management Accounting**

The aim of management accounting is to contribute to the direction of a company. It is a tool which helps in decision-making procedures, controlling and evaluating. [Landa, 2005] for example states, "Almost all contemporary publications deal with the accounting (financial or management) issues from the point of view of its content – they explain for instance ways of accounting recording of particular types of business operations, ways of their transformation into a form of accounting statements, ways of establishing internal economic information (in relation to performance or departments) etc." On the basis of the above mentioned quotation, the author believes that corporate accounting should also be (as well as other areas of corporate activities) a matter of management, which is a very important element for efficient operation of every company. [Král, 2002] mentions various terms used for management accounting in different regions – in Anglo-Saxon countries the term Management Accounting is used, in French-speaking countries *Compatibilite de Gestion* (accounting for management) and in German-speaking countries *Entscheidungsorientierte Kosten- und Leistungrechnung* (decision-orientated cost and revenue accounting). However, the given terms used in different countries to refer to management accounting have one thing in common – they all identify it as a tool intended for decision-making processes. The purpose is then to detect development tendencies within a company as accurately as possible and utilize the results for directing and planning – this is the main difference from financial accounting, which looks into present and past happenings. The difference lies in both the purpose and process.

Every company conducts management accounting in its own way – no legal regulation applies here. Nevertheless, by reason of clarity and uniformity it is considered suitable to follow internal regulations (most companies have such regulations incorporated into their internal directives) for conducting management accounting; these regulations are especially needed in case of more complex activities of a particular company, which thus requires more complex management accounting.

[Lang, 2005] systematically categorizes management accounting as a subdiscipline of business economics, which he understands as a study of a business organization and its incorporation into the economic context. [Wöhe, 1995] describes a business organization as a systematically organized unit where tangible goods (products, goods) and services are



manufactured and sold. Under the term “economic context” Lang probably understands relations of an economic nature. Management accounting can be classified as a subdiscipline of business economics. According to Lang and Wöhe’s definitions, business economics is a study of a business organization (a systematically organized unit where goods and services are manufactured and sold) and its relations of an economic nature. “Business economics consists of theoretical and applied parts. Theory creates a basis for applied science. The difference between these two lies in the aim of their aim of knowledge. The knowledge aim of theoretical business economics is oriented solely to the future. This knowledge never focuses on a specific purpose, and neither is chosen according to a specific purpose. The rule which applies while choosing is a logical connection of problems, i.e. the possibility of their clear association with the business economics object. Applied business economics chooses problems dealing with alternatives of entrepreneurial actions which serve for realization of this ultimate aim.” Management accounting, as well as its superordinate discipline business economics, comprises theoretical and applied parts.

### **Cost Accounting**

Management accounting is closely involved with cost accounting. Cost accounting, as stated in [Král, 2002], concentrates in the first stage on finding the real expended costs and real income, in relation to the marketed company outputs. During the following stage it focuses on finding the relation to sub-processes, activities and departments where these costs or income originate. In the second phase, the real costs are compared with the desired state (planned, budgeted, calculated). As far as cost accounting is concerned, only monitoring and comparing happens, while a decision-making dimension is not yet present.

In tune with Král, [Deakin, Maher, 1991] claim that cost accounting is a branch of accounting which measures, records and informs of costs. According to their interpretation, using information to evaluate performance and decisions by people within an organization belongs to the tasks of management accounting. [Rayburn, 1989] says about cost accounting, “Cost accounting identifies, defines, measures, reports on and analyzes particular elements of direct and indirect costs connected with manufacturing and marketing of a product or service.” If information about costs is used by people outside the company to evaluate the performance of the top management and to make decisions about the organization, it is an issue of financial accounting. According to [Deakin, Maher, 1991], cost accounting also provides data for cost-based contracts, such as contracts used in relation with the US federal government, and for tax purposes. As obvious, Deakin and Maher as well emphasise, in tune with the Anglo-Saxon approach, external users (not only shareholders, but also creditors) of cost accounting, or of cost accounting projected into financial accounting.

### **Relation of Management Accounting and Controlling**

Taking into consideration the above mentioned definitions of both terms and as the theoretical grounds show, there is a certain disparity in their comparison. While controlling as a control method essentially integrates questions of coordination of all system control functions, management accounting is “merely” an information tool of a control system. Stemming from this, it seems apparent that the only subjects to comparison are management accounting and controlling information tools.

It appears that in this respect there are several differences between the concepts of management accounting and information support of controlling.

Whereas management accounting is almost exclusively grounded in value features (although especially in short-time control these are closely connected with material values), controlling takes advantage of non-monetary information to a much greater extent. In rather a simplified

way it can be said that management accounting information designated for control needs is covered by means of two controlling focuses:

- so called **cost controlling**, which concentrates primarily on control factors influencing the amount of a company's profit, and thus naturally on their expenses and revenues;
- so called **financial controlling**, which concentrates especially on the control of financial and capital company structure and on the control of its cash flows.

Management accounting leaves aside the part of controlling which directs its attention to information intended for material, non-monetary side of a business process.

On the contrary, from the point of view of decision-making process stages, it can appear that the specification of controlling puts emphasis, above all, on such a part of information which is intended for control. The conceptual definition of management accounting rather stresses the managers' need for gaining information for decisions about future development. However, this comparison is slightly mechanical: even the determination of quality target information of the desired state, which is a motto of controlling, certainly requires an information system to provide sources and data for the best possible evaluation of future development possibilities.

The strongest link existing between these two information attitudes – which seem to differ territorially and historically rather than in terms of content – appear to be the way of understanding accounting as an ultimate information tool which thanks to its aims and means for their achieving advances the internal coordination of control system functions. The fundamental manifestation of this situation is the fact that the gradual concretization of a strategic goal of a company as well as analysis of variances basically comes from a “triumvirate” of synthetic information of budgeted, or real-value compiled accounting statements: balance-sheets, profit and loss statements and cash flows.

Despite the differences, the corporate practice experiences a certain mingling of tasks and competences of these relatively different categories. However, a partial convergence (acknowledging) of both categories also happens in the theoretical field [Freiberg, 1996, Král, 2006].

Should we compare both publications written by Král, B. et al. and Freiberg, F., it is immediately obvious that each of the authors pursued very thoroughly a different category of studied phenomena: Král dealt with the cost category and Freiberg the financial category. Nevertheless, we could admit that these two categories (studied phenomena) are not mutually incompatible and in many points they even merge; however, from the process point of view, on an operational level they appear on different places and occasionally even in a different period of time.

## CONCLUSION

The way of business process treatment needs to be differentiated depending on the particular user of the accounting information and the sort of decision-making tasks to be dealt with. The fundamental manifestation of this differentiation is the content-based separation of financial and tax accounting from management accounting.

The growth of traditional cost accounting into management accounting is historically connected with its effort to enrich the scale of provided information with data serving for decisions about a company's future development.

Management accounting is closely related with the concept of controlling as a control tool whose task is to coordinate planning, control and providing information database. The link existing between these two information attitudes – which seem to differ territorially and historically rather than in terms of content – appears to be the way of understanding accounting as an ultimate information tool which thanks to its methodical elements advances the internal coordination of all control system functions.

Modern controlling is an interdisciplinary branch enabling the top management to correctly establish the strategic objectives of their company taking into consideration its actual possibilities within the conditions of a changing economic environment.

A broader conception of management accounting, or the process of growing cost accounting into management accounting, was typical especially for the Anglo-Saxon region. The specific definition of the relation is very complicated (different); not only in terms of content, but also in terms of particular countries where another misleading factor is the way of using terminology. However, it can be stated that management accounting is almost always, as well as any other accounting, grounded in value and, if possible, in financial expression as opposed to controlling, which uses also non-monetary information on a much more frequent and extensive scale. Nevertheless, controlling tasks are not in all cases separable from management accounting tasks.

## BIBLIOGRAPHY

- [1] DEAKIN, E. B., MAHER, M. W. *Cost Accounting*. 3. vyd. Illinois: RICHARD D. IRWIN, 1991. 1059 s. ISBN 0-256-06919-0.
- [2] FREIBERG, F., *Finanční controlling*, Management Press Praha, 1996. 198 s. ISBN 80-85943-03-4.
- [3] HERMANN, P., LAZAR, J. *Nákladový controlling*. 1. vyd. Ostrava : Repronis, 1999. 102 s. ISBN 80-86122-34-4.
- [4] HOFFMANN, Werner, H., RYJÁČEK, V. SLOVÁK, T. *Koncepce, funkce, instituce controllingu - úvod*. Praha : Controller-Institut, 1999. 347 s. Materiály ke školení.
- [5] HORVATH, P. *Controlling k podpoře vedení podniku*. Účetnictví. 1995, č. 4, s. 104-105.
- [6] KRÁL, B. et al. *Manažerské účetnictví*. 1. vyd. Praha: Management Press, 2002. 547 s. ISBN 80-7261-062-7.
- [7] KRÁL, B. a kol.. *Manažerské účetnictví*. 2. vyd. Praha: Management Press, 2006. 622 s. ISBN 80-7261-141-0.
- [8] LANG, H. *Manažerské účetnictví*. Přel. J. Forejtová a Z. Maňasová. 1. vyd. Praha: C. H. Beck, 2005. 234 s. ISBN 80-7179-419-8.
- [9] LANDA, M. *Organizace účetních agend ve firmě*. 1. vydání Praha: Management Press, Praha 2005. 162 s. ISBN 80-7261-123-2.
- [10] RAYBURN, L. G. *Principles of Cost Accounting: Using a Cost Management Approach*. 4. vyd. Illinois: RICHARD D. IRWIN, 1989. 1466 s. ISBN 0-256-09865-4.
- [11] ŠÍŠKA, L. *Manažerské účetnictví a controlling jsou rozdílné pojmy?*. Účetnictví. 1.1. 2006, č. 2, s. 25-29.
- [12] VOLLMUTH, Hilmar J. *Controlling – nový nástroj řízení*. 2. upr. vyd. Praha : Profess, c1998. 136 s. ISBN 80-85235-54-4.
- [13] WÖHE, G. *Úvod do podnikového hospodářství*. 1. vyd. Praha: C. H. Beck, 1995. 748 s. ISBN 80-7179-014-1.
- [14] VYSUŠIL, J., ZRALÝ, M. *Účetnictví a controlling* [online]. Profess Consulting, c2001-2004 [cit. 2006-03-16]. Dostupný z WWW: <[http://www.e-profess.cz/media/art/uc\\_cont.pdf](http://www.e-profess.cz/media/art/uc_cont.pdf)>.
- [15] [http://managerweb.ihned.cz/c3-22611300-T00000\\_d-moderni-controlling](http://managerweb.ihned.cz/c3-22611300-T00000_d-moderni-controlling)
- [16] [http://managerweb.ihned.cz/c3-22200570-T00000\\_d-competitive-intelligence-v-organizaci](http://managerweb.ihned.cz/c3-22200570-T00000_d-competitive-intelligence-v-organizaci)
- [17] <http://www.systemonline.cz/business-intelligence/business-intelligence-a-reporting-nejen-pro-krizove-obdobi.htm>

Ing. et Ing. Bc. Věra Rubáková  
Vysoké učení technické Brno  
Fakulta podnikatelská, Ústav ekonomiky  
Kolejní 2906/4, 612 00 Brno  
[vera.rubakova@centrum.cz](mailto:vera.rubakova@centrum.cz)

**REGIONAL DEVELOPMENT AND ADMINISTRATION –  
THEORY AND PRACTICE**

# **MEASURING OF DIRECT AND INDIRECT ECONOMIC CONTRIBUTIONS OF TOURISM IN AUSTRALIA**

**Dominika Bojová**

## **ANNOTATION**

The aim of the article is to explain how the direct and indirect economic contribution of tourism is measured. This contribution is explained on Australian tourism. The direct economic effects of tourism are well measured by national systems of tourism statistics and tourism satellite account. But there is a big lack of models for measuring the indirect effects of tourism. Australia is one of the countries that moved the theory and practice forward. The model includes the economic contribution of intermediary products and services that were used for production of tourism products and services. Australian model could be an example for other countries how to improve the measurement and importance of tourism in national economies.

## **KEY WORDS**

Tourism, Australia, statistics, direct effects of tourism, indirect effects of tourism, economic contribution of tourism, tourism satellite account,

## **INTRODUCTION**

Tourism is a very important sector in Australian economy because it is present in almost every region in Australia and it generates income, employment and investments; it supports local communities, regional development and development of infrastructure. Moreover it encourages social development, preservation of natural resources and cultural heritage. Despite this fact there is lack of ideal method for measuring the tourism economic contribution in the world because of its specific product characteristics. Australia has one of the most sophisticated measurement systems of tourism. It was one of the first countries that implemented the Tourism Satellite Account (onward TSA) and it is still doing a progress in this field through implementing new methods and models of measuring tourism on regional level and measuring the indirect effects. Australia is an example of new approach to this difficult field.

## **AIM AND METODOLOGY**

This research paper is analysing one of the most sophisticated and most dynamic systems of tourism measurement in the world. As a principal method of tourism measurement used in many countries all over the world is a static set of accounts – Tourism Satellite Account. It measures the economic contribution of tourism using variables as output, gross value added, gross domestic product or employment. It provides a detailed view on the whole tourism sector and also particular industries that compose the tourism product. TSA methodology under the Tourism Satellite Account: Recommended Methodological Framework (TSA: RMF 2008) and under previous methodologies of TSA was approved by UNWTO, OECD, EUROSTAT and UN Statistical Commission. The standards are based on the prevailing international standards for national accounts statistics – System of National Accounts 1993 (SNA93).

“A TSA provides a means by which the economic aspects of tourism can be drawn out and analysed separately within the structure of main accounts. In fact one of the major features of a TSA is that it is set within the context of the whole economy, so that tourism's contribution

to major national accounting aggregates can be determined and can be compared with other industries.”<sup>1</sup> A TSA is measuring *only the direct economic contributions* of tourism.

Australian Tourism Satellite Account (onward ATSA) is similarly build up under this methodology because it is has to be compatible with the system of national accounts. Moreover this system allows comparing economic and employment contribution of tourism with other industries within the economy, and international comparison of tourism contribution is also possible. The first official ATSA was published in October 2000 for the years 1997-98. A full revision of the ATSA is worked out only every three years. These years are regarded as benchmark years and the data for the following two intermediate years are estimated by extrapolation from the most recent benchmark year.

Moreover there are several research papers that consider the regional aspect of tourism in Australia. The data of the national economic have been broken down into the data of Australian states and territories. It respects the particular regional characteristics and specifics and it is easier to show where the tourism sector has the greatest effect and therefore to pay attention to tourism in these regions and consequently in the entire economy.

Tourism likewise other industries generates downstream or flow-on effect. *The flow-on effect* of tourism generates demand to non-tourism businesses and therefore it *causes the indirect economic contribution of tourism*. Consequently Australian tourism statistics is dealing not only with the direct but also with the indirect contribution of tourism in terms of measuring the total value of tourism and the total employment generated by tourism directly and indirectly. Tourism Research Australia has worked out a research paper “Tourism's contribution to the Australian economy 1997-98 to 2007-08” using the basic data provided in the ATSA and the Australian National Accounts Input-Output tables. The indirect effects are estimated using economic modeling.

## RESULTS

The research paper analyse the measurement and statistic model of tourism in Australia. Reviewed methods used in Australia are very modern but still the system is not ideal and it needs some improvements. Australian research bodies are continuously working on updating and bettering the model used today.

### Specific characteristics of tourism sector

Tourism is a very unique sector of the economy. Tourism involves not only leisure activities and holiday tours but also business travel, visiting friends and relatives, sport and education. Therefore tourism product is not defined by supply and production but it is defined by tourism consumer's demand. It contributes to many traditional businesses that are not directly considered as tourism businesses but these products are purchased by tourists and visitors. Hence this fact, Australian tourism satellite account categorise products and services into tourism characteristic and tourism connected products.

*Tourism characteristic products* “are defined in the international TSA standards as those products which represent an important part of tourism consumption, or for which a significant proportion of the sales are to visitors. In Australian TSA, for the product to be *characteristic*

---

<sup>1</sup> AUSTRALIAN BUREAU OF STATISTICS: *Australian National Accounts Tourism Satellite Account 2007-08*. Canberra: 2009. Internet source: [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/\\$File/52490\\_2007-08.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/$File/52490_2007-08.pdf)

it must account for at least 10 per cent of total tourism consumption and/or at least 25 per cent of the total output of the product must be consumed by visitors.”<sup>2</sup>

*Tourism connected products* “are those that are consumed by visitors but are not considered as tourism characteristic products. These products or industries are important for estimating the flow-on effect of the increase in the demand for tourism characteristic products.”<sup>3</sup>

Additionally there are many other businesses that support and supply the direct tourism producers although these are not in direct contact with the visitor. These businesses are considered as *indirect contributors* to the tourism sector.

### **Measuring tourism's contribution to the economy**

Australian government at all levels understands that tourism is funding the national economy, tourism sector, government and furthermore local communities all around the country. The Australian national and state accounts are set of data that statistically covers all the economy. Tourism is not identified as an *industry* in international statistical standards and underlying the Australian national accounts, industries are defined on the basis of the goods and services which they mainly produce and regarding tourism product characteristics it is not possible to cover this sector just by one national account. It is a sectional part of the economy that interferes with the whole range of different industries. This has caused a problem in tourism measuring and a part of its value has been statistically invisible.

### **The main data sources used to compile the benchmark and the update TSA**

The tourism consumption and expenditure data are processed by Tourism Research Australia. These data are collected through the *National Visitor Survey* (NVS) for analysis of expenditure by Australian visitors and through the *International Visitor Survey* (IVS) for analysis of expenditure by international visitors. These data are supplemented with the data from the balance of payments and the national accounts.

The *Total Inbound Economic Value Methodology* (TIEV) methodology was developed by Tourism Research Australia Forecasting and Analysis Section for the Tourism Forecasting Committee. The data are collected and updated quarterly. These data are provided to the Australian Bureau of Statistics for compilation of some of the Tourism Satellite Account tables. TIEV is being calculated from total trip expenditure by inbound tourists to Australia derived from the International Visitor Survey (IVS) and benchmarked to the Tourism Satellite Account. These data are estimated regarding the method of collecting – IVS. Total trip expenditure includes:<sup>4</sup>

- 50 per cent of international airfares. This takes account of ticket revenue associated with airlines that does not flow through to the Australian economy and airfare revenue that is spent by airlines on services in Australia (e.g. departure tax, airport taxes, ground handling charges, fuel costs etc);

---

<sup>2</sup> AUSTRALIAN BUREAU OF STATISTICS: *Australian National Accounts Tourism Satellite Account 2007-08*. Canberra: 2009. Internet source:  
[http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/\\$File/52490\\_2007-08.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/$File/52490_2007-08.pdf)

<sup>3</sup> TOURISM RESEARCH AUSTRALIA: *Tourism's contribution to the Australian economy 1997-98 to 2007-08*. Canberra: 2009. Internet source:  
[http://www.tra.australia.com/content/documents/Economic%20Analysis/Tourism%20Business/Tourisms\\_contribution\\_1997-98%20to%202007-08\\_FINAL.pdf](http://www.tra.australia.com/content/documents/Economic%20Analysis/Tourism%20Business/Tourisms_contribution_1997-98%20to%202007-08_FINAL.pdf)

<sup>4</sup> TOURISM RESEARCH AUSTRALIA: *Inbound Economic Value*. Internet source:  
<http://www.tra.australia.com/economic.asp?sub=0055>



- 20 per cent of the value of the non-airfare component of packages and other prepaid items. This allows for commissions at the retail and wholesale levels that accrue to foreign markets.
- 33 per cent of the average international airfare component by package visitors. It is assumed that package tourists receive discounts due to bulk purchasing by wholesalers from the airlines so the average class of travel for package travelers is lower than non-package travelers lower share of business visitors.

Credits (exports) and debits (imports) of tourism related services are included in *Balance of payments and International Position*, Australia. It is closely related to exports of tourism goods and services. ATSA excludes non-resident to resident payments in other countries. Also services provided within private households are not generally recorded in the balance of payments.

The industry data are worked out from the Australian Bureau of Statistics (ABS) annual business surveys. There are two main surveys used as a source: the ABS *Economic Activity Survey*, which is the main source of data for transport, fuel and motor vehicle hire, and the ABS *Service Industry Surveys* that are the main source of data for travel agents, accommodation, libraries, museums and the arts, cafes and restaurants, pubs and taverns, clubs and casinos. The TSA supply table is processed for the benchmark years and the data for extrapolated years are estimated.

The employment data are collected in the *Labour Force Survey* every three months. Tourism employment is implied for each industry using the tourism value added industry ratio. This method is relevant only if the assumption is met that the employment generated by tourism in each industry is in direct proportion to value added generated by tourism in the benchmark year.

### **The key economic indicators of tourism**

“*Tourism's gross value added (GVA)* represents the total value of Australian produced goods and services consumed by all visitors after deduction the cost of goods and services used in the process of production.”<sup>5</sup> It excludes the effects of net taxes and subsidies, therefore GVA is considered to be the most accurate way of measuring the contribution of tourism to the economy. GVA is useful when comparing tourism with other industries or between countries.

*Tourism gross domestic product (GDP)* is widely known as macroeconomic variable and it represents tourism's GVP plus taxes paid less subsidies received on tourism related products. Tourism GDP is a measure of total value of tourism output in an economy.

It is very difficult to measure the *tourism employment* because employees in tourism-related industries provide services to both visitors and non-visitors.

### **Direct and indirect economic contribution of tourism**

Direct economic contribution occurs when there is a direct physical or economical relationship between the visitor and the producer of the goods and services. Direct economic measurement allows comparing the economic contribution of tourism with non-tourism

---

<sup>5</sup> PAMBUDI, D. and collective: *The Economic Contribution of Tourism to Australian States and Territories 2007-08*. Gold Coast: 2009. Internet source: <http://www.crctourism.com.au/WMS/Upload/Resources/Economic%20Contribution%20of%20Tourism%20Ind%20Sum%20WEB.pdf>

industries. It is focused on the immediate effect of expenditure made by visitors. Increase of visitors will directly affect sales, wages, taxes and supplies.

Indirect economic effects imply non-tourism industries that come into the tourism product as an intermediary producer. These producers are not in direct contact with visitor, but their products are consumed by tourist. Generally it covers all the suppliers of tourism businesses. Therefore, the indirect effects are the changes in supply that results from spending of tourism consumers on goods and services from other industries.

Figure 1 shows the data for direct, indirect and total contribution of tourism to the national economy for years 1997-98 to 2007-08. It is viable that tourism GDP, GVA and employment in absolute numbers in Australia are growing in the long run, although the share on national GDP, GVA and employment is declining.

Fig. 1 Direct and Indirect Contribution of Tourism in Australia

	1997 -98	1998 -99	1999 -00	2000 -01	2001 -02	2002 -03	2003 -04	2004 -05	2005 -06	2006 -07	2007 -08
<b>Direct contribution</b>											
Tourism GDP (\$m)	24 560	26 885	28 199	32 374	32 786	34 101	34 483	34 634	36 131	38 925	40 639
Share of national (%)	4.3	4.4	4.4	4.7	4.5	4.4	4.1	3.9	3.7	3.7	3.6
Tourism GVA (\$m)	21 772	23 806	24 919	26 557	27 111	28 251	28 665	28 779	29 944	32 296	33 733
Share of national (%)	4.1	4.3	4.2	4.2	4.0	4.0	3.7	3.5	3.4	3.4	3.2
Tourism employment ('000)	423	432	440	455	458	463	462	472	478	483	498
Share of national (%)	5.0	5.0	5.0	5.0	5.0	4.9	4.8	4.8	4.8	4.7	4.7
<b>Indirect contribution</b>											
Tourism GDP (\$m)	20 876	22 918	23 739	25 455	25 296	25 953	25 939	25 865	26 759	28 844	29 766
Share of national (%)	3.6	3.8	3.7	3.7	3.4	3.3	3.1	2.9	2.8	2.8	2.6
Tourism GVA (\$m)	20 403	22 401	23 203	24 882	24 726	25 370	25 354	25 280	26 154	28 194	29 094
Share of national (%)	3.8	4.0	3.9	4.0	3.7	3.6	3.3	3.1	2.9	2.9	2.8
Tourism employment ('000)	265	291	302	323	321	330	330	329	341	367	380
Share of national (%)	3.1	3.4	3.4	3.6	3.5	3.5	3.5	3.4	3.4	3.6	3.6
<b>Total contribution</b>											
Tourism GDP (\$m)	45 436	49 803	51 938	57 829	58 082	60 054	60 422	60 499	62 890	67 769	70 405
Share of national (%)	7.9	8.2	8.1	8.4	7.9	7.7	7.2	6.7	6.5	6.5	6.2
Tourism GVA (\$m)	42 175	46 207	48 122	51 439	51 837	53 621	54 019	54 059	56 098	60 490	62 827
Share of national (%)	8.0	8.3	8.1	8.2	7.7	7.5	7.1	6.6	6.3	6.3	6.0
Tourism employment ('000)	687	723	742	778	779	793	792	801	819	850	878
Share of national (%)	8.1	8.4	8.4	8.6	8.5	8.5	8.3	8.2	8.2	8.3	8.3

Source: *Tourism Research Australia: Tourism's contribution to the Australian economy 1997-98 to 2007-08*. Canberra: 2009

### Indirect Economic Modeling Methodology

Australian Bureau of Statistics presents indirect economic effects through published input-output tables. However, there are new methods being developed that should be more sophisticated.

Input-output analysis is based on a fundamental identity equating supply and demand in the economy. This analysis provides a breakdown of the supply and demand of commodities in the Australian economy. The latest input-output tables are based on the 2004-05. The methodology and the underlying model were constructed by Salma (2001).

Simplified input-output is expressed<sup>6</sup>:

$$X = B * Y$$

X represents a vector of outputs of Australian goods and services; Y represents a vector of tourism output; B is the Leontief inverse which is frequently referred to as the total requirements coefficients matrix.

“The analysis uses input coefficients generated by econometric equations that predict input purchases by industries based on the economy's characteristics. The model can also be used for predictive purposes by providing estimates of multipliers.”<sup>7</sup>

The input-output model is subject to strong short run assumptions that allow no price effects on other sectors of the economy therefore the analysis is useful only in short run. Recent years there is a successful effort to find out more sophisticated analyses of the indirect impact of tourism. This new tool is called *computable general equilibrium (CGE) modeling*. It was found out and developed by STCRC CEP and Monash University for Australia and for the state New South Wales. Testing of the model was successfully presented in the publication *The Economic Impacts and Benefits of Tourism in Australia*. The CGE allows detailed inter-industry analysis together with supply side constraints and an active price mechanism.

### CONCLUSION

Measurement of economic contribution of tourism is very difficult topic. Tourism sector is not identified as industry and also it is not characterized by only one type of product or service. These specifics cause problems when measuring direct and indirect effects of tourism. The methodology of tourism measurement has been developing in recent years. Nowadays it is possible to find countries such as Australia where research generates new modern tools for tourism measurement and soon it will be possible to use these tools in other countries because all new approaches are made under the international standards and it upgrades current models. It is one of the best examples in the world where tourism's importance is growing thanks to the economic data collected throughout the whole model.

---

<sup>6</sup> HO, T. V. – DWYER, L. – PAMBUDI, D. – SPURR, R. – FORSYTH, P. – HOQUE, S.: *Indirect Economic Contribution of Tourism to Australia and to Australian States and Territories, 2003-04*. Gold Coast: 2008.

Internet source:

[http://www.crctourism.com.au/WMS/Upload/Resources/bookshop/90002%20vanHo%20Indirect\\_effects%20WEB.pdf](http://www.crctourism.com.au/WMS/Upload/Resources/bookshop/90002%20vanHo%20Indirect_effects%20WEB.pdf)

<sup>7</sup> TOURISM RESEARCH AUSTRALIA: *Indirect Effects*. Internet source:

<http://www.tra.australia.com/economic.asp?lang=EN&sub=0056>

## BIBLIOGRAPHY

- [1] AUSTRALIAN BUREAU OF STATISTICS: *Australian National Accounts Tourism Satellite Account 2007-08*. Canberra: 2009. Internet source: [http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/\\$File/52490\\_2007-08.pdf](http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/CBBBAD59E6D8F0D8CA257599001C51DF/$File/52490_2007-08.pdf)
- [2] HO, T. V. – DWYER, L. – PAMBUDI, D. – SPURR, R. – FORSYTH, P. – HOQUE, S.: *Indirect Economic Contribution of Tourism to Australia and to Australian States and Territories, 2003-04*. Gold Coast: 2008. Internet source: [http://www.crctourism.com.au/WMS/Upload/Resources/bookshop/90002%20vanHo%20Indirect\\_effects%20WEB.pdf](http://www.crctourism.com.au/WMS/Upload/Resources/bookshop/90002%20vanHo%20Indirect_effects%20WEB.pdf)
- [3] IPALAWATTE, C.: *Indirect Economic Contribution of Tourism to Australia 1998-99 to 2003-04*. Canberra: 2006. Internet source: <http://www.tra.australia.com/content/documents/Survey%20Results/INDIRECT%20ECONOMIC%20CONTRIBUTION.pdf>
- [4] PAMBUDI, D. – HO, T. V. – SPURR, R. – FORSYTH, P. – DWYER, L. – HOQUE, S.: *Tourism Satellite Accounts 2007-08: Summary Spreadsheets*. Gold Coast: 2009. Internet source: [http://www.crctourism.com.au/WMS/Upload/Resources/TSA\\_2007-08%20Summary\\_Spreadsheet\\_WEB.pdf](http://www.crctourism.com.au/WMS/Upload/Resources/TSA_2007-08%20Summary_Spreadsheet_WEB.pdf)
- [5] PAMBUDI, D. – HO, T. V. – SPURR, R. – FORSYTH, P. – DWYER, L. – HOQUE, S.: *The Economic Contribution of Tourism to Australian States and Territories 2007-08*. Gold Coast: 2009. Internet source: <http://www.crctourism.com.au/WMS/Upload/Resources/Economic%20Contribution%20of%20Tourism%20Ind%20Sum%20WEB.pdf>
- [6] TOURISM RESEARCH AUSTRALIA: *Inbound Economic Value*. Internet source: <http://www.tra.australia.com/economic.asp?sub=0055>
- [7] TOURISM RESEARCH AUSTRALIA: *Indirect Effects*. Internet source: <http://www.tra.australia.com/economic.asp?lang=EN&sub=0056>
- [8] TOURISM RESEARCH AUSTRALIA: *Tourism's contribution to the Australian economy 1997-98 to 2007-08*. Canberra: 2009. Internet source: [http://www.tra.australia.com/content/documents/Economic%20Analysis/Tourism%20Business/Tourisms\\_contribution\\_1997-98%20to%202007-08\\_FINAL.pdf](http://www.tra.australia.com/content/documents/Economic%20Analysis/Tourism%20Business/Tourisms_contribution_1997-98%20to%202007-08_FINAL.pdf)
- [9] <http://www.tourism.australia.com/Research.asp?sub=0297&al=3179>

Ing. Dominika Bojová  
Department of Services and Tourism, Faculty of Commerce  
University of Economics in Bratislava  
Dolnozemska cesta 1, 852 35 Bratislava  
dominika.bojova@gmail.com

**The article is worked out in frame of the internal grant of young researchers of University of Economics in Bratislava n° 67/09.**

# **ECONOMIC IMPACTS OF TOURISM SECTOR ON THE ECONOMY OF SWITZERLAND**

**Adriána Čechovičová**

## **ANNOTATION**

Tourism represents an economic sector with a positive impact on the economy of the country and its inhabitants. Tourism satellite account is a detailed statistical system representing the performance in the tourism sector and its multiplicative effects. This statistical tool provides detailed information, which are essentials for the tourism management and for the further development of the tourism sector in the country. Switzerland, the country with a well developed tourism sector, utilize the statistical system including the Tourism satellite account. The objective of this article is to analyze the statistical reporting of direct and indirect economic effects of tourism sector in Switzerland.

## **KEY WORDS**

tourism sector, economic impacts of tourism, tourism statistics, Tourism satellite account, multiplicative effects of tourism

## **INTRODUCTION**

Tourism can be defined as a social, cultural and economic phenomenon with an important economic impact on the economy of the country and its inhabitants. It cuts across many products, productive activities and affects also other economic areas and industries of the economy. A number of countries and international organisations are involved in the development of techniques relevant to the measurement of tourism's impacts, because detailed, reliable and credible information are important for further development of this industry. Switzerland, where tourism occupies an important place in economy and regional development, uses a Tourism satellite account as a statistical tool for visualisation of the importance of tourism sector.

## **AIM AND METODOLOGY**

The increasing awareness of the economic impacts of tourism leads to the development and improvement of tourism statistic. Detailed, reliable and credible statistical information provide a deeper understanding of different aspects of tourism and its linkage to other economic areas. They are also a good base for policy-makers to support and improve policy and decision-making. For this reason, the objective of this article is to analyze the statistical reporting of direct and indirect economic effects of tourism sector in Switzerland.

During the analysis, we will use secondary information, obtained from UNWTO, State Secretariat for Economic Affairs (SECO) and Swiss Federal Statistical Office (SFSO). We will deal primarily with the analysis of statistical techniques of measurements of tourism economic impact, and the methodology of the tourism satellite account.

The Tourism satellite account (TSA) represents a special statistical tool, which delivers a complex view on the impact of tourism sector on the economy of the country. "It allows the examination of the whole economic magnitude of tourism in both aspects of demand and supply"<sup>1</sup>. "It focuses in the description and measurement of tourism in its different forms (inbound, domestic and outbound) and it highlights the relationship between consumption by

---

<sup>1</sup> CEC, OECD, UNWTO: Tourism satellite account: Recommended methodological Framework. 2001. [online]. Accessible at: <<http://browse.oecdbookshop.org/oecd/pdfs/browseit/7801012E.PDF>>. p. 49

visitors and the supply of goods and services in the economy, principally those from the tourism industries”<sup>2</sup>.

The complete TSA will provide<sup>3</sup>:

- Macroeconomic aggregates to describe the size and the economic importance of tourism (value added, tourism gross domestic product), consistent with similar aggregates for the total economy, and for other productive activities and functional areas of interest;
- Detailed data on visitor consumption, and how this consumption is met by domestic supply and imports;
- Detailed production accounts of the tourism industries, including data on employment, linkages with other productive economic activities and capital formation;
- Basic information required for the development of models of the economic Impact of tourism (at the national and supranational levels), for the preparation of tourism market oriented analysis etc.;
- A link between economic data and other non-monetary information on tourism, such as number of trips, duration of stay, purpose of trip, modes of transport etc.

The methodological design for the elaboration of the TSA is a set of definitions and classifications integrated into 10 tables (Fig. 1) and aggregates.

Fig. 1 Tables of tourism satellite account

1. Inbound tourism consumption, by products and categories of visitors	6. Domestic supply and internal tourism consumption, by products
2. Domestic tourism consumption, by products and ad hoc sets of resident visitors	7. Employment in the tourism industries
3. Outbound tourism consumption, by products and categories of visitors	8. Tourism gross fixed capital formation of tourism industries and other industries
4. Internal tourism consumption, by products and types of tourism	9. Tourism collective consumption, by functions and levels of government
5. Production accounts of tourism industries and other industries	10. Non-monetary indicators

Source: CEC, OECD, UNWTO: TSA: Recommended methodological framework. [online]. Accessible at: <<http://browse.oecdbookshop.org/oecd/pdfs/browseit/7801012E.PDF>>

TSA is compatible with international national accounting guidelines and will allow for valid comparisons between regions, countries. “With this instrument, it is possible to estimate tourism GDP, to establish the direct contribution to the economy and to develop more complex and elaborated schemes building on the intrinsic relationship of the TSA with the System of National Accounts and Balance of Payments”<sup>4</sup>.

## RESULTS

The creation of tourism satellite account was an important step in Swiss tourism during the last few years. Swiss Federal Statistical Office (SFSO) and Secretariat for Economic Affairs

<sup>2</sup> Statistical Commission: 2008 International Recommendation for Tourism statistic. 2007. [online]. Accessible at: <<http://unstats.un.org/unsd/statcom/doc08/BG-TourismStats.pdf>>. p. 77

<sup>3</sup> CEC, OECD, UNWTO: Tourism satellite account: Recommended methodological Framework. 2001. [online]. Accessible at: <<http://browse.oecdbookshop.org/oecd/pdfs/browseit/7801012E.PDF>>. p. 4

<sup>4</sup> Statistical Commission: 2008 International Recommendation for Tourism statistic. 2007. [online]. Accessible at: <<http://unstats.un.org/unsd/statcom/doc08/BG-TourismStats.pdf>>. p. 77

(SECO) have published the tourism satellite account of Switzerland in 2003 for the first time. It contained the information about reference year 1998. The objective of this first TSA was to study the feasibility of TSA for Switzerland and to proceed to the first estimation of the economic importance of tourism in Switzerland.

### **Methodology of tourism satellite account in Switzerland**

TSA is based on different, already existent statistics. They correspond for example with inquiries realized on households, visitors or enterprises. Suisse TSA uses concepts and definitions of National Accounts and correspond to the directive “TSA: Recommended Methodological Framework” (TSA: RMF).

TSA is classified by products – goods and services consumed by visitors. We distinguish 2 categories of products:

- specific good and services of tourism
  - o characteristic goods and services (accommodation, food & beverages services, passenger transport, travel agency, tour operator and tourist guide services, cultural services, recreation and other entertainment services, miscellaneous tourism services)
  - o connected goods and services
- non-specific good and services of tourism

Suisse TSA is formed of 6 tables (Fig. 2), which correspond with tables 1, 2, 4, 6 and 7 of TSA: RMF. The table 5 of Suisse TSA is not included in the table system of TSA: RMF, but is necessary for the calculation of the tourism value added. The tables of Swiss TSA can be divided in 2 categories: Tables concerning the tourism consumption (Table 1-3), which are firstly calculated; Tables concerning the value added and employment (Table 4-6), calculated on the basis of previous results.

Fig.2 Tables of Swiss Tourism satellite account (STSA)

<b>TABLE IN SWISS TSA</b>	<b>TABLE IN TSA:RMF</b>	<b>CONTENT OF TABLE</b>
<b>TABLES CONCERNING THE TOURISM CONSUMPTION</b>		
1. Inbound tourism consumption, by products and categories of visitors	Table 1.	Tourism receipts of non-resident visitors in Switzerland
2. Domestic tourism consumption, by products and ad hoc sets of resident visitors	Table 2	Tourism receipts of resident visitors in Switzerland
3. Internal tourism consumption, by products and types of tourism	Table 4	Tourism demand global in Switzerland – tourism demand direct of resident and non-resident visitors
<b>TABLES CONCERNING THE VALUE ADDED AND TOURISM EMPLOYMENT</b>		
4. Domestic supply and internal tourism consumption, by products	Table 6	Compare the tourism consumption in Switzerland with internal resources
5. Gross production, intermediary consumption and gross value added, by products	-	Calculate the gross tourism production and the tourism value added on basis of tourism indicators from Table 4.
6. Employment in the tourism industries	Table 7	Calculate the tourism employment on basis of tourism indicators from table 4

Source: OFS, SECO : *Compte satellite du tourisme de la Suisse 2001 et 2005*. 2008. [online]. Accessible at: <<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/10/22/publ.html>>.

The principal method of calculation of Swiss TSA profit from a specificity of Swiss tourism: tourism spatial concentration. Beside grand cities, important part of tourism consumption corresponds to some notorious touristic places. In this way, it is possible to delimit tourism in a space and evaluate the economic impact of tourism through a comparison of these communities with comparable non-tourism communities.

Swiss TSA is based on 4 essential sources: Input-Output tables of Switzerland register of enterprises, register of tourism behavior of Swiss resident population and travel behavior of population. At the same time, a number of other statistics (accommodation, food and beverages, etc) is used.

### Economic impacts of tourism in Switzerland

Switzerland publishes the full TSA every 3-4 years. Last results come from year 2001 and 2005. The first indicator, the internal tourism consumption consists of direct tourism demand and other components of visitor consumption.

Fig. 3 Internal tourism consumption, by categories of visitors and types of tourism (at basic prices, in million CHF)

	2001	2005
<b>Inbound tourism consumption</b>	<b>12 613</b>	<b>12 027</b>
Tourists (non-resident)	10 010	9 179
Same-day visitors (non-resident)	2 603	2 847
<b>Domestic tourism consumption</b>	<b>17 563</b>	<b>18 421</b>
Tourists (resident)	9 834	9 891
Same-day visitors (resident)	6 500	7 066
Business travel (resident)	1 229	1 464
<b>Internal tourism consumption (in cash)</b>	<b>30 176</b>	<b>30 448</b>
Other components of visitors consumption	1 882	2 114
<b>Internal tourism consumption (in cash and in kind)</b>	<b>32 057</b>	<b>32 561</b>

Source: OFS, SECO : *Compte satellite du tourisme de la Suisse 2001 et 2005*. 2008. [online]. Accessible at: <<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/10/22/publ.html>>.

In 2005, the internal tourism consumption has slightly increased to 32 561 millions CHF (in comparison with 32 057 millions CHF in 2001), which correspond with 30 448 millions CHF of direct tourism demand and 2 114 millions CHF of others components of visitor consumption. The most important part (18 421 millions CHF in 2005 and 17 563 millions CHF in 2001) is generated by domestic tourism, which correspond to 57% in 2005 and 55% in 2001. The category of tourists is responsible for 19 070 millions CHF of Internal tourism consumption in 2005 (slight decrease in comparison with 19 844 millions CHF in 2001), more or less equally divided between resident and non-resident tourists. This part represents approximately 59% in 2005 and 61% in 2001 of internal tourism consumption.

Fig. 4 Internal tourism consumption (ITC), by products and Tourism gross value added (TGVA) (at basic prices, in millions CHF)

	2001		2005	
	ITC	TGVA	ITC	TGVA
<b>Specific products</b>	<b>24 744</b>	<b>12 000</b>	<b>24 828</b>	<b>12 239</b>
Characteristic products	20 513	9 297	20 289	9 350
Accommodation services	5 763	3 198	5 878	3 170
Food and beverage serving services	4 566	2 214	4 498	2 102
Passenger transport services	6 710	2 098	5 952	1 963



Travel agency, tour operator and tourist guide services	1 942	1 206	2 183	1 322
Cultural services	460	142	456	132
Recreation and other entertainment services	766	278	844	385
Miscellaneous tourism services	304	161	477	276
Connected products	4 232	2 703	4 540	2 889
<b>Non specific products</b>	<b>7 313</b>	<b>413</b>	<b>7 733</b>	<b>408</b>
<b>TOTAL</b>	<b>32 057</b>	<b>12 413</b>	<b>32 561</b>	<b>12 647</b>

Source : OFS, SECO : *Compte satellite du tourisme de la Suisse 2001 et 2005. 2008. [online].*  
 Accessible at: <<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/10/22/publ.html>>.

Specific products create 24 828 millions CHF of Internal tourism consumption in 2005 (24 744 millions CH in 2001), which correspond to 12 239 millions CHF of Tourism gross value added (12 000 millions CHF in 2001). The rest (7 733 millions CHF in 2005 and 7 313 millions CHF in 2001) is generated by non specific products for tourism industry, which correspond to 408 millions CHF of Tourism gross value added in 2005 (413 millions CHF in 2001).

The biggest part of internal tourism consumption is generated by characteristic products for tourism industry like accommodation services (18 % in 2005 and 2001), food and beverage serving services (14 % in 2005 and 2001) and passenger transport services (18 % in 2005 and 21% in 2001). We can see the similar decomposition in indicator of tourism gross value added. The biggest part (25 %) is created by accommodation services, followed by food and beverage services (approximately 17%) and passenger transport services (15,5% in 2005 and 17% in 2001).

Fig. 5 Employment in the tourism industries

	<b>2001</b>	<b>2005</b>
<b>Specific products</b>	140 979	135 926
Characteristic products	107 223	103 146
Accommodation services	34 564	33 837
Food and beverage serving services	37 041	35 799
Passenger transport services	16 993	15 051
Travel agency, tour operator and tourist guide services	13 218	12 524
Cultural services	1 666	1 750
Recreation and other entertainment services	3 045	2 991
Miscellaneous tourism services	696	1 195
Connected products	33 756	32 779
<b>Non specific products</b>	2 655	2 277
<b>TOTAL</b>	143 633	138 203

Source : OFS, SECO : *Compte satellite du tourisme de la Suisse 2001 et 2005. 2008. [online].*  
 Accessible at: <<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/10/22/publ.html>>.

Total volume of tourism employment in 2005 represent 138 232 places (decrease in comparison with 143 633 places in 2001). This value corresponds to 135 926 places generated by specific products (140 979 places in 2001) and 2 277 places by non specific products in 2005 (2 655 places in 2001). The biggest part of employment is assigned to 2 characteristic products of tourism industry: accommodation services (approximately 24%) and food and beverage serving services (26%).

## CONCLUSION

Switzerland represents a country, where tourism occupies an important place with a significant impact on economy and regional development. The creation and implementation of Swiss TSA, a modern statistical tool, was an important step in Swiss tourism during the last few years. TSA allows the examination of the whole economic magnitude of tourism in both aspects of demand and supply. This statistical tool is published every 3-4 years and provides information about the internal tourism consumption, tourism gross value added, tourism employment and their decomposition by products, categories of visitors and types of tourism. These detailed information about the character and structure of tourism sector and its impact on economy represent a good base for Swiss policy makers to support and improve tourism policy and for further development of tourism industry in Switzerland.

## BIBLIOGRAPHY

- [1] CEC, OECD, UN, UNWTO: Tourism satellite account: Recommended methodological Framework. 2001. [online]. Accessible at: <<http://browse.oecdbookshop.org/oecd/pdfs/browseit/7801012E.PDF>>. [20.11.2009]
- [2] NOVACKÁ, L.: Satelitný účet a jeho aplikácia pre meranie efektov cestovného ruchu. In: *Zborník výsledkov výskumu Katedry služieb a cestovného ruchu OF Ekonomickej univerzity projektov VEGA a Inštitucionálnych projektov*. Bratislava: Vydavateľstvo Ekonóm. 2002. s. 200-206. ISBN: 80-225-1773-9
- [3] OFS, SECO : Compte satellite du tourisme de la Suisse, 2001 et 2005. Neuchâtel 2008. [online]. Accessible at: <<http://www.bfs.admin.ch/bfs/portal/fr/index/themen/10/22/publ.html>>. [20.11.2009]
- [4] Statistical Commission: 2008 International Recommendation for Tourism statistics. New-York/Madrid 2007. [online]. Accessible at: <<http://unstats.un.org/unsd/statcom/doc08/BG-TourismStats.pdf>>. [20.11.2009]
- [5] UNWTO: TSA data around the world – worldwide summary. Madrid 2009. [online]. Accessible at: <[http://www.unwto.org/statistics/bali/tsa\\_data.pdf](http://www.unwto.org/statistics/bali/tsa_data.pdf)>

**The article is worked out in frame of the internal grant of young researchers of University of Economics in Bratislava n° 67/09**

Adriána Čechovičová  
Faculty of commerce, University of Economics in Bratislava  
Dolnozemska cesta 1  
Bratislava  
a.cechovicova@gmail.com

# **BUSINESS ANGELS AND LOVE MONEY INVESTORS: CHARACTERISTICS, AIMS AND MOTIVATION**

**Márta Horváth**

## **ANNOTATION**

In new venture development the largest single source of private equity capital is informal venture capital – i.e. angel investing. Empirical studies report that returns on informal investments made by friends or family members – i.e. love money investors of business founders may be higher than it was thought. Researchers focused on angel investors who mainly assumed male, middle-aged, high net-worth individuals with prior entrepreneurial experience investing in high-tech companies with which they have no family connections. Business angels considered as an important gap-filling role in financing emergent enterprises and innovative start-up firms. After all, studies proved that love money accounts for more than three times as much annual investment as business angels – who invest more than twice as much annually as institutional venture capitalists.

Within this paper I would like to present the results of an experimental study to illustrate the aims, characteristics and motivation of different informal investor groups in Hungary focused on business angels and love money investors.

## **KEY WORDS**

informal venture capital, business angels, love money, small and medium sized enterprises

## **INTRODUCTION**

The single most important source of equity capital for small-and medium sized enterprises is the informal market [Reynolds, Hay, and Camp 1999]. The two main segments of informal market are business angels and love money investors (friends, family members of entrepreneurs) [Allan L. Riding 2008]. Business angels representing the supply side of the non-institutionalised venture capital market are private individuals who perform activities related to financing and developing enterprises similar to venture capital [Osman 1998], who, owing their special features are able to fill on the finance gap present on the capital market and contribute to the success of innovative enterprises [Kosztopoulos 2004]. Business angels play an important role in the economy, and in many countries constitute the largest source of external funding, after family and friends, in newly established ventures [Avdeitchikova et al 2008]. This has made business angels the centre of attention for policy makers, who acknowledge their increasing importance in providing risk capital as well as contributing to economic growth and technological advances [Murray 2007].

Three aspects that differentiate angel investing from other forms of capital according to Harrison and Mason (1992) are the followings:

- Angel investors concentrate on the provision of relatively small investments in the start-up and early stages of business enterprises
- Business angels are more forthcoming to the needs of small and medium sized enterprise's owners by having lower rejection rates, longer exit horizons and target rates of return that are similar to those of institutional venture capitalists even though beyond all question they assume more risk
- Usually angels invest in their local economies

To continue the differentiation of business angels and institutional venture capitalists it was showed that business angels share common characteristics [Wetzel 1983]: male, self-made,

wealthy, highly active investors who invest in close geographic area to their home preferably in technology-based ventures and rely heavily on their network of friends and business connections.

Questions that are still investigated today and the main focus of studies are the following [Avdeitchikova et al 2008]:

- (1) How large is the business angel market?
- (2) What characterizes business angels?
- (3) How does the business angel market operate in practice (investment process and decision criteria)?
- (4) What is the role of public policy in stimulating and supporting the market?
- (5) How can theory help us to understand the business angel phenomenon?

In spite of the uncountable studies made on business angels there is still no accepted definitions of the most central concepts within the area of informal venture capital. The concept “business angels” and “informal investors” are not rigorously applied [Avdeitchikova et al 2008].

Mason and Harrison (1995) describes business angels as the following: a high net worth individual, acting alone or in a formal or informal syndicate, who invests his or her won money directly in an unquoted business in which there is no family connection and who, after making the investment, generally takes an active involvement in the business, for example as an advisor or member of the board of directors.

In most of the studies the definition of informal investor are not separated to informal market, business angels and friends and love money investors (Table 1).

Table 1. Informal investors compared to business angels

Features	Informal investors (non-angel investors)	Business angels
Source of funds that invest	Private individuals who invest risk capital directly in unquoted companies to which they have no family connection	Private individuals their own money
Responsibility financial	Significant personal financial responsibility	Significant personal responsibility
Investment experience and capacity capacity(?)	Little or no investment experience	Little investment limited investment
Time for due diligence for due diligence	Limited time for due diligence	Limited time

Source: Avdeitchikova et al 2008; Mason and Harrison 1995; Riding 2008

## METHODOLOGY

Due to the various definitions of business angels, informal investors and venture capital the second problem arises in case of sampling and research methodology. First of all it has to be noted that in the 1980s it was very difficult to identify these group of investors because of

anonymity and invisibility. The population is unknown and probably unknowable [Wetzel 1983] which indicates the complexity of conducting a research in this field. Trying to sample the informal investor population is a complicated process as there are no registers or public records of informal investors [Avdeitchikova et al 2008]. Furthermore only a small proportion of a country's population carry out informal investments makes it expensive to identify sufficient numbers of investors through random selection [Avdeitchikova et al 2008].

Different techniques are suggested by Harrison and Mason (1992) for identifying informal investors:

- (1) Sending questionnaires to a large number of individuals believed to be investors
- (2) Contacting investors through the companies they have invested in
- (3) Identifying investors using snowball sampling method by which known investors are asked to identify their peers. Snowball sampling requires a preliminary step, namely to contact or to find a member of a self-selected registers, for example the members of a business angel networks.

All of the referred techniques preclude the representativeness of the sample and other biases, and many of the researches were conducted with the usage of convenience sampling and samples of business angels and informal investors. Furthermore, as the identification of informal investors is difficult most of the researches working with very small sample which leads to and increases the problem of representativeness.

In 2007 an experimental research was completed among university students at the University of Pécs, Faculty of Business and Economics about informal investments lead by Dr László Szerb associate professor with the aim to gain information about the characteristics aims and motivation of informal investments in Hungary. The reason for this is that as in other countries in Hungary too most of the researches and studies examined business angels' activity and information about the other informal investor groups are narrow.

The research followed the first method advised by Harrison and Mason (1992): sending out questionnaires to a large number of individuals. The only difference was that the research carried out in form of personal interviewing with help of research field. As the research based on convenience sampling, the sample is non-representative.

Sample:

- Extent: Hungary
- Sample size: 579 respondents
- Sampling technique: convenience sampling
- Characteristics of the sample:
  - o From one household only one person can be chosen
  - o Respondent should be someone who had or has SME
  - o One respondent should be under age 25
- Time period of data collection: 2007-2008

The questionnaire is appropriate to provide information about the behaviour of potential investors and those who reject investing.

## **RESULTS AND DISCUSSION**

The non-investor and investor groups examined in the survey are mainly males of 45-54 years of age and 50.9 percent of them have higher education qualification. Economic degrees (45.6 percent) occurred most commonly followed by technical diplomas. 54 percent of the sample reside in South-Danubian Region, the rest live in Szeged and the nearest regions. 79 percent of the sample members already have entrepreneurial experience.

Based on informal investments in the questionnaire it was differentiated four groups:

- (1) Those who reject investing
- (2) Those who were already requested, but did not want to invest
- (3) Potential investors
- (4) Informal investors

Table 2. shows the characteristics and behaviour of the first two groups who would not like to invest. The causes can form two main features: risk specific characteristics connected to business and the other is non-risk specific features connected to personal attitudes. The mostly chosen risk specific features covered the fear from ambiguity of pay back, the unpredictable success of the business and the unconvinced business idea. The source of financing and the problem of self-finance are based on the non-risk specific behaviour and characteristics of non-investor groups.

Table 2. Characteristics, aims and motivation of non-investor groups

Features	<b>I. Reject investing</b>	<b>II. Already requested, but did not want to invest</b>
Risk specific *	<ol style="list-style-type: none"> <li>1. Pay back has too high risk</li> <li>2. Cannot prognosticate the success of the business</li> <li>3. Is fundamentally averse from investing</li> <li>4. Cannot control the usage of money</li> </ol>	<ol style="list-style-type: none"> <li>1. Pay back has too high risk</li> <li>2. The business idea was not convinced</li> <li>3. Cannot assure adequate collateral for pay back</li> <li>4. Is fundamentally averse from investing</li> <li>5. Cannot control the usage of money</li> </ol>
Non-risk specific	<ol style="list-style-type: none"> <li>1. Think that the entrepreneur should find another source</li> <li>2. Think that the enterprise should be self-financed</li> <li>3. Would like to invest, but do not have enough income</li> </ol>	<ol style="list-style-type: none"> <li>1. Think that the entrepreneur should find another source</li> <li>2. Think that the enterprise should be self-financed</li> <li>3. Would like to give, but do not have enough income</li> </ol>

*Source: based on the experimental research and on Kusmiczki (2008)*

The third Table contains answers of those respondents who would like to invest if some conditions appear, and those who at least once invested to a business idea. The two features connect to agency risk and financial and business risk because those who can handle risk the willingness of investment can be higher. This attitude differentiate informal investors from other investor groups. Informal investors takes their time and effort to get to know the investor itself before they invest and have the possibility take into consideration the personal part of the business, which is a kind of risk handling technique. This technique cannot be used in case of institutionalized investors or banks because their size and the number of transactions make them incapable to do it.

Table 3. Characteristics, aims and motivation of investor groups

Features	<b>III. Potential investors</b>	<b>IV. Informal investors</b>
Agency risk	<ol style="list-style-type: none"> <li>1. Would invest but just for friends' enterprise</li> <li>2. Would give but just for relatives and family members</li> <li>3. Would give to stranger too who have good business idea</li> </ol>	<ol style="list-style-type: none"> <li>1. The business idea was convinced</li> <li>2. Friends or colleague asked for capital</li> <li>3. Family member or relatives asked for it</li> </ol>
	<ol style="list-style-type: none"> <li>1. Would like to give but just in case of contracting (details of pay back</li> </ol>	<ol style="list-style-type: none"> <li>1. Guaranteed the payback with the appropriate collateral</li> </ol>

\* Features are in descending order

Financial and business risk	and collaterals) 2. Would give in case of adequate collateral 3. Would give to stranger too who have good business idea	2. The promised yield was adequate 3. Ownership was offered from the business
-----------------------------	---	--

*Source: based on the experimental research and on Kusmiczki (2008)*

Interesting to mention, that both investor groups are more likely to invest into a friend's business idea rather than into a family members' business. Besides relationship status between the potential or informal investor and the owner of the business the guarantee for payback and the adequate collateral plays significant role.

## CONCLUSION

The experimental research about informal investor groups is characterized by the use of inconsistent definitions and small-scale convenience sample. This has meant that the bulk of research on this topic has lacked methodological rigour, which both limits comparability between different studies and hinders the development of solid empirical and theoretical bases in the research. This paper presented an attempt to identify the most important characteristics, aims and motivation of informal investor groups in Hungary and regards as a forerunner for further investigation and extended researches.

## BIBLIOGRAPHY

- [1] Avdeitchikova, A., Landström, H., Mansson N. 2008: *What do we mean when we talk about business angels? Some reflections on definitions and sampling*, Venture Capital, pp. 371-394
- [2] Harrison, R.T, C.M. Mason 1992. International perspectives on the supply of informal venture capital. *Journal of Business Venturing*, pp. 459–75.
- [3] Kosztopulosz, A. 2004. *Informal Venture Capital in Hungary*. [http://www.eco.u-szeged.hu/penzugytani\\_szcs/pdf/Kosztopulosz\\_Andreasz-  
Informal\\_venture\\_capital\\_in\\_Hungary.pdf](http://www.eco.u-szeged.hu/penzugytani_szcs/pdf/Kosztopulosz_Andreasz-<br/>Informal_venture_capital_in_Hungary.pdf) (accessed December 2009)
- [4] Kusmiczki A. 2008. Az informális befektetők kockázatkezelési sajátosságai Magyarországon
- [5] Mason, C.M., and R.T. Harrison. 1995a. *Informal venture capital*. London: Prentice-Hall International, pp 309
- [6] Murray, G.C. 2007. *Venture capital and government*. In *Handbook of research on venture capital*, ed. H. Landström, pp 113-51, Cheltenham: Edward Elgar.
- [7] Osman, P. 1998. *Az üzleti angyalok tevékenysége és befektetések szerepe a kis -és kisebb középvállalatok létrehozásában, fejlesztésében*. OMFB, Budapest
- [8] Reynolds, P.D., M. Hay, and S.M. Camp. 1999. *GEM global 1999 executive report*. [http://www.gemconsortium.org/about.aspx?page=global\\_reports\\_1999](http://www.gemconsortium.org/about.aspx?page=global_reports_1999) (accessed December 2009).
- [9] Riding, Allan L. 2008. *Business angels and love money investors: segments of the informal market for risk capital*. Venture Capital, pp. 355-369
- [10] Wetzell, W.E. 1983. Angels and informal risk capital. *Sloan Management Review*, pp. 23-34

Full name: Márta Horváth  
(MSc in International Management, Ph.D. Student)  
Institution: University of Pécs, Faculty of Business and Economics / SALA Economic and  
Regional Development Agency  
Street: Rákóczi street 80 / Kis street 1.  
City: Pécs / Zalaegerszeg  
Email: [marta.horvath@salazrt.hu](mailto:marta.horvath@salazrt.hu)



# EVALUATION OF THE INTERNAL LINKS IN THE PROGRAMME DOCUMENTS

Martin Luštický, Jan Kysela, Marie Slabá

## ANNOTATION

Support of tourism is important for the development of each region. That's why it has become the object of strategic planning of the regional authorities. It is very important to ensure strong mutual link between conclusions of the Analytical Part and suggested development arrangements during the process of creation of the programme documents. This paper refers to this fact and it also suggests the methodical procedure for evaluation of the intensity of the link. The procedure is applied and verified by means of the specific programme document of the South Bohemian Region.

## KEY WORDS

programme documents, tourism, region, internal links, evaluation

## INTRODUCTION

This paper deals with an issue of cohesion between the analytical and proposed parts of the regional strategic documents which are focused on tourism development. Tourism can still be considered as one of the fastest growing sector of an economy which can significantly contribute to the development of the regions in the case of its proper managing. Thanks to its multiplicative effect, the development of tourism has a positive impact on employment, infrastructure improvements and civic amenities in a region. Moreover, it also brings the considerable revenues into the budget of the regional authority.

In the sphere of tourism only the strong systematically managed organizations may succeed in the globalization process which is in addition accompanied with a keen competition. Worldwide trends, such as surplus of flight, hotel and bed capacities, appearance of new destinations on the market, new technologies, worldwide network of the information and reservation systems and also current economic crisis, grow the intensity of competition not only between specific tourist attractions but also between the cities, regions or whole states. **The strategic (programme) documents** – as a tool of management – can be used as an instrument for achieving a bigger competitive effect. Well elaborated document could bring to the region a higher **comparative advantage** and thus ensure its long-term development. Only that region will be successful which will offer something extra in comparison with the others and simultaneously which will be able to sell it.

**Strategic planning** has its origin in warfare and it begins to appear in the business sphere starting from the 70's of the last century. Although this process also has its opponents, who point out that it is too demanding as to time and finances are concerned in the present-day turbulent environment [2], it has been advantageously made full use of even in the sphere of the planning of the development of town and regions (in the Czech Republic since the mid-90's of the last century). The object of interest of the local authorities has become the process of elaboration of the conceptions devoted to the tourism development within their territories.

Unfortunately, in the last ten years the process of the formation of regional programme documents has not been linked with the modern basic and applied research. Their authors did not observe the basic principles of strategic thinking [5] many times. The set of different

approaches were applied during their elaboration. This fact is reflected in their disparate level as to the content quality, form, extent, structure and process of solving the primary issues [6]. This fact has appeared also in the process of investigation of the methods of elaboration of the document's analytical part and primarily in the case of investigation of its interconnection with the proposed part, so in the case of evaluation of the intensity of so-called **internal links of the documents** [1].

## EVALUATION OF THE INTERNAL LINKS

Information of highest possible quality is absolutely essential for the formation and subsequent implementation of strategies. **The analytical part** of the documents should deal with its summarization, analysis and interpretation. So it creates the information base for the proposed part. The main aim of the strategic analysis is to reveal the most important factors influencing the current and future development of the region [7]. Through this analysis it should be possible to determine critical problems, the sphere of tourism may face in future, development trends in tourism, the present-day position of the region in tourism, its development potential, strength of the main competitors, main resources of the region, its key competences and the like.

Unfortunately, only a static situation description of the situation in the tourism sector is usually used and the only one classical analytic tool is represented by **the SWOT analysis**. Methodology, of how to create it, is not strictly codified in any manual; it fully depends on the decision of the compiler. And that is why we come across a number of inadequacies, as for example an inadequate cogency of formulations, non-existent methodology of processing, differentiation of the importance of individual elements, absence of conclusions and many other things [1]. That is why in the analytical part there should be applied other methods in such a way so that SWOT analysis could be a synthesis of its results rather than an isolated analytical tool. In order to secure a long-term positive development of the region, it is essential **to interconnect the results** of the analytical part - that means the SWOT analysis - with the proposed measures and activities in the proposed part.

Specialized literature only rarely pays attention to a set of problems connected with the assessment of the extent of the interconnection between analytical and proposed parts of programme documents (internal links). Specialized literature only points out the fact that co-ordination between these parts is a matter of principal (e.g. [7]). At the same time a possibility to evaluate the present-day situation is essential for its improvement and a subsequent enhancement of the quality of strategic regional planning. It is not possible to carry out the process of the specification of the intensity of internal and external links without a subjective approach to the evaluation and when doing so, it is necessary to take into account a lot of influencing factors. The aim of this paper is to make a draft of an essential **methodological procedure**, which could be used in future evaluations.

### Methodology of the evaluation process

The purpose of drafted procedure is **the evaluation of the intensity of the links** (correspondence, cohesion) between the analytical part (represented by the SWOT analysis) and the proposed part (represented by individual measures). The evaluation of the links is carried out in the direction **component of the SWOT analysis** → **measures**. This procedure evaluates how intensively the individual components of the SWOT analysis are reflected by drafted measures. The term **component** in the SWOT analysis is to be understood as one particular weak or strong point, opportunity or measure. The term **part** of the SWOT analysis expresses a complex of particularly oriented components, which means all strong or weak

points, opportunities or measures. The evaluation of the intensity of the links is carried out for each component and thus for whole part of the SWOT analysis. The evaluation of the link between part of the SWOT analysis and measures is important from the view of interpretation of the results. Following text includes a general description of the chosen evaluation procedure which consists of four logically consequential steps.

**The first step** takes into account the formal difference of the used SWOT analyses. If the SWOT analysis is to fulfil its information role and simultaneously if it is to be comparable and evaluable, it should fulfill the basic formal requirements. These requirements are expressed by the point evaluation of the four criteria. They were assigned weights, which differentiate their importance. The outcome of the first step is the weight co-efficient which compensates a dissimilar level of the assessed analyses and it is defined by the following formula:

$$W1 = \sum VC_i \times WC_i; \text{ where } (1)$$

W1 coefficient compensating a dissimilar level of the assessed SWOT analyses  
 VC<sub>i</sub> value of the criterion  
 WC<sub>i</sub> weight of the criterion

**The second step** of the procedure compensates the different ways of elaboration of the SWOT analyses, resp. the different informative bases from which the analyses resulted. The quintessence of this step is to enable a comparison of differently constructed SWOT analyses and – at the same time – to take into account the importance of the links between the external and internal analyses and the SWOT analysis for the total intensity of the internal links in a document. The principle of evaluation is identical as in the first step. It results from the punctual evaluation of the fulfilment of pre-defined criteria and from defined weights of their importance. Its output represents the weight co-efficient which is given by this formula:

$$W2 = \sum VC_i \times WC_i; \text{ where } (2)$$

W2 coefficient compensating a different way of elaboration of the SWOT analyses  
 VC<sub>i</sub> value of the criterion  
 WC<sub>i</sub> weight of the criterion

**The third step** represents the evaluation of the intensity of the links itself. It is based on the modification of the method entitled **Distributively delegative awarding points**, which is based on the principle of the Delphi method and stipulates the weight of the voices of the individual evaluators [3]. The evaluation uses the “L” form matrix chart for appreciation of the mutual link between the components of the SWOT analysis and the measures [4]. Its quintessence is the look on the measure as a tool for reaching the strategic aims which should react to the individual component of the SWOT analysis in appropriate way. The level of reaction (intensity of the link) is expressed by the scale 0 – 1 point. The value 0 means no reaction (link) and the value 1 means the maximal intensity of the reaction (link). The evaluation of the link between measures and whole part of the SWOT analysis is carried out by the following formula:

$$PEIL_i = \frac{\sum \frac{\sum ECA_i}{\sum M}}{\sum CO_i}; \text{ where } (3)$$

PEIL<sub>i</sub> points evaluation of the intensity of the link of the individual part of the analysis  
 ECA<sub>i</sub> evaluation of the individual component of the analysis  
 M measures in the proposed part of the document  
 CO<sub>i</sub> components of the individual part of the analysis

The evaluation process consists of the following three steps:

- **Distributive phase** – evaluators examine the link between each component of the SWOT analysis and a particular measure, and they put the result into a prepared table (see Table 1); they set the punctual evaluation of the intensity of the link between part of the SWOT analysis and the measures on the basis of formula stipulated beforehand
- **Delegative phase** – evaluators can delegate a relative weight of their voices to other evaluators according to the prepared table (see Table 2); the initial weight of each evaluator is 100 points; maximally this amount of points can be – at random – divided by the evaluator among the others and thus he/she decreases his/her relative importance for the final evaluation
- **Synthetic phase** – in this stage new relative weights of voices of all evaluators are stipulated (according to the delegative phase) as a difference between the received and delegated numbers of points (see Table 3)

Table 1: Distributive Phase of the Distributively Delegative Awarding Points

Components of the SWOT analysis	Measures in the proposed part						PEIL
	M 1.1	M 1.x	M 2.1	M 2.x	M X.x	...	
<b>S</b>	0 – 1	0 – 1	...	...	...	...	...
...	...	...	...	...	...	...	
...	...	...	...	...	...	...	
<b>W</b>							...
...	....			....	....	...	
<b>O</b>							...
...	....			....	....	...	
<b>T</b>							...
...	....			....	....	...	

Source: our own draft

Table 2: Delegative Phase of the Distributively Delegative Awarding Points

Evaluators	The number of delegated points to the other evaluators			
	ER1	ER2	ER3	...
<b>E1</b>	X			
<b>E2</b>		X		
<b>E3</b>			X	
...				X

Source: our own draft

Table 3: Synthetic Phase of the Distributively Delegative Awarding Points

Evaluators	The number of delegated points to the other evaluators				Received points	Delegated points	Resultant weight
	ER1	ER2	ER3	...			
<b>E1</b>	X				$\sum ER1$	$\sum E1$	$(100 + \sum ER1 - \sum E1) / 100$
<b>E2</b>		X			$\sum ER2$	$\sum E2$	$(100 + \sum ER2 - \sum E2) / 100$
<b>E3</b>			X		$\sum ER3$	$\sum E3$	$(100 + \sum ER3 - \sum E3) / 100$
...				X	$\sum \dots$	$\sum \dots$	...
<b>Check-up</b>	$\sum ER1$	$\sum ER2$	$\sum ER3$	$\sum \dots$	$\sum RP$	$\sum DP$	

Source: our own draft

The resultant partial evaluation of the closeness of internal links is a weighed arithmetic mean of the evaluations of all evaluations, given by the following formula:

$$PEL_i = \frac{\sum (PEE_i \times RWE_i)}{\sum E}; \text{ where } (4)$$

PEL<sub>i</sub> a partial evaluation of the links in a part of the SWOT analysis  
 PEE<sub>i</sub> a partial evaluation of a particular evaluator  
 RWE<sub>i</sub> a relative weight of an evaluator  
 E evaluators

The final step of the evaluation process is the modification of the partial evaluation by two weight co-efficients stipulated beforehand. It is expressed by the following formula:

$$OEL_i = PEL_i \times W1 \times W2; \text{ where } (5)$$

OEL<sub>i</sub> the overall evaluation of the links of a part of the SWOT analysis  
 PEL<sub>i</sub> a partial evaluation of the links of a part of the SWOT analysis  
 W1 the value of the first weight co-efficient  
 W2 the value of the second weight co-efficient

## EVALUATION OF THE STRATEGY OF DEVELOPMENT OF TOURISM IN THE SOUTH BOHEMIAN REGION

The specific strategic document of the South Bohemian Region – The Strategy of Development of Tourism in the South Bohemian Region – was selected to verify our drafted procedure in practice. The evaluation of the internal links was made by three evaluators. One of them has elaborated the evaluation of whole SWOT analysis (E3) and each of the rest of evaluators has elaborated the evaluation of two different parts of the analysis (E1 and E2). This procedure was chosen for appreciation of the suitability of the method. It is evident that the number of evaluators should be higher for really valid evaluation of the intensity of the link. So it is necessary to understand the presented results in this sense.

The used SWOT analysis is quite standard. It does not embody any significant shortages, but it does not be great in its quality at the same time. It is possible to reprehend it the absence of some tool for differentiation of its components. That is why the value of the first weighted co-efficient **W1** is **1.15 points**.

The SWOT analysis is constructed on the base of considerably general and descriptive analytical part which contains the enumeration of geographical and socio-economic conditions of the region, the description of an offer in tourism and partial analysis of the branch, i.e. analysis of a demand in tourism. The analysis deals with the competition only on general level. It is possible that the analysis contains the summary of profile of typical visitor of the region which is described in great detail in individual research. On the basis of defined criteria the value of the second weight co-efficient **W2** is **0.95 points**.

The punctual evaluation of the intensity of the link between individual part of the SWOT analysis and proposed measures, which is stipulated according to the formula number 3, is described in the following table.

Table 4: Punctual Evaluation of the Intensity of the Links

Component of the SWOT analysis	PEIL		
	E1	E2	E3
S	0,14	-	0,07
W	0,09	-	0,08
O	-	0,08	0,08
T	-	0,09	0,06

Source: our own calculation

The next table summarizes the results of the synthetic phase according to delegation of the relative weights of evaluator's voices. The delegation of voices has been made in agreement with the evaluation system – among evaluators E1 and E3 and consequently among E2 and E3. That is why there are two points values divided with a slash in the case of evaluator E3.

Table 5: Results of the Synthetic Phase

Evaluators	The number of delegated points to the other evaluators			Received points	Delegated points	Resultant weight
	ER1	ER2	ER3			
<b>E1</b>	X	-	50	0	50	0,5
<b>E2</b>	-	X	15	10	15	0,95
<b>E3</b>	0	10	X	50 / 15	0 / 10	1,5 / 1,05

Source: our own calculation

The partial and overall evaluation for individual parts of the SWOT analysis – stipulated according to the formula number 4 and 5 – is described in the table number 6.

Table 6: Partial and Overall Evaluation of the Intensity of the Links

Component of the SWOT analysis	Partial evaluation	Overall evaluation
S	0,09	<b>0,098</b>
W	0,08	<b>0,087</b>
O	0,08	<b>0,087</b>
T	0,07	<b>0,076</b>

Source: our own calculation

## CONCLUSION

As it results from the previous table the interlacing of crucial components of the analytical and proposed parts of the document seems to be very weak. This situation is typical for the most of strategic or programme documents on the regional level. The strategic objectives, priorities and resulting measures are drafted in very general level with the aim to provide a sufficient room for manoeuvre for practically all decisions of management of the region. This fact is raised by the absence of any proven business method as a support of the strategic analysis and so it has become a mere description of current situation in many times. Thus the resultant SWOT analysis is not able to identify the crucial facts influencing the long-term development, which should become the basis for stipulating the priority spheres and subsequent measures of the region. We cannot miss out the frequently missing system for monitoring the process of implementation of the individual measures. Thanks to their commonness and vague delimitation it is very difficult to find the appropriate indicators for monitoring the level of fulfilment of the priority objectives.

Our drafted procedure of the evaluation has the aim to contribute to an improvement of this state because identification of current weaknesses is the first step to their correction. Although its core is constructed with the help of subjective evaluation, the procedure is able to well describe the state-of-art of the documents and moreover it enables their mutual comparison. The procedure's logic takes into account a dissimilarity of performed analyses and SWOT analyses. It calls attention to the importance of fulfilment of at least minimal criteria. Presented procedure has certain weak points, and that is why it will be verified in a consequential research. Based on the results of its practical application, the team will work hard to eliminate or minimise these weak points. A real challenge for the future is the

utilization of more sophisticated methods of evaluation, e.g. using the so-called fuzzy logic or some of the specialized computer programmes.

## BIBLIOGRAPHY

- [1] Krbová, J. – Luštický, M.: Programové dokumenty v cestovním ruchu a jejich vazby. In *Sborník z Mezinárodní Baťovy konference pro doktorandy a mladé vědecké pracovníky*. Zlín: Univerzita Tomáše Bati ve Zlíně, 2008. ISBN 978-80-7318-664-7.
- [2] Mintzberg, H.: *The Rise and Fall of Strategic Planning*. Pearson Education, 2000. ISBN 978-02-736-5037-9.
- [3] Plamínek, J.: *Řešení problémů a rozhodování*. Praha: Grada Publishing, 2008. ISBN 978-80-247-2437-9.
- [4] Plura, J.: *Plánování a neustálé zlepšování jakosti*. Praha: Computer Press, 2001. ISBN 80-7226-543-1.
- [5] Veber, J. a kol.: *Management – základy, prosperita, globalizace*. Praha: Management Press, 2000. ISBN 978-80-7261-029-7.
- [6] Vystoupil, J. – Holešinská, A. – Kunc, J. – Šauer, M.: *Metody pro tvorbu strategických a programových dokumentů cestovního ruchu*. Brno: Masarykova univerzita, 2007. ISBN 978-80-210-4290-2.
- [7] Wokoun, R. – Malinovský, J. – Tamborský, M. – Blažek, J. a kol.: *Regionální rozvoj. Východiska regionálního rozvoje, regionální politika, teorie, strategie a programování*. Praha: Linde, 2008. ISBN 978-80-7201-699-0.

Ing. Martin Luštický  
University of Economics, Prague  
Faculty of Management in Jindřichův Hradec  
Jarošovská 1117/II  
Jindřichův Hradec  
lusticky@fm.vse.cz

# **METHODS AND TECHNIQUES OF MEASURING HUMAN LIFE VALUE**

**Vilém Pařil**

## **ANNOTATION**

Following article is aimed on methods and techniques that have been used in the past for measuring of human life value. The subject of submitted article „Methods and Techniques of Measuring Human Life Value” is comparative analyses of different approaches used to measuring human life value with emphasis on several instruments, evaluation of measuring complexity, determining of opportunities and potentials in improving these methods and also relation of these approaches to measuring value of different environmental entities. This article is divided to several parts. In the first part there is showed a description of various methods dealing with human life value. Second part is devoted to comparison of these methods focused on methodological basis and using instruments for counting the human life value. The third part presents results of previous comparison and deals with potential exploitation under the conditions in Czech Republic and tries to determinate the relations to valuation of environmental goods.

Následující článek je zaměřen na metody a techniky, které byly v minulosti použity za účelem vyčíslení hodnoty lidského života. Předmětem tohoto článku “Metody a techniky měření hodnoty lidského života” je komparativní analýza odlišných přístupů k dané problematice měření s důrazem na použité nástroje, komplexnost daného hodnocení, určení možností a potenciálu ve vylepšení těchto metod a také jejich vztah a napojení k různým environmentálním entitám. Tento článek je rozdělen do několika částí, přičemž první část je deskriptivního charakteru a popisuje některé vybrané metody měření. Druhá část je věnována komparaci jednotlivých metod, jejich metodologických východisek a použitých nástrojů. Třetí část prezentuje výsledky z předchozí kapitoly a pojednává o potenciálním využití některé z dříve rozebíraných metod v podmínkách České republiky a snaží se najít spojení mezi touto metodou a způsobem hodnocení některých environmentálních statků.

## **KEY WORDS**

Value of human life, measuring methods and techniques, environmental entities

Vilém Pařil  
KRES ESF MU  
Lipová  
Brno  
vilem@mail.muni.cz



## **INTRODUCTION**

In recent decades, the scientific literature as one of the possible topics that economics could and even had several reasons to consider is that there are appearing attempts to express the value of human life. This theme is from its inception rather controversial topic and inconsistency of expression values of human life is related to concepts such as the existence or intrinsic value.

It is useful to indicate the beginning of different views on the value of human life or more precisely to a specific part or the period of life of a person. Interest in this concept in some way introduces the economic literature and the studies can be summarized in two essentially different approaches, which are in line with the two different views of economic reality and, of course, mutually complementary.

The first view is that we can comply with the above described as a view of microeconomics or where there some economic entity as a participant in the economical competitive struggle that is somehow trying to describe and capture its competitive advantages and their causes (and possibly failures), then these advantages use and develop in the way that it is trying to be successful in the competitive environment. It is a purely rational cause, resulting from the existential needs of the organization (firm or company) that it wants to maintain and if possible improve their market position in the long-term view on market. The company is trying to capture all the elements of its capital, including human capital. For this reason beginning of developing techniques that in some way tried to quantify and value of staff, of course, especially workers who are key to the company. These methods are therefore essentially begun collectively called the accounting of human capital, focusing primarily on the valuation of managerial positions. The results obtained by various methods derives essentially whether it is advantageous for the company no longer employ the employee, or better replace him with another potential employee with a similar level of qualification and experience. This view, although it may have for the economic entity quite fatal but long-term consequences, in terms of valuing the individuals is very short and basically it is about finding opportunities and constraints of its evaluation under the terms of his monthly or weekly wages from the employer or company. Even this view, however, provides some insight into the valuation of certain individuals or more individuals falling within certain categories, and for a specific time period.

The second view is the approach in terms of macroeconomics, which is looking very important in terms of economic policies of different states and can therefore have significant implications on the focuses of economic policy. This view is of course a long term view and in terms of economics and its recommendations is probably more important because the effect of economic policies, or different regulatory measures that may be the final outcome and action-oriented surveys, affect the life of each individual in the society. And those regulations have of course other global impacts on life in the whatever society at all, either in terms of benefits the individual as such, and from the perspective of social interests, often in some way linked to the level of the environment.

## **THE CONCEPT OF VALUE<sup>1</sup>**

This article is lies on the assumption, based mainly on the feeling or belief that any person whether he is equal with any other man on earth and that each people has a specific and

---

<sup>1</sup> J. McQueen, C. McQueen Morrow, 2008

undeniable rights given by nature, and it means the right for life, liberty, and rights to effort to luck.

The main concern remains why people do what they do what is the question of each individual motives. For example why people support or work for an organization and not for another, especially as regards the non-profit organization. How can these organizations to motivate their current and potential donors to voluntary loyalty to this organization. These reasons, or motives of loyalty or devotion to an institution or organization, however, for individual subjects may vary according to their specific conditions and default situations.

The author is convinced that the behavior of individuals is not only driven by rational assembling of information, but that people in some way feel each organization or institution or the or have a certain emotion, which then becomes one of the determinants of their behavior. There is a presumption that the common source of answers to questions such as "why" and "how" are derived from certain fundamental truths of the holy considered almost indisputable (for example essentials thought framework of society) and on the basic human truths or in other words values. Then the rational motives and emotions are determinants, which ultimately leads to a certain behavior.

Definition of human values comes from a time when sociologists have found a common definition of what is valuable: "The values are the basic concepts of what is desirable for every individual or company. They serve as standards or criteria for determining the not only the leading actions, but also influencing discretion, choice, access, evaluation, arguments, rationalization and attribute causality.

## **MICROECONOMIC PERSPECTIVE - THE VALUE OF HUMAN CAPITAL<sup>2</sup>**

One example of how to quantify the value of human capital is the marginal monetary value model. This model is based on assumptions that there are certain groups of workers and employees, who are characterized by a certain level of education, experience and also some factual focus. The combination of these characteristics divides the labor market on certain segments where you can find a potential replacement for the staff of the segment. Another assumption is that for each segment there is some average wage, which in this model corresponds to the value of one. The company also must determine various characteristics which are to carry out the key positions, and these features must somehow be reflected in the segment of the labor market to be able to find some average level. These characteristics may be as leadership, management skills, initiative, commitment and job performance. For each of the characteristics of the firm determine the weight of this characteristic in relation to others, here lies the foundation for the valuation of certain employees. The last step is the evaluation of the employee according to the average values of the market segment; while the value of 1.2 means that the individual is twenty percent above average in this characteristic. Subsequently, the correction made by the individual weights and the resulting characteristics in some time reflects the average salary in the segment of the labor market. So it means the maximum wage rates for what the firm pays this employer and from what level it's better to hire a replacement from a given market segment.

---

<sup>2</sup> Rana, Maheshwari, 2005

This model of course faces certain methodological obstacles, which may determine the individual weights or the mean level of certain characteristics within a given market segment. On the other hand, this approach is a certain step in the capture of human capital from the perspective of the employer as a part of economic competition. This view in terms of economic policy is likely to be very difficult to use, and therefore difficult to apply not only in terms of social and economic goals. However, despite this fact it can bring something to the problem of valuation of human life and enrich the preview, which is linked in particular to the categorization of the labour market and determining individual characteristics, respectively, the average levels of certain characteristics of the market segment. Because these characteristics have a direct impact on the wage rate which is one of the factors affecting the view of the value of life by economic policy.

### **MACROECONOMIC PERSPECTIVE – VALUE OF STATISTICAL HUMAN LIFE<sup>3</sup>**

There is not probably another topic that is so fundamental and so controversial at the same time as the value attributed to human life in the evaluation methodology. Some of those who have addressed this issue expressed the idea that the value of a wealthy man, or man of the economically developed and advanced countries is greater than that of poor people, or people from poor countries or regions. This argument is based on indirect determination of the value of human life through the determination of economic losses caused by such high mortality. Then some authors have noted that the loss of a loved person for example for Vietnamese people is not so serious, and therefore valuable and worthwhile, as the loss of a loved person related to a normal American or European people. This way of thinking, however, was rejected by many people as morally unacceptable. One of the ways in which we try to express the value of human life, is based on people's willingness to pay for avoiding certain risks, for example it is derived from how much money we are able to pay too. In this way, however, the ratio value of human life in poor countries than in rich countries went 1:10. Another way the IPCC (Intergovernmental Panel on Climate Change) was based on the estimate of the value of human life based on the evaluation of health status or certain health characteristics. Some authors believe that belief in the equality of all people in this world should be inserted into the economic analysis on the value of human life and that it would be better to assign a monetary calculations in zero loss of life, and then the simple financial analysis and calculation of the cost in lives have to be made separately.<sup>4</sup>

The above view of the problem may reflect a misunderstanding that the use of this term occurs. The value of life is in many ways wrong notion. The subject is usually not the value of life itself, but rather the value of small risks of life. As some authors noted the key question is how much people are willing to pay to avoid the small risk of death? For small changes in the risk that amount approximately equal to the amount of money an individual who should be compensated for exposing himself to this risk. The trade-off between money and risk of providing appropriate measures for deterrence in that it shows through the private valuation of small changes in risk. Therefore it serves as a benchmark value of deterrence for individuals with certain risk to avoid an accident and as a reference point for the amount that the government should take to avoid such small statistical risks. As it is a measurement of a statistical life, not life itself. Analysis focused on government regulation is now used to monetize the value of statistical life (VSL) to make risk reduction.

---

<sup>3</sup> Aldy, Viscusi, 2002

<sup>4</sup> Fearnside, 1998

There are essentially two basic concepts of the value of life from a macroeconomic point of view - the amount that is optimal in terms of insurance and the amount needed for deterrence. These concepts are aimed at completely different issues that reflect the different economic goals. Insurance value occupies the greatest attention in the literature over the past few decades. The basic principle for the optimal purchase of insurance is that it is desirable to continue the transfer of income to the post - the state of emergency until the situation where the marginal utility of income in this state will be equal to the marginal utility of income in a healthy state. In the case of damage of property should have the same level of utility and marginal utility of income after the accident as before. But in contrast, deaths and serious injuries affect one's productive capacity and therefore reduce the level of utility and marginal utility for a given level of income and thus lower levels of income, after death, so it is desirable for the insurance. The second approach to valuing life is the optimal amount of deterrence. For what value we are willing to provide adequate tools for avoiding the accident? In the case of financial losses are the sum insured and the optimal amount of optimal deterrence, or their value is most likely identical or at least negligibly different, but in serious medical accidents, such as deaths, the optimal amount of deterrence exceed the optimal amount of damages.

Economic measurements for determining the optimal amount of deterrence lies in trade-off between risk and money for very little risk of death. Due to the fact that it counts with a small probability, not certainty of death, it considers these values as the value of statistical life (VSL). Economic estimates of the amounts include VSL evidence market decisions that reveal the implicit values that are reflected in behavior, as well as in the use of techniques that the trade-off between money and the risk. Despite of this fact governments use these estimates to evaluate the VSL to realize such policies that in some way reduce the risk. Suppose that a certain number of people are willing to pay for the elimination of the risk of death  $1 / 10$  thousands. 700. This amount can be used to estimate the value of statistical life in one of two ways. Firstly, suppose a group of ten thousands of people facing the above-mentioned level of risk. If each of them is willing to contribute 700 euro to eliminate the risk, then anyone can raise the total amount to avoid the death statistics, for example ten thousand people are multiplied by 700 euro per person that is 7 million euro. An alternative approach to the conceptualization of risk is to focus on the amount that corresponds to the unit risk. If we divide the willingness to pay as a sum of 700 euro which is the risk or probability of one in ten thousand, then we get the value per unit of risk. The value of statistical life is 7 million euro, even using this approach.

For that reason we need to use asking hypothetical questions during the interview in ensuring a certain amount of willingness to pay which is often used approach or technique in the studies on the value of life. Thus oriented studies are often classified as contingent valuation methods or methods of stated preferences, which means that we are seeking information on the decisions of the respondents of the hypothetical scenarios. The use of these surveys is very useful for addressing issues that can not be assessed using market data. One example is the difference of death from cancer compared with immediate accidental death? The question is, how much should be one person compensated for undergoing pain and suffering and moreover this amount varies according to the nature of injury? Potentially, these methods for the detection of certain expenses or revenues bring some insight to these questions.

Evidence based on the actual decisions people have potentially greater information value than the hypothetical situation where there is no market data. Essentially those who decide that they are either willing to pay money to reduce the risk, or receive certain compensation when

they face danger, and these results can vary considerably. On the other hand, these risks are real, so the respondents can not imagine that they face risk. But it is also important that individuals accurately perceive the risks they face. Surveys respondents may provide information that is quite accurate.

### **VALUE OF STATISTICAL LIFE<sup>5</sup>**

Since Adam Smith's period economists registered that people will require a differential compensation for jobs that pose a higher risk. These wage premiums in turn can be used to assess the trade-off of between risk and money and to assess the value of life.

To the explanation of how hedonic model works we must start with the supply side of the market. Worker's decision to risk is to choose job with risk of death,  $p$ , which provides the highest level of expected utility (EU). Worker faces a market supply curve  $w(p)$ , which is the outer packaging curves of firms in the market offer. Let us have the existence of two states: good health to the usefulness of  $U(w)$  and death usefulness  $V(w)$ , where the term is a function of link worker. Utility function has the property that good health is better ill health, and workers are risk-hostile or risk-neutral or  $U'(w) > V'(w)$ ,  $U', V' > 0$  a  $U'' < 0, V'' \leq 0$ . Add to choosing the particular job  $\max_p EU = (1-p)U(w(p)) + pV(w(p))$ , that leads to the  $dw/dp = [U'(w) - V'(w)] / [(1-p)U''(w) + pV''(w)]$ . Trade-off between wage and risk  $dw / dp$  based on the worker's choice of combination of risk and wages is the value of statistical life (VSL), which is equal to the difference in utility between the two states of health.

What trade-off  $dw / dp$  will worker choose depends not only on worker's preferences, but also on the shape of the market supply curve. Best opportunities available in the market are those that offer the highest salary for a given level of risk. Each individual firm offers a wage that is a decreasing function of level of safety. Cost function of production safety will increase with the level of security, so the decline in wages is associated with some improvements in security.

Canonical hedonic wage equation is

$$\ln w(i) = \alpha + X(i)' \beta + \gamma(1)p(i) + \gamma(2)q(i) + \gamma(3)WC(i) + \varepsilon(i),$$

where  $w(i)$  is wage of  $i$ -th worker,  $X(i)$  is the vector of personal characteristics and job characteristics,  $p(i)$  is the risk of death of a worker,  $q(i)$  is the risk of nonfatal injuries and illnesses and  $WC(i)$  is the worker's level benefit compensation. Not all studies of labor market VSL include the type  $q(i)$  and  $WC(i)$ . In addition there are some differences in the understanding of worker compensation. The most common is the expected rate of compensation for employees, which is a product of the risk of injury and level of yield rate of wage cuts. These differences explain some differences in the studies for the estimated VSL.

Practically there are many systematic differences that are clear in these studies. Employees with high-risk jobs tend to have lower average value of life, because they choose a very risky profession. Due to their type of work revealed selection of these individuals they are more willing to jeopardize their lives. Employees with lower-risk jobs have usually greater aversion to risk life. These differences are evident in practice because the estimated value of the live for following workers tends in average to be several times higher than for workers in very hazardous work. Other differences are correlated with worker welfare state and they are also evident. Willingness of individuals to pay to maintain their health increases with income. For example, workers have a lower value of life than the life of administrative staff.

---

<sup>5</sup> Aldy, Viscusi, 2002

These differences in VSL are also confirmed in international studies. For example for richer countries such as Japan and Canada VSL are usually higher than in countries such as South Korea, India or Taiwan. These differences are not a signal that these studies are necessarily wrong. These samples are often composed of workers with an entirely different level of risk. International comparisons for example can consistently detect differences between countries, not only the above reasons but also because of differences in social insurance and the difference in the system of measures for worker compensations.

Diversity and differences in the value of life based on the above basis, of course, vary across societies and also among the people who are in similar social level. For example smokers or people who do not use seat belts in cars run a higher risk, but it is interesting that these people are more willing to enter into the risky occupation than non-smokers or people who use seat belts, who prefer to choose the work with low risk and as compensation for the reduced risk they are willing to accept lower wages. Interesting is as well that the women are taking up employment with a higher risk.

Terminology value of life is misleading to the extent that effort to reduce the risk does not mean immortality, but simply an extension of life. The main target is not determining the value of life itself but essentially determine the value of extending life in different time periods. In the case of preventing the risk of death of a young man will be greater than to prevent the risk of death for older people.

### **LIFE-CYCLE CONSUMPTION AND AGE-DISTRIBUTED VALUE OF HUMAN LIFE<sup>6</sup>**

In spite of the above mentioned approaches are among the most used tools in determining the value of human life. We may have observed some shortcomings. One of the shortcomings lies primarily in the results, which provide information about the value of life of older people based always lower than the value of young people and middle age. This weakness is not just due to the other causes. This reason is that the above models are not connected to the value of human life cycle across the human life, even though this failure can be obvious at first sight, and key aspects of economic policy.

The correction of this deficiency is created with the concept of age differentiation in the value of life based on life-cycle consumption of life. This research from several authors is an empirical study of age structure and its impact on the implicit value of life derived from the differences in wages for workers coming from specific job segments with specific work safety. Although aging reduces the expected number of years of life it may affect the value of life through its effect on the projected life-cycle consumption. Seniors should therefore have a priori the maximum default value of life if there is a plan for life cycle in which consumption is postponed according to the age. The authors discovered that in large part because of the age structure and its corresponding consumption is not constant, the implicit value of life rises and falls throughout life, so that the value for the elderly is higher than the average for all age groups and for young people, which may have important practical consequences in economic policies, because there are relevant economic reasons for saving a statistical life for the elderly, whose life is usually measured at lower level than the life of young people - on the

---

<sup>6</sup> Kniesner, Viscusi, Ziliak, 2004

base that there is a greater relative loss in consumption for the death of the elderly than in younger .

In the previous literature there occurred often the problem that the theoretical models of quantifying the value of life during the life cycle have not been linked with market estimates of the age distribution of the value of life based on consumption. In the life cycle consumption throughout the life there is the value of life clearly the function of consumption of each individual. In contrast hedonic models do not consider value of life related to the consumption, which ignores the fundamental dependence of VSL on life-cycle consumption. Above stated research provides the first estimates of consumption reflecting the value of life which includes both the value of life and its distribution in the life cycle by age structure. The value of human life with regard to the age structure increases and then decreases and reaches the top in the age category from 51 to 56 years. After the values are beginning to fall but this is not as significant as the previous increase, so that ultimately the value of life remains for the category of 57 to 65 years still about two times higher than the young in the age group 18 to 21 years. This finding is significantly increasing the value of human life in the age groups of pre-retirement age.

## **CONCLUSION**

Although the value of human life is studied for several decades from different perspectives till recent time it has not been empirically confirmed the correlation between the human life value and consumption throughout the life cycle. For the purposes of economic policy, whether we consider the regional or environmental dimension (which it certainly has) is the above method of life cycle consumption the best because of the link between consumption throughout life and the value of life. However, the method of the life cycle throughout life, which has been described above is largely dependent on certain specific data and its availability. In the Czech Republic and its conditions we it could therefore be used to determine its modification, due to the mortality data for individual industry and occupations which are in the method of life cycle consumption needed are not available in Czech Republic. Maximum resolution for obtaining data on mortality and life expectancy is a district structure which follows the Czech Statistical Office. If we choose the data in some way to convert data similar to those contained in the above mentioned approach as the prevailing industry in the district it can cause significant distortion and it will not correspond to reality. Therefore, in terms of Czech Republic environment it can be recommended to use some modifications to take into account regional differences, in particular, which are both in terms of wage rates, and from the perspective of demographic characteristics available.

## **BIBLIOGRAPHY**

- [1] Aldy, Joseph E., Viscusi, W. Kip, 2002, The Value of Statistical Life: A Critical Review of Market Estimates Throughout the World, John M. Olin Center for Law, Economics and Business;
- [2] Fearnside, Philip M., Value of Human Life in Global Warming Impacts, 1998, National Institute for Research in the Amazon,
- [3] Kniesner, Thomas J., Viscusi, W. Kip, Ziliak, James P., 2004, Life-Cycle Consumption and the Age-Adjusted Value of Life, Harvard Law School, Cambridge;
- [4] McQueen, Josh, McQueen Morrow, Cary, Measuring Human Values, A review of the Literature Underlying the Measurement of Human Values in Survey Research, 2008
- [5] Rana, Krishan, Maheshwari, Suneel K., 2005, A Marginal Monetary Worth (MMW) Human Valuation Model, Virginia State University, Petersburg;
- Websites:
- [6] Czech Statistical Authority, <http://www.czso.cz/>;

# **ASSUMPTIONS AND OPPORTUNITIES FOR TOURISM DEVELOPMENT**

**Markéta Uhnová, Jan Zvara**

## **ANNOTATION**

Tourism as one of the most important sectors of the world economy significantly affects the view on the strategic development of cities and regions. The increasing attention is paid to this sector. This article briefly indicates the necessary conditions and opportunities for tourism development in the city of Brno and describes forms of managing of this important field of the local economy. The need for true cooperation among subjects interested in tourism is even more important than in other areas. The global trends in tourism fundamentally affect development of tourism in the city of Brno. For local government it is necessary to realize the importance of impact of tourism to the economic prosperity of the city / region and to create a clear identity of the destination.

Key words

Tourism, Urban Cultural Tourism, City of Brno, Cooperation, Development, Trends

## **INTRODUCTION**

Tourism is rightly regarded as the largest field of the world economy. Development of tourism is influenced by many factors, the most important factors are the localization conditions of natural and anthropogenic sphere, ie cultural - historical assumptions. Recently there has been continuously increasing importance of urban tourism and above all its form of cultural tourism, both at regional, national, and international levels.

In the period when globalization accompanied by a high level of competition is the main driving force, only strong, market-oriented and system-controlled entities can succeed in the field of tourism.

Conditions of services in tourism has been fundamentally changing. According to global trends, the city tourism is one of the most important forms of tourism today. One of its form is particularly short-term cultural tourism, which can be perceived and defined in two different ways. The first definition of urban cultural tourism is the movement of persons to cultural attractions to places other than their places of residence in order to obtain new information, experiences and meet their cultural needs (1). The second way of perception of cultural tourism is its confusion with the leisure activities of cultural character - there is not a necessary condition to travel and move to places other than places of residence. Both forms of leisure time spending – short-time cultural tourism and leisure activities of cultural nature are very important especially for tourism development of cities. Cultural tourism is dependent on the potential of anthropogenic sphere.

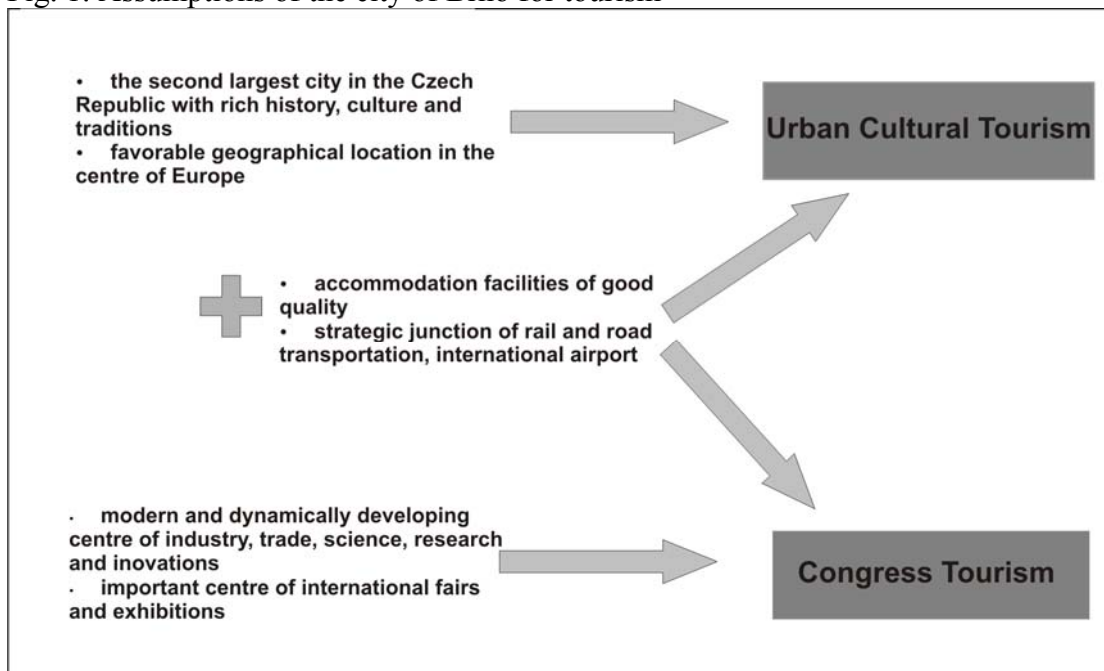
## **CASE STUDY – THE CITY OF BRNO – FORMS OF TOURISM, TOURISM MANAGEMENT**

The city of Brno in the context of tourism development is defined as cultural-historical destination particularly rich in architectural sights, cultural institutions, and regular events. Due to its location in the Czech Republic and the central Europe, the city of Brno has unique status and excellent entry conditions for the tourism development in many strategic areas.



In all activities leading to the tourism development in the city of Brno there is needed to strengthen the clear image of the city and its vision - to become a popular place for both domestic and international tourism. Cultural-historical assumptions are also a positive factor in strengthening the development of other forms of tourism, especially congress and incentive tourism. The clear profilation in the field of tourism is now necessary for the city of Brno. An important factor is to ensure the improvement of regional marketing and organization of tourism and the creation of a functioning management system for tourism development. Properly made, the action will result in an increase of tourism share in overall economic prosperity of the city and the region.

Fig. 1: Assumptions of the city of Brno for tourism



Source: authors, 2009

Development of tourism is embedded in the strategic documents of the South Moravian Region and the city of Brno. In addition to „The Regional Development strategy - the South Moravian Region“, where the support for the development of tourism is strongly accentuated, the Regional Authority of the South Moravian Region has prepared „The Programme of tourism development of the South Moravian Region 2007-2013“.

In „The City Strategy“ (the development strategic document of the city of Brno) the tourism is rooted especially in economic development pillar and quality of life pillar.

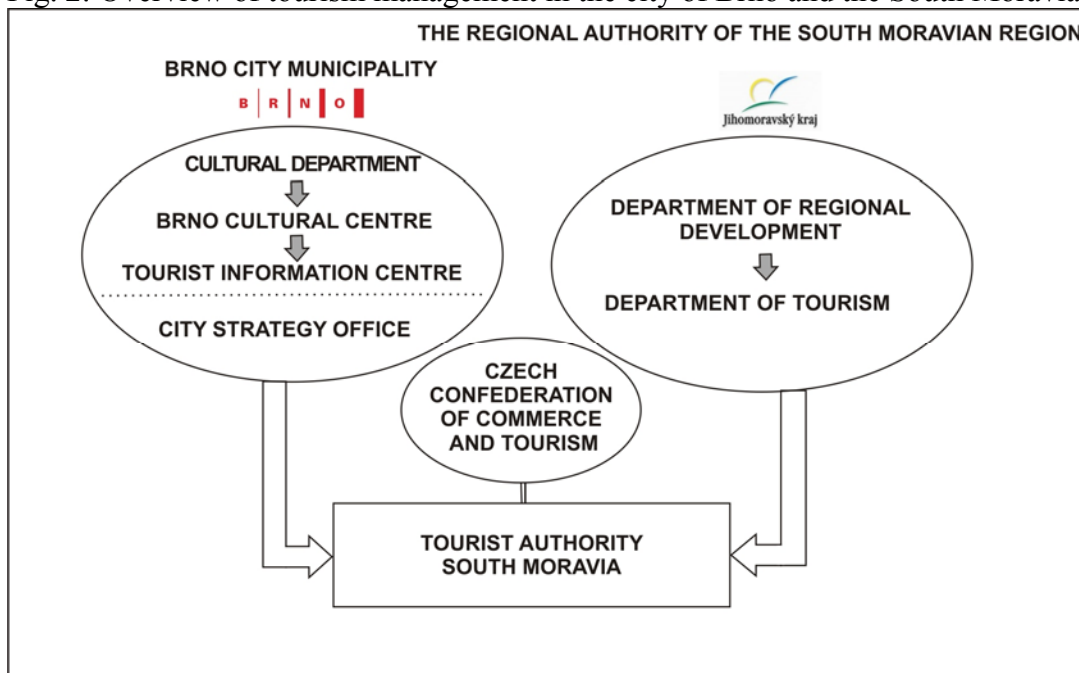
Above all, there is now processing „The Tourism Development Programme of the City of Brno 2010 – 2015“.

For all the subjects in the tourism industry operating in one region it is better to cooperate than compete with each other. To this end, the South Moravian Region, the city of Brno and the Czech Confederation of Commerce and Tourism created the organization Tourist authority South Moravia (CCR JM). Besides cooperation the main aim was to create a single „marketing brand“. Tourist authority South Moravia is funded by both, the South Moravian Region and the City of Brno. This model of tourism management is within the Czech Republic very unique (3). It is in fact strongly monocentric region with the centre of Brno, that most tourists visit and that has clearly the largest accommodation capacity in the region. Cooperation of the city and the region is therefore crucial.

## CONCENTRATION AND DECONCENTRATION PROCESSES – TOURISM INFLUENCES

An interesting factor in tourism development is its characteristic of concentration, respectively deconcentration and centralization. These effects can be observed in the natural development of tourist catchment areas. Catchment areas such as services catchment areas have the centralizing effects - for example the residents of the hinterlands (suburbs) of the large cities use the services offered by the central city - ie. the centre has attractive effects on his surroundings. Tourism in the hinterland of large cities has a different effect on the development of tourist catchment areas. Ties emerging in the direction of decentralization, ie outside of the centre are stronger than the ties from the surroundings in the internal direction. Using the Brno and his hinterlands as an example, there are seeking outside ties stronger (greater effect will be seen eg in Prague). Visitors to the city of Brno, whether „classical“ tourists or visitors of conventions and fairs explore the possibility of the visit of interesting places in the region, namely in the hinterland of the city. This link will be certainly stronger than the bonds leading from places in the hinterland to the centre (holiday tourists in the city hinterlands do not affect enough the increase in the number of tourists in the city of Brno).

Fig. 2: Overview of tourism management in the city of Brno and the South Moravian Region



Source: authors, 2009

## TRENDS IN TOURISM

In addition to cooperation between key players in the South Moravian Region, the cooperation (2) with other actors involved in tourism is equally important. Regions and cities are multi-dimensional organisms, composed of municipal/regional governments, hoteliers, restaurateurs, merchants and others. The customer, based on own lived or just perceived experiences associate together in most cases individual services and products with the entire city or region and not with the end-provider of services. The communication and cooperation with relevant actors should be a great challenge and interest of cities and regions and thereby

the quality of products and services offered across destinations would improve. By this the creating of a positive image is indirectly supported, which is an increasingly important factor in intercity and interregional competition.

Global trends (4) in tourism affect the the city of Brno as well, therefore it is necessary to capture their onsets and to adapt the conditions for tourism development in the way that these changes will be captured progressively.

Global trends affecting the tourism sector of the city of Brno:

- Increasing demand for quality, comfort and safety  
- this factor influences investors' decisions - the growing interest in increasing the number and standard of accommodation facilities
- Increasing demand for easy mode of transport - the increasing interest in air transport  
- the introduction of direct air routes to the city of Brno - a significant increase in short-term, particularly weekend stays
- Increasing demand for "one-person" products  
- change of the behavior of actors in the tourism in the postfordistic period leads back to the return of individual tourism - an emphasis on individuality, decrease of mass-tourism
- Increasing demand for off-season stays  
- increasing the number of cultural and sport events held primarily in the autumn and spring
- Increasing demand for "city-breaks" and short stays abroad  
- the introduction of air transport has led to an increase in this segment of tourism in the city of Brno

## **CONCLUSIONS AND RECOMMENDATIONS**

At present, it is necessary to realize the increasing importance of tourism for the development of cities and regions and their economic prosperity. One of the basic preconditions for successful development of tourism is creating a clear destination image and vision. There may be changes in supply and demand in the field of tourism as a result of the ongoing economic crisis.

Development of tourism is a rapidly growing "industry", which derives its dynamics from growth in living standards. Almost exclusively people from economically developed countries have time and funding for recreation. But this is one of the great risks of tourism industry, it is linked to the economic prosperity. Now in the time of the current global economic crisis, the development and functioning of tourism industry have weakened. People travel mostly from the funds that they consider as the "excess". In times of economical recession they save or use their money for necessary investment, the distribution of funding for recreation is more carefully considered. Actors and companies involved in tourism business must learn to respond to the economic recession and capture changes in behavior of tourism actors. These changes in consumer behavior and spending leisure time may vary regionally and can be

monitored by sociological and economic research.

## **BIBLIOGRAPHY**

[1] City Tourism & Culture - The European Experience, ETC Research Report N° 2005 / 1, World Tourism Organization and European Travel Commission, Brussels, February 2005, ISBN 92-990034-1-6 (ETC)

[2] Pott, A. [2007]: Orte des Tourismus – Eine raum- und gesellschaftstheoretische Untersuchung, , Transcript Verlag, Bielefeld, 2007, ISBN 978-3-98842-763-9

[3] Sborník celostátního kolegia organizací cestovního ruchu v České republice, Česká centrála cestovního ruchu – CzechTourism, květen 2008 (Anthology of National Committee of Tourism Organizations in the Czech Republic)

[4] Trends for Tourism in Europe, European Travel Commission, Brussels, November 2003

Mgr. Markéta Uhnová  
Masaryk University, Faculty of Science, Department of Geography  
Kotlářská 2, 611 37  
Brno  
76588@mail.muni.cz

Mgr. Jan Zvara  
Masaryk University, Faculty of Science, Department of Geography  
Kotlářská 2, 611 37  
Brno  
66297@mail.muni.cz

# **DEVELOPMENT OF PUBLIC SECTOR – THEORY AND PRACTICE**

# EDUCATION OF THE EMPLOYEES – A PATH TOWARDS LEARNING ORGANIZATION?

Viktória Ali Taha – Daniela Čverhová

## ABSTRACT

The contribution discusses the importance of education in the context of learning organization. It presents a picture of different approaches to learning and gives instructions and recommendations necessary for transforming organizations into learning organizations. In today's hyper-competitive environment have human resources the real value in organizations. People are one of the most important assets whose value, unlike plant and equipment, increases over time. It is necessary, likewise other property, to raise the value of the human resources. The issue of human resource development becomes extremely important area of management. The aim of this paper is therefore to highlight the need for an active approach of the organizations to training the staff and enhancing their ability to adopt and develop new skills and knowledge.

## KEYWORDS

Education, training, human resources, learning organization, knowledge.

## NATURE OF THE LEARNING ORGANIZATION

In present unpredictable changing world ceases to apply in many traditional management practices and principles. The ability quickly and continuously learn to respond to change is one of the most important determinants of success of the organization. These characteristics apply to the learning organizations. According Robbins and Coulter (2004, p. 61), „the learning organization is an organization that has the ability continuously learn, adapt and change“. The difference between traditional and learning organization is indicated in the figure below.

	<b>Traditional organization</b>	<b>Learning organization</b>
Approach to change	If it works, there is no reason to change something	Unless we will change, we will not survive
Approach to new ideas	If it is not our idea, we are not interested in	We will not reinvent discovered things
Responsibility for innovation	Traditional R&D department	Each member of the organization
Main doubts	From wrong decisions	From unlearning and inadaptability
Competitive advantage	Products and services	Ability to learn, knowledge and experience
Managers' work	Check others	Help others

**Figure 1: The difference between traditional and learning organization**

*Source: ROBBINS, S. P. – COULTER, M. Management. Praha, Grada Publishing, 2004. p. 61*

The learning organization is organization which has the ability to learn, adapt and change – this is agreed by all experts (Čverhová, 2009). Methods of traditional organization are vastly different from this new conception.

For the company's run are extremely important skills that help to make the right decisions. Traditional classification differentiate between explicit knowledge (codified or recorded) and implicit knowledge (not codified) which are embedded in people's heads. For organization is extremely important to retain knowledge hidden (often not realized) in employees' heads and to codify them.

### ***Ten steps towards a learning organization***

According Tichá (2004) on the basis of the principles of learning organization is possible to identify following basic steps:

- 1) *Evaluate the learning which supports organizational culture.* The aim is information through a questionnaire to obtain information about what individuals and groups think about their own organization. This simple assessment can bring new knowledge, ideas and opinions that should be used and developed. Also important is the processing of results and interpretation of data – available for each employee. In areas that are assessed (considered) as weak, managers are also encouraged to present a proposal to resolve the situation and problems.
- 2) *Positive support.* The key is to lead people towards positive thinking and create a pleasant atmosphere, commended them for a well done job and to highlight their mistakes.
- 3) *Reinforce a sense of security.* Important is to create an atmosphere of trust, security and confidence, support employees' initiative.
- 4) *Reward the willingness to take a risk.* Risk adoption by managers could have a strong effect on entire organization. It is important to incorporate a risk of mistakes into decision-making processes, because there is built-in mechanism how to learn from these mistakes. Managers' attempt to conceal or deny mistakes and errors leads them to do the same mistakes again.
- 5) *Helping people to cooperate.* It is necessary to use the knowledge and skills of team members, because it increases the coherence of the team as well as reinforce the sense of fellowship.
- 6) *Actuate the learning into organizational life.* Important is a presumption that each member of the organization is important for its survival. Very important is to displace the barriers in learning – logical, ethical and sensational barriers.
- 7) *Define a vision.* Shared vision is fundamental to business success.
- 8) *Put a vision in practice.* It is necessary to put specific demands on managers and accept their leadership.
- 9) *Interconnect systems.* Important is systems approach, because system is what determines individual behaviour.
- 10) *Realization of the concept.* This step is the most important. There are previous steps interconnected. It is also the result of managerial skills and abilities.

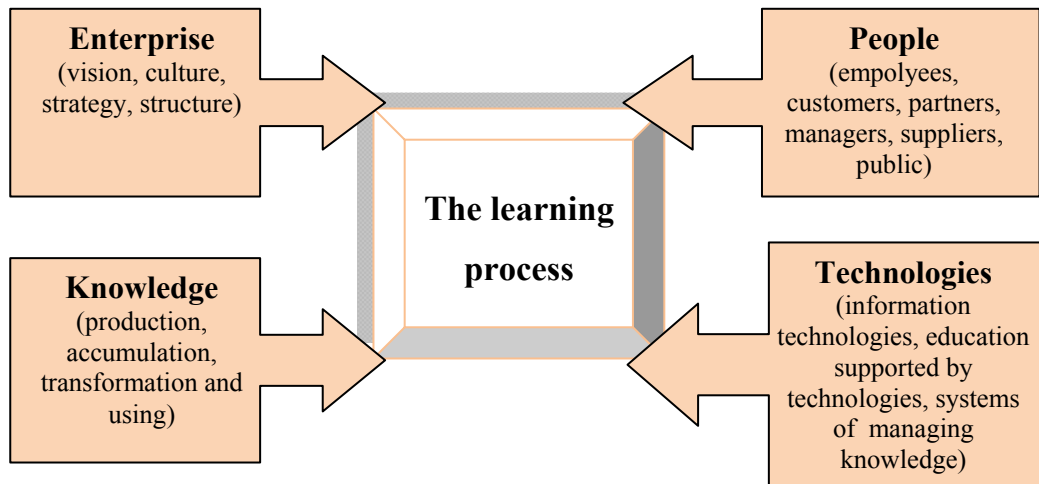
### **PILLARS OF THE LEARNING ORGANIZATION MODEL**

The process of learning, training and development is a process which meets each individual within the working process and is part of the work task no matter if individual is aware of it or not.

According to Dvořáková it is necessary to separate the terms “learning” and “learning organization”. “While the issue of a learning organization focuses on the nature and description of the systems, principles and characteristics of organizations that regard education and production as a single entity, organizational learning describes ways which help

to assert the learning, i.e. the skills and processes needed to create and use knowledge. Organizational learning is thus only one dimension of a learning organization, in addition to formal and informal education (2007, p. 314).

Learning organization is an effective tool for the acquisition and creation, storage and dissemination of knowledge and therefore has all the prerequisites needed to make itself turned into a successful organization. Model of the learning organization is thus the synergistic result of all learning subsystems, as is indicated by the following figure:



**Figure 2: Pillars of the learning organization model**

Source: DVORÁKOVÁ, Z. et al.: *Management lidských zdrojů*, 2007. p. 314

All sources, whether it is individuals and their implicit knowledge or explicit knowledge, costs time, money, effort award. Employees who fill the knowledge base and those who actively use these knowledge must therefore be rewarded (by certain fee). If in the knowledge management implication the business will meet with failure, the most common reason is that users do not have enough information in fixed time - when they need them. Such a shortage is possible to avoid by using integrated information systems, argues Dvořáková (2007). The author also states that to become a truly productive organizations must effectively use all the subsystems, which must be based on:

- open access to information
- a fair evaluation and compensation of employees
- democracy, i.e. respect for different views, including the recognition of the importance of each participating individual
- strengthening the competences of individuals and teams at all organizational levels
- valuation of all forms of learning regardless of place - inside or outside the organization (2007, s.315).

In order to strengthen accurate responses of learning individual Armstrong (in Sojka et al., 2008) recommends appreciate, encourage and motivate him to persist in learning. The positive learning process can be achieved by submitting feedback and achievements. Moreover, necessary is:

- ♦ **Motivation or docility** - people best learn when they see the result of learning - and it is worth it.
- ♦ **Significance in terms of personal interests** - the motivation will be greater if the individual perceives it as something important.



- ◆ **Learning by work** - only work can complete and finalize a real understanding of matters.
- ◆ **The right to make mistakes in a safe environment** – for people is important to know that mistakes are allowed and do not have any negative consequences for them. They also must know that trainers should help to them to learn from their mistakes. Very important is to realize and remember that even learning from mistakes can be good for person, because it can lead to more rapid knowing and understanding.
- ◆ **Feedback** – to learning people should be given some tools which allow them to evaluate their progress.
- ◆ **Scheduling** - learners should have the right to learn at their own tempo, and thus achieve greater efficiency of learning.

## **EDUCATION OF EMPLOYEES**

### **HUMAN CAPITAL CREATION**

Staff, people are considered a long-term asset whose value (assuming continuous improvement skills) over time increases. Raising the educational level leads to an increase of labour productivity. One of the most important determinants of success and source of competitive advantage of organizations and enterprises is the ability to learn, innovate and respond to changes – this ability is based on human potential. That is why the education of employees is for organizations extremely important.

In the context of explaining the role of education in achieving economic growth and prosperity, is used the concept - human capital. In educating people acquire knowledge, skills and abilities - namely capital. Return on investment into education is longstanding and it returns to individual in form of wages (or other compensation) and to organization in form of economic growth. In general, investments in people are many times greater than investments in machinery and equipment.

Human capital is one of the determinants of economic growth and, together with research and development is considered one of the drivers of knowledge accumulation and endogenous growth. According to several authors, it is a major competitor of technological progress. Human capital, as reported by Coulombe and Tremblay (2009), are acquired and useful abilities of all residents and members of society. These skills can be obtained by learning, studying and education. For a better understanding of the nature of human capital these authors indicate its two important features:

- it is a good
- it is fully connected respectively binds to a specific person

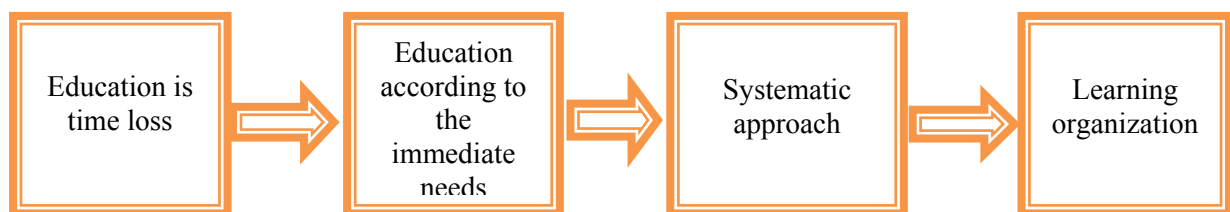
Being goods, like machinery, house or car, gives the human capital opportunity to maintain its value or utility value over time. Like other fixed assets, human capital is the result of past investments. These investments come from education, studying, learning and acquiring other skills. Moreover, human capital, like other fixed assets, subject to degradation. Devaluation of human capital may be due to aging or loss of mental and physical abilities, but may also result from technological changes that cause the acquired skills are becoming obsolete.

Another feature of human capital is that, unlike the technology, is the private goods (or competing goods), which belongs only to the person to whom it relates (to which it is connected). Human capital and technology work together in the production process - human capital (at a specific individual level) allows best use of existing technologies (Coulombe and Tremblay, 2009).

## APPROACH TO EMPLOYEES' EDUCATION

*No man come on this world ready,  
in a definitive crystallized form.  
In his life - let be any – then constantly evolves,  
continually shapes its own personality  
(V. G. Belinskij)*

A path towards a learning organization is not a smooth path. So, as developed historical period of human resources management, as companies are in various stages of the life cycle, as businesses and enterprises develop under the thumb of globalization, technology and other external influences, both developed the approaches to forms of learning organizations. The following figure describes the development of approaches to education needs of organizations.



**Figure 3: Approaches to education needs of organization**

Source: PETŘÍKOVÁ, R.: Lidé – zdroj kvality, znalostí a podnikových výkonů, 2002. s.60

Every enterprise has adopted a philosophy of education, which reflects the importance and relevance of business education. Organizations' approaches to education are different. Some enterprises in this area are completely passive and trying to acquire "ready" people from organizations and enterprises which invest in education. In contrast, other companies often waste the resources on training and educating employees, without previous identification of education needs. There is 5 well-known approaches to education and development staff, which is shared by Sillery (1997), who classifies educational opportunities to which companies can subscribe as follows:

- **Zero option**, in which companies offer only required training, arising from legal arrangements and the professional rules. Increasing the qualification and development of the staff leave only on the initiative of employees.
- **Chance approach**, where employees' training is planned, but derive from the current needs or shortages. Training courses are selected randomly. This scenario (option) is not considered effective.
- **Organized approach**, educational process is pre-planned and requirements for courses are specified in advance. This variant tends to have more efficient and effective educational process.
- **Focused approach**, the training is provided permanently and systematically on the basis of identified needs. In managing of education are involved (except the department of human resources management) all line managers. Providing educational activities is a result of cooperation with external agencies, but learning at work is strongly supported by the organization itself.
- **The concept of learning organization**, where education has new character, focuses attention on self-tuition and self-development. Learning organizations attempt to create for their employees an environment, which promotes learning and knowledge

transformation. In this concept, individuals not only acquire new knowledge and experience, but also are able and willing to exchange these knowledge, communicate, and thus enrich themselves.

## METHODS AND MODALITIES OF EDUCATION

Barták (2007) lists three basic forms of education. The first group consists of *monologic forms*, which are based on oral presentation of the lecturer and immediate relationship between lecturer and participant of education process. Such forms can include lecture, review, comment, description, reflection, and more. On active dialogic relationship between lecturer and participant or between the participants themselves are based *dialogic forms*. This group can include, for example workshops, discussions and seminars. The third forms are *group (composite, combined) forms*. Typical representatives of these forms are different courses (single form courses or period form courses), seminars, workshops and trainings.

Dvořáková (2007, p.296), depending on the type of process of transmission and acquisition of new information, indicates these forms of education:

1. ***Controlled training in the performance in the workplace (non-formal education)*** - under the supervision of an internal trainer or experienced associate employees learn to cope with new knowledge and skills in carrying out routine work tasks. For this form is typical that main organization task is to create appropriate conditions for learners.
2. ***Controlled learning outside of work at the workplace (formal education)*** - the staff is undergoing a learning process outside their workplace, for example in the training room. Lecturers may be either external or internal.
3. ***Controlled learning outside the employer's area (institutionalized education)*** - this category includes education under the national school system, particularly middle and high school education; education in the institutions which are not part of the national school system (e.g. commercial educational institutions) and education through internships and study tours. It is unlike the previous two forms longer-term process.
4. ***Uncontrolled education, in carrying out work in the workplace (informal education)*** – is naturally formed and running by observing the work of others, searching the information needed to perform his work duties or obvious entering into employment relationships. A prerequisite of this form is interest and active approach of employees and motivating employees to perform this type by the employer.
5. ***Uncontrolled education, work outside of the organization (workplace) (interpersonal learning)***, where come into play broader interpersonal relationships (both within teams) and social status of individuals within organizational units. Here can be included for example activities belonging to the informal communication, especially when the man chasing curiosity, corporate culture, which mediates and enhances the dealings, which is consistent with the shared values of the organization to the formal process, such as management of work performance, incentive or reward programs.
6. ***Uncontrolled education outside of the organization (workplace) (lifelong learning)*** - a man who wants to be successful in the labor market, takes a personal responsibility for his own development. Less and less branches can be described as requiring only specific knowledge and experience. Work and personal life requires an interdisciplinary approach to addressing common challenges and problems when the knowledge, skills and experiences from one discipline (branch) can be also applied in other activities.

Learning methods generally divides into two groups, depending on which method is the most effective in term of category of employees:

- in the workplace (on-the-job)
- off-site (off-the-job)

The first group is considered a more appropriate method for educating employees. The second is suited for training and educating managers and specialists. In practice, both groups are used for all categories of staff with some small modifications, which are related to differences in workload for different positions (Frk, 2005).

### ***„On-the-job“ methods***

These methods are mostly implemented in the workplace and the organization's area. It is an education, which mostly simulates the real working environment. They can be used for orientations and training and educating new employees or employees moved to a new position in the organization. The aim of these methods is to put a participant into real work situation and some of the experienced colleagues teach him how to proceed and work.

In this mode of education must be clear who can train, what the scope of the training is, and how long should run the training or education. It is necessary to test the training staff before and after training or education (Bajžíková et al., 2004).

One of the most commonly used forms of „on-the-job“ education includes **coaching** (couching), **mentoring**, **counselling**, **consultations**, **instruction in the execution of work (workflow demonstration)**, **rotation of staff**, **assisting and self-education**.

### ***„Off-the-job“ methods***

Regarding the direct link to the real work the training (educating) methods outside the organization can be considered particularly as indirect forms of education. These methods encourage the transfer of teaching material between instructors and students. (Bajžíková et al., 2004)

In the past, different forms of employees' education particularly rose under the pressure of practice. After Second World War, training staff (short term - one-time or long term) became the basic form of education. Currently, there are many new forms, namely **lectures**, **seminars**, **conferences**, **symposia**, **workshops**, **congresses**, **projects**, **discussions**, **case studies**, **courses**, **simulations**, **action learning**, **e-learning**, **multimedia training** and frequently used are **councils**.

### ***Other methods of educating employees***

In organizations staff training and education takes place in various forms. Effective results and needed change always depend on the choice of appropriate forms and methods of education, but also on the good analysis of training needs. In regard of the rapidly changing society in recent years was created a relatively wide range of different methods of learning.

Dynamically developed is also the **training of managers and executives**. Limitation to obtain information or skills in laboratory conditions, eventually through modeling, is replaced by orientation on personal development in the real environment. It evokes the need to reach for stronger incentives - for experience of a real risk, discomfort of nature and know of himself and his colleagues in non-traditional situations.

One form of training managers by this modern approach may be **Outward Bound**, which relies on intense experience of overcoming obstacles and himself, experience of contact with nature and with others. This method is used mainly by large companies (such as: British Airways, DHL, Shell, Nestle, Kodak and many other foreign companies). In Slovakia is

unusual to lead managers through training associated with recreation, to replace suits by sports wear suits or the classroom by the nature.

By means of non-traditional way – a **combination of outdoor and indoor**, we can develop a business and presence skills of the employees.

## CONCLUSION

Companies, people and public must be aware of the fact that to the four recognized freedoms (free movement of goods, free movement of capital, free movement of services and free movement of persons) and the EU principles was added another - the fifth freedom. This freedom is the knowledge, skills and all intellectual capital, which is owned by a man. This freedom is only in people's minds. As the experts for regional development argues (Štefko-Sojka, 2009) to bring benefits and competitive advantage for individuals, businesses and entire region this freedom must be recovered. Investment in people in enterprises is more beneficial (approximately three times) than investment in equipment. Therefore, enterprises must consider on education, stabilization and motivation of his staff. No machine will invent something, will bring innovation. Machines unlike people lose the value in the time. Development of human potential means not only choice of the right people, but also linking them in correct way – so they will be able to cooperate and systematically develop knowledge in organization. The main competitive advantage in recent years is innovation, learning and constant change, which are based on human potential of the organization.

## BIBLIOGRAPHY

1. BAJZÍKOVÁ, E. a kol. 2004. *Manažment ľudských zdrojov*. Bratislava : Univerzita Komenského, 2004. ISBN 80-223-1910-4.
2. BARTÁK, J. 2007. *Vzdělávání ve firmě*. Praha: Alfa Publishing, 2007. ISBN 978-80-86851-68-6.
3. BUTORACOVÁ-ŠINDLERYOVÁ, I.: *Model marketingového inštrumentária pri akceptácii projektov v procese zvyšovania konkurenčnosti regiónu*. Prešov: PU v Prešove, Fakulta manažmentu 2009. ISBN 978-80-8068-802-8.
4. COCUEOVÁ, J. *Stratégia regionálneho rozvoja ako nástroj zvyšovania konkurencieschopnosti regiónu*. In: Implementácia špecifických znalostných a marketingových modelov a nástrojov v regionálnom rozvoji: zborník vedeckých štúdií z výskumného grantu VEGA č. 1/4638/07 a Centra excelentnosti výskumu kognícií CEVKOG / Róbert Štefko (Ed.). - Prešov: Fakulta manažmentu PU, 2009. ISBN 978-80-555-0060-7.
5. COULOMBE, S. – TREMBLAY, J. F. 2009. Education, Productivity and Economic Growth: A Selective Review of the Evidence. In: *International Productivity Monitor*. Ottawa: Spring 2009. , Iss. 18; pg. 3, 22 pgs. ISSN 14929759. [online]. [cit.2.10.2009]. Dostupné na: <<http://proquest.umi.com>>
6. ČVERHOVÁ, D. 2009. *Učiaci sa organizácia ako kľúčový zdroj konkurenčnosti*. In: Implementácia špecifických znalostných a marketingových modelov a nástrojov v regionálnom rozvoji: zborník vedeckých štúdií z výskumného grantu VEGA č. 1/4638/07 a Centra excelentnosti výskumu kognícií CEVKOG / Róbert Štefko (Ed.). - Prešov: Fakulta manažmentu PU, 2009. ISBN 978-80-555-0060-7.
7. DVOŘÁKOVÁ, Z. a kol. 2007. *Management lidských zdrojů*. Praha: C. H. Beck, 2007. ISBN 978-80-7179893-4.
8. FEDDERKE, LUIZ Fedderke, J. W. – Luiz, J. M. 2008. Does human capital generate social and institutional capital? Exploring evidence from South African time series data. Oxford Economic Papers. Oxford: Oct 2008, Vol. 60, Iss. 4; p. 649 (34 pages). ISSN 00307653. [online]. [cit.2.10.2009]. Dostupné na:<<http://proquest.umi.com>>

9. FRK, V. 2005. *Systém a organizácia profesijného vzdelávania zamestnancov*. Prešov : Grafotlač, 2005, s. 217. ISBN 80-8068-397-2.
10. GBUROVÁ, J. 2009. *Uplatnenie verejnej správy v rozvíjajúcich sa regiónoch EÚ*. In: Zborník z medzinárodnej vedeckej konferencie „Decentralizácia a efektívnosť verejnej správy v podmienkach regiónov EÚ. Banská Bystrica: Univerzita Mateja Bela, Fakulta politických vied a medzinárodných vzťahov, 2009. ISBN 978-80-8083-836-2.
11. GUNASEKARA, CH. 2004. The third role of Australian universities in human capital formation. *Journal of Higher Education Policy and Management*. Carfax Publishing, Vol. 26, No. 3, November 2004. ISSN 1469-9508 online/04/030329-15.
12. PETŘÍKOVÁ, R. 2002. *Lidé – zdroj kvality, znalostí a podnikových výkonů*. Ostrava: Dům techniky, 2002. 241 s.
13. ROBBINS, S.P. – COULTER, M.: *Management*. Praha: Grada Publishing, 2004. ISBN 80-247-0495-1. 600 s.
14. SILLER, J. 1997. *Řízení vzdělávání pracovníků*. Personál č. 9
15. SOJKA, L. – ČVERHOVÁ, D. – HANČOVSKÁ, E. – KÓBŮL, A. – SÝKOROVÁ, M. 2008. *Riadenie ľudských zdrojov*. Prešov : PU v Prešove, 2008. ISBN 978-80-8068-871-4.
16. SÝKOROVÁ, M. 2008. *K niektorým právnym aspektom znalostného manažmentu*. In: Znalosti a ich transfer pri akcelerácii regionálneho rozvoja a dosahovaní konkurencieschopnosti regiónu: súbor vedeckých štúdií projektu VEGA č. 1/4638/07 a Centra excelentnosti výskumu a kognícií CEVKOG / Róbert Štefko (Ed.). – Prešov: Fakulta manažmentu PU, 2008. ISBN 978-80-8068-890-5.
17. ŠTEFKO, R.-SOJKA, L. 2009. *Model kreovania a fungovania regionálnych zoskupení na báze znalostnej ekonomiky*. In: Implementácia špecifických znalostných a marketingových modelov a nástrojov v regionálnom rozvoji: zborník vedeckých štúdií z výskumného grantu VEGA č. 1/4638/07 a Centra excelentnosti výskumu kognícií CEVKOG / Róbert Štefko (Ed.). - Prešov: Fakulta manažmentu PU, 2009. ISBN 978-80-555-0060-7.
18. TICHÁ, I. 2004. *Učíci se organizace*. Brno: B.I.B.S, 2004. ISBN

**Contact:**

Ing. Viktória Ali Taha  
 Fakulta manažmentu Prešovskej univerzity v Prešove  
 Ul. 17. novembra č.1, Prešov, 080 01, Slovakia  
 e-mail: [alitaha@unipo.sk](mailto:alitaha@unipo.sk)

Mgr. Daniela Čverhová  
 Fakulta manažmentu Prešovskej univerzity v Prešove  
 Ul. 17. novembra č.1, Prešov, 080 01, Slovakia  
 e-mail: [danka.cverhova@gmail.com](mailto:danka.cverhova@gmail.com)

# **INTERGENERATIONAL REDISTRIBUTION AND SOLIDARITY AS AN INTEGRAL PART OF A PENSION SYSTEM**

**Dana Hálová**

## **ANNOTATION**

Demographical ageing is one of the challenges for the 21st century. Increasing longevity and decreasing fertility are main drivers to population ageing. All around the world new debates on new significant changes to many of our institutions and pension reforms have arisen. They are based on a shift in the demographic structures of the societies which will influence the way of our lives. Many economic studies on pronounced demographic ageing have been published and many questions on the future of pension systems and on the underlying principles of intergenerational redistribution and solidarity appeared. On the basis of information derived from my research I want to present some approaches to intergenerational redistribution and solidarity in connection with the pension system and its reform. The paper aims to show answers on a simple question: why yes, why not? Why it is (or it is not) appropriate to give preference to pension systems based (not based) on intergenerational solidarity?

## **KEY WORDS**

intergenerational redistribution • intergenerational solidarity • social solidarity • pension system • pension reform • demographical ageing

## **INTRODUCTION, AIM AND METODOLOGY**

A change in the age structure was, is, and will be an issue not only in terms of political agenda. With every birth or demise of a human being the age structure of the population changes, sometimes to the benefit, sometimes contrary to the benefit of the current social, political and economic systems. The ageing of the population – as the situation is called when the numbers of old people grow in proportion due to extending life expectancy while simultaneously the birth rate decreases – is reflected in concerns about proper financing not only of pension systems but also health care systems or in concerns about its influence and consequences on the labour market. An increasing level of dependency of a non-active population on an economically active population generates concerns about costs and legitimacy of the burden for future generations. A solution to a situation arising under this adverse demographic trend can be sought through cosmetic modifications of the existing rules, especially in terms of tightening up the conditions for a pension entitlement, lowering of benefits or raising of contributions, or through a system change, although both these solutions are highly politically and socially sensitive measures. It is in order to take interest in the ability and willingness of the society to participate in the system and respond to the negative consequences resulting from the adverse demographic development, it is in order to ask whether it is appropriate to base financing of the pension system on intergenerational solidarity and redistribution. The aim of this paper is to define the presence of intergenerational solidarity and redistribution for individual types of pension systems and seek reasons why it is (or it is not) appropriate to give preference to pension systems based (not based) on intergenerational solidarity.

## RESULTS

### Typology of pension systems

Pension systems based on the aforementioned attributes are broadly used in advanced economies. Let us have a closer look at individual types that can exist in their pure form but as a rule tend to be applied in combinations.

As to the method of financing we can distinguish between continuously financed pension systems and funded ones (for the purposes of this text we could perhaps specify this division further by referring to systems with intergenerational solidarity based on continuous financing and funded systems without intergenerational solidarity) and specify both groups closer in respect of the relationship between the contribution and the benefit. Specialists focusing on this area (e.g. Jahoda, 2005:20, Krebs 2005:194, Klimentová, 2001:22) agree that pension systems can be divided into four alternatives as to the aforementioned and other partial basic characteristics.

The first of them is a continuously financed system in which benefits are defined, the system also being known as PAYG (pay-as-you-go). Within this system an economically active individual pays during their working life contributions determined as a percentage rate calculated on the income. Collected finances are used within this type of a pension system in the same period to pay pension benefits defined in advance to existing pensioners. If the source of means for financing benefits is income taxes and progressive taxation the tax burden increases with increasing incomes, people with high incomes contribute more to the system but get relatively less than people with lower incomes. If the source is contributions into the pension insurance scheme the level of income redistribution is lower than in the preceding case because contributions are determined as set percentage of the income<sup>1</sup>. The yield level of PAYG pension systems depends on a demographic development as it is determined, if the contribution rate is stable, by the growing amount of collected premiums that derives from the wages development and the number of people who pay contributions. This system is obligatory and guaranteed by the state and being put into practise the intergenerational solidarity amounts to a maximal level since contributions of economically active people are fully used to pay benefits to generations that are no longer economically active.

The second type of the pension system is very similar to the previous one. It is again a PAYG pension system which is based nonetheless on defined contributions. It is also based on payment of benefits in the period that is identical with the period of collection of means for the financing of the system but the benefits depend on the size of paid contributions during an individual's active working life and do not demonstrate such a level of certainty as far as their amount is concerned. The same as in the preceding case intergenerational solidarity is applied to a very high level.

Neither of the above described pension systems must necessarily manifest intergenerational solidarity. In a situation when the yield of every generation within the continuously financed system would be stable and unvarying in time in relation to the changes of numbers in individual generations every generation would get as much as the previous one or the next one and the degree of this obligation would be stable in time and independent of demographic factors and the system as such would not manifest intergenerational solidarity. (Výkonný tým 2005:61)

---

<sup>1</sup> Income solidarity and redistribution would be a suitable topic for another paper. Nonetheless this text will focus only on intergenerational solidarity and redistribution.



With the other two pension systems (they are generally designated as funded pension systems) that are characterised by private administration and capital financing the amount of benefits depends on the amount of paid contributions. The responsibility for payment of benefits is transferred to an individual and there is no room for solidarity. The yield is determined by revenues from assets on the financial market and appertaining administrative costs and does not directly depend on a demographic development – nonetheless it is not fully immune to it. If the system has defined contributions the growing life expectancy and unchanging age limit for retirement lead to a decrease in the amount of newly granted pensions.

A funded system with defined contributions is designated as FDC (fully funded defined contribution). The paid contributions are deposited to private accounts with the assumption that their value will increase through trading on financial markets and on retiring the contributions are counted according to the life expectancy and the amount of savings including their possible appreciation.

The last type according to the chosen method of division is a funded system and this time it is a system with defined benefits. This type represents voluntary supplementary pension schemes in the form of individual insurance, e.g. in the case of pension funds.

### **Solidarity and redistribution**

There are more ways how an individual can provide for their old age: by engendering and bringing up children who will hopefully look after them when they retire, by postponing current consumption and creating savings on a private basis and thirdly, by participating in a social insurance programme.

In previous times when there were no pension systems whatsoever a livelihood for the old was provided by their descendants. The more children a parent had brought up the better chance he or she had they would look after him or her in old age. Bringing up great numbers of children was an investment (even if this was probably not the first and only intention) that was paid interest upon in old age. „Forms of economic support for the elderly have always existed. In pre-industrial times, this was primarily a private matter. Under many forms, and frequently with limited success, caring for the aged was the responsibility of families and households. (...) With the industrial revolution and the urbanisation process that ensued, proximity and therefore also solidarity between family members declined, and alternative systems of a collective nature developed gradually for the economic protection of the elderly. (...) These arrangements were originally fully funded but in most cases, at least in Europe, and for a variety of reasons, turned later to Pay-As-You-Go.” (De Santis, 2003:557-8) A socialised system of intergenerational transfers has become a substitute for a private intergenerational transfer.

The system of intergenerational transfers is based on social solidarity. Social solidarity is one of the basic principles on which coexistence with other members of the society is based. “Social solidarity (mutual support, a sense of belonging) relates especially to the creation and distribution of life conditions and means of individuals and social groups (...) in the interest of fulfilment of the idea of social justice. (...) It is an expression of the fact that a man is a social being. As such he always and in every circumstance depends to a certain extent on others, he is dependent on coexistence in a society as a whole. Solidarity is an expression of human understanding and communality, mutual cohesion and also responsibility. It is inspired by an effort to unite interests, especially as far as material life conditions are concerned, which is based on the free will of people and their willingness to conform to the interests of a

wider community. (...) Nonetheless it is always necessary to weigh the extent to which solidarity organised by the state (society-wide solidarity) is to be fulfilled.” (Krebs, 2005, 32-34)

Social solidarity is fulfilled through a redistribution policy of the state which defines who the means are to be allotted to, what sources these means are to be gained from and who is to be entitled to them and what the rules for this entitlement are to be. Redistribution mechanisms fulfil the plain essence of solidarity and by the level of this solidarity the society expresses what is recognised as desirable and to what extent. The redistribution level is unique to every given community, it changes in time and in dependence on the development of preferences of the society that executes it.

Intergenerational solidarity can be as a term interpreted, as e.g. Logan, Spitze 1995:354 did, in two ways: „ (...) the concept of “generation” refers to cohorts of persons born at different times, without taking into account the interpersonal bonds linking people of different ages. A second level exists within the family, where “generations” are defined by kinship ties.“ To that the authors add that relationships and motives between generations for both above described levels of intergenerational solidarity are based on altruism and self-interest. Van Oorschot (in Sirovátka 2000:179) identifies in a similar manner four main motives for solidarity: individual (long-term) self-interest, a moral obligation towards the community, a sense of belonging and identification with a society (community) and finally enforcement by a (respected) authority. As Sirovátka further states (ibidem: 180) self-interest (a possible expected individual benefit) is the main motive behind solidarity and therefore it is important to what extent its contribution corresponds to individual expectations of the benefit from its procurement. The individual self-interest is definitely also a pronounced motive for participation in pension systems based on intergenerational solidarity.

#### **Why one should (should not) prefer pension systems based (not based) on intergenerational solidarity**

Every pension system reflects preferences of a given community. Generally speaking it is recommended for systems based on continuous financing that they diversify their risks arising from the system functioning in the pure form and head for future development of a limitation on intergenerational solidarity through incorporation of funded types of pension schemes. Why is that so?

*Demography.* A PAYG pension system based on intergenerational solidarity is to a great extent sensitive to a demographic development, or to be more precise, to the decreasing birth rate and increasing life expectancy. If the level to which economically non-active people depend on those economically active increases the system’s yield decreases and results in deficits in the sphere of the public finances. Short-term and less intensive oscillations are manageable, nonetheless long-term diminishing in numbers of those who contribute to the system leads to a lack of means for financing. A fund-financed pension system is influenced by a demographic development only partially which happens when contributions to the system are defined. As a result of an extending life expectancy with the retirement age being stable the amount of paid benefits decreases.

*Politics and political manipulation.* Since PAYG systems are, usually as a rule, part of the public finances and are administered publicly their rules can directly be influenced by political interference. Funded systems can also be influenced to that effect but to a lesser extent and indirectly. If a society agrees that redistribution (income or intergenerational

redistribution) is desirable to prevent indigence then a PAYG system is a good tool for implementing a redistribution policy. A funded system does not provide for such an option.

*Capital market.* A funded type of a pension system is by its very nature dependent on the development of the situation on capital markets. On entering the capital market every investor runs a risk and for various institutions one can expect various yields. In the case of an unfavourable development on the capital market or in the overall economic situation of a country it can happen that individuals will lose their yields and it will be up to the state to take care of them in the same way as it does e.g. in the case of those who have not managed to put away enough money for their retirement due to low incomes. On the other hand a funded type of a pension system can contribute to the development of a capital market or even to the economic growth. Not even the continuous system is totally immune to economic troubles. Economic factors influencing the amount of the yield of the continuous system can have a negative impact on this system, as an example of this we will look on unemployment and the development of the labour market in the following paragraph.

*Labour market.* If we take into account possible increasing unemployment and the fact that yields from PAYG systems are mostly financed from social insurance or taxes then the increasing values of this economic indicator (unemployment) can lead to an unbalance in the pension system and alternative ways to cover the deficit will be sought. If the PAYG system in question is based on defined benefits a motivation for economic activity or for remaining on the labour market even after one has reached the limit that entitles them to benefits is weak as compared to a motivation under the funded system or under the PAYG system with defined contributions. That is to say that if the future benefit is directly derived from the sum of contributions paid within the economically active life an individual is motivated not only to participate in their employment (and thus the benefit discourages from an early retirement) but also to remain on the labour market even after they have reached the age that entitles them to the benefit.

There are indisputably many more strengths and weaknesses to every variant of the pension system (we could furthermore name e.g. the size of administrative costs related to the administration of the system, allowing for inflation, the intensity of repercussions if the system fails, costs on transition to another variant, etc.). For the purposes of this article let their enumeration be finished with the statement that it is the very variability of advantages and disadvantages of individual variants that gives space for diversification aiming at lowering of risks of the pension system as a whole.

## CONCLUSION

Intergenerational solidarity is an essential attribute of PAYG pension systems. It is put to practise due to redistribution mechanisms whose appearance and functioning is based on social consensus. In relation to the functioning of the pension system intergenerational solidarity is implemented with the objective to prevent unwanted poverty of people in old age. A motive for acceptance of intergenerational solidarity and for participation in the pension system that incorporates intergenerational solidarity is, to a great extent, if not exclusively, simple individual self-interest and the expectation of a yield in future.

Pension systems are unique in every country and are conditioned (not only) by economic options of a country. Sooner or later these systems require modifications with the aim to lower deficits, if they generate them. Out of the available variants it is obvious that the best

variant will be the one with the least negative impact on the smallest possible part of economy and the life of participating people.

It is the very variability of advantages and disadvantages of various types of pension systems that makes possible to combine them simultaneously in such a way in which a shortcoming of one variant is counterbalanced by an advantage of the other one. While complementing one another a suitable setting of a combination of the types of pension systems and their individual parameters can alleviate the negative repercussions of their own functioning. First of all it is necessary to find consensus on what the pension system should look like. It should be of the public interest to secure basic minimal protection of people when their economically active life is over. A private interest should be an effort to secure for oneself a certain relative above-standard living in old age. To an extent to which providing for an old age is of public interest it should be secured by the state. To an extent to which it is of private interest everybody should take care of themselves. It is predominantly a task of determining the right ratio between these two interests.

### BIBLIOGRAPHY

- [1] DE SANTIS, G. (2003): *The Demography of an Equitable and Stable Intergenerational Transfer System*. In Population, Vol. 58, No. 6, page 587-622
- [2] JAHODA, R. (2005): *Alternativy penzijní reformy-implikace pro Českou republiku*. Masaryk University, Faculty of Economics and Administration, Brno, 196 pages
- [3] KLIMENTOVÁ, J. (2001): *Možnosti uspořádání důchodového systému*. In Národní pojištění, Vol. 32, No. 8-9, page 21-30
- [4] KREBS, V. a kol. (2005): *Sociální politika*. ASPI Praha, 502 pages, ISBN 8073570505
- [5] LOGAN, J.R., SPITZE G.D. (1995): *Self-Interest and Altruism in Intergenerational relations*. In Family and Household Demography, Vol. 32, No. 3, page 353-364
- [6] SIROVÁTKA, T. (2000): *Česká sociální politika na prahu 21. století: efektivnost, selhávání, legitimita*. Masaryk University, 236 pages, ISBN 8021023074
- [7] VÝKONNÝ TÝM (2005) [online]: *Závěrečná zpráva*. MPSV, 119 pages, [www.mpsv.cz](http://www.mpsv.cz)

Ing. Dana Hálová  
Masaryk University, Faculty of Economics and Administration  
Lipová 41a  
Brno  
[halovadana@mail.muni.cz](mailto:halovadana@mail.muni.cz)

# TIME REQUIREMENTS OF DOCTORAL STUDY PROGRAMS

Tereza Kadeřábková, Jitka Pokorná

## ANNOTATION

The efficiency of the doctoral study program at the Faculty of Economy and Management at the Czech University of Life Sciences Prague (CULS) is about 9 %. In the research we analyzed possible reasons for the doctoral study programme dropouts at CULS and identified the most frequented ones. Our key findings, presented in this paper, reveal a significant difference in time requirements within doctoral study depending on affiliation to a specific faculty/department. The paper contributes to the debate regarding how to possibly influence retention of doctoral students. Our results related to drop-outs of students are significant and usable in the restructuring process of doctoral study programmes at CULS.

## KEY WORDS

doctoral study, retention, drop out, time requirements

## INTRODUCTION

In the retention research is necessary to take into account the fact that the retention does not only concern the attaining of an academic degree but that it primarily involves the fulfilment of student's expectations and objectives reflecting his aspirations towards education. These objectives, however, do not represent only study aspirations but also life aspirations and the lifestyle of a given student.<sup>1</sup>

The character of retention is psychological in the sense of recognition, evaluation and solution of factors which may disrupt student's success within his study programme that is unexplained, unfulfilled and that runs without changes or modifications.<sup>2</sup> These facts interact along with student's personality and environment. Retention environment forms the academic establishment with the inclusion of the dispositions, norms, required performance, sources and opportunities the institution provides.<sup>3</sup> It also points out that the sources of retention influences emerges not only from academic environment but that they as well involve the job, accommodation, health and health care, transport and many immeasurable influences such as self-encouragement, self-assurance and emotional support. Other influences comprise cultural environment, family and student's working group. Student's activities during the course of their studies exhibit much more significant influence on their study results than their personality, place of origin and the university they study at.<sup>4</sup>

During the last 35 years the theoretical models of university and postgraduate student retention were developed. They describe the factors influencing the retention and those causing the dropout. The initiators of inquiries into retention were e.g. W. G. Spady or Astin, A. W.<sup>5</sup> As it is indicated in Andres' and Carpenter's studies, these models originated on the grounds of the variables of student's complex and dynamic nature, the variables of educational institutions and of specific themes such as student integration within the universities. These observations represented a significant contribution in terms of the development of theoretical models. Nevertheless, the beginnings of the research concerning

---

<sup>1</sup> Moxley, Najor-Durack and Dumbrigue (2004)

<sup>2</sup> Moxley et al., (2004)

<sup>3</sup> Moxley et al., (2004)

<sup>4</sup> Kuh, Kinzie, Schuh, and Whitt, (2005)

<sup>5</sup> Napoli, Wortman, (1998)

the student attrition were predominantly descriptive instead of becoming a generally applicable basis for the research of this issue.<sup>6</sup>

The foreign universities approach the problem of retention in an active way, which is reflected by the creation of key performance indicators (KPIs - Key Performance Indicators) representing in the area of education development the already mentioned retention rates. Moreover, it also concerns for instance the satisfaction with education, education quality, costs related to one student etc. Following these indicators, the reasons for student dropout are identified and the strategies aiming at student retention at universities are elaborated.<sup>7</sup>

The problem of university student retention is still not a fully developed and appropriately monitored area on the part of universities in the Czech Republic. Information on university student retention rates may be found in annual reports on university activities in numeric representation for particular years as they are specified by the Ministry of Education, Youth and Sports in the section of study and pedagogic activities, part on study failures (for fields, study programmes, years, faculties, and the whole university).<sup>8</sup> The importance of retention research consists in the fact that the research results, related to the reasons leading the students to leave the university during the course of study, may be used in the field of management and the restructuring of study programmes. They represent the essential basis and make a way in the search of proposals and solutions for the treatment, elimination and possible improvement of existing situation along with the increase in the effectiveness of university study.<sup>9</sup>

A phenomenon frequently occurring during the doctoral study at Czech University of Life Sciences Prague is the high dropout rate. Our research focusing on the identification of factors resulting in postgraduate student dropouts is based on Benjamin's Quality of Students Life model. The research results identified time consumption, department barriers, job opportunities, financial standings, not least problems with thesis. The time requirements as a term, is in this research formulated in degree of consent and possibility to follow non-study activities.

## AIM AND METODOLOGY

As the research is focused on the revelation of dropouts incentives, this particular paper is focused on a particular dropout factor, time requirements of a doctoral study in significant relations with other variables e.g. faculty, non-study activities (employment), time of study. Content analysis of secondary data sources of CULS faculties is applied along with own primary data collection carried out by methods of questionnaire survey. In order to achieve the research objectives, the questionnaire was compiled on the basis of eight indicators influencing student's subjective well-being:

1. Satisfaction (cognitive)
2. Happiness (affective)
3. Multiple life domains (on and off campus)
4. Short-term past (events occurring within two weeks)
5. objektive circumstances
6. Institutional circumstances
7. Psychosocial factors
8. Meaning structures<sup>10</sup>

---

<sup>6</sup> Andres et al., (1997)

<sup>7</sup> Švec, (2006)

<sup>8</sup> Švec, (2006)

<sup>9</sup> Menclova, Bastova, Kronradova, (2004)

<sup>10</sup> Benjamin, (1994)

Consequent utilization of the method of focus groups within pre-research, facilitated modification of the framework of dropouts incentives, with due regard for the CULS conditions.

The questionnaire was sent by e-mail to the graduates, previous and current students of doctoral study programs on all the faculties of CULS. In the terms of time scale, the questionnaire was sent to the students enrolled for the doctoral study programs after the change of the Higher Education Act 111/1998 Col., it means students enrolled in the years 1998/1999 until the years 2007/2008. Of 913 questionnaires 420 responses were returned with usable data producing the responses rate of 46 per cent. Of the 420 respondents, 114 were from Faculty of Agrobiological Sciences, Food and Natural Resources, 109 from Faculty of Economics and Management, 57 were from Faculty of Environmental Science, 57 were from Faculty of Engineering, 52 were from Faculty of Forestry, Wildlife and Wood Science and 31 were from Institute of Tropics and Subtropics.

The results of questionnaire survey comprising responses of 420 students were consequently statistically tested and hypotheses based on dataset were verified. Given the exploratory nature of this study, basic descriptive statistics as absolute and relative rates were used for examination. Within the analysis, the relations between statements of full-time study students to the questions about employment during the study was tested. We use chi square analysis to verify dependence and Cramer's V to diagnose the strength of the dependency.

To enable testing of dependences within selected questions and firstly fulfil the condition for testing, the broader scales of answers needed to be clustered together. This was the fact that limits the results of the research essentially.

## RESULTS

The findings show differences in perception of time requirements of a doctoral study in dependence on affiliation to faculty. We found that students of natural sciences consider their study more time requiring in comparison with technical or social sciences. 81 per cent respondents of the Faculty of Environmental Science consider their study too time requiring on the contrary 54 per cent of the economics and management students agree.

There was found statistical relation of statement "I find doctoral study too time requiring" and affiliation to faculty. Originally four-scale (definitely agree, rather agree, rather disagree, definitely disagree) was simplified into two alternatives "agree" and "disagree" and test conditions were satisfied. There was found low - average relation, Cramer's  $V = 0,28$  (see Fig.1 for detailed results).

Next aspect explaining time requirements of a doctoral study gets together statement questioned above and ability to work outside of CULS. We asked whether working outside of CULS is possible during the study. The results differ in affiliation to faculty, students of Faculty of Agrobiological Sciences, Food and Natural Resources and engineering students differ mostly. The 60 per cent respondents the Faculty of Agrobiological Sciences, Food and Natural Resources disagree with the possibility to work outside the CULS during the study in comparison with 14 per cent of the engineering students. Students also stated that 46 per cent of them work outside of CULS during the study and 30 per cent are employed by CULS.

Relation among statement „The study makes me busy that I cannot be employed outside of CULS“ and the affiliation to faculty has average value. Originally four-scale (definitely agree, rather agree, rather disagree, definitely disagree) was simplified into two alternatives "agree" and "disagree" and test conditions were satisfied. There is found Cramer's  $V = 0,31$  (see Fig.1 for detailed results).

In terms of ability to work outside the CULS we asked whether the employment during the study is tolerated by the department. There are also differences across the faculties. 73 per cent of engineering student agree with the tolerance of employment by the department on the

contrary 40 per cent respondents of the Faculty of Agrobiolgy, Food and Natural Resources agree with the possibility.

There was found average relation of affiliation to faculty and statement „Employment outside the CULS is tolerated by the department“. Originally four-scale (definitely agree, rather agree, rather disagree, definitely disagree) was simplified into two alternatives “agree” and “disagree” and test conditions were satisfied. There is found Cramer’s  $V = 0,36$  (see Fig.1 for detailed results).

Fig.1 Statistical analysis results

	Relation of affiliation to a faculty and statement		
	“I find doctoral study too time consuming”	„The study makes me busy that I cannot be employed outside of CULS“	„Employment outside the CULS is tolerated by the department“
Pearson’s chi-sq, df=5 (p)	0,00398	0,0012	0,00005
M-V chi-sq.	0,00272	0,00082	0,00003
Contingency coefficient	0,27705	0,29675	0,34154
Cramer's V	0,28834	0,31075	0,3634

Source: own calculations

## CONCLUSION

Time requirements was included into key factors leading to doctoral study drop out. Following the segmentation of Benjamin’s method<sup>11</sup>, it is possible to separate the derived factors into particular areas, which enables better orientation in the amount of both individual and general factors influencing the retention of doctoral students at CULS. Social factors represent the category comprising in most cases family and personal problems. Financial assurance is covered by means of bursary, grants or bonuses. The level of individual factors includes the integration into the department’s collective or the other respondent’s concerns, e.g. non-scholar activities. In terms of university administration and academic factors the research results identified the problem of unsatisfactory interconnection of faculties and departments with respect to the possible mutual cooperation of students on research activities or non-study projects at their department, e.g. of pedagogical or administrative character.

As it showed by the results, there was found an average dependance (*Cramer's V* 0,28) on affiliation to faculty and time requirements of a study. The findings showed higher time requirements of the Faculty of Agrobiolgy, Food and Natural Resources students and also of Faculty of Environmental Science students. Majority of respondents stated that it is caused by the character of their researches and the accessability of the research centers.

There was also found an average dependance (*Cramer's V* 0,31) on affiliation to faculty possibility to work outside the university. Students of natural sciences consider their study the most time requiring in comparison with technical or social science. Although the majority of students agree with possibility to work outside the university, in terms of toleration by the department management, more than half of students of the Faculty of Agrobiolgy, Food and Natural Resources disagree with the opportunity to work during their study, in terms of personal ability.

<sup>11</sup> Benjamin, (1994)



Considering the fact, that the results are relevant at the field of CULS, the university with its specifics and characteristics, the synthesis must be proceed *with regards to the definition*. The results of the paper are then applicable within management and organization of doctoral study programs to eliminate dropouts of students and positively stimulate their retention at CULS. On the grounds of research results, the university management may be submitted the set of proposals for consideration or possible solution. Considering these proposals is appropriate, especially in the areas which vitally contribute to the drop outs of a doctoral study such as the reduction of compulsory exams, the modification and reduction of activities beyond the scope of study duties, the motivation of students by financial bonuses for publication and pedagogic activity which would correspond with their working load.

## BIBLIOGRAPHY

- [1] Moxley, D., Najor-Durack, A. & Dumbridge, C. 2004. *Keeping students higher education*. Abingdon, Oxon: RoutledgeFalmer.
- [2] Kuh, D.G., Kinzie, J., Schuh, H.J. & Whitt, J.E. 2005. *Student Access in college*. San Francisco: Wiley Imprint,
- [3] Napoli, R. A. & Wortman P. M. 1998. Psychological Factors Related to Retention and Early Departure of Two-Year Community College Students. *Research in Higher Education*, Vol. 39. No 4.
- [4] Astin, A.W. *College Dropouts: A National Profile*. Washington, DC: American Council on Education. 1972. [online] URL <http://sites.acenet.edu/ics-wpd/index.htm>.
- [5] Andres L. & Carpenter S. 1997. *Today's higher education students: issues of admission, retention, transfer and attrition in relation to changing student demographics*. University of British Columbia, Vancouver, BC.
- [6] Svec, V., 2006, *Study problem at the economical faculties*. Paper presented at the conference Agrarian perspectives XV. Czech University of Life Sciences, Prague
- [7] Menclova, L., Bastova J., Kronradova, K. 2004. *The dropout rates among the first year postgraduate students of technical study programmes provided by public higher education institutions in the Czech Republic and their causes*. [online] Ministry of education, youth and sports. URL < <http://www.csvs.cz/>>.
- [8] Benjamin, M. 1994. The quality of student life: Toward a coheren conceptualization. *Social Indicators Research*, 31(3), 205-264.

Tereza Kaderabkova  
Czech University Of Life Sciences Prague  
Department of Management  
Kamycka 129  
Prague, 16521  
[kaderabkovat@pef.czu.cz](mailto:kaderabkovat@pef.czu.cz)

Jitka Pokorná  
Czech University Of Life Sciences Prague  
Department of Management  
Kamycka 129  
Prague, 16521  
[pokornaj@pef.czu.cz](mailto:pokornaj@pef.czu.cz)

# THE IMPACT OF OUT-OF-POCKET PAYMENTS IN HEALTH CARE ON FAMILY BUDGETS

Veronika Krůtilová

## ANNOTATION

This paper focuses on the impact of out-of-pocket payments in health care on family budgets. The objective of the paper is to prove the thesis whether the out-of-pocket financing of health care is regressive in the Czech Republic and how it changed after the user fees implementation in 2008. Moreover, it is necessary to discuss how the height of out-of-pocket payments can influence the purchase of necessary health care and potential impoverishment of households. The study uses the most recent publicly available household level data published by the Czech Statistical Office.

## KEY WORDS

health care financing, out-of-pocket payment, user fee, household of pensioners

## INTRODUCTION

The out-of-pocket payments rose in the Czech Republic as a result of user fees<sup>1</sup> implementation in 2008. Till 2008 the out-of-pocket payments of patient were consisted of copayments (for services partly covered from health insurance - some medicine, dental material and medical aids) and direct payments (payments for other health services that are not cover from health insurance). In comparison to other European countries the Czech Republic has had very low level of out-of-pocket payments. The data from 2005 available from World Health Organisation (WHO) database shows that the out-of-pocket payments was on average EU-25 25,3 % of total health expenditure, however, the ratio for the Czech Republic was 10,9 %. For example our neighbours – Polish households paid out-of-pocket 26,1 % of total health expenditure, in Slovakia 22,6 %<sup>2</sup>. The primary goal of the implementation of the patient payments was the regulation of the health care consumption (Ministry of Health of the Czech Republic, 2007), because the Czech Republic belonged in the number of patient contacts with doctors to the European top (14,6 contacts per capita and year and in 2007 in comparison with the average of EU-25 with 7,7 contacts)<sup>3</sup>, as well as in the consumption of medicaments it ranges among the countries with high consumption (in 2005 was the consumption of medicaments per capita in Czech Republic twice higher than for example in Slovakia or Netherlands)<sup>4</sup>. The accompanying effect is also the increase of additional sources into the system. On the other hand, it is possible that implementation of user fees will restrict the desirable consumption of care because of loading of budgets of households with new expense, what could in the future cause deterioration of health status of citizens and much higher burden of health care system.

It is necessary to take into account that „out of pocket payments are the most fragmented across individual consumers, with no possibility of pooling risks. Out of pocket financing of health is the most likely reason that would characterize unfair distributions of health financing, and to generate severe financial losses and risk of impoverishment for some families.“ (MURRAY at al, 2000:4) Many experts argue that out-of-pocket payments are

---

<sup>1</sup> Payment for outpatient visit (1 EUR), emergency visit (3 EUR), hospital stay (2 EUR/day) and drug prescription (1 EUR)

<sup>2</sup> WHO: Health for all database, c2009.

<sup>3</sup> WHO: European Health for all Database, c2009

<sup>4</sup> ÚZIS: Mezinárodní srovnání spotřeby léčiv dle OECD Health Data, 2008

usually the most regressive<sup>5</sup> way to pay for health and the way that most exposes people to catastrophic financial risks. (Kakwani, Wagstaff, Saltman, Figueras) “The regressive distribution of health care spending is of particular concern since families cannot escape consumption of health care. [...] Out-of-pocket spending is particularly regressive with low-income families’ expenditures, as a share of income, [...] Low-income families pay over twice the share of income for health care as do high-income families” (RASELL at al, 1994) Other vulnerable group are elderly families (people over age 65). Moreover, elderly families with low income face higher out-of-pocket payments, as a share of income. (BERKI, 1985, RASELL at al, 1994, WYSZEWIANSKI, 1986)

“It is possible to claim that „an expenditure for medical care becomes financially catastrophic when it endangers the family’s ability to maintain its customary standard of living.“ (BERKI, 1986)

### **AIM AND METODOLOGY**

The goal of the paper is to find out whether the financing of health care (out-of-pocket) is (more) regressive after user fees implementation in 2008 and discuss how the height of out-of-pocket payments can influence the purchase of necessary health care and potential impoverish the Czech households.

For an inference about the distributional impact of out-of-pocket payments in health care it is possible to use the measure of ability to pay. Because of possible variability of incomes over time, household consumption, or even expenditure, is generally considered to be a better measure of welfare, and ability to pay, than income. (VAN DOORSLAER at al, 2008) Ability to pay is constructed as household consumption expenditure net of expenditure on food.

To establish the distribution of payments there are required the data from household survey. There are used the data from Household Budget Survey in 2007 and 2008 published by Czech Statistical Office. The households are monitored on the basis of income quintiles for households headed by employees and households of pensioners. To prove, whether the financing of health care through out-of-pocket payments became more regressive in 2008, the ratio of out-of-pocket payments and ability to pay is observed.

### **RESULTS**

This part deals separately with the distribution of out-of-pocket payments of the households of employees and pensioners. Furthermore, the impact on both types of households is discussed.

#### **Households of employees**

The households of employees spent out-of-pocket on health care on average 2,36 % of their ability to pay (ATP) in 2007. The most (2,55 %) paid the households in the highest income quintile (the richest households). In contrast, the poorest households spent on health only 2,13 % of their ability to pay. The spending of all households according to net money income per person shows the figure 1. It is explicit that the higher quintile the more significant is the out-of-pocket payment. In this case it is possible to claim that the financing of health care out-of-pocket was progressive in 2007 (richer households paid more for health than poorer households).

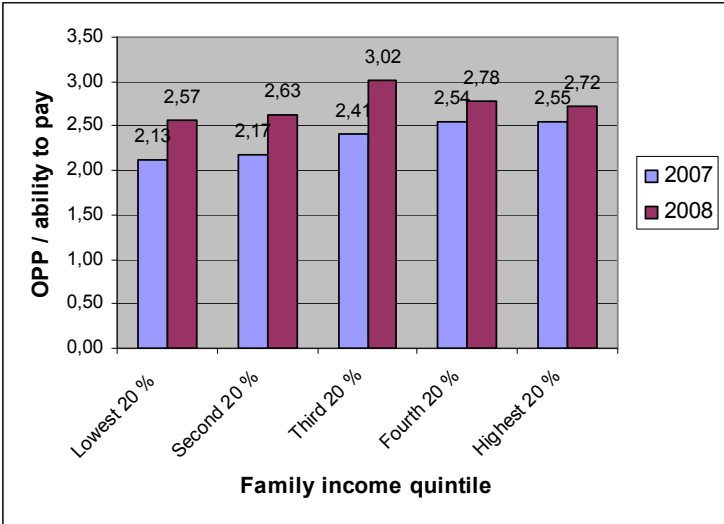
In 2008 the households of employees paid for health on average 2,74 % of ability to pay. There was 0,38 percentage points increase in 2008. The highest expenditure faced the households in third income quintile (3,02 %). The households in the lowest income quintile spent the least amount (2,57 %). In comparison to 2007 is obvious that the burden changed to

---

<sup>5</sup> Regressivity is a term that describes an expenditure pattern where as incomes rise (fall) across the income distribution, there is an associated decline (rise) in the share of income spent on health care. (RASELL, 1994)

the benefit of the households in fifth quintile, however, the situation of the households in the third quintile got worse. The households in the lowest and second income quintile paid the smallest amount in comparison to other quintiles. Up to the third income quintile the out-of-pocket financing of health remained still progressive in 2008. However, the break point is obvious by the third quintile, after this the distribution of payments has changed to regressive. It is necessary to mention that the differences in the ratio of out-of-pocket payments to ability to pay are among the households of employees rather smaller.

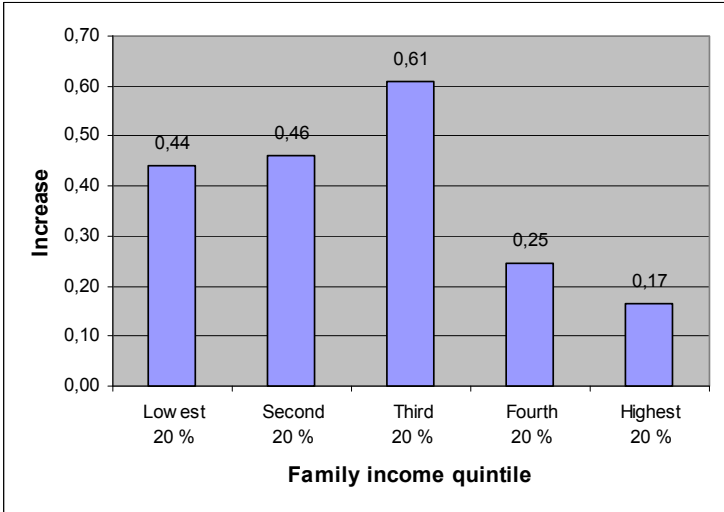
Fig. 1 Out-of-pocket payments (OPP) of households of employees as a percentage of ability to pay in 2007 and 2008 (%)



Source: Household Budget Survey 2007, 2008, author

The changes in out-of-pocket payments between 2007 and 2008 are presented in the figure 2. The most significant change in the amount of out-of-pocket payments is observed by the third income quintile (0,61 percentage points increase – p.p.) followed by the second (0,46 p. p. increase) and lowest income quintile (0,44 p. p. increase). The smallest change is observed by fourth (0,25 p. p.) and highest income quintile (0,17 p. p.).

Fig. 2 Changes in out-of-pocket payments in 2008/2007 (households of employees)



Source: Household Budget Survey 2007, 2008, author

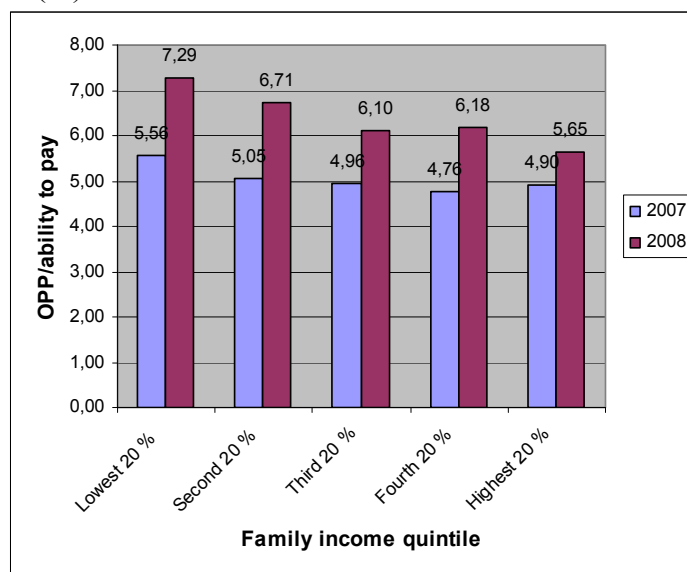
Increase in out-of-pocket payments of the poorest households was almost 3 times greater in comparison to the richest. The difference between the third and the fifth income quintile is much greater.

Although there was the most significant growth by the households in the third income quintile, the first 60 % of the Czech households ordered according to their net money income faced the greatest increase in out-of-pocket payments as a result of user fees implementation in 2008.

### Households of pensioners

Many experts claim that the households of pensioners belong to the most vulnerable group in population. Therefore it is necessary to analyze the changes in out-of-pocket payments by pensioners. The figure 3 shows that in 2007 the households of pensioners paid for health services on average 5,05 % of ATP. The lowest 20 % of household of pensioners spent on health the most (5,56 % of ATP), followed by the second (5,05 %) and third income quintile (4,96 %). The fourth income quintile households pay for health out-of-pocket the smallest amount (4,76 %). In comparison to the first quintile, there is difference 0,8 percentage points. The financing out-of-pocket seems to be rather regressive by the household of pensioners.

Fig. 3 Out-of-pocket payments (OPP) of households of pensioners as a percentage of ability to pay in 2007 and 2008 (%)

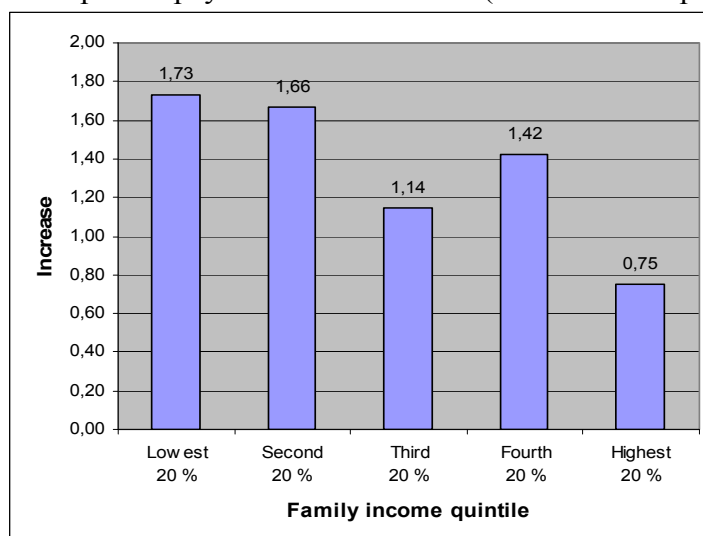


Source: Household Budget Survey 2007, 2008, author

Whether it is focused on the year 2008, the situation changed. There was the average out-of-pocket payment 6,4 % of ATP. The lowest quintile spent on health 7,29 % of ability to pay, while the highest quintile only 5,65 % (the least among all quintiles). There is the difference 1,64 percentage point between lowest and highest income quintile. The differences in the out-of-pocket payments relating to ability to pay among income quintiles of the households of pensioners are even larger in 2008 than in 2007. Data shows that the regressive distribution of out-of-pocket payments was deeper in 2008.

Also in comparison to 2007 the changes are significant. Health expenditure of households in the lowest income quintile increased (1,73 p. p. increase), in the second 1,66 p. p. increase and in the fourth 1,42 p. p. The changes are illustrated in the figure 4.

Fig. 4 Changes in out-of-pocket payments in 2008/2007 (households of pensioners)



Source: Household Budget Survey 2007, 2008, author

The user fees implementation caused the increase in out-of-pocket payments particularly by the families of pensioners in the lowest and second income quintile. In contrary, the richest households of pensioners faced the smallest increase in paying for health (0,75 p.p.).

#### Households of employees versus households of pensioners

Regarding the ratio of out-of-pocket payment on ability to pay is obvious that the households of employees paid considerably lower amounts in 2007 and in 2008 as well, than the households of pensioners. Focusing on the year 2008 the household of pensioners contributed out-of-pocket to health on average more than 2 times more. The poorest households of employees spent 2,57 % of ATP while the poorest households of pensioners 7,29 %. The difference between the richest households of employees and pensioners was great as well (2,72 % versus 5,65 %).

### CONCLUSION

Even if the out-of-pocket payments in the Czech Republic belong to the smallest in EU even after user fees implementation, it is necessary to take into account that user fees are new expense for health paid directly by households. Therefore the author discussed the impact of user fees on the households of employees and households of pensioners. The analysis showed that the out-of-pocket financing of health was progressive by household of employees in 2007. After user fees implementation the distribution has changed. The households of employees in the third income quintile faced the most significant increase in 2008. The smallest impact was on the households in fifth income quintile. Regarding the first three income quintiles, the distribution of out-of-pocket payments remained progressive. With focus on the last three (three richest) quintiles the distribution became regressive. The user fees incidence is obvious particularly by the middle class. Nevertheless the differences in out-of-pocket payments among income quintiles of household of employees are rather smaller.

The financing of health out-of-pocket by households of pensioners had regressive character in 2007. The households in the first and second quintile faced the highest out-of-pocket payments. In 2008, when the user fees were implemented, the pensioners in the first and second quintile paid the most as well. While in 2007 the smallest out-of-pocket payment relating to ability to pay had the households in fourth income quintile, in 2008 the least

contributed the households in fifth quintile. Not only the households in the first quintile paid the most in 2008 but they also faced the higher increase in out-of-pocket payments in comparison to the fifth quintile more than once. Although the distribution of out-of-pocket payments had regressive character in 2007, the regressive distribution was getting deeper in 2008.

The out-of-pocket payments influence greater the households of pensioners than the households of employees. After user fees implementation they faced more significant increase in payments. There also were the greatest differences in paying among income quintiles of pensioners. Particularly the out-of-pocket payments of the lowest income quintile would be possible to burden the household budget and restrict the access to health care. To conclude, it is evident that the health care policy makers should pay the attention to the households of pensioners and regularly evaluate the impact on the lowest income groups.

## BIBLIOGRAPHY

- [1] BERKI, S. E.: A look at catastrophic medical expenses and the poor. [online] Health affairs, 1986. Available from <<http://content.healthaffairs.org/cgi/reprint/5/4/138>> [cit. 30. 3. 2009]
- [2] MURRAY, CH., KNAUL, F., MUSGROVE, P., KE XU, KAWABATA, K.: Defining and measuring fairness in financial contribution to the health system. [online]. WHO, 2000. Available from <<http://www.who.int/healthinfo/paper24.pdf>> [cit. 7. 3. 2009]
- [3] WAGSTAFF, A. AND VAN DOORSLAER, E.: Catastrophe and Impoverishment in Paying for Health Care: With Applications to Vietnam 1993-98. [online] Washington, DC: The World Bank, 2002. Available from <<http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTHEALTHNUTRITIONANDPOPULATION/EXTPAH/0,,contentMDK:20278877~menuPK:460199~pagePK:148956~piPK:216618~theSitePK:400476,00.html>> [cit. 21. 3. 2009]
- [4] SALTMAN, R. B., FIGUERAS, J.: European Health Care Reform: Funding System Equitably. [online] WHO, 1997. ISBN 92-890-1336-2. Available from <[http://www.euro.who.int/Document/e55787\\_ch04.pdf](http://www.euro.who.int/Document/e55787_ch04.pdf)> [cit. 3. 4. 2009]
- [5] RASELL, E.: Impact of health care financing on family budgets. [online] Economic Policy Institute, 1994. Available from <[http://epi.3cdn.net/e1d3193cc6fcb52680\\_rpm6ib7nq.pdf](http://epi.3cdn.net/e1d3193cc6fcb52680_rpm6ib7nq.pdf)> [cit. 1. 12. 2009]
- [6] WYSZEWIANSKI, L.: Families with catastrophic health care expenditures. [online] Health Services Research, 1986, v.21(5). Available from <<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=1068978>> [cit. 11. 11. 2009]
- [7] VAN DOORSLAER, E. at al: Analyzing health equity using household survey data: a guide to techniques. [online] The World Bank, 2008. Available from <<http://siteresources.worldbank.org/INTPAH/Resources/Publications/459843-1195594469249/HealthEquityFINAL.pdf>> [cit. 19. 11. 2009]
- [8] WHO: European health for all database (HFA-DB). [online] WHO, c2009. Available from <<http://www.euro.who.int/hfad>> [cit. 25. 11. 2009]

Ing. Veronika Krutilová  
Faculty of Economics and Administration  
Masaryk University  
Lipová 41a  
602 00 BRNO  
[krutilova@econ.muni.cz](mailto:krutilova@econ.muni.cz)

# **IS THE STATE INTERNATIONAL SECURITY CONTRIBUTION A MATTER OF NATIONAL INTEREST OR A MATTER OF FINANCIAL AFFORDABILITY?**

**Mariana Martišková**

## **ANNOTATION**

V4 states in their respective security strategies set up slightly different security priorities in terms of their attitude towards NATO, EU and UN security arrangements as well as in defining key security areas worldwide. Transformation of national interests into real military commitments is the focal point to be studied.

## **KEY WORDS**

V4 countries, military operations, crisis management, NATO, EU, UN, OSCE, GDP.

## **INTRODUCTION**

Post-Cold War development in the V4 countries has witnessed their successful integration into the crucial institutions of both military and political prestige, namely into UN, NATO, EU and last but not least into OSCE. Even though the pace of this process has slightly differed (1999 joint Czech, Polish and Hungarian NATO membership as compared to 2004 Slovak NATO membership), the strived result should have translated into the full membership accompanied with the related rights and duties within the organizations reflected in the state respective military and civilian commitments abroad.

## **AIM AND METODOLOGY**

The aim of this article is to demonstrate up to what extent have the V4 countries maintained or violated their respective military and financial obligations owed in the field of international security and crisis management.

For this reason the author is going to collect data providing for each V4 country involvement in all the military operations in the time span of 2006-2008.

Applying the comparative as well as the trend analysis the research is going to reveal major current trends of the V4 countries in terms of international security and respective financial state input.

## **RESULTS**

Reached conclusions will point out how the respective claimed national interests in terms of each country's security strategy comply with the real military forces deployment abroad. The article tries to also hit the point whether the state's military presence abroad is directly linked to the budget percentage allocated for defense.

### **Slovakia's 2006-2008 Expected and Real Commitments**

2006 elections provided for a victory of a new ruling left-wing coalition of Smer-Social Democracy, HZDS and SNS. Ministry of Defence within the years 2003-2006 adopted the key strategic documents *Security Strategy of SR* and *Defence Strategy of SR*. However in the 2005- 2006 it had to accommodate *Long-term Plan of Structure and Development of the Slovak Armed Forces "Model 2010"* to the related NATO and European Security and Defence Policy (ESDP) reforms. These efforts resulted in the adoption of the complex set of strategic documents known as "Model 2015".<sup>1</sup> Newly elected government pledged to

---

<sup>1</sup> Korba, M. (2006)



continue in its respective security obligations balancing between the NATO and the European Security and Defence Policy(ESDP) commitments set up as priorities together with the area of the Balkans being of primary security interest. The need to provide for the agile, more expeditionary, better equipped and interoperable armed forces, ready to “plug-in” to joint multinational operations came as no surprise.

Slovak commitments owed to NATO in relation to the Comprehensive Political Guidance (CPG) adopted at Riga Summit (2006) consisted of respective contributions to NATO reaction force (NRF). Slovak government keeping up its pre-election promise made a significant political shift withdrawing its military forces from Iraq( 2006) and gradually building up its military forces in Afghanistan and thus the Slovak unit serving in ISAF joined with the other Slovak unit serving in the “Enduring Freedom” coalition mission. Moreover Slovak involvement in Kosovo has increased by 35-member logistic support platoon mission to reach the total of 135 Slovak forces in 2006 within the Joint Czecho-Slovak KFOR Battalion<sup>2</sup>. This move even further contributed to a direct link between the country’s security intentions and real engagement. Decreasing budget for the defense with a possible negative influence on Slovak commitments to NATO’s NRF and EU’s BG got covered by the government’s Program Declaration from the 7<sup>th</sup> of February 2007 from a separate budgetary chapter. <sup>3</sup> In accordance with the Slovak Government’s Program Declaration NATO ISAF operations became Slovak armed forces operational priority and the expeditionary force shift from Kabul to Kandahar reinforced declared Slovak intentions to keep up its related commitments. NATO 2008 Bucharest summit further confirmed the positive trend of enhanced Slovak military participation in NATO’s ISAF mission with its operational focus on Southern Afganistan.

EU’s implementation of *Headline Goal 2010 (HG2010)* resulted in the formation of the Battle Groups (BG) in the sense of the rapid reaction force of EU capable of full deployment within ten days after the Council of EU’s approval in a period from 30 days up to maximum of 120 days in the size of approximately 1200 soldiers within the range of 6000 km out of Brussels. Slovaks proposed to form the Polish-German-Latvian-Lithuanian-Slovak BG under the command of Poland in the 2010 and Czech-Slovak BG on alert since the 2009.<sup>4</sup> Slovakia in 2006-2008 supported EU’s largest crisis management operation “Althea” in Bosnia and Herzegovina in the overall size of 34/35 guard platoon soldiers accompanying 3/4 Slovak officers of EUFOR HQ in Sarajevo.<sup>5</sup>

Slovak military troops deployment abroad within years 2006-2007 showed the signs of territorial and operational diffuseness and therefore related 2008 governmental steps approved in its Declaration no. 497/2007 formulated a new strategic goal to get involved in only two to three select international crisis management operations with a priority being NATO and EU’s Balkan missions; NATO’s ISAF mission and UNFICYP mission. Slovakia has thus reduced its numerous small-size missions in favour of robust military and politically visible missions, which especially in Afghanistan represented a radical qualitative improvement.

---

<sup>2</sup> Korba, M. (2006)

<sup>3</sup> *Aktualizácia uznesení vlády SR (2007)*

<sup>4</sup> *Správy MOSR (2006)*

<sup>5</sup> *Misia Althea*

Fig.1: Numbers and Missions of Slovak Armed Forces in the Years 2006-2008

SR/NO. OF MIS.	MISSIONS 2006	MISSIONS 2007	MISSIONS 2008
1.	NATO HQ SARAJEVO/1	NATO HQ SARAJEVO/1	NATO HQ SARAJEVO/1
2.	KFOR/NATO/134	KFOR/NATO/169	KFOR/NATO/139
3.	ISAF/NATO/57	ISAF/NATO/58	ISAF/NATO/171
4.	ALTHEA/EU/34	ALTHEA/EU/35	ALTHEA/EU/35
5.	ALTHEA/EU/HQ/3	ALTHEA/EU/HQ/4	ALTHEA/EU/HQ/4
6.	EUMM/EU/2		
7.	NTM/NATO/5		
	IRAQI FREEDOM COALITION FORCES/101		
8.	UN OBSERVERS: UNDOF/95, UNTSO/2, UNFICYP/196	UN OBSERVERS: UNDOF/95, UNTSO/3, UNFICYP/196	UN OBSERVERS: UNTSO/3, UNFICYP/196
<b>TOTAL NO. OF PERSONNEL</b>	<b>630</b>	<b>564</b>	<b>554</b>

Source: Ministerstvo obrany SR<sup>6</sup>

### Czech Republic 2006 - 2008 Expected and Real Commitments

Year 2006 general elections provided for a narrow victory of the ruling ODS party. Continuing years 2007 and 2008 were internally seriously influenced by an ongoing political party struggle between the ODS and CSSD major political parties however the external commitments proved to be untouched. Military and civilian commitments included Czech contributions to NATO's NRF and in terms EU's BGs, CR pledged to form German-Austrian-Czech and Czech-Slovak BG. Czech armed forces reform launched in 2001 got accompanied by the Ministry of Defence transformation as defined in the Governmental Declaration no. 1994/2007 with an outlook to 2018 focusing on the creation of the flexible armed forces ready to be deployed abroad due to their expeditionary capabilities.<sup>7</sup> Czech security strategy prioritizes commitments owed to NATO slightly over the EU security commitments, finally providing space also for the UN security obligations. Country's primary security interests attach to the area of the Balkans and robust Czech military presence both in NATO's KFOR and EU's Althea missions link the real commitments with the outlined security goals.

Steadily increasing trend of the related military presence in the foreign military operations against the decreasing budget allocated to the MoD suggests that the two are mutually independent. 2006 Czech commitments abroad included 5 UN observers' missions: UNMIL(Liberia), UNMEE(Ethiopia), MONUC(Congo), UNOMIG(Georgia) and UNMIK(Kosovo) with an total of 14 military observers; related NATO and EU structures presence reached the total of 177 personnel and last but not least Czech participation in NATO's KFOR(Kosovo) and ISAF(Afghanistan) missions, as well as in EU's Althea(Bosnia and Herzegovina) mission and multinational coalition forces mission MNF (Iraq) and KAIA(Afghanistan) mission reached a total number of 1029 personnel.

2007 Czech commitments radically outnumbered 2006 figures to reach the total of 1818 personnel serving abroad in 7 distinguished military operations: NATO's NRF, KFOR(Kosovo) and ISAF(Afghanistan) missions, EU's Althea(Bosnia and Herzegovina) and EUFOR's (had) mission and multinational coalition forces missions MNF I and NTM I in Iraq. Moreover 28 Czech observers operated within 5 distinct UN missions: UNOMIG(Georgia), MONUC(Congo), UNMEE(Eritrea) and 2 separate UNMIL(Liberia) missions. Last but not least these figures included also the personnel serving in the related NATO and EU military structures and HQ in size of 182 personnel.

<sup>6</sup> Ministerstvo obrany SR (2008)

<sup>7</sup> Procházka, J.(2007)

Finally 2008 military contributions of the Czech Republic even further confirmed increased military involvement abroad and altogether reached the total number of 2110 personnel, consisting of 15 UN observers (UNOMIG, MONUC, UNMEE, UNMIL and UNAMA); 185 personnel serving in the related NATO and EU military structures and the remaining figure reserved for the military personnel of the 6 distinct EU's (Althea); NATO's KFOR(Kosovo), ISAF(Afghanistan) and multinational coalition forces MFN I(Iraq), NTM I(Iraq) and Enduring Freedom(Afghanistan) military operations.<sup>8</sup>

Common link between the Slovak and Czech armed forces serving abroad could be found also in the 2008 withdrawal of the military forces from the multinational coalition forces personnel from Iraq. Contrary to the Slovak decreasing military presence abroad, Czech military presence witnesses a steadily increasing trend despite the decreasing military budget.

Fig.2: Numbers and Missions of Czech Armed Forces in the Years 2006-2008

CR/NO. OF MIS.	MISSIONS 2006	MISSIONS 2007	MISSIONS 2008
1.	NATO AND EU STRUCTURES	NATO AND EU STRUCTURES	NATO AND EU STRUCTURES
2.	KFOR/NATO	KFOR/NATO	KFOR/NATO
3.	ISAF/NATO	ISAF/NATO	ISAF/NATO
4.		NRF/NATO	
5.	ALTHEA/EU	ALTHEA/EU	ALTHEA/EU
6.		TCHAD/ EUFOR	
7.		NTM I/NATO	NTM I/NATO
8.	COALITION FORCES/MNF AND KAIA	COALITION FORCES/MNF	COALITION FORCES/MNF
9.	UN OBSERVERS: UNOMIG, UNMIL, UNMEE, MONUC, UNMIK	UN OBSERVERS: UNOMIG, UNMIL, UNMEE, MONUC	UN OBSERVERS: UNOMIG, UNMIL, UNMEE, MONUC, UNAMA
<b>TOTAL NO. OF TROOPS</b>	<b>1029</b>	<b>1818</b>	<b>2110</b>

Source: Ministerstvo obrany ČR<sup>9</sup>

### Poland 2006 - 2008 Expected and Real Commitments

Poland witnessed general elections providing for the victory of a right wing liberal Donald Tusk's party forming coalition with the centrist Polish People's Party in 2007. In terms of the country's foreign policy the new PM decided to immediately fulfil his pre-election promise and passed the decision to withdraw Polish military forces from Iraq, even though based on the close Polish-US ties the final withdrawal got postponed till 2007 and gradually build the forces up in the NATO's ISAF mission in Afghanistan. Polish Security Strategy from 2003 reserves priority for the Polish cooperation with NATO and bilateral Polish-US relations, EU engagements are of the second, UN commitments of the third importance. An attempt to balance between the country's NATO and EU involvements, the new government decided to contribute around 350 soldiers into the EU peacekeeping mission in Chad despite the severe criticism arising over uncertainties concerning mission's command and mandate. The decision to build up to 2000 personnel in ISAF Afghanistan has earned Poland the 7<sup>th</sup> out of 37 largest troops contributing nations position and it definitely helped to maintain the country's image of one of the most eager and loyal NATO member states.

In terms of the Polish – EU mutual security arrangements expressed in the ESDP, Poland decided to contribute its troops to two separate battle groups, first being the German-Latvian-Lithuanian-Polish-Slovak BG and second being the French-German-Polish BG. Poland hasn't even given up in terms of the possible future establishment of the V4 battle group in 2015. Language of the newly elected government altogether with the concurrent military decisions resulted in shifting and decreasing the troops serving in the respective UN missions in favour of NATO and EU's peacekeeping and together with the balanced budget (see the figure 2

<sup>8</sup> MOČR (2009)

<sup>9</sup> MOČR (2009)

above) earned Poland the first place in the V4 groups both in terms of budget % allocated to defence as well as in terms of its 9<sup>th</sup> place among the top ten personnel contributors to Asian peacekeeping operations for 2008 and 10<sup>th</sup> place among the top ten personnel contributors to peacekeeping in Europe.<sup>10</sup>

Fig.3: Numbers and Missions of Polish Armed Forces in the Years 2006-2008

<b>POLAND/N O. OF MIS.</b>	<b>MISSIONS 2006</b>	<b>MISSIONS 2007</b>	<b>MISSIONS 2008</b>
1.			EUMM/30
2.	KFOR/NATO	KFOR/NATO	KFOR/NATO
3.		ISAF/NATO/1200	ISAF/NATO/1600
4.			EUFOR/TCHAD/400
5.	ALTHEA/FYROM/KOSOV O/ EU/300	ALTHEA/FYROM/KOSOV O/ EU/300	ALTHEA/FYROM/KOSOVO/EU/300
6.	LATVIA/NATO/110		
7.	UNDOF/367	UNDOF/367	UNDOF/367
8.	UN/LEBANON/250	UN/LEBANON/500	UN/LEBANON/500
9.	NATO/ACTIVE ENDEAVOUR/240	NATO/ACTIVE ENDEAVOUR/240	NATO/ACTIVE ENDEAVOUR/240
10.	NATO/NTM/IRAQ/DATA UNAVAILABLE	NATO/NTM/IRAQ/900	NATO/NTM/ IRAQ/900
11.			NATO/LATVIA/LITHUANIA/ESTONIA/ 100
<b>NO. OF TROOPS APPROXIMATE</b>	<b>DATA UNAVAILABLE</b>	<b>DATA UNAVAILABLE</b>	<b>DATA UNAVAILABLE</b>

Source: Polish Ministry of National Defence<sup>11</sup>

### **Hungary 2006 - 2008 Expected and Real Commitments**

Hungarian general elections held in 2006 provided for the first time in the post-communist history through a decisive victory a second consecutive term for the ruling socialist party with F. Gyurcsany as PM in partnership with the liberal Free Democrats. Ongoing internal political and economic development further witnessed gradual but sustainable loss of governmental popularity in favour of the growing sympathies for the opposition leader V. Orban in combination with the country's deteriorated state of economics seriously hit by the global financial crisis in 2008 placing Hungary almost on top of the Europe's states most severely hit by the crisis in the same year.<sup>12</sup>

Hungarian National Security Strategy building on Resolution No. 2144/2002 of the government places Hungarian national interest in the area of Eastern and Southeastern Europe with a particular focus on neighbouring Ukraine.<sup>13</sup> Government's relatively modest interest in foreign agenda as worded in its Declaration (2006) contributed to an elaboration of a new comprehensive new foreign policy strategy. Moreover the declared governmental interest was to deploy around 1000 troops abroad in accordance with relevant NATO, EU and UN commitments, the National Strategy keeping the balance and prioritising NATO and EU obligations. In terms of the EU's ESDP Hungary promised to participate in an Italian-Slovenian-Hungarian BG.

Detailed evaluation of the promised and real commitments reveals a relatively high level of accord. This results in approximately 606 personnel deployed in the Balkans, mainly in the NATO's Kosovo KFOR and EU's Bosnia and Herzegovina EUFOR missions accounting thus for almost 63% of the overall troops deployment in the Balkans in favor of NATO and EU missions. Hungarian presence in NATO ISAF mission in Afghanistan in an approximate size of 185 soldiers accounted for the 19% of the overall troops deployment and further confirmed

<sup>10</sup> SIPRI (2009)

<sup>11</sup> MONDP (2009)

<sup>12</sup> Country Profile Hungary (2009)

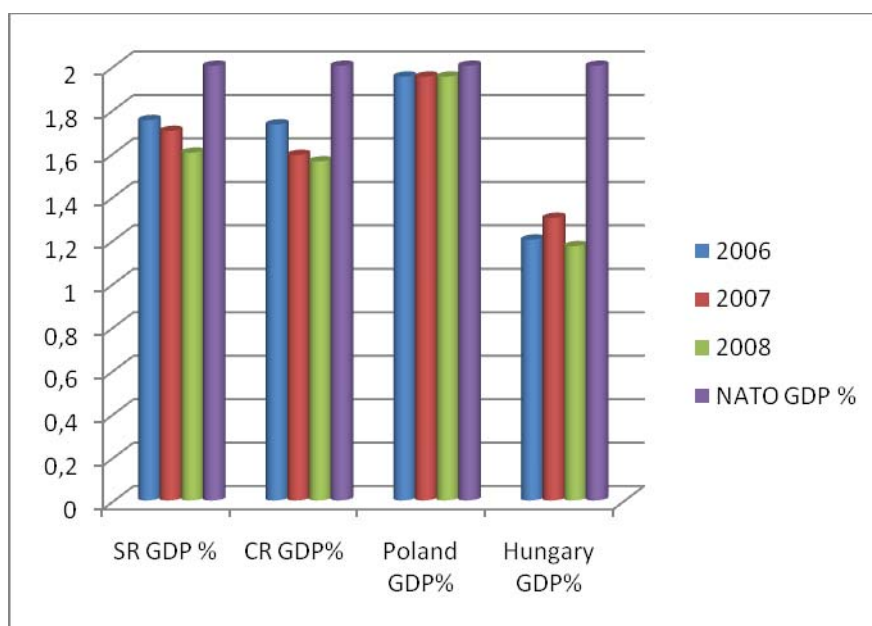
<sup>13</sup> The National Security Strategy builds on the Basic Principles of the Security(2007)

the above mentioned accord and last but not least Hungarian participation in UNFICYP with 84 soldiers (2008) went in line with the National Strategy goal to rank the importance Hungarian military involvement abroad equally between the NATO and EU and subsequently in favor of UN commitments.<sup>14</sup>

### Military Commitments versus MoD Budget Deficits 2006-2008

Long-term negative development trend of the defence planning and finance (as showed in the following figure) has been steadily deteriorating both in Czech and Slovak Republics, with their current governments unable to keep up respective NATO commitment to allocate 2% of the state budget in favour of the defence. Poland in this respect remains relatively stable and leads the V4 group with its constant military spending of 1,9% of the previous year GDP. Hungary on the other hand proves to retain the last position in relation to the budget spending of less than 1,2% GDP ranking it in the “below the average” NATO countries group spending less than 1,5% of their GDP on defence.<sup>15</sup> Nevertheless figures listed below are not a sole indicator of the state’s foreign military presence and from our findings we thus recommend to value them separately. Country’s military engagement abroad owes much to its governmental political stability, its stance to prestigious security organizations, its preferences and last but not least its overall fiscal stability.

Fig.4: Budget % of GDP allocated to V4 Ministries of Defence against the NATO % GDP Commitment 2006-2008



Sources: *Rozpočet MOSR na roky 2003-2008*<sup>16</sup>; SIPRI (2009)<sup>17</sup>

## CONCLUSION

V4 states in 2006-2008 period set up their security strategies in a similar fashion with Poland’s clear preference in favour of NATO and bilateral Polish-US security cooperation, CR’s slighter preference of NATO to EU obligations and SR and Hungary’s efforts to balance

<sup>14</sup> Ondrejcsak, R.(2007)

<sup>15</sup> Tlačová konferencia MOSR (2008)

<sup>16</sup> *Rozpočet MOSR(2008)*<sup>16</sup>

<sup>17</sup> SIPRI (2009)

between both NATO and EU commitments. Political changes in SR and Poland resulted in the radical shift of the foreign deployment and decisions to withdraw their troops from the operations in Iraq despite small delay (case of Poland) were in line with pre-election promises. Long-term negative trend in budget allocation for defence (with Poland as an exception) didn't directly impact on the V4 states' foreign deployment and we suggest that for the future these two issues remain to be valued separately. Moreover contributions to EU's BG and NATO's NRF got covered by separate budgetary arrangements (SR). The need to provide for the agile, more expeditionary, better equipped and interoperable armed forces, ready to "plug-in" to joint multinational operations even further interlinked V4 states and their mutually shared interests may in the future translate into a new V4 BG with a possible involvement of Ukraine as a logical consequence of the claimed and realized security interests.

## BIBLIOGRAPHY

- [1] KORBA, M. : *Vonkajšia bezpečnosť a obrana*. In: Kollár, M. – Mesežnikov, G. –Bútora, M. (ed.): *Slovensko 2006. Súhrnná správa o stave spoločnosti*. Bratislava, Inštitút pre verejné otázky 2006.
- [2] KORBA, M. : *Vonkajšia bezpečnosť a obrana*. In: Kollár, M. – Mesežnikov, G. –Bútora, M. (ed.): *Slovensko 2006. Súhrnná správa o stave spoločnosti*. Bratislava, Inštitút pre verejné otázky 2006.
- [3] *Aktualizácia uznesení vlády* (2007). Retrieved December 10, 2009 from [http://www.rokovania.sk/appl/material.nsf/0/72B4A570DC9D66B5C125717700444CA3/\\$FILE/Zdroj.html](http://www.rokovania.sk/appl/material.nsf/0/72B4A570DC9D66B5C125717700444CA3/$FILE/Zdroj.html)
- [4] *Správy MO SR*. Bratislava, Ministerstvo obrany SR (2006). Retrieved December 8, 2009 from <http://www.mosr.sk/archiv-tlacovych-sprav>
- [5] *Misia ALTHEA, Bosna a Hercegovina* (2007). Retrieved December 9, 2009 from <http://www.mosr.sk/misia-althea>
- [6] *Počty príslušníkov OS SR v operáciách medzinárodného krízového manažmentu*. Bratislava, Ministerstvo obrany SR. Retrieved December 12, 2009 from [www.mosr.sk/314/pocty-prislusnikov-os-sr-v-operaciach-medzinarodneho-krizoveho-manazmentu.php?mnu=173](http://www.mosr.sk/314/pocty-prislusnikov-os-sr-v-operaciach-medzinarodneho-krizoveho-manazmentu.php?mnu=173)
- [7] PROCHÁZKA, J. (2007): *Transformace ceske armady pokracuje*. In: *Obrana a Strategie* 2/2007. Retrieved December 7, 2009 from [http://www.defenceandstrategy.eu/cs/aktualni-cislo-2-2007/materialy/transformace-resortu-ministerstva-obrany-ceske-republiky-pokracuje.html\(2009-12-10\)](http://www.defenceandstrategy.eu/cs/aktualni-cislo-2-2007/materialy/transformace-resortu-ministerstva-obrany-ceske-republiky-pokracuje.html(2009-12-10))
- [8, 9] MOČR(2009): *Historie zahraničných misí*. Retrieved December 9, 2009 from <http://www.army.cz/scripts/detail.php?id=3699>
- [10] SIPRI (2009): *SIPRI Fact Sheets 2009*. Retrieved December 11, 2009 from <http://books.sipri.org/files/FS/SIPRIFS0907Af.pdf>
- [11] MONDP (2009): *misje*. Retrieved December 11, 2009 from <http://www.wp.mil.pl/pl/strona/208>
- [12] Country Profile Hungary (2009): *BBC News*: [http://news.bbc.co.uk/2/hi/europe/country\\_profiles/1049641.stm](http://news.bbc.co.uk/2/hi/europe/country_profiles/1049641.stm) (2009-11-12)
- [13] The National Security Strategy builds on the Basic Principles of the Security (2007). *The National Security Strategy of the republic of Hungary*. [http://www.honvedelem.hu/hirek/kozlemenyek/a\\_magyar\\_koztarsasag\\_nemzeti\\_biztonsagi\\_strategiaja](http://www.honvedelem.hu/hirek/kozlemenyek/a_magyar_koztarsasag_nemzeti_biztonsagi_strategiaja), p. 3(2009-12-12)
- [14] ONDREJCSAK, R.(2007) : *Vývoj strategického myslenia v stredoeurópskych štátoch*. In: *Panorama 2006-2007*.

[15] *Tlačová konferencia MO SR (2008)*. Retrieved December 11, 2009 from <http://www.mosr.sk/5646/tlacova-konferencia-predsedu-vlady-sr-roberta-fica-a-ministra-obrany-sr-jaroslava-basku.php?pg=1&mnu=33>

[16] *Rozpočet MOSR(2008)*. In: Ročenka MOSR (2007). MOSR, Bratislava.

[17] SIPRI (2009): <http://milexdata.sipri.org/result.php4> (2009-12-10)

Mgr. Mariana Martišková  
City University of Seattle/VŠM  
Bezručova 64  
Trenčín  
Mmartiskova@vsm.sk

# **PARTICIPATION AND ELECTRONIZATION IN PUBLIC ADMINISTRATION**

**Jitka Pěkná**

## **ANNOTATION**

Participation in public decision with using of computer technology is expressed with the term “e-participation”. It is clear, that e-participation will have its significance and will have the important influence on making of the politician decisions in future. The author also solves the possibilities and impediments of new computer and communication technologies. The conception of e-participation, that is using of computer technology for larger participation of the inhabitants into public decision-making, is described in more detail. The example of e-participation can be for example webcasting, that means it is given the possibility of watching of negotiation and decision-making processes of the representatives at chosen time, next public discussions (in form of different discussion blogs on internet or online consultations or with participation of people in preparation of the important materials and so on).

The terms “e-government” and “e-governance” are connected together. From the general point of view the terms “e-government” and “e-governance” are the terms with wide definition. In generally, it can be said that the terms mean using of computer technology in public sphere. E-government means simply the electronic government. According of one definition of already defuncted Ministry of Informatics, e-government is transformation of the internal and external relations of public administration with using computer and communication technologies with the aim of optimalization of the internal processes. Main goal can be seen in faster, more reliable and cheaper providing of the services of public administration to the public and ensuring wider openness of public administration in relation with their users of e-governance. E-governance is using computer and communication technologies by different participants in society with the aim of improving their access to information and establishing their capacity. With reference to the term “electronization” of public administration and conclusions resulting from the article, the main benefits can be seen in for example higher effectiveness of its functioning, beginning of using electronic versions of the documents instead of their paper versions with the aim of being quickly accessible. Using of computer technology into e-government can lead to improving of the quality of the provided services towards public (rapidness, higher effectiveness, better accessibility, lower spent cost, facilitation of solved agenda...), thereby the inhabitants can receive larger confidence in bodies of public administration. The big problem within electronization is, according to her, insufficient legislative scope which would enable an appropriate development of the services provided by the electronic way (unified identifiers do not exist, the documents in paper and electronic form are not unified, small registration of the electronic documents last an so on).

## **KEY WORDS**

Participation, electronization, e-government, e-governance, elektronization

## **INTRODUCTION**

This paper presents basic information on definition fundamental terms in the sphere of electronic participation (called e-participation), its usage in the Czech republic and describes its actual implementation in the Czech republic with describing of some examples. The term of e-participation means involving people into public decision-making processes through information technology. The term of e-participation can be understood incorrectly like e-



voting, but it is not right. E-participation includes all processes which involve the inhabitants into public decision-making processes with using of information and communication technology over electronic voting (i.e. e-voting). It can be said that e-participation and e-voting create the term of “e-democracy” E-democracy is defined like one component from two basic elements of electronic public administration (by another name e-governance). Second part of e-governance is e-government. E-governance is thus established like e-government and e-democracy. E-government means simply the electronic government. According of one definition of already defuncted Ministry of Informatics, e-government is transformation of the internal and external relations of public administration with using computer and communication technologies with the aim of optimalization of the internal processes. Main goal can be seen in faster, more reliable and cheaper providing of the services of public administration to the public and ensuring wider openness of public administration in relation with their users of e-governance. E-governance is using computer and communication technologies by different participants in society with the aim of improving their access to information and establishing their capacity. With reference to the term “electronization” of public administration and conclusions resulting from the article, the main benefits can be seen in for example higher effectiveness of its functioning, beginning of using electronic versions of the documents instead of their paper versions with the aim of being quickly accessible.

### **AIM AND METODOLOGY**

The aim of this paper is to present briefly the term of e-participation and next terms connected with electronization (e-government, e-governance). The paper will also show some examples of e-participation like webcasting or public discussions or some forms of blogs or online social networking. E-participation is about reconnecting ordinary people with politics and policy-making and making the decision-making processes easier to understand and follow through the using of new information and communication technologies. The European states and their government try to work with inhabitants to identify and test the methods of giving them more of a stake in the policy-shaping process, for example through public consultations on new future legislation. Information and communication technologies give some instruments through which people have easier access to information about the decision that are prepared and are planned to be adopted and to the specific decision-making processes. Internet, mobile phones or interactive televisions can be used as the instruments or tool for achieving that and for influencing the citizens and canvassing their views. Those instruments or tools simply lead to better communication and interaction between politicians and government on the one side and between people on the second side. This form s of e-participation can improve the final result of the quality of legislation which should be adopted.

### **RESULTS**

One of the fundamental examples of e-participation is the possibility of observing of the decision-making processes of elected representatives in concrete time with using so called webcasting. In the Czech republic, there is a possibility to watch online for example the session of the Chamber of the Deputies or the Senate. This session is placed online on their Internet pages. Some regions and municipal boards also provides live broadcast from the sessions of their representatives. Some older sessions can be found in some examples in the Internet archive of the sessions. But not all municipalitis or regions directly use webcasting. I think the problem is not in the technology or in the lack of finances, but the municipalities and regions are not able to make public their sessions. From this reason it is important to subsidy the project of e-participation for inhabitants to have the opportunity participate in session at least virtually.

The next example of the concept of e-participation in practice can be seen in the various discussion and comment steering, which can be realised through electronic ways. Nowadays, a lot of Internet pages of public bodies have their discussion gateway, that bear the different quality. It can be seen, that central authorities do not prefer this form because maybe the officials of these central authorities and politicians are afraid of publishing of the unfavourable facts that can not be deleted from the pages simply, especially if they are visible to the registered users.

Mainly municipalities and towns can use electronic discussions on their Internet pages effectively for improving of management of public affairs. In most cases it also depends on the abilities and imagination of the leading persons.

The aim of term of e-government is raising the effectiveness of public administration, that means the simplifying the connection public with it. For achieving this aim it is necessary to establish some communication rules of the relevant characters and content of the roles made by the state authorities and local municipal authorities. Electronic public administration is the service for people and its goal is to enable better relation between the official and citizen. The benefits of e-government can be seen in some aspects. One of them represents raising effectiveness of the activity of public administration. The saving can be achieved in lower horizontal and vertical connection of the individual authorities both in the national and international (especially European) level. The next aspects of positives are improving of the services, reduction of the administrative load, increasing of the openness of public administration and increasing of the confidence of the citizens in it, better transparency, reduction of the corruption and clientelism or higher grade of democracy and participation on the citizens. In the last aspect e-government, especially strengthen the role of the citizen who is not limited in classic participation in the elections or voting, has great importance. Improving of the services services corresponds with the fact, that the authority would be heads for the requests of the individuals users. Reduction of the administrative load means the lower costs for the bodies and improving the competitiveness which can reduce some extra costs. Increasing of the openness of public administration and increasing of the confidence of the citizens in it is caused by electronization of all processes and it is thus possible publish with minimum amount of the costs various information on public administration. Better transparency represents better possibility of understanding and control of the activities of public administration from the public. Reduction of the corruption and clientelism is the result of better transparency of the processes in public administration.

E-government also bear some risks, like insuring of the data security or problem of so called digital divide. Data security means that some person can get to the comuter of public body or to the specific net. The problem so called digital divide means the problem of the unequal accessibility of the information technologies or quality connection on the Internet. The reason can be technical or financial or computer literacy.

E-governance is using computer and communication technologies by different participants in society with the aim of improving their access to information and establishing their capacity.

## **CONCLUSION**

The member states of the European Union have tendency to support the implementation of the e-participation concept as one of the five priorities of the eGovernment Action Plan. The main goal is to present effective public discussion and participation through using specific instruments or tools in decision-making processes. The states named above intensified their commitment to electronic participation in the Lisbon Ministerial Declaration which was adopted in September 2007. It is planned in all countries that project of e-participation will continue and will be still supported by central bodies of individual member states of the European Union. Text.

It can be said that the project of e-participation in the Czech republic is not so developed to achieve good results in active participation of inhabitants through information and communication technologies. The important factor which can influence using of e-participation is the inhabitants' attitude to e-participation. The inhabitants can influence by very important way the next future of this section of electronic public administration.

It can be supposed that the activities in the e-government or e-participation according to the nowadays trend of the fast development of information technologies and increasing of the computer literacy of the Czech public will widen. The public can be pleased with implementation of new elements, of new possibilities of the electronic communication and electronic participation into the relations with public administration.

### **BIBLIOGRAPHY**

- [1] *Irvin, R., Stanbury, J.: Citizen Participation in Decision Making: Is It Worth the Effort? Public Administration Review, 2004*
- [2] *Lebessis, N., Paterson, J.? Evolution in Governance. What lessons for the Commission, a first assessment. European Commission: Forward Studies Unit, 1997*
- [3] *Peters, B.: Forms of Informality: Identifying Informal Governance in the European Union. Perspectives on European Politics and Society, 2006*
- [4] *E-Government for Better Government. Paris: Organization For Economic Co-operation and Development, 2005*
- [5] *Bedrlík, J.: E-government. E-government: elektronizace veřejné správy, 2001*
- [6] *Mates, P.: E-government v české veřejné správě. Právní rozhledy: časopis pro všechna právní odvětví, 2005*
- [7] *Dahl, J.: O demokracii. Praha: Portál, 2001*

Jitka Pěkná  
University of Economics in Prague  
place W. Churchill 4  
Prague 3  
peknaj@vse.cz

**ECONOMIC THEORY, ECONOMIC POLICY AND  
ECONOMIC HISTORY**

# **THE GENERALIZED DOUBLE DIAMOND MODEL – APPLICATION FOR CZECH REPUBLIC AND SLOVAKIA**

**Pavĺina Balcarov**

## **ANNOTATION**

Porter’s competitiveness diamond was a significant contribution to the theory of competitiveness on the national level. After incorporating the multinational activities into this originally home based model a new generalized double diamond model was born. This paper compares the two models first. Consecutively a few proxy variables for each part of the diamond model on domestic and international level are chosen. Finally the competitiveness index of the diamond is computed and the results of domestic and international diamond are compared.

## **KEY WORDS**

international competitiveness, Porter’s diamond, generalized double diamond, small open economy, Czech Republic, Slovakia

## **INTRODUCTION**

Michael E. Porter contributed with his diamond model of a nation’s competitiveness to the theory of macroeconomic competitiveness relevantly. He constructed the competitiveness diamond as a connection between macroeconomic and microeconomic view. According to his theory the competitiveness diamond is created by four determinants of national competitive advantage. But his model is just home based and thus isn’t appropriate for small open economies. For that reason the generalized double diamond was created a few years later. This model incorporates multinational economic activity as an endogenous variable.

The goal of the paper is a construction of the generalized double diamond for Czech Republic and Slovakia and evaluation of acquired results. In the first part of the contribution the single diamond and the generalized double diamond are presented and compared. In the next part appropriate variables are chosen and applied on the generalized double diamond model for two small open economies - Czech Republic and Slovakia. The last part of the paper shows the construction of the generalized double diamond for Czech Republic and Slovakia.

## **SINGLE DIAMOND VERSUS GENERALIZED DOUBLE DIAMOND**

Porter’s diamond connected macroeconomic and microeconomic view on competitiveness. It defines conditions, under which national firms like national industries become competitive advantage. The competitiveness of the national firms in international comparison creates the competitiveness of the economy. In Porter’s view, competitiveness is a dynamic concept. To maintain the competitive level, the innovation and improvement process can never stop.

Four determinants of national competitive advantage create the competitiveness diamond. All determinants interact and all are important for the competitiveness of the economy. The first part of the diamond are factor conditions, which indicate the factor endowment of the country. Factor conditions can be separated into two groups, basic and advanced factor conditions. The advanced factor conditions, such as high-skilled labour or research and development are on international level more important than basic factor conditions like climate or resources.

Demand conditions are determined by the nature and size of the home demand. The most important attributes of demand factors are the market size and the sophistication degree of buyers.

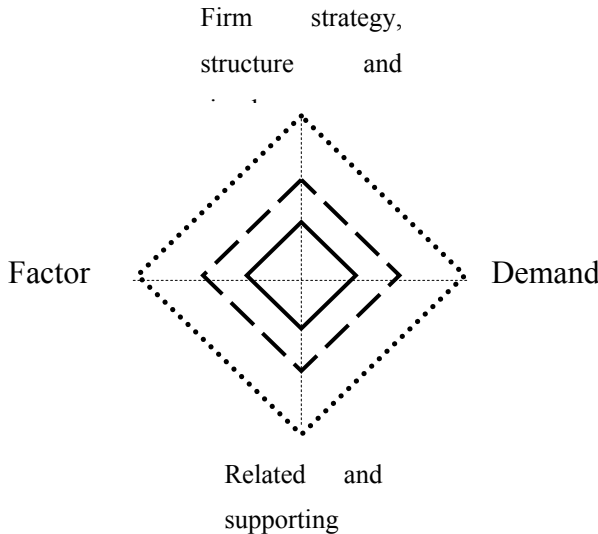
Related and supporting industries are the sequel part of the diamond. It is important for the competitiveness of the country whether there are internationally competitive suppliers and related industries in the country. If the supplier industry has a competitive advantage, it shares it with other industries. The nearer suppliers are to the other firms, the stronger the impact is.

The last group of determinants is the firm strategy, structure and rivalry. It means, how companies are created, organized and managed and what is the nature of domestic rivalry. The rivalry constrains firms to innovation process as well as new firms formation.

Porter's diamond is a great concept of competitiveness, but it failed to define the competitiveness of small open economy. Porter's single diamond is fixed on large home based country, but in small open economies multinational activities are very important too. That is why many other economists tried to interconnect Porter's single diamond with diamonds of other stronger economies in the last decade of the 20th century. In the year 1995 Moon et al. formulated the generalized double diamond model, which finally incorporated multinational activity as an endogenous variable of the model.

Figure 1 shows the global competitiveness diamond (dotted line) as a sum of domestic diamond (solid line) and international diamond (dashed line). It depends on individual country, which part of the global diamond prevails.

Fig.1 The generalized double diamond



Source: Moon, Rugman, Verbeke (1998)

## DIAMOND VARIABLES AND DATA

Figure 2 lists variables chosen to represent domestic diamond for Czech Republic and Slovakia. Basic factor conditions are expressed by gross value added in industry and wages/salaries in manufacturing, both of them represent rather low-skilled labour. Gross domestic expenditure on R&D and number of personnel in R&D are representative for advanced factor conditions. As it is written in previous part, the most important determinant of demand conditions is the market size and sophistication of buyers. Final consumption expenditure is proxy for market size, number of tertiary graduates in science and technology and public expenditure on education are proxy for the sophistication level of home demand. For the third part of diamond the proximity of the firms is essential aspect. Thus the number of cellular phone subscriptions and length of railway tracks and motorways is adopted as a proxy for related and supporting industries. The last part of the diamond is represented by the number of enterprises with innovation activity and intensity of innovation<sup>1</sup>, because the innovation arises as a consequence of firm's rivalry.

Fig.2 Domestic variables of the diamond model

<b>Factor conditions</b>	Gross value added in industry (2005-2008, euro per inhabitant) Wages and salaries in manufacturing (2005-2008, euro per inhabitant) Gross domestic expenditure on R&D (2005-2007, % of GDP) Total R&D personnel (2005-2007, per 1000 inhabitants)
<b>Demand conditions</b>	Final consumption expenditure (2005-2008, euro per inhabitant) Tertiary graduates in science and technology (2005-2007, per 1000 of population aged 20-29 years) Public expenditure on education (2005-2006, % of GDP)
<b>Related and supporting industries</b>	Mobile cellular telephone subscriptions (2005-2008, per 100 inhabitants) Railway transport – length of tracks (2005, km per million of inhabitants) Length of motorways (2005, km per million of inhabitants)
<b>Firm strategy, structure and rivalry</b>	Enterprises with innovation activity (percentage share, 2004-2006) Intensity of innovation (2006)

Next figure shows data for Czech Republic and Slovakia, which creates the domestic competitiveness diamond of each country. It is obvious, that Czech Republic reached better results in almost all parts of the diamond. According to this results of the domestic diamond we can declare, that Czech Republic is more competitive than Slovakia.

<sup>1</sup> Intensity of innovation denotes share of innovation expenditure in total turnover of enterprises with product or process innovation.

Fig.3 Domestic diamond data

	<b>Czech Republic</b>	<b>Slovakia</b>
<b>Factor conditions</b>	<i>gross value added in industry</i>	
	3400	2550
	<i>wages and salaries in manufacturing</i>	
	1075	675
	<i>gross domestic expenditure on R&amp;D</i>	
	1,5	0,49
	<i>total R&amp;D personnel</i>	
	6,7	4,2
<b>Demand conditions</b>	<i>final consumption expenditure</i>	
	8250	7025
	<i>tertiary graduates in science and technology</i>	
	10,1	10,8
	<i>public expenditure on education</i>	
	4,4	3,9
<b>Related and supporting industries</b>	<i>mobile cellular telephone subscriptions</i>	
	125,5	97,4
	<i>railway transport – length of tracks</i>	
	1578,6	678,8
	<i>length of motorways</i>	
	55,1	60,8
<b>Firm strategy, structure and rivalry</b>	<i>enterprises with innovation activity</i>	
	41,4	24,2
	<i>intensity of innovation</i>	
	2,6	3,2

Source: Eurostat, United Nations Data Retrieval System, Czech Statistical Office, Statistical Office of the Slovak Republic, own calculations

Footnotes: The percentage share of enterprises with innovation activity in Slovakia is a mean of 2004 and 2006 value. Data for 2005 are not available.

Figure 4 lists variables chosen to represent international diamond for Czech Republic and Slovakia. As a proxy for basic factor conditions was chosen foreign direct investment intensity<sup>2</sup> and for advanced factor conditions number of patent applications to the EPO<sup>3</sup>. Demand conditions are in international level represented by the size of export market measured as percentage of GDP. Number of airports with more than 15000 passenger movements per year is proxy for the third part of diamond, because air move is relevant in international context. Firm strategy, structure and rivalry is measured by openness to foreign products, so import ratio functions as a proxy variable.

<sup>2</sup> Foreign direct investment intensity is average value of inward and outward FDI flows.

<sup>3</sup> European Patent Office.



Fig.4 International variables of the diamond model

<b>Factor conditions</b>	Foreign direct investment intensity (2005-2007, % of GDP) Patent applications to the EPO (2005-2006, per million of inhabitants)
<b>Demand conditions</b>	Export (2005-2008, % of GDP)
<b>Related and supporting industries</b>	Number of airports (2007, per million of inhabitants)
<b>Firm strategy, structure and rivalry</b>	Import (2005-2008, % of GDP)

Data for international diamond variables in Czech Republic and Slovakia are shown in Figure 5. It is evident, that with the exception of factor conditions, Slovakia leads in all remaining parts of the diamond. Thus Slovakia is more competitive than the Czech Republic according to the international diamond.

Fig.5 International diamond data

	<b>Czech Republic</b>	<b>Slovakia</b>
<b>Factor conditions</b>	<i>foreign direct investment intensity</i>	
	3,4	3,2
<b>Demand conditions</b>	<i>patent applications to the EPO</i>	
	10,6	5,9
<b>Related and supporting industries</b>	<i>export</i>	
	66,6	71,2
<b>Firm strategy, structure and rivalry</b>	<i>number of airports</i>	
	0,39	1,1
	<i>import</i>	
	66,6	76

Source: Eurostat, United Nations Data Retrieval System, Czech Statistical Office, Statistical Office of the Slovak Republic, own calculations

## GLOBAL DIAMOND AND COMPETITIVENESS

If we link the domestic and international diamond of each country together, we become the global diamond. We just need to calculate the competitiveness index for each part of the diamond. The easy way how to calculate competitiveness index is the following: for each of the four parts of diamond the maximum value is 100. If some part has more elements, the maximum value of each element is just divided by the number of elements. So for example the Czech competitiveness index for factor conditions in international level can be computed:

$$\frac{1}{2} * 100 + \frac{1}{2} * 100 = 100.$$

The Slovak competitiveness index for factor conditions in international level is then:

$$\frac{1}{2} * 94,1 + \frac{1}{2} * 55,7 = 74,9.^4$$

Figure 6 shows domestic and international competitiveness indices of the diamond model for Czech Republic and Slovakia. It just confirms the previous observations of Figure 3 and Figure 5. Czech Republic achieves higher domestic competitiveness index in all parts of the diamond. On the contrary, Slovakia leads in the international competitiveness index in all parts of the diamond with the exception of factor conditions.

<sup>4</sup> Maximum value for foreign direct investment intensity is 3,4 and that is 100%. Value 3,2 then makes 94,1%.

Fig.6 Competitiveness index

	Czech Republic		Slovakia
	<i>domestic</i>		
<b>Factor conditions</b>	<i>domestic</i>	100	58,4
	<i>international</i>	100	74,9
<b>Demand conditions</b>	<i>domestic</i>	97,8	91,3
	<i>international</i>	93,5	100
<b>Related and supporting industries</b>	<i>domestic</i>	96,9	73,5
	<i>international</i>	35,5	100
<b>Firm strategy, structure and rivalry</b>	<i>domestic</i>	90,7	79,3
	<i>international</i>	87,6	100

Source: Eurostat, United Nations Data Retrieval System, Czech Statistical Office, Statistical Office of the Slovak Republic, own calculations

If we add together domestic and international competitiveness indices for each country, we can see, that in global point of view Czech Republic has competitive advantage in factor conditions, but Slovakia is better off in the third part of diamond, in related and supporting industries. With respect to demand conditions and firm strategy, structure and rivalry, Czech Republic and Slovakia are abreast.

## CONCLUSION

The difference between Porter's single diamond and generalized double diamond was discussed in this paper. It was demonstrated on two small open economies, that single diamond can purvey distorted information about competitiveness, because it ignore multinational activities and look upon all countries as home based economies.

While Czech Republic is more competitive than Slovakia according to the domestic diamond, the results are much better for Slovakia when the international diamond is taken into consideration. This can reflect the major openness of the Slovak economy. But the empirical results are dependent on the chosen variables and accessible data. It was above all difficult to find appropriate variables and data for the international diamond. Thus the results are certainly affected by small number of proxy variables for international diamond.

On the other hand, the results of the domestic competitiveness index of the diamond correspond well to other indicators of competitiveness. According to the competitiveness yearbooks published by two most important institutions dealing with macroeconomic competitiveness - Global Competitiveness Report published by World Economic Forum and World Competitiveness Yearbook published by International Institute for Management Development - is Czech Republic more competitive than Slovakia. Thus the Porter's single diamond provides more similar results.

## BIBLIOGRAPHY

- [1] Liu, Day-Yang, Hsin-Fang: An international comparison of empirical generalized double diamond model approaches to Taiwan and Korea, 2009.
- [2] Moon, H., C., Rugman, A. M., Verbeke, A.: The generalized double diamond approach to international competitiveness. Research in global strategic management, volume 5, 1995.
- [3] Moon, H., C., Rugman, A. M., Verbeke, A.: A generalized double diamond approach to the global competitiveness of Korea and Singapore. International business review, volume 7, 1998.

- [4] Porter, M., E.: The Competitive advantage of nations, The Free Press, New York, 1998.
- [5] Czech Statistical Office [online], [www.czso.cz](http://www.czso.cz)
- [6] Eurostat [online], <http://epp.eurostat.ec.europa.eu>
- [7] Statistical Office of the Slovak Republic [online], <http://portal.statistics.sk>
- [8] United Nations Data Retrieval System [online], <http://data.un.org>

Mgr.Ing. Pavlína Balcarová  
Ekonomicko-správní fakulta MU  
Lipová 41a  
Brno 602 00  
[75962@mail.muni.cz](mailto:75962@mail.muni.cz)

# **HOMO SOCIOLOGICUS VS. HOMO ECONOMICUS – A COMPARISON**

**Artur Borcuch**

## **ANNOTATION**

This article presents the model of economic human and sociological human and is an attempt to create a model of socio-economic human. The argumentation will be undertaken on the basis of widely discussed issues related to economic sociology.

## **KEY WORDS**

Economic sociology, homo economicus, homo sociologicus

## **INTRODUCTION**

The way to see a human being as a homo economicus seems to be quite underestimated nowadays. It is explained by the fact that every human lives in the society and thus he does not determine his actions merely by economic criteria. On the other hand homo sociologicus way to depict a human being is insufficient too, as the economic environment must be considered.

The main objective of this article is to present the model of economic human and sociological human and to create a model of socio-economic human. The argumentation will be undertaken on the basis of widely discussed issues related to economic sociology.

## **AIM AND METHODOLOGY**

This article is an attempt to construct model of socio-economic human.

## **ECONOMIC SOCIOLOGY**

An essential area of social life is the economy (economizing as a social process), in which most important social processes take place. Moreover in the economy different social institutions function, attitudes are shaped and actions which affect social life can be met<sup>1</sup>. On the other hand development in the economy embrace norms, institutions, social structures which demonstrate fundamental meaning in understanding economic processes<sup>2</sup>.

An important influence of the economy on the society is testified by variety of sociological schools, division of societies and their analysis based upon the level of economic development. Hence some notions are omnipresent. Among them there are: postindustrial, preindustrial, industrial and postindustrial society<sup>3</sup>, as well as general selection of societies concerning the developing ones and the developed ones (as far as GDP is concerned). What is more, the fact that the economy (the sphere of economics) predominantly influences social

---

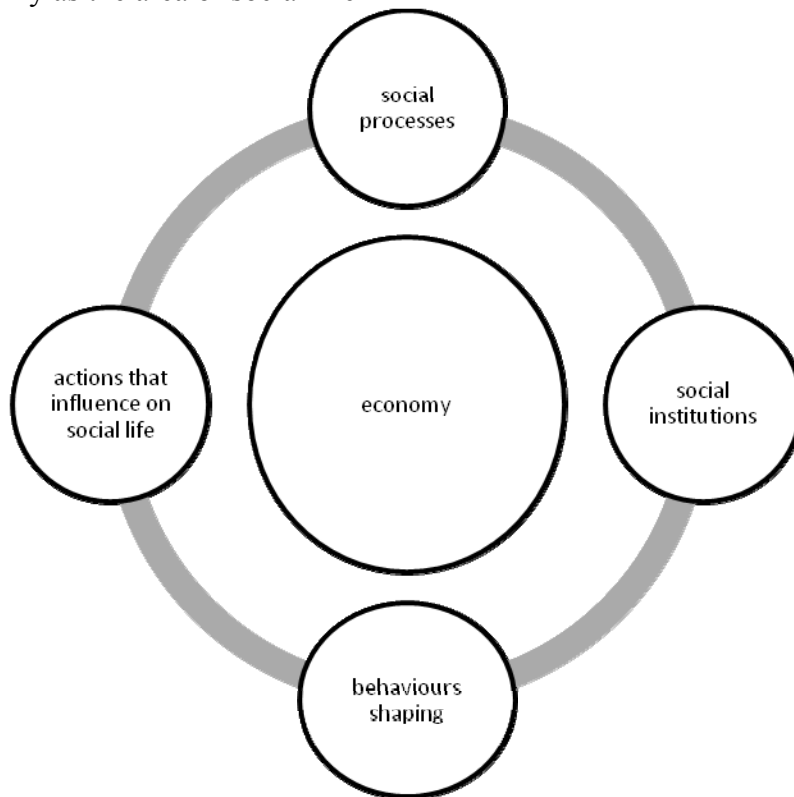
<sup>1</sup> L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, p. 9.

<sup>2</sup> J. Beckert, *Beyond the Market. The Social Foundations of Economic Efficiency*, Princeton University Press, Princeton – Oxford 2002, p. 295.

<sup>3</sup> F. Webster, *Theories of Information Society*, Routledge, London-New York 2002, p. 6.

life is broadly considered by social sciences. However this view is mainly shaped by the economics<sup>4</sup>.

Fig. 1: Economy as the area of social life



Source: Prepared on the basis of: L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, s. 9.

Additionally it should be underlined the interests in the economy by sociology is in most cases seen through two dimensions. One of them describes the economy as a subject of sociological research. In this way many subdisciplines, such as, e.g. labor sociology, industrial sociology have been shaped. Those aspects cover some aspects of economic sociology, however do not take into account an important group of relations which are between the society and the economy. It is linked to another sociological approach to economy which lingers on the assumption. According to that assumption the economy is merely a part of social life which functions under the social system<sup>5</sup>. The subsystems of the social system are: system of the economics, legal system, political system and others<sup>6</sup>.

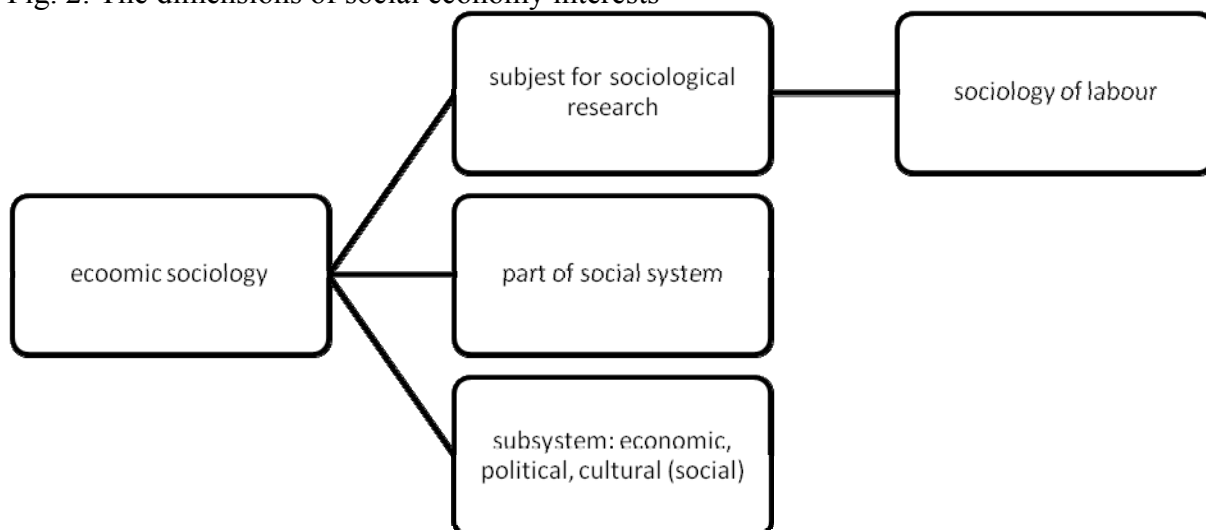
---

<sup>4</sup> L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, p. 9.

<sup>5</sup> L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, p. 10.

<sup>6</sup> Z. Polański, *Wprowadzenie. System finansowy we współczesnej gospodarce rynkowej*, [in:] *System finansowy w Polsce*, Tom 1, ed. B. Pietrzak, Z. Polański, B. Woźniak, Wydawnictwo Naukowe PWN, Warszawa 2008, s. 16.

Fig. 2: The dimensions of social economy interests



Źródło: Prepared on the basis of: L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, s. 10.

It is also worth mentioning that from the perspective of economic sociology market economy is embraced into a more complex context than the one in the economics. Economic sociology builds the new perspective to observe the old problems<sup>7</sup>. Apart from the fact, that economics and sociology both ignored themselves for centuries an important reverse has been noticed throughout last two decades<sup>8</sup>.

### HOMO ECONOMICUS VS. HOMO SOCIOLOGICUS

It is commonly known that the main actor of the economics mainstream is a concept of homo economicus, accepted by the economics since XVIII century. This construction is founded on the assumption that every human being is driven by calculation and interestedness. This forces omit both motivation according to social nature as well as social conditions, especially tradition and customs<sup>9</sup>.

Generally speaking one might say that homo economicus is characterized by two features: maximizing of satisfaction by making rational decisions<sup>10</sup>. Obviously it can't be forgotten that homo economicus takes risk and respects norms when they comply with his business<sup>11</sup>.

The model of homo sociologicus determines how freedom is restricted by social norms and roles. In general view this concept of human being is a "collection" of social actors susceptible to innate social motivations including acceptation, morality, habits and other socio-cultural rules<sup>12</sup>. Moreover this model shows off social human action. If norms and other

<sup>7</sup> S. Flejterski, *Podstawy metodologii finansów. Elementy komparatystryki*, Wyd. Economicus, Szczecin 2006, p. 113.

<sup>8</sup> J. Beckert, *Beyond the Market. The Social Foundations of Economic Efficiency*, Princeton University Press, Princeton – Oxford 2002, p. 1.

<sup>9</sup> O. E. Kangas, *Self-interest and the common good: The impact of norms, selfishness and context in social policy opinions*, "The Journal of Socioeconomics" 1997, vol. 26, Issue 5, p. 477.

<sup>10</sup> K. Pawłusiewicz, B. Brożek, *Prawo karne w świetle ekonomicznej teorii prawa (Uwagi krytyczne)*, „Państwo i Prawo” 2002, z. 12, p. 47.

<sup>11</sup> R. López-Pérez, *Followers and leaders: Reciprocity, social norms and group behavior*, "Journal of Socio-Economics" 2009, vol. 38, issue 4, p. 557.

<sup>12</sup> M. Zafirovski, *A socio-economic approach to market transactions*, "The Journal of Socioeconomics" 1999, vol. 28, Issue 3, 1999, p. 315.

social alignments are needed, then individuals could act against their interests – homo sociologicus wins<sup>13</sup>.

According to W. Morawski homo economicus and homo sociologicus should both be rejected. Instead he proposes the concept of homo socio-economicus<sup>14</sup>. This concept is driven by self interest and common norms<sup>15</sup>. What is more it is also called homo complexicus<sup>16</sup>.

As far as homo socio-economicus behaviors are concerned, the main role is taken by institutional patterns, which are a product of socialization and adaptive abilities. A human makes his decisions, acting by needs and aspirations as well as institutional models of behavior and the so called mental models, shaped under the influence of micro and macro environment. According to the tradition of Weber school these types of rationality play major role. The contemporary analytics dealing with this aspects are M. Crozier and R. Dahrendorf. The first one is the author well known study of bureaucracy, while the second one is the inventor of industrial society<sup>17</sup>.

## CONCLUSION

Homo economicus and homo sociologicus are merely theoretical ones. However in reality we seem to be the types of homo socio-economicus, driven by both sociological and economic values. Obviously one can be more homo sociologicus or more homo economicus. To sum up question arises what about persons who are not homo socio-economicus. It seems as the answer to that question has been conducted by U. Beck, who gave an example of assassin-suicide deprived of any economic or moral limitations. assassin-suicide is strictly speaking an individual and his action totally separate. This example constitutes specific extreme and thus do not lever fundamental rules of homo socio-economicus.

## BIBLIOGRAPHY

1. Beckert J., *Beyond the Market. The Social Foundations of Economic Efficiency*, Princeton University Press, Princeton – Oxford 2002.
2. Flejterski S., *Podstawy metodologii finansów. Elementy komparatystyki*, Wyd. Economicus, Szczecin 2006.
3. Gilejko L., *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005.
4. Kangas O. E., *Self-interest and the common good: The impact of norms, selfishness and context in social policy opinions*, "The Journal of Socioeconomics" 1997, vol. 26, Issue 5.
5. López-Pérez R., *Followers and leaders: Reciprocity, social norms and group behavior*, "Journal of Socio-Economics" 2009, vol. 38, issue 4.
6. Pawłusiewicz K., Brożek B., *Prawo karne w świetle ekonomicznej teorii prawa (Uwagi krytyczne)*, „Państwo i Prawo” 2002, z. 12.
7. Polański Z., *Wprowadzenie. System finansowy we współczesnej gospodarce rynkowej*, [in:] *System finansowy w Polsce*, Tom 1, ed. B. Pietrzak, Z. Polański, B. Woźniak, Wydawnictwo Naukowe PWN, Warszawa 2008.

---

<sup>13</sup> O. E. Kangas, *Self-interest and the common good: The impact of norms, selfishness and context in social policy opinions*, "The Journal of Socioeconomics" 1997, vol. 26, Issue 5, p. 476.

<sup>14</sup> S. Flejterski, *Podstawy metodologii finansów. Elementy komparatystyki*, Wyd. Economicus, Szczecin 2006, p. 113.

<sup>15</sup> O. E. Kangas, *Self-interest and the common good: The impact of norms, selfishness and context in social policy opinions*, "The Journal of Socioeconomics" 1997, vol. 26, Issue 5, p. 478.

<sup>16</sup> M. Zafirowski, *A socio-economic approach to market transactions*, "The Journal of Socioeconomics" 1999, vol. 28, Issue 3, 1999, p. 321.

<sup>17</sup> L. Gilejko, *Spoleczeństwo a gospodarka. Socjologia ekonomiczna*, Oficyna Wydawnicza SGH, Warszawa 2005, p. 25.

8. Webster F., *Theories of Information Society*, Routledge, London-New York 2002.
9. Zafirowski M., *A socio-economic approach to market transactions*, "The Journal of Socioeconomics" 1999, vol. 28, Issue 3, 1999.



# AGENTS' BEHAVIOR AND EFFICIENT MARKET THEORY

Rudolf Bryša

## ANNOTATION

The efficient market theory examines which groups of information are included in the market price. It also provides a hypothesis of efficient market where prices fully reflect all available information. However, the theory does not describe the behaviour of economic agents which leads to the state where the market is efficient. Robert Lucas, with his model based on rational expectations, offers a possible solution. The purpose of this paper is to provide an alternative framework which splits the agents' behaviour into four phases: information selection, interpretation, portfolio selection, and feedback phase. Finally, based on this framework, the efficient market hypothesis is re-examined.

## KEY WORDS

Efficient market theory, EMT, information, efficient market, knowledge of particular circumstances of time and place, scientific knowledge.

## INTRODUCTION

The efficient market theory emerged from the random walk theory in capital markets. The theory examines which information is included in the market price and provides a hypothesis of efficient market as “a market in which prices always fully reflect all available information”[3]<sup>1</sup>. It is not possible to achieve an excess return based on available information in the efficient market. This description defines the final state of efficient market, however, it does not provide description of agents' behaviour that lead to the state of efficient market. Lucas[9] and LeRoy[8] proposed possible models of the agents' behaviour. The purpose of this paper is to present an alternative model which is primarily focused on the information processing.

## MODEL

The starting point is the information definition and classification. The information decreases uncertainty about the state of a market system. This definition is based on the cybernetics definition of the information. The classification of information is based on Hayek's approach [7] which distinguishes two kinds of information: the knowledge of the particular circumstances of time and place and the scientific knowledge. The scientific information is available in the form of statistics and aggregates. The knowledge of the particular circumstances of time and place is individual. This information is one of the results of an agent's economic activity, i.e. agent does not have to make any effort to obtain this information. The scientific information is derived – the agent obtains this information by the observation of the economic system. Agent does not have to make any effort to obtain this information. Its key feature is that the scientific information is not of individual nature. Several agents can possess one particular piece of scientific information. The scientific information describes the future market price in this particular context. I define the strength of information which describes the amount of the price change and is explained by one piece of scientific information:

$$F_I = \frac{\Delta P_t^I}{\Delta P_t}$$

---

<sup>1</sup> See also [2] and [12].

where  $F_I$  is the information strength,  $\Delta P_t^I$  is the price change explained by a piece of information and  $\Delta P_t$  is the price change. The strength of information can be also negative. Therefore I define the sufficiently strong information I:

$$\text{sign}(\Delta P_t^I) = \text{sign}(\Delta P_t) \wedge |\Delta P_t^I| > |\Delta P_t^J|, J = \{I_j\} \wedge F_J < 0$$

Information is sufficiently strong if the price change explained by a piece of information has the same sign as the market price change. Moreover, it is stronger than any group of negative information.

Noise is an important element in the information processing. Black[1] described it as the opposite of the information. The agent acts, in response to noise, as if it was information. It affects all aspects of the information processing. If we define asset value as a value based on all information then the market price can differ from its value because of noise. However, noise has a zero mean value so, in the long term, its effect on the market price is neutral. Agents cannot decipher between information and noise.

The agents' handling of the information can be split into following phases:

1. Information selection
2. Interpretation
3. Portfolio selection
4. Market action
5. Feedback phase

The scientific information selection is based on the Stigler's approach[13]. The additional information decreases uncertainty about the future market price. The agent compares the marginal revenue and marginal cost of one piece of information. What is important is that the agent is not capable of collecting all information and thus has to choose the most important pieces of information at the lowest cost. Therefore, the agent selects the information subset from the all-available data set in the selection phase. From the agent's point of view the information subset contains only relevant information, however, it can contain noise as well in reality.

The selection phase is followed by the interpretation phase. Agent uses the selected information in order to determine his estimation of the future market state, in particular, the market prices, revenues and risks. There are various interpretation methods that are based on certain information classes. The agent can apply methods using the past market prices as the input variables. Therefore, the information selection and its interpretation depend on each other. The information set determines the methods which are used for the interpretation. The interpretation is affected by noise in similar ways as was the information selection. The agent tries to explain noise and create estimation based on noise.

Information can be interpreted in two ways. The first is a common quantitative prediction of the future price  $P_{t+x}^e$ . This way can be described as cardinal. The agent has to estimate the information strength. If not, the gain is uncertain despite the correct interpretation, because the agent could always act according to a piece of information with negative strength which would result in the opposite price change then expected. The second way is the estimation of the market price direction. Following this way, which could be described as ordinal, the agent compares pieces of information or groups of information and estimates the sign of the market price change. Still, he does not estimate the quantitative price change. What is essential is only the direction of the price change. The sufficiently strong information becomes here the prerequisite of the market action as well. This ordinal way is more simple, however, it has certain limitations as will be seen further.

Estimated market prices together with estimated revenue and risk create the basis of the portfolio selection as described by Markowitz[10] and Tobin[14]. The agent chooses different assets based on revenue, risk and own risk aversion. The resulting portfolio determines the

market action after the agent adjusts the current portfolio. Moreover, with his market action, the agent influences the market price with the market action and also incorporates his own information into the market price.

This is the way how the information is spread to other market participants. However, it is necessary to distinguish here between the scientific and individual information from the agent's point of view. The key question is how the agent perceives his position in respect to the market system. In regards to the individual information the agent acts completely within the market system, being aware of it. The agent knows that he is a part of the market system and expects the market to react to his action (where the zero reaction is also reaction).

On the contrary, the agent with scientific information perceives his position as one outside of the market system. He observes the market system and derives the scientific information from it. However, he does not expect the market to react to his subsequent market action. He expects neutral reaction. This is because the scientific information describes a result of future market interaction. Therefore, if the market would have already reacted to the agent's action it would mean that the particular piece of scientific information had been incorporated into the market price. With this incorporation the agent would achieve zero gain from the information. In order to achieve a positive result from the scientific information the agent has to adjust the portfolio before the incorporation of the information into the market price is made.

The agent predicts price at time  $t+x$  where  $x>0$ . Let us discuss several values of the  $x$ . If  $x=1$  then the agent will not realize any gain from his information because the asset will be bought or sold at price  $P_{t+1}$ , i.e. at the time when the information is incorporated in the market price. If  $x$  equals 2, the agent can achieve revenue from his information based on the difference between  $P_{t+2}$  and  $P_{t+1}$ . But the agent has predicted only  $P_{t+2}$ , not  $P_{t+1}$ . Therefore, he needs to express some assumption about price  $P_{t+1}$ . This is the point where the agent expects zero market reaction, i.e. he expects either equality of  $P_t$  and  $P_{t+1}$  or uses some more common assumption based on past variance of the market price. The agent can also define some maximum volume of his market action which does not influence the market price. This then becomes the upper limit of the potential revenue.

If the  $x > 2$  the agent has to also estimate the value of  $x$  in general, i.e. he has to estimate when the scientific information will be incorporated in the market price.<sup>2</sup> The comparison between  $P_{t+j}$ , price at time  $t + j$  and estimated price  $P_{t+x}^e$  becomes important then. If  $P_{t+j}$  is equal to  $P_{t+x}^e$  then the agent will expect the information to be incorporated in the price and will close the position. This means that we can assume  $j \leq x$ . The initial market action has similar features. The agent either buys or sells the asset directly for price  $P_{t+1}$  or predicts some other moment where the difference to  $P_{t+x}^e$  is the greatest.

The estimated value of  $x$  is also related to the fact how the information is interpreted. There are two main means of information evaluation – ordinal and cardinal. Opportunity cost is the second main factor in this context. The opportunity cost can be split into the effort (time) spent on information compilation and the risk adjusted interest rate. The latter can be ignored in the short term. As with the ordinal evaluation the agent only predicts the direction of the price change, the ordinal way is only suitable for information with low value of  $x$ , meaning the information with short time horizon. This is also related to the invested effort as the information has to be selected and interpreted quickly and easily.

For the information with longer horizon of incorporation the agent has to use cardinal way of interpretation. Only this way ensures that the expected revenue exceeds the cost which includes both the spent effort and the risk adjusted interest rate. The opportunity cost also

---

<sup>2</sup> The main exception when the  $x$  is known is prediction of the market price at known time in the future. For example if the agent predicts value of company dividend then the  $t+x$  is time when the dividend is announced, i.e. stockholders meeting.

stands for the preference of information of short horizon and preference of time  $t+j$  over  $t+x$ , thus the earlier termination of the market position.

The last phase is the feedback. Agent measures the achieved revenue, compares the real price with his price expectation, and evaluates quality of his information processing. The feedback phase provides the connection between the interpretation and selection in the opposite direction, i.e. the interpretation ability determines the information selection. The way in which the agent interprets information determines which pieces of information are selected.

The feedback potential is limited by several factors. Firstly, the agent knows only the market price and his own market price expectation. In general, it is impossible to split the effects of the individual phases into achieved result because the agent cannot distinguish between the results of information selection and interpretation. This is mainly caused by the imperfect information that agent has at his disposal. If the agent would have 100 percent strong information he can then decide whether the negative result was caused by the incorrect selection or incorrect interpretation. Similar exception can found in the situation when the agent knows the sufficiently strong information in the feedback phase. Then he can also distinguish between imperfect selection (agent did not have this information at disposal) and imperfect interpretation.

Noise is the second limiting factor. Agent cannot distinguish between noise and information. Therefore the feedback phase is also influenced by noise. The negative market result can be caused only by noise, yet, it can lead to an adjustment of correct information selection or interpretation. In extreme cases it can mean that the agent will try to interpret only noise. The only possibility to eliminate the effect of noise is offered by its zero mean value. The effect of noise is neutral in the long term. However, in order to utilize this possibility the information has to be recurrent and the agent has to insist on his interpretation.

Noise also allows for the existence of market strategies which would not exist otherwise[1]. Despite the fact that the agent can properly evaluate the quality of his information compilation, the incorrect selection or interpretation can persists over longer period of time. The agent simply believes in correctness of his behavior.

## RESULTS

The hypothesis of efficient market postulates that the market price fully reflects all available information in the efficient market. The second form of the hypothesis says that the agent cannot achieve excess return using his information. The main prerequisites are that information is available at no cost and that all agree on the effects of information on the market price.<sup>3</sup>

The described model incorporates the information selection and its interpretation into the agent's behavior. Agents have unique information selection, unique way how they interpret information and unique way of feedback. This leads to the reformulation of the efficient market hypothesis. Regarding the efficient market it is not possible to achieve excessive gain based on the standard way of information selection, interpretation and feedback evaluation. The word standard can be also interpreted as "well known". This reformulation has a following consequence. The usage of a new, nonstandard, method of information selection, interpretation and feedback can lead to the excess revenue which is consistent with the existence of the efficient market.

This conclusion is straightforward in case of a weak form of market efficiency. The agents select the information on the basis of market data. So, with better interpretation the agents can achieve the excess revenue. In case of a semi-strong form, the speed of information incorporation into the market price becomes crucial. Under the former hypothesis the

---

<sup>3</sup> See[3] and [5] for the discussion whether these prerequisites are sufficient or necessary.

information was incorporated in the market price completely and immediately. However, this would mean that agents have no motivation to react to this information, i.e. to incorporate this information into the market price. Therefore, the distribution of the information revenue is more important in this form. In the time when the piece of information emerges it is not included in the market price. The agents act base on this particular piece of information and incorporate this information into market price. Some of them also achieve revenue from this piece of information. Important is then the random distribution of the revenue. If the revenue is randomly distributed then the market is efficient because in long term it is not possible to achieve excess gain from the public information.

The fulfillment of the strong form of market information has fundamental consequences in case of information about of the particular circumstances of time and place. When the individual information is already incorporated in the market price the agent has no incentive to use this information. But without this incentive he wouldn't act and incorporate this information into the market price. So the market price wouldn't contain all information. Furthermore the market price wouldn't serve as transmission medium, it wouldn't reflect the value of the asset. Therefore the hypothesis is refused in case of individual information. Furthermore it doesn't describe the ideal state or in other words the desired state of market efficiency. Same conclusion is valid for scientific information, if they are not public available.

## **CONCLUSION**

This paper presents two main results. Firstly, it is the reformulation of the efficient market hypothesis. The efficient market was redefined as a market in which it is not possible to achieve an excess return based on the standard information selection, interpretation and feedback evaluation. This hypothesis incorporates the information processing directly into the definition of the information market.

Secondly, the strong form of the efficient market hypothesis is refused. The usage of individual information is one of the prerequisites of the market mechanism. If the agent does not achieve any gain derived from his individual knowledge the information is not incorporated into the market price. In this case he cannot serve as a transmission medium for the information.

## **BIBLIOGRAPHY**

- [1] Black, Fischer: Noise, The Journal of Finance, Blackwell Publishing for the American Finance Association, 1983
- [2] Fama, Eugene F.: The Behavior of Stock-Market Prices, The Journal of Business, The University of Chicago Press, 1965.
- [3] Fama, Eugene F.: Efficient Capital Markets: A Review of Theory and Empirical Work, The Journal of Finance, Blackwell Publishing for the American Finance Association, 1970.
- [4] Fama, Eugene F.: Efficient Capital Markets II, The Journal of Finance, Blackwell Publishing for the American Finance Association, 1991
- [5] Grossman, Sanford J., and Joseph E. Stiglitz: On the impossibility of informationally efficient markets, American Economic Review 70, 1980
- [6] Jensen, Michael C.: Some Anomalous Evidence Regarding Market Efficiency, Journal of Financial Economics, 1978.
- [7] von Hayek, F.: The Use of Knowledge in Society, The American economic Review, vol 35, no. 4, pp. 519-530, 1945.
- [8] LeRoy, Stephen F.: Risk Aversion and the Martingale Property of Stock Prices, Internation Economic Review 14, 1973

- [9] Lucas, Robert E., Jr.: Asset Prices in an Exchange Economy, *Econometrica*, The Econometric Society, 1978.
- [10] Markowitz, Harry: Portfolio Selection, *The Journal of Finance*, Blackwell Publishing for the American Finance Association, 1952.
- [11] Roberts, Harry V.: Statistical versus Clinical Prediction of the Stock Market, unpublished manuscript, in[3], 1967.
- [12] Samuelson, Paul A.: Proof That Properly Anticipated Prices Fluctuate Randomly, 1965.
- [13] Stigler, George J.: *The Economics of Information*, The Journal of Political Economy, The University of Chicago Press, 1961.
- [14] Tobin, James 1956. "Liquidity Preference as Behavior Towards Risk," *The review of Economic Studies* no. 67, 1958, reprinted in *Cowles Foundation Discussion Papers* 14, Cowles Foundation, Yale University.

Full name: Ing. Bc. Rudolf Bryša

Institution: Faculty of Economics and Administration of Masaryk University

Street: Lipová 41a

City: Brno

Email: 15575 (at) mail.muni.cz

# PRICE CONVERGENCE ON THE EUROPEAN UNION MARKET, BASED ON ECONOMIC THEORY OF THE LAW OF ONE PRICE

Aneta Dzik

## ANNOTATION

In this work, the price convergence on the European Union market was studied based on a panel data for the years 1995-2008. The aim of this paper was to investigate the hypothesis that integration has positive effects on convergence to the law of one price. The decreasing in time price dispersion and negative relation between the rate of growth of prices and the initial level were found. The analysis have shown rather slow speed of price convergence with half-life from 11 to 17 years for different groups of countries. The calculations were made using a methodology of sigma and beta convergence. Also the extended gravity equation was estimated to find relevant variables determining the process of price convergence. Factors such as common currency, similar values of vat rates, labour costs and gdp *per capita*, the additional year in EU diminish the deviations from the law of one price.

## KEY WORDS

price convergence, law of one price, European Union, integration

## INTRODUCTION

The law of one price (LOOP) states that in competitive markets free of transportation costs and official barriers to trade (such as tariffs), identical goods sold in different countries must be sold for the same price when their prices are expressed in terms of the same currency.<sup>1</sup> We can formulate the LOOP formally as follows:

$$P_A^i = E_{A/B} \times P_B^i \quad (1)$$

where  $P_A^i$  is a price of good  $i$  in country  $A$ ,  $P_B^i$  a price of good  $i$  in country  $B$ ,  $E_{A/B}$  an exchange rate.

In fact the law of one price is systematically violated by empirical data.<sup>2</sup> Theoretical explanations appearing in the literature for LOOP not holding point tariffs, subsidies, discriminating monopolies. It is thus interesting to look what are the determinants of deviations from the law of one price on the EU market, where trade barriers mentioned above are removed. Are the transportation costs the only reason? According to Allington this is not the only determinant explaining price dispersion across locations.<sup>3</sup> Spatial price differences are the result of many simultaneous macro and micro factors such as costs of getting information, different fiscal regulations, marketing costs, transaction costs, cultural differences, local preferences, size of a market.

According to the literature there exists a link between integration and price convergence in the international markets. The degrees of economic integration can be divided into six steps:<sup>4</sup> preferential trading area (with reduced customs tariffs) free trade area (with no internal tariffs on some goods), customs union (with the same external customs tariffs for third countries and a common trade policy), single market (with common product regulations and free movement

<sup>1</sup> P.R. Krugman, M. Obstfeld, *International Economics, theory and policy*, 2000.

<sup>2</sup> P. Isard, *How Far Can We Push the "Law of One Price"?* The American Economic Review, Vol. 67, No. 5 (Dec., 1977).

<sup>3</sup> N.F.B. Allington, P.A. Kattuman, and F.A. Waldmann, *One Market, One Money, One Price?* International Journal of Central Banking, 2005.

<sup>4</sup> [[http://ec.europa.eu/economy\\_finance/the\\_euro/the\\_euro6478\\_pl.htm](http://ec.europa.eu/economy_finance/the_euro/the_euro6478_pl.htm)].

of goods, capital, labour and services), economic and monetary union (a single market with a common currency and monetary policy), complete economic integration (all the above plus harmonised fiscal and other economic policies).

Changes connected with achieving the next level of integration have influence on the market and should affect price convergence. Based on traditional definitions of a market (Marshall 1947, Stigler 1969, Cournot 1971), price dispersion means that the market is not efficient, and price convergence can be treated as a measure of market integration.<sup>5</sup> Stigler defines a market as, the area within which the price of a commodity tends to uniformity, allowance being made for transportation costs.<sup>6</sup>

The idea of a united Europe dates back several centuries. Three main concepts of integration can be distinguished in the history of Europe, hegemonic aims realised to bring back the unity of Roman Empire, trials of building peaceful international relations, economic reasons. After the Second World War the idea of integration acquired a greater urgency. The most important events for this process and for price convergence have started in the middle nineties. The Treaty of Paris (1951) establishing the European Coal and Steel Community, Treaty of Rome (1957) establishing the European Economic Community and European Atomic Energy Community and Maastricht Treaty (1992) which transformed European Community into the European Union. Two events seem to be crucial in this context. Single Market Project removed physical, administrative and technical international barriers. The Economic and Monetary Union is connected with economic and fiscal policy coordination, common monetary policy, common currency, the area without interior borders. All members of EU are in economic union and some of them are on higher level of integration and have common currency, euro.

## AIM AND METODOLOGY

In this work, the price convergence on the European Union market is studied based on a panel data for the years 1995-2008. The aim of this paper is to investigate the hypothesis that integration has positive effects on convergence to the law of one price. Author searches for the decreasing in time price dispersion, negative relation between the rate of growth of prices and the initial level, the speed of price convergence and relevant variables determining the process of price convergence.

The methodology of sigma and beta convergence is used to verify the hypothesis that prices on European Union market converge to the law of one price. When the dispersion of prices across a group of countries falls over time, there is sigma convergence. The coefficient of variation of price level indices can be used as a measure of price dispersion.<sup>7</sup> To verify the sigma convergence the following equation is estimated:

$$cv(y(t)) = \alpha_0 + \alpha_1 t + \varepsilon_t \quad (2)$$

where  $cv(y(t))$  - coefficient of variation of PLI between countries at time  $t$ . We deal with sigma convergence when the parameter  $\alpha_1$  is negative. Finding this linear trend is not the best way of verifying sigma convergence, because the differences in prices can change in a nonlinear way. To have an idea about the direction of changes in price differences the graph of the coefficient of price level indices variation can be analysed.

---

<sup>5</sup> J. Wolszczak-Derlacz, *Wspólna Europa, różne ceny- analiza procesów konwergencji*, CeDeWu Warszawa 2007.

<sup>6</sup> G.J. Stigler, *The Theory of Price*. London: Macmillan 1969.

<sup>7</sup> The price level index (PLI), expresses the price level of a given country relative to another (or relative to a group of countries), by dividing the Purchasing power parities (PPPs) by the current nominal exchange rate. If the price level index of a country is higher than 100, the country concerned is relatively expensive compared to the one to which it is compared, while if the index is lower than 100, then the country is relatively cheap. The coefficient of variation of PLI is computed as a product of standard deviation and arithmetic mean of PLIs. Eurostat.

<sup>8</sup> M. Próchniak, R. Rapacki, *Beta and Sigma Convergence in the Post-Socialist Countries in 1990–2005*, Bank i Kredyt 2007.



Second general concept to measure convergence distinguished in the literature is beta convergence. When the relation between growth in prices over time and its initial level is negative, there is beta convergence.

$$\ln\left(\frac{P_{it}}{P_{i0}}\right)\frac{1}{T} = \alpha_0 + \alpha_1 \ln(P_{i0}) + \xi_{ij} \quad (3)$$

where  $P_{it}$  price level in country  $i$  at time  $t$ ,  $T$  length of estimated period. The negative value of parameter  $\alpha_1$  confirms beta convergence. In terms of CPLs<sup>10</sup>, the national price is compared to a numeraire price.<sup>11</sup> The initial CPL level is used to explain changes in the CPL measure. Beta convergence would suggest that the smaller the value of CPL the higher the speed of price increase. So relatively cheap countries should expect relatively high inflation when joining European Union. Using the estimator of parameter  $\alpha_1$  from equation 3 the speed of convergence ( $\beta$ ) and the half-life ( $t^*$ ) can be calculated.<sup>12</sup>

To find the determinants of price convergence on EU market the econometric model is estimated. The approach is based on a gravity equation which was originally used to the analysis of trade and then was adopted in other research areas. The gravity model was inspired initially by the law of physics (Newton).<sup>13</sup> In the context of price dispersion “strong attraction” means similar prices.

The basic gravity model of trade assumes that trade flows depend on the size of economies, often measured by GDP, and distance between two economies.<sup>14</sup> In this research the extended gravity equation was estimated for price differences. The economic conditions and variables reflecting the process of integration are additionally taken into account (equation 10).

$$cpl_{ij} = \beta_0 + \beta_1 \ln(GDP_{ij}) + \beta_2 \ln(GDP\_per\_capita_{ij}) + \beta_3 \ln(trade_{ij}) + \beta_4 border_{ij} + \beta_5 VAT_{ij} + \beta_6 years_{ij} + \beta_7 \ln(labour_{ij}) + \beta_8 \ln(dist_{ij}) + \beta_9 language_{ij} + \beta_{10} euro_{ij} + \varepsilon_{ij} \quad (4)$$

Above function form allows to capture the elasticity of price difference against used variables. The contained data, unless stated otherwise, are collected from Eurostat.

Price dispersion ( $cpl_{ij}$ ): defined as the absolute value of natural log of price ratios:

$$cpl_{ij} = |\ln cplratio_{ij}| \quad (5)$$

Price level for a location is measured by CPL index. The measure is an approximation of the percentage deviation of prices difference from its mean.

Economies size diversity ( $GDP_{ij}$ ): economies size diversity is equal to the absolute difference of GDP (by purchasing power parity) in country  $i$  and country  $j$ :

Countries income diversity ( $GDP\_per\_capita_{ij}$ ): income diversity is measured as the absolute difference between GDP *per capita* in country  $i$  and country  $j$ .

Trade connections ( $trade_{ij}$ ): the value of trade connections between country  $i$  and country  $j$  is calculated on the basis of trade flows expressed in euro according to the formula<sup>16</sup>:

<sup>9</sup> J. Wolszczak-Derlacz, *Wspólna Europa, różne ceny- analiza procesów konwergencji*, CeDeWu Warszawa 2007.

<sup>10</sup> Comparative price levels of final consumption by private households including indirect taxes (EU27=100). Comparative price levels are the ratio between Purchasing power parities (PPPs) and market exchange rate for each country. The ratio is shown in relation to the EU average (EU27 = 100). If the index of the comparative price levels shown for a country is higher/ lower than 100, the country concerned is relatively expensive/cheap as compared with the EU average.

<sup>11</sup> Ch. Dreger, K. Kholodilin, K. Lommatzsch, J. Slacalek, P. Wozniak, *Price convergence in the enlarged internal market* CASE Network Reports, Warsaw 2007.

<sup>12</sup>  $\beta = -\frac{1}{T} \ln(1 + \alpha_1 T), t^* = -\frac{\ln 0.5}{\beta}$

<sup>13</sup> An attractive force is proportional to the body's mass and inversely proportional to the square of the distance from the center of the body.

<sup>14</sup> P.R. Krugman, M. Obstfeld, *International Economics Theory and Policy*, 2006.

<sup>15</sup>  $cplratio_{ij}$  is the CPL index in country  $i$  divided by CPL index in country  $j$ .

$$trade_{ij} = 0.5 * \left[ \frac{I_{ij} + E_{ij}}{I_i + E_i} + \frac{I_{ji} + E_{ji}}{I_j + E_j} \right]^{17} \quad (6)$$

Border (*border<sub>ij</sub>*): the dummy equals unity when two countries have common land border.

Tax rate diversity (*VAT<sub>ij</sub>*): takes 0 if the absolute difference between the basic VAT rate in country *i* and country *j* is smaller than 4 percentage points and 1 in the remaining cases.

Common years in EU/EC (*years<sub>ij</sub>*): dummy variable taking 0 if the result of  $\min\{years_i, years_j\}$  is smaller than 13 and 1 in the remaining cases.<sup>18</sup>

Labour cost diversity (*labour<sub>ij</sub>*): the absolute difference between the wages in country *i* and country *j*. Wage in a country is defined as a quotient of workers total wage (in USD) and amount of workers.<sup>19</sup>

Distance (*dist<sub>ij</sub>*): distance between the capital of country *i* and the capital of country *j* measured in kilometers.<sup>20</sup>

Euro (*euro<sub>ij</sub>*): variable taking three values: 1 if both countries introduced euro before 2007, 2 if both countries introduced euro in 2007 or later, 3 in the remaining cases.

Language (*language<sub>ij</sub>*): takes 1 when two countries have the same official language.

The database contains variables for 351 pairs of countries<sup>21</sup> for 2007. All investigated countries are European Union members. Research is based on aggregated data, used indices are in line with EU standards.

## RESULTS

Proof for price dispersion on the EU market can be found when analysing the comparative price level index CPL. The mean value for EU27 is scaled to be equal 100. It is possible to found both cheaper and more expensive countries. In 2008 index takes the highest value for Denmark (141.0) and the lowest for Bulgaria (51.0). For Poland it is equal to 68.6 which means that Poland is relatively cheaper country. It is interesting how the process of price convergence is changing in time. The changes in CPL are different for every EU member and reflect the specificity of a given country. In years 1995-2008 we can see the general trend of converging to the common level of prices, but there are few exceptions (Denmark, Ireland).

The general trend is visible in figure 1. Four groups are examined: EU27,<sup>22</sup> EU25, EU15, EA12. The price dispersion decreased for all investigated groups during 1995-2008. The highest decrease is observed for EU25 from 38.7 in 1995 to 21.2 in 2008, so by 45.2%. For EU27 the value of coefficient in 1995 was equal to 42.6 and 23.8 in 2008 (decrease by 44.2%), for EU15 15.9 in 1995 and 12.4 in 2008 (decrease by 22%), for EA12 14.7 in 1995 and 10.7 in 2008 (decrease by 27%). The coefficient takes the lowest values for the countries

<sup>16</sup> Isgut A.E. Common Currencies and Market Integration across Cities: How Strong is the Link?

<sup>17</sup> Statistics on trade flows concern goods entering the territory of a given EU member *i* from member *j* (arrivals *I*) and goods leaving the territory of member *i* to member *j* (dispatches *E*). In the denominator we have the total value of arrivals and dispatches for a given country. Arrivals are goods in free circulation within the EU which enter the statistical territory of a given Member State. Dispatches are goods in free circulation within the EU which leave the statistical territory of a given Member States.

<sup>18</sup> Points of changing the value from 0 to 1 for variables *VAT* and *years* were chosen based on variables distribution analysis.

<sup>19</sup> Data taken from <http://stats.oecd.org/>

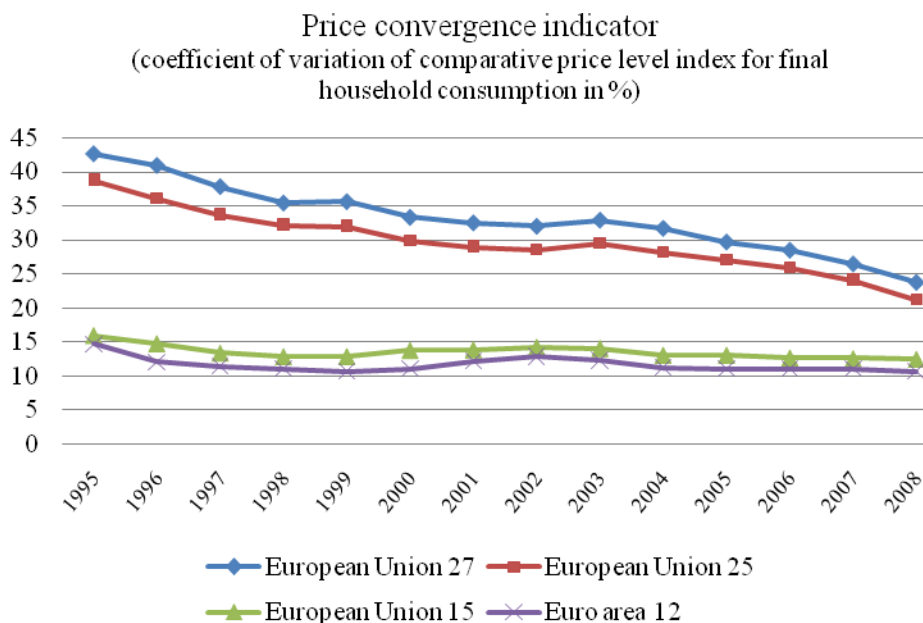
<sup>20</sup> Data taken from <http://www.daftlogic.com/projects-google-maps-distance-calculator.htm>

<sup>21</sup>  $27 * 26 / 2 = 351$

<sup>22</sup> EU15: Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxemburg, the Netherlands, Austria, Portugal, Finland, Sweden, United Kingdom; EU25: EU15, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia, Slovakia; EU27: EU25, Bulgaria, Romania; EA12: Belgium, Germany, Ireland, Greece, Spain, France, Italy, Luxemburg, the Netherlands, Austria, Portugal, Finland.

in the euro area. It means that the prices in this countries are the least differentiated. It is worth to emphasize that deviations from the law of one price are the smallest for the most integrated countries, members of economic and monetary union.

Fig. 1. Coefficient of variation of PLI for EU countries from 1995 to 2008.



Source: own elaboration based on Eurostat data.

### Sigma convergence

To check if the changes of price dispersion are statistically significant the equation (2) should be estimated for all considered groups EU27, EU25, EU15, EA12. Sigma convergence is confirmed in all four cases. For four models  $\alpha_1$  is negative and significantly different from zero (at the 1% significance level). For EA12 the changes are significant at the 10% significance level. The same research for years 1995-2007 didn't confirm sigma convergence for EA12. It can be the case that stronger convergence had place in these countries before and now the process is slower.

### Beta convergence

Figure 2 presents the results of equation 3 estimation for four groups of countries. For each model  $\alpha_1$  is negative and is significantly different from zero at the level of significance equal to 5%. These results confirm beta convergence in EU27, EU25, EU15, EA12 in 1995-2008.

Fig. 2. Testing for beta convergence.

model	model 1	model 2	model 3	model 4
dependent variable	changes in the CPL measure			
	EU27	EU25	EU15	EA12
$\alpha_1$ estimation	-0.041006***	-0.043224***	-0.031998***	-0.038811**
t- statistic	-15.55	-15.82	-3.19	-3.15
p-value	0.000	0.000	0.007	0.010
speed	0.05859	0.06349	0.04137	0.05402
half life	11.83145	10.91760	16.75435	12.83070

Source: own calculations in STAT based on Eurostat data.

For estimated models the time needed to reduce the half of a distance to the common price level  $t^*$  is equal from 10.91 year for EU25 to 16.75 year for EU15 . It means that after some time in EU the speed of price convergence is the highest and then it is getting slower. Quite a big difference in the half-life for EU15 and EA12 can be puzzling. But EU15 contains Denmark and Ireland mentioned before.

### Gravity equation

Based in initial data analysis 52 observations form 351 were removed from the dataset.<sup>23</sup> To find the final variables the model reduction was done based on the test  $F$  for joint insignificance of variables.<sup>24</sup> Estimation results are given in figure 3. White estimator robust on heteroscedasticity of error term was used. The estimated coefficients, apart from variable trade, have signs consistent with expectations. The smaller the difference in GDP *per capita* between two countries the smaller price dispersion between them. Countries with common land border are characterized by smaller price dispersion. The smaller the tax rate diversity the smaller the price dispersion, the same for labour costs. Countries lasting together in UE for a long time are characterized by smaller price dispersion than the others. Countries without a common currency have more differentiated prices. The sign of the parameter in front of the variable connected with trade flows can be puzzling. According to the estimation the higher value of trade flows the higher the price dispersion. Probably we deal with the inverse causality, differences in prices affect positively on trade. Distance and language turned out to be insignificant. It sounds reasonable that language barriers in Europe in the analyzed context don't exist today. In contemporary research for different markets and for different issues distance is increasingly becoming less important.

Fig. 3. Gravity equation estimation results.

Dependent variable	coefficient	t-statistic	p-value
ln(gdp_per_capita)	.0702618***	6.52	0.000
ln(trade)	.0195768**	2.78	0.006
border	-0.1151869***	-4.02	0.000
vat	.0470821*	1.71	0.088
yers	-0.11561***	-3.49	0.001
ln(labour)	.0524605***	6.78	0.000
euro	.1095433 ***	3.34	0.001
cons	-.347202***	-3.76	0.000

Source: own calculations in STATA.

It can be concluded that the transformations on EU market connected with the integration positively affect the process of price convergence and make them closes to the LOOP.

## CONCLUSION

The aim of this research was to verify the law of one price on the EU market. Even initial data analysis, based on graphs, shows that we deal with price dispersion in EU. It was then reasonable to test for sigma and beta convergence. The decreasing in time price dispersion was confirmed for four groups of countries EU27, EU25, EU15 and EA12. For all these groups it was also possible to show that relation between growth in prices over time and its initial level is negative. In section 5 the significant factors which make prices converge to the

<sup>23</sup> 51 because of the lack of data on labour cost in Malta and Romania and one observation was concluded to be abnormal and significant (based on standarized residuals, lever, Cook's distance).

<sup>24</sup> Three not significant variables were removed: gdp, language, distance.

law of one price were found. The results are in line with theoretical predictions, integration exerts a downward pressure on price dispersion.

To sum up the process of integration is conducive for the process of price convergence. The realization of four freedom: freedom of movement of goods, labor, capital and services makes prices closer to hold the law of one price. Thanks to mentioned freedom on integrated market two principal forces can act. On the one hand the rise in competition and on the other the catching up process of low income countries leads to a rise in the price levels and higher inflation over a transition period.

## BIBLIOGRAPHY

- [1] Beck G., Weber A.A, *How Wide Are European Borders? On the Integration Effects of Monetary Union*, CFS 2003.
- [2] Cournot A.A, *Researches into the Mathematical Principles of the Theory of Wealth*. New York, 1971.
- [3] Crucini M.J., Shintani M., *Persistence in Law-of-One-Price Deviations: Evidence from Micro Data*, Vanderbilt University Working Paper No. 06-W16, 2006.
- [4] Engel Ch., Rogers J.H., *How Wide is the Border?* The American Economic Review, Vol. 86, No. 5., pp. 1112-1125, 1996.
- [5] Gajewski P., Kowalski J., *Price Convergence in the European Union Countries*, 2004. [access 05.03.2009]  
[http://www.ecomod.net/conferences/ecomod2004/ecomod2004\\_papers/32.pdf](http://www.ecomod.net/conferences/ecomod2004/ecomod2004_papers/32.pdf)
- [6] Goldberg P.K., Verboven F., *Market Integration and Convergence to the Law of One Price: Evidence from the European Car Market*, NBER Working Paper No. 8402, 2003.
- [7] Haskell J., Wolf H., *Why does the law of one price fail?*, London CEPR, 1999.
- [8] Isard P., *How Far Can We Push the "Law of One Price"?* The American Economic Review, Vol. 67, No. 5., pp. 942-948, 1977.
- [9] Isgut A.E. *Common Currencies and Market Integration across Cities: How Strong is the Link?* [Access 05.03.2009]. <http://150.108.69.10/public/m-union/abstracts/Isgutpaper.pdf>
- [10] New ACNielsen survey points to price convergence in Europe since the introduction of the Euro, 2005. [www.acnielsen.com/news](http://www.acnielsen.com/news).
- [11] Próchniak M, Rapacki R., *Konwergencja beta i sigma w krajach postsocjalistycznych w latach 1990-2005*. [access 08.09.2007].  
[http://www.nbp.pl/Publikacje/bank\\_i\\_kredyt/2007\\_08\\_09/prochniak.pdf](http://www.nbp.pl/Publikacje/bank_i_kredyt/2007_08_09/prochniak.pdf).
- [12] Stigler G.J., *The Theory of Price*. London: Macmillan 1969.
- [13] Wei S., Parsley D.C., *Limiting currency volatility to stimulate goods market integration: a price based approach*, NBoER Massachusetts, 2001.
- [14] Wolszczak-Derlacz J., *Price One Europe, One Product, Two Prices – the Price Disparity in the EU*, Gdańsk University of Technology, Marie Curie Fellow Katholieke Universiteit Leuven, 2006 [05.03.2009].  
<http://www.econ.kuleuven.be/eng/ew/discussionpapers/Dps06/Dps0614.pdf>.
- [15] Wolszczak-Derlacz J., *Wspólna Europa, różne ceny - analiza procesów konwergencji CeDeWu Warszawa 2007*.

Aneta Maria Dzik  
Faculty of Economic Sciences,  
University of Warsaw,  
ul. Długa 44/50  
PL-00241 Warsaw, Poland  
[adzik@wne.uw.edu.pl](mailto:adzik@wne.uw.edu.pl)

# **COMPARISON OF THE TRADE-OFF BETWEEN UNEMPLOYMENT AND INFLATION RATE IN A BROADER AS WELL AS NARROWER CONCEPTION AS APPLIED IN THE SITUATION IN THE CZECH REPUBLIC**

**Emilie Jašová**

The objective of this article is to map out the development of NAIRU in the environment of transitive economy. Further, to point out to the topicality of the Phillips curve concept and NAIRU in the environment of the current economic recession in the Czech Republic. The reason for applying two different price indicators is the effort to discover their specific implications for estimating the NAIRU that could be based on different complexity of registered price impulses in the economics and on the speed of registration and publication of such price impulses. Literature uses various rates. One of the most used is the gross national product deflator. Among the more narrow benchmarks is also the core inflation that is usually defined after elimination of energy and foodstuff prices. In many such analyses the broad inflation is measured by percentage growth of the GNP price index and the core inflation is measured by the percentage growth of the personal consumption expenditures (PCE) with eliminated foodstuff and energy expenditures.

## **KEY WORDS**

Phillips curve, NAIRU, break model, Gordon's Triangle model, Hodrick-Prescott filter, Kalman filter

## **1. INTRODUCTION**

Economists very often try to estimate the imperceptible variables representing the “balanced” or “anticipated values of examined quantities. Their comparisons are often used as indicators of economic policy. The gap in unemployment measured as the difference between the non-accelerating inflation rate of unemployment (NAIRU) and the actual unemployment rate is usually used as the benchmark of excessive demand in economics that is influential in assessing the inflation pressures.

In most industrialized countries, the unemployment rate that is consistent with the stable inflation rate represents an integral part of the monetary policy framework. It depends whether the actual unemployment rate is above or under the unemployment level that corresponds with the inflation stability. The unemployment rate corresponding with the stable inflation, i.e. the NAIRU is not directly noticeable.

Deviations in the values of NAIRU estimated by various methods are essential. It is also possible to map out the differences among individual countries as well as in the course of time. Theoretical issues together with problems at statistic measuring weaken the efficiency of NAIRU as a structural parameter in the level of creation of macro-politics. With regard to such uncertainties, NAIRU is more and more often viewed as a zone than a robust point estimate.

We shall proceed as follows in the next part. Chapter 2 presents the authors who significantly contributed with their work to the research of trade-off between the inflation and unemployment. This part also lists three approaches for the NAIRU estimate. Chapter 3 shows the methods of NAIRU estimate on the data of the Czech Republic that are commonly applied in

abroad and it defines the economic cycle from the point of view of the labour market. The last part of this work summarizes the conclusions of the analysis.

## **2. DEVELOPMENT OF THE CONCEPTUAL FRAMEWORK AND CATEGORIES OF METHODS FOR NAIRU ESTIMATE**

A. W. Phillips [10] fundamentally contributed to the research of relation between the unemployment and inflation. In his study he assumed that the (nominal) standard of wages in any era could be explained by preceding values of the unemployment rate. Since then, the schematic representation of this inverse relation is known as the “Phillips curve”. Milton Friedman [4] and Edmund Phelps [9] expanded the concept of the traditional PC by the inflation expectations and natural unemployment rate. They claimed that there is not just one stable PC as was indicated by the economic conditions of the 1970s, but there is an endless number of them per each single expected inflation rate. Tobin [12] defined the levels of the non-accelerating inflation rate of unemployment. According to his research it is the unemployment rate that lingers despite the labour market is balanced. Akerlof, Dickens and Perry [1] then developed a model with various methods of use of the expectations by individual agents. Those subjects take into account only parts of the information that they consider most important. Another variant of the PC was introduced by Ball and Moffitt [2]. According to their research, the workers attempt for increase of their real wages that do not correspond with the growth of productivity.

In case of the Czech Republic, there are also numerous cases of attempts to analyze the trade-off between the inflation and unemployment. Based on his linear model, Vratislav Izák [7] deduced a conclusion that increasing the unemployment rate by 1 point would lead on an average to a decrease of the international rise in wages in the enterprise sphere by 1.95 point. Hájek and Bezděk [6] estimate the natural unemployment rate by means of three methods. First it was the smoothening of the average annual unemployment rate by the HP filter. Further they defined the natural unemployment rate as the average annual unemployment rate from 1991 to 2001 in the amount of 3.3 %. In the last variant they estimated the natural unemployment rate in the amount of 7.7 % in relation between the rate of growth of real unit wage costs in the national economy and the average annual non-accelerating wage rate of unemployment (NAWRU) from 1993 to 1999. Petr Sedláček [11] then used the XY graph to provide a rough estimate of the NAIRU. According to his research, another rough indicator could be the unemployment rate as formed only by the long unemployed and very short unemployed. For his NAIRU estimate, Vladimír Flek [3] applied the method of Gaussian maximum likelihood. The variables-explanatory were: The Unemployment rate according to the ILO, the gap of the real effective exchange rate and the import price. Radek Pavelka [8] confirmed the existence of PC based on the fall of the inflation rate and growth of the unemployment rate in 2004 as compared with 1993.

The methods of the NAIRU estimate may be divided into three categories: Structural methods, purely statistic (direct) methods and the approach of a reduced form.

Among the **structural methods** are for instance the wage and price model (the so-called Bargaining model). The structural methods quantify the NAIRU by means of the estimation of equations explaining the price and wage setting and behaviour. They might have the form of the price and wages equation specified in the levels or more ad hoc system where the wage definition is represented by the PC expanded by expectations where the price is derived from the surcharge to unit wage costs.

The second group of methods (**purely statistic methods**) include various purely statistic methods that directly divide the real unemployment rate to cyclic and trend components (the other ones being known as the NAIRU). Since the purely statistic methods do not focus only on the analysis of behaviour of economic factors, they are much more easily implemented than the structural methods. It is for instance the Hodrick-Prescott filter (hereinafter only as the HP filter) and Baxter-King filters.

The approach of the **reduced form** (third group of methods for the estimation of the NAIRU) represents a compromise between the two previously mentioned approaches. The filter methods of the reduced form are marked by some advantages. For instance in construction they estimate NAIRU directly in connection with the inflation, the associated PC may acquire various specifications that in principle allow the estimate of a well-defined concept. This third group includes for instance The Kalman filter, the multivariate HP filter, the Break filter and the Elmeskov method.

### 3. EMPIRICAL TESTING

In measuring the inflation in the level of the whole national economy, this analysis uses both the household consumption deflator (broader inflation rate) and the consumer price index (narrower inflation rate). Those time lines are arranged so that they reflected the adaptive forming of expectations (interannual change in time  $t$  – interannual change in time  $t-1$ ). The rate of registered unemployment in % according to the methods of the Ministry of Labour and Social Affairs is used for measuring the unemployment rate. The interannual changes of the following factors are used as other variables-explanatory: The change of the exchange rate of CZK/EUR, change of the import prices and prices of oil (the price of oil was significant only in the variant with the consumer price index). The time lines were tested by the Augmented Dickey – Fuller test that confirmed the stationarity of all above-mentioned time lines. Before its application, the time line of the unemployment rate was adjusted by the sliding multiplicative average.

With regard to the specificity of the transforming economics, the analysis in the next chapters focused on monitoring of the development of NAIRU according to the time logics.

#### 3.1 NAIRU WITH APPLICATION OF THE HOUSEHOLD CONSUMPTION DEFLATOR

The analysis of the relation between the unemployment rate and the inflation started with the **Method of one equation** that estimated only one NAIRU value for the whole monitored period. The most widespread variant is the Gordon's Triangle Model (Gordon, [5]) with the assumption that the inflation rate depends on three basic factors: expected inflation, demand conditions approximated by the gap of unemployment and the shocks on the supply side. The estimated value of NAIRU for the whole monitored period was 9.7 %. For majority of the monitored period, NAIRU was high above the real unemployment rate. PC showed a classic negative tendency of 1.1.

As you can already see by yourself from the simplest graphic representations of the unemployment rate and inflation rate, there is no constant value of the NAIRU for the whole monitored period. Its growth from one cycle to the other indicates that the level of the structural unemployment has changed. The structural unemployment rate fluctuates by various reasons, mostly due to the insufficient mechanisms of the labour market and the social welfare system, low flexibility of wages and failure in enforcing structural changes. In order



to support the hypothesis of the changes in behaviour of NAIRU in the course of the monitored time period, we may use the **Break model**. This method estimated two breaking points in the development of NAIRU. The first one was located in the 4<sup>th</sup> quarter of 1999 and the other one in the 4<sup>th</sup> quarter of 2004. The history of the relation of unemployment and the household consumption deflator was divided into four time periods. The estimated values of NAIRU were 3.6 %, 9.3 %, 8.9 % and 8.0 %. The estimated NAIRU more sensitively copied the development of the actual unemployment rate. PC in all time periods showed differently big negative tendency. The biggest substitutability of inflation by unemployment was proved to be in the third period, i.e. in the time period from 2003/3 to 2004/4 when the tendency of PC amounted to – 4.9.

In the next part of the analysis the NAIRU value changes in the course of the time. The applied methods should probably best quantify the development of NAIRU in the Czech Republic and in other transitive economies. The univariate methods focus on the time line of unemployment rate and decompose it to the component of trend identified as NAIRU, and the cyclic component identified as the gap of unemployment.

The **HP filter** is the most used filter technique: This analysis uses the generally recommended value of  $\lambda$  1 600 for the quarterly data since 1993. For elimination of problems related to the commencement and end of the time line we decided to use the prediction of unemployment rate since the end of 2010. This method estimated the value of NAIRU from about 2.0 to 8.8 %. The actual unemployment rate from 1995/2 to 1998/3, from 2001/2 to 2003/2 and from 2006/4 to 2008/3 was under the natural unemployment rate, i.e. about in the middle of the monitored period.

Another filter method is the **Kalman filter**. The assumption in this part of the analysis is based on the fact that NAIRU is specified as a random ramble in reaction to the shocks. The equations are set in the form of permanent condition.  $\tau$  will serve as a random value reflecting the time-variable NAIRU. The approach in this analysis is based on the presentation of series of alternative NAIRU based on the variability of  $\tau$ . Alternative NAIRU emerged using  $\tau = 0.6$  and 1.0. The literature, however, prefers choosing 0.2, which allows small fluctuation in NAIRU estimations and avoids thus giant leaps of the smoothed estimate of NAIRU. In its effort to describe also the unstable period, this analysis on the other hand uses also higher values of  $\tau$ , which provides for including more unstable unemployment in the transitive environment.

On smoothing at 0.6, the NAIRU values were in the interval from – 1.1 to + 13.4 % and on smoothing at 1.0 in the interval from – 1.9 to + 13.9 %. The profile of both lines of the estimated NAIRU was very similar. The NAIRU generated by this method (both with the smoothing of 0.6 and 1.0) first underwent negative values until 1999/4. The influence of macroeconomic turbulences in 1999 was perfectly noticeable there.

In the next period until 2001/4, NAIRU quickly rose for both smoothing of  $\tau$  and reached above the real unemployment rate. Since the 1<sup>st</sup> quarter of 2002, the NAIRU value dropped and approximated again the real unemployment rate. In case of smoothing at 0.6, the drop of NAIRU stopped at 9.5 % in the 3<sup>rd</sup> quarter of 2003. NAIRU with smoothing at 1.0 eventually crossed the level of the real unemployment rate from above continue in the fall down to 8.0 in the 3<sup>rd</sup> quarter of 2003. In the next year, NAIRU (according to both smoothing) was again above the real unemployment rate. According to this method, in 2005 the labour market was

in recession. Since 2006 until the end of the monitored period, NAIRU kept exceeding the actual unemployment rate.

The highest value of NAIRU was estimated for the 3<sup>rd</sup> quarter of 2008. In case of smoothing at 0.6, it was 13.4 % and after applying  $\tau$  of 1.0 it was 13.9 %. The amount of the overhang of NAIRU above the real unemployment rate in this quarter (8.1 p.p., resp. 8.6 p. p.) that could be compared with the values from the end of 1999 (when the actual unemployment rate exceeded NAIRU by 8.4 p. p., resp. 9.9 p. p.), indicated the presence of unstable environment and anticipations of great structural shifts in economy in the following period. While by the end of 1999 the structural changes could be explained by macroeconomic transformation turbulences in the Czech economy, the reason of the shifts at the turn of 2008 and 2009 could be influenced by the global financial and economic recession.

### 3.2 NAIRU WITH APPLICATION OF THE CONSUMER PRICES INDEX

The substitution between the inflation and the unemployment rate at the level of the whole national economy was also estimated with the application of the customer prices index. By its application, the circle of inflation factors was reduced, nevertheless the topicality of NAIRU estimates increased because the customer price index is being published with a delay of one month (household consumption deflator with the delay of a whole quarter of a year).

According to the **Method of one equation** the NAIRU in the period on subject amounted to 9.1 % and the PC tendency was typically negative in the amount of  $-0.6$ .

Similarly as in the analysis with the household consumption deflator, the **Break model** that derives the breaking points according to the minimization of the sum of quadratic residues helped discover two breaking points that were this time located in the period of the 1<sup>st</sup> quarter of 1999 and 4<sup>th</sup> quarter of 2002. The value of NAIRU in the first time interval was 4.6 %, in the second 4.6 %, in the third 7.1 % and in the fourth 8.8 %. NAIRU stays unrealistically high also in the period of significant drop of the real unemployment rate. PC show typically negative tendency in the interval from  $-1.4$  to  $-3.5$ .

In case of the **HP filter** we can observe a long-term drop of the real unemployment rate in the period from 1995/2 to 1998/3 under the value of NAIRU, which only indicates the commencement of the economic prosperity. The same thing can be observed also in the periods from 2001/1 to 2003/2 and 2006/4 until the end of the monitored period. According to this method, the peak of the last economic prosperity was marked in 2<sup>nd</sup> quarter of 2008 since when the overhang of NAIRU above the real unemployment rate has been decreasing.

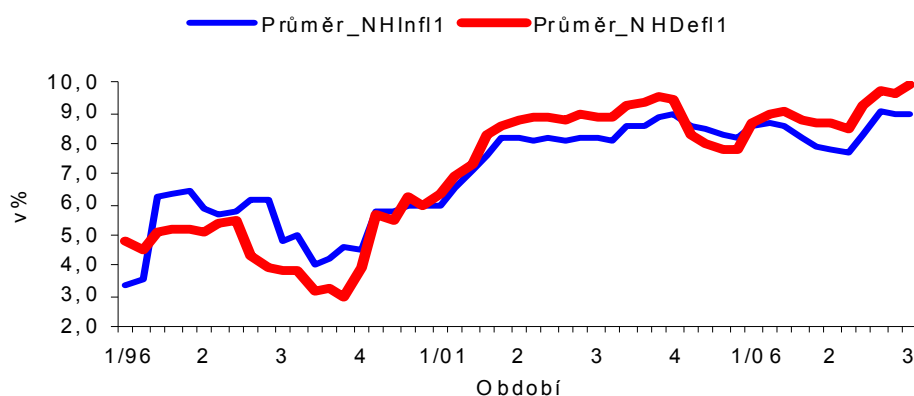
As opposed to the passive variant of the HP filter, the **Kalman filter** takes into account the anticipations and development of exogenous variables in the actual NAIRU. Therefore there is a complete diversion of the course of this NAIRU from the HP filter. The size of the gap is considered rather illustrative, however, its mark may be interpreted as a strong indicator of the course of the boom/recession. In cases of both smoothing (0.6 and 1.0) the qualitative development of NAIRU is very similar. From the period of 2003/2 to 2007/1, both curves closely rotate around the real unemployment rate and the unemployment gap is on average between 0.1 and 0.3 p.p. The highest differences between the values of NAIRU as estimated by both smoothing (above 1 p.p.) are in the period from 2000/1 to 2002/4. The gap between both estimations is further increased only in the last part of the monitored period (2<sup>nd</sup> and 3<sup>rd</sup> quarter 2008). The whole initial period (until 2002/3) and the period of 2005/1 – 2006/1,

NAIRU moves under the actual unemployment rate. The inflation impacts in the remaining part of the monitored period are not significant (low tendency of the PC).

### 3.3 DEFINITION OF THE ECONOMIC CYCLE FROM THE POINT OF VIEW OF THE LABOUR MARKET

The natural conclusion of the NAIRU analysis is the determination of the economic cycle on the part of the labour market. When estimating the unemployment gaps and eventually the economic cycle, we use previously presented averages of the NAIRU values as estimated by applied methods for both variants of the price indicator (the first variant applied the household consumption deflator and the other one was based on the consumer price index).

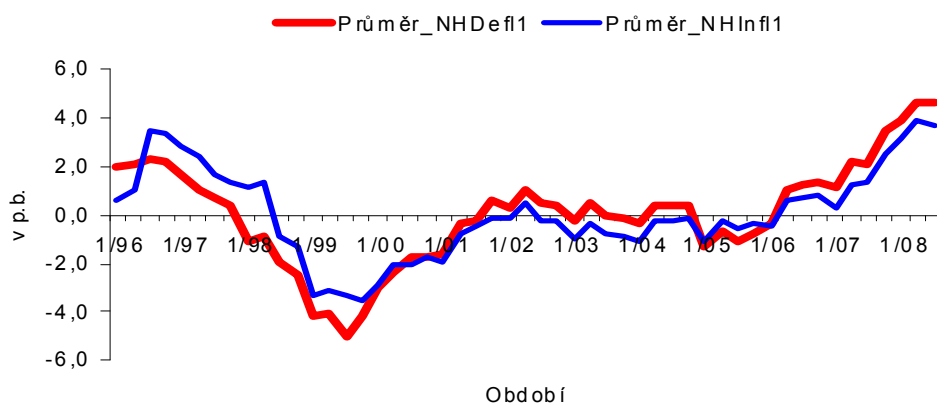
*Graph 1 Average values of the NAIRU on the level of national economy using both price indicators*



Source: Own calculation based on the Czech Statistical Office, the Ministry of Labour and Social Affairs and the Czech National Bank data.

The above-mentioned graph clearly shows a similar development of time lines of both average NAIRU for the whole national economy. Bigger part of the monitored time period shows higher estimated NAIRU according to the household consumption deflator than according to the consumer price index. Further we can see that with the exception of the period from 1996/1 to 1999/3, the discovered differences do not exceed one percentage point. The mentioned period from 1996/1 to 1999/3 shows an average deviation of 1.5 p.p.

*Graph 2 Unemployment gaps implied by the average of the methods in case of both price indicators*



Source: Own calculation based on the Czech Statistical Office, the Ministry of Labour and Social Affairs and the Czech National Bank data.

In the next part the actual unemployment rate was deducted from the amount of calculated average values of NAIRU for the national economy and thus we obtained the unemployment gaps for the national economy. The above-mentioned graph shows unemployment gaps in case of both variants. The analysis discovered that the different evaluation of the cycle occurs only in twelve of the total 51 observations. A more significant difference in evaluation of the intensity occurs only in nine cases when the differences between the calculated gaps are 1.5 p.p. on average. (the rest of the monitored time period shows deviations of 0.6 p.p. on average). In conclusion we may also state that in the first half of the time period, the unemployment gap in the variant of household consumption deflator by one or two quarters entered the recession/economic boom and reached the bottom of the corresponding stage ahead of time by one or two quarters of the year. The last recession was entered ahead of time by two quarters of the year in the form of a time line with consumer prices and as such it first reached the top of the last stage of the economic boom (the advance was one quarter of the year).

#### 4. CONCLUSIONS RESULTING FROM THE ANALYSIS

The analysis applied methods of the NAIRU estimation on Czech macro-data that are commonly used in foreign literature. Individual estimations followed the time logics of NAIRU because the movement in time is an essential prerequisite namely for transitional economies. A permanent condition tool would not be able to cover the whole history.

**The method of one equation** provided a long-term NAIRU of 9.7 % or 9.1%. Despite the fact that the NAIRU had been estimated already in economically stable conditions (after 2000), it did not take into account the structural shifts after 2004 and remained in high values that were not true any longer according to another analysis.

**The break model** divided the history of the relation between the household consumption deflator, or the consumer price index and the unemployment into four time periods. Those periods varied both in terms of their amounts of the estimated NAIRU and the PC tendency (all tendencies were typically negative). Among the periods with fundamental structural changes on the labour market or in the whole economy in case of the variant with the household consumption deflator were also the turn of the year 1999 and 2000 and the turn of the year 2004 and 2005. In case of the variant with the consumer price index, the structural shifts occurred already in the first half of 1999 and at the turn of 2002 and 2003.

**HP filter and Kalman filter** provided estimations of the NAIRU for the whole monitored time period. According to the Hp filter, NAIRU closely copied the actual unemployment rate. On the other hand, the Kalman filter with higher values of smoothing than what is usual in the foreign literature enabled greater fluctuation of the estimated NAIRU thus the unstable unemployment in the transitive period. For instance, in the final part of the monitored period, the HP filter estimated the natural unemployment rate in the amount of 5.8 % and the Kalman filter shifted it to the value of 17.5 % with the smoothing of 0.6 (12.1 % in the variant with the consumer price index) a 16.6 % with the smoothing of 1.0 (11.8 % in the variant with the consumer price index).

The Kalman filter not only confirmed the structural changes as determined by the break model at the turn of 1999 and 2000 (1999/1 and 1999/2 in case of the consumer price index) and at the turn of 2004 and 2005 (2002 and 2003 in case of the consumer price index) but also – as the first one of the applied methods – draw the attention to the presence of the unstable

environment by the end of 2008 and to probable structural changes in the Czech economy in the next period. The reasons for such qualitative changes at the turn of 2008 and 2009 could be seen in the global financial and economic recession.

## LITERATURE

- [1] AKERLOF, G. A.; DICKENS, W. T.; PERRY, G. L. 1996. *The Macroeconomics of Low Inflation. Brookings Papers on Economic Activity. Brookings Institution.*
- [2] BALL, L.; MOFFITT, R. 2001. *Productivity growth and the Phillips curve [Working paper series]. National Bureau of Economic Research, August 2001.*
- [3] FLEK, V. 2004. *Anatomy of the Czech Labour Market: From Over-Employment to Under-Employment in Ten Years? [Working Paper]. Czech National Bank, July 2004.*
- [4] FRIEDMAN, M. 1968. *The Role of Monetary policy. The American Economic Review. March 1968.*
- [5] GORDON, R. J. Winter 1997. *The Time-Varying NAIRU and its Implications for Economic Policy. Journal of Economic Perspectives.*
- [6] HÁJEK, M.; BEZDĚK, V. 2000. *Odhad potenciálního produktu a produkční mezery v ČR. [VP č. 16]. Prague: ČNB.*
- [7] IZÁK, V. 2000. *Dezinflace a hrubý domácí produkt. Prague: ČNB.*
- [8] PAVELKA, R. 2005. *Inflace a zdanění. Boskovice: Národohospodářská škola, November 2005.*
- [9] PHELPS, E. S. 1967. *Phillips Curves, Expectations of Inflation and Optimal Unemployment Over Time. Economica. August 1967.*
- [10] PHILLIPS, A. W. 1958. *The relationship between unemployment and the rate of change of money wages in the United Kingdom 1861-1957. Economica.*
- [11] SEDLÁČEK, P. *Co způsobilo posun České NAIRU. Prague: ČNB.*
- [12] TOBIN, J. 1980. *Stabilization Policy Ten Years after. Brookings Papers on Economic Activity No. 1, 19-71, Brookings Institution.*

*Ing. Emilie Jašová*

*Address: Ministry of Labour and Social Affairs of the Czech Republic, Na Poricním pravu 1, Prague 2 128 01*

*E-mail: emilie.jasova@mpsv.cz*

*Mobile phone No: 728991467*

# **CZECH OUTWARD FOREIGN DIRECT INVESTMENTS**

**Martina Kotková**

## **ANNOTATION**

This paper focuses on outward foreign direct investments (FDI) of Czech companies. However FDI are often discussed, majority of discussions and analyses of international financial flows concern inward FDI to host economies. FDI inward analyses are aimed namely on analysing of FDI effects on host economy, spillovers or causes of FDI presence in certain country.

I try to describe and analyse outward FDI of Czech companies that are still at low level in comparison with inward FDI and trying to find an answer when (if ever) their level will reach higher amounts, which would conform to FDI theories.

## **KEY WORDS**

Foreign direct investments, Outward FDI, Inward FDI, Globalisation,

## **THEORETICAL ASPECTS OF FDI**

There exist lot of theories describing aspects of foreign direct investments or economical conditions when companies decide to directly invest abroad. The mostly known theories are the Investment Development Path, OLI paradigm, theory of multinational company, theory of product life cycle, internationalisation theory, etc.

According to theories supported by numerous empirical studies the companies start to invest abroad when after FDI inflow to the host economy the productivity increased, contacts between home firms and firms owned by foreigners deepened, a labour quality increased. (Dunning 1981).

From another point of view, three main conditions must be fulfilled for successful investment abroad; company controls assets (tangible or intangible) and this advantage (ownership advantage) enables to overcome the additional costs associated with producing in foreign country. Internationalisation is the second condition – investment abroad is more advantageous than selling or leasing the assets. Third, location advantage means higher benefits arising from placement of some input factors in a foreign country. This theory is called OLI theorem (Dunning 1977).

Considering motivation of investing firms, there exist horizontal (or market seeking) FDI and vertical (production cost minimizing) FDI. Horizontal FDI create similar capacities in foreign country in order to supply the local market, with the aim of decreasing the costs associated with supplying the market from abroad. Vertical FDI move a part of production to a low-cost country in order to reach inexpensive inputs.

## **FDI IN GLOBAL ECONOMICS**

The year 2008 marked the end of a growth cycle in international investment that started in 2004 and saw world foreign direct investment (FDI) inflows reach a historic record of \$1.9 trillion in 2007. The fall in global FDI in 2008–2009 is the result of two major factors affecting domestic as well as international investment. First, the capability of firms to invest has been reduced by a fall in access to financial resources. Second, the propensity to invest

has been affected negatively by economic prospects, especially in developed countries that are hit by the most severe recession of the post-war era.

According to UNCTAD, global FDI flows have registered a pick-up during the second quarter of 2009, indicating a possible end of the sharp decline seen over the previous 5 quarters. For G20 countries as a whole, a strong rebound was observed, with a 38% increase in FDI Inflows as compared to the first quarter of 2009. However, this rebound was not uniform. The impact of the crisis on FDI differs, depending on region and sector. Developed countries have been the most affected, with a significant decline in FDI inflows in 2008, due mainly to stagnating market prospects. Flows into developing economies continued to grow in 2008, but at a much lower rate than the year before. All developing regions except West Asia experienced higher FDI inflows in 2008.

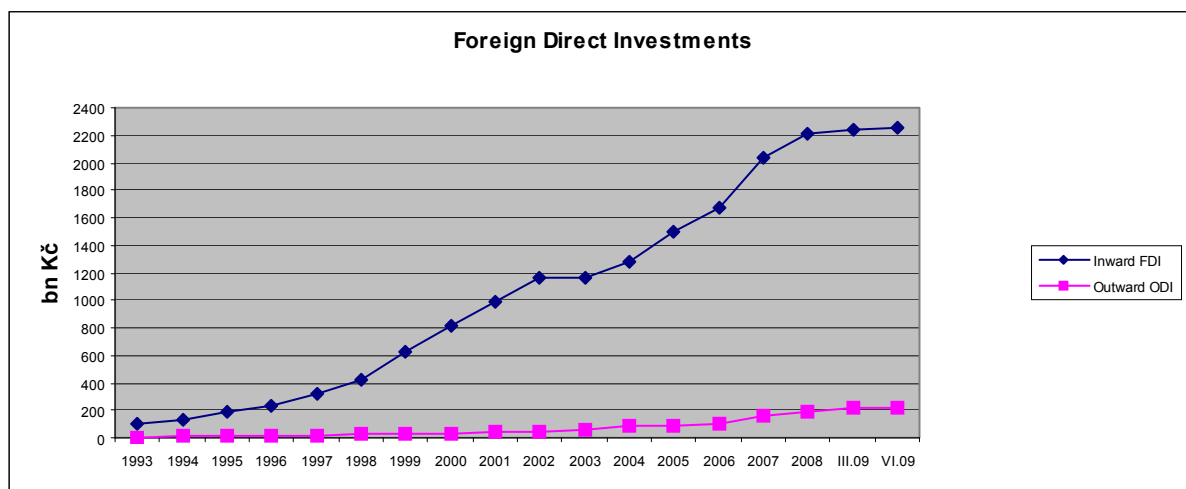
UNCTAD declares that various macroeconomic indicators provide signals that the overall environment for international investment is slowly improving. For instance, corporate profits of TNCs world-wide rose during the second and third quarters of 2009, thus reversing the sharp drop observed at the end of 2008.

Improving conditions will ultimately encourage companies to revise upward their international investment plans for 2010 onward. However, the recovery in economic growth and profits remains fragile, especially because it has been boosted by what might prove to be a transitory impact of the special economic packages implemented by major economies. Thus it is likely that FDI flows will remain relatively weak until the end of this year.

## OUTWARD FDI IN CZECH REPUBLIC

Inward foreign direct investments have occupied a significant place in the transition process and economic development of the Czech Republic. There exist huge amount of documents analysing inward FDI<sup>1</sup> but outward FDI still not attract significant attention.

Despite of global changes of FDI flows, both outward and inward FDI in the Czech Republic show permanent growth. 42% of FDI is allocated in Netherlands and Cyprus namely due to tax reasons. Second important destination is Slovakia with 23% amount of total outward FDI.



Source: ČNB

<sup>1</sup> Studies of Benáček, Zemplerová, ČNB Working Papers, etc.

The main reasons why more and more Czech firms use off-shore centers are possibilities to hide a property, protection of property, better business environment and possibility to provide none financial information. There is increasing interest to move Czech companies to “tax heavens”. As per 31.12.2008 there was 8 990 Czech companies registered in off-shore centres that represent 3% of all Czech companies. According to research of Czech Economic Chamber two fifth of Czech companies report for bureaucracy. Moreover, due to financial crisis companies tend to decrease all cost so movements to off-shore centers will increase.

In sector structure of outward FDI, majority of investments is allocated to real estate business and coherent services (38%), to energetics (18% - mainly investments of ČEZ in Romania and Bulgaria) and to financial sector and insurance activities (14%).

When we deduct investments realised for the purpose of tax optimation, financing and investments of ČEZ from total amount of outward FDI we obtain approx. 47 bn CZK that are allocated abroad for the reasons of finding low cost inputs, improvement of competitiveness, etc.

From above mentioned data results that only small part of outward FDI involve investments that develop production sector and strengthen the position of Czech companies on global markets.

Who are the Czech investors seeking new markets or decrease of operating costs? If we skip known big firms as ČEZ, ŠKODA HOLDING, there exist quantity of middle size companies investing successfully abroad such as Ravak, Kofola, Software 602, Koh-I-Noor, Fezko, Koryna, Hamé Babice, etc. But Czech Republic miss real Czech multinational big corporations that would invest significant amounts abroad.

In comparison with other countries with transitive economics is evident that except Russia, the outward FDI/inward FDI ratios are at similar levels, whereas detailed structure of FDI has not yet been examined.

<b>FDI Stock (mil USD)</b>					
	<b>1990-2000</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Czech Republic</b>					
Inward FDI	1 363	7 350	21 644	112 408	114 369
Outward FDI		345	738	8 557	9 913
<b>Poland</b>					
Inward FDI	1 090	7 843	34 227	175 851	161 406
Outward FDI	95	539	1 018	19 369	21 814
<b>Hungary</b>					
Inward FDI	570	11 304	22 870	100 335	63 671
Outward FDI	159	278	1 280	11 596	14 179
<b>Slovakia</b>					
Inward FDI	282	1 297	4 746	45 251	45 933
Outward FDI		139	373	1 509	1 901
<b>Russia</b>					
Inward FDI		5 601	32 204	491 232	213 734
Outward FDI		3 346	20 141	370 161	202 837

Source: UNCTAD



## CONCLUSION: THEORY VERSUS REALITY

Czech firms under foreign ownership significantly have contributed to the increase of the Czech economy growth. These companies contributed to the increase of gross added value more than Czech companies. While Czech companies lag behind in productivity, companies with foreign owners increased export efficiency of Czech Republic. But FDI realized by companies with foreign owners have been financed by mother companies abroad so earnings from that investments overpass Czech Republic. Till the year 2006 repatriated earnings represented smaller part of FDI earnings. In 2006, first time repatriated earnings were higher than reinvested earnings. This situation will burden the balance of payments and there is no chance for reciprocal dividend income from abroad in the nearest future.

The state when positive effects from inward FDI induce a rise of competitive home firms capable provide FDI has not yet occurred. There are not big Czech multinational global players. Middle and namely small companies are rather outsourcing their foreign activities than invest into production. In the near future will not be fulfilled IDP theory and outward investments will hardly ever reach the amount of inward FDI.

There exist a possibility that financial crisis will push many companies into restructuring that can include movements of production abroad. But this issue is subject of further research.

## BIBLIOGRAPHY

1. MEZŘICKÝ, Václav. Globalizace. 1.vyd. Portál, 2003. ISBN 80-7178-748-5
2. KADERÁBKOVÁ, A. Globalizace ekonomických aktivit. Bulletin CES VŠEM, 2006, č. 15, s. 1-4. ISSN 1801-1578.
3. Přímé zahraniční investice. Bulletin CES VŠEM, 2005, č. 11, s. 6-7. ISSN 1801-1578.
4. UNCTAD Trade and Development Board Research Paper, Geneva 7 May 2009, Global economic crisis: implications for trade and development
5. Busse M., Groizard J.L.: Foreign Direct Investment, Regulations and Growth. World Bank Policy Research Working Paper 3882, duben 2006
7. Petříček, V.: Vývoj investičního prostředí v České republice. Corona s.r.o., 2003, první vydání. ISBN 80-903363-0-2
8. DULUPCU, M., DEMERIEL, I. Globalisation and Internalisation. Education Programme of European Commission (226388-CP-1-2005-1-DE-COMENIUS-C21)
9. World INVESTMENT REPORT 2008
10. MICHALET, Ch. Strategies of Multinationals and Competition for Foreign Direct Investment. Foreign Investment Advisory Service, occasional paper. ISBN 0-8213-4161-8
11. JAVORCIK, B. Does It Matter Where You Come From? The World Bank Policy Research Working Paper 3449
12. [www.cnb.cz](http://www.cnb.cz)
13. [www.unctad.org](http://www.unctad.org)
14. [www.czso.cz](http://www.czso.cz)

Full name: Martina Kotková

Home Address: Plzeň, Za Lesem 5, 301 00

Institution: Vysoká škola ekonomická v Praze

Street: Za Lesem 5

City: Plzeň

Email: martinakotkova@yahoo.com

# A PROSPECT THEORETICAL MODEL OF COMPETITION AND INNOVATION

Ondřej Krčál

## ANNOTATION

In this paper, we show that different profit expectations due to different intensity of competition influence innovation decisions of otherwise identical firms. Using prospect theoretical model of decision under uncertainty, we predict an inverted-U relationship between competition and innovation frequently observed in empirical studies.

## KEY WORDS

Innovation, Competition, Prospect Theory, Inverted-U Relationship

## 1. INTRODUCTION

In this paper, we present a behavioural explanation of the inverted-U curve.<sup>1</sup> For this, we use a prospect theoretical model of decision under uncertainty (Fox & Tversky 1998). The positive relationship between profitability and innovation for low levels of competition is explained by the *diminishing sensitivity* property of the value function. With decreasing competition, the innovation projects are less attractive, because the value of additional innovation spending is decreasing while the negative value of additional effort or uncertainty connected to the innovation is constant. The negative relationship, when competition is high, is explained by the *loss aversion* and *diminishing sensitivity* properties of the value function. The lower is the expected profitability, the higher is the utility loss connected to a failed innovation, and the less attractive is the innovation project.

The paper is organized as follows: In Section 2, we define concepts of competition and innovation and introduce the model of innovation decision. In Section 3, we present results of the model in which the relationship between competition and innovation has an inverted-U form. Section 4 concludes.

## 2. MODEL

The intensity of *competition* in this model is related to entry barriers and the level of intra-industry competition. Firms benefiting from higher entry barriers and lower aggressiveness of interaction within the industry are likely to have higher profits than firms in more competitive environment. Moreover, firms protected from the competition might expect their profits to persist in the long run. On the other hand, firm facing high competition, even firms currently earning high windfall profits, expect low or zero profits in the long run. It is therefore assumed that the higher the intensity of competition, the lower are the expected future profits of otherwise identical firms.

An *innovation* is the implementation of a new product, process or method.<sup>2</sup> Innovation is uncertain, because by definition, there is little information available about a project that is

---

<sup>1</sup> For empirical studies finding an inverted-U relationship between competition and innovation, see for instance Scherer 1965; Scherer 1967; Comanor 1967; Greer 1971; Strickland & Weiss 1976; Scott 1978, Martin 1979; Scott 1984; Levin, Cohen & Mowery 1985 and Schmalensee 1987; Aghion et al. 2005; Aghion et al. 2008.

<sup>2</sup> OECD 2005, p. 46

implemented for the first time (or has been implemented only few times before<sup>3</sup>). For describing innovation decision, we use the extension of cumulative prospect theory for uncertainty (Fox & Tversky 1998). According to this theory, a value  $V$  of a prospect of gaining (losing)  $x$  in monetary terms, if an event  $A$  obtains, is

$$V(x, A) = v(x)W(A) = v(x)w[P(A)],$$

where  $v$  is the value function for gains (losses),  $W$  is the weighting function denoting the probability that  $A$  obtains and which is further decomposed into the risky weighting function  $w$  for gains (losses) and the judgment of probability  $P$ .

The *value function* in prospect theory (Kahneman & Tversky 1979) transforms typically monetary outcomes  $x$  into value  $v(x)$ . The form of the function reflects principles of diminishing sensitivity and loss aversion. According to the principle of *diminishing sensitivity*, impact of a change diminishes with the distance from the reference point. The reference point is usually current wealth (*status quo*). Outcomes above the reference point are perceived as gains, outcomes below the reference point are losses. Because of the diminishing sensitivity principle, value function is concave for gains and convex for losses. In other words, the marginal value of additional unit of gains and losses is decreasing. The change from 0 to 10 is perceived more strongly than a change from 100 to 110. According to the principle of *loss aversion*, losses loom larger than corresponding gains. It means that loss of 100 is perceived more strongly than a gain of 100, which explains the extreme reluctance of people to accept fair gambles. The standard mathematical formulation of the value function for the diminishing sensitivity parameter  $\sigma \in (0, 1)$  and for the loss aversion parameter  $\lambda \geq 1$  is

$$v(x) = \begin{cases} x^\sigma & \text{if } x \geq 0, \\ -\lambda \cdot (-x)^\sigma & \text{if } x < 0. \end{cases}$$

The *risky weighting function* in prospect theory (Kahneman & Tversky 1979) transforms probabilities  $p$  ( $0 \leq p \leq 1$ ) into decision weights  $\pi$ . The transformation is non-linear. As in the case of value function, the shape of the weighting function reflects the principle of diminishing sensitivity. In this situation, it means that the impact of a change diminishes with the distance from certainty ( $p = 1$ ) and impossibility ( $p = 0$ ). The weighting function is therefore concave near impossibility and convex near certainty. In Tversky & Kahneman (1992), the rank dependant formulation of the theory is proposed. For risky prospects  $(x_i, p_i)$ , where  $x_i > x_j$  iff  $i > j$ , the weights for negative and positive prospects  $\pi_n^-$  and  $\pi_n^+$  are

$$\begin{aligned} \pi_m^- &= w^-(p_{-m}), \quad \pi_i^- = w^-(p_{-m} + \dots + p_i) - w^-(p_{-m} + \dots + p_{i-1}), \quad 1 - m \leq i \leq 0, \quad \text{and} \\ \pi_n^+ &= w^+(p_n), \quad \pi_i^+ = w^+(p_i + \dots + p_n) - w^+(p_{i+1} + \dots + p_n), \quad 0 \leq i \leq n - 1, \end{aligned}$$

where  $w^-$  and  $w^+$  are strictly increasing risky weighting functions for losses and gains that satisfy  $w^-(0) = w^+(0) = 0$ , and  $w^-(1) = w^+(1) = 1$ . Following Prelec (2000), we define the functional form of the risky weighting function for the diminishing sensitivity parameter  $\alpha \in (0, 1)$  as

$$w^-(p) = w^+(p) = \exp\left\{-(-\ln p)^\alpha\right\}.$$

---

<sup>3</sup> The word “new” in the definition of innovation may mean new to the world, new to the market, or new to the firm (OECD 2005, p. 57).

The *judgement of probability* in support theory (Tversky & Koehler 2004) is a function that transforms likelihood of an event  $A$  into a probability  $p$ . According to the support theory, each event  $A$  has at least one description  $A'$ , called hypothesis. It is possible that two different hypotheses,  $A'$  and  $B'$ , correspond to the same event (i.e.,  $A = B$ ). Each hypothesis  $A'$  has a support value  $s(A') > 0$  that reflects the importance of evidence for the hypothesis. If the judge perceives the hypotheses  $A'$  and  $B'$  as exclusive hypotheses (only one of them obtains), then  $P(A) = P(A', B')$ , the probability judgement that the hypothesis  $A'$  rather than the alternative hypothesis  $B'$  obtains, is

$$P(A', B') = \frac{s(A')}{s(A') + s(B')}, \text{ where } P(A', B') + P(B', A') = 1.$$

For the sake of simplicity, we will consider two outcomes of innovation: a highly negative and a highly positive outcome. The net result of a negative event would be minus sunk costs (innovation costs)  $-c$ . The net result of a positive scenario would be profit from innovation minus sunk costs  $rc - c$ . The innovation decisions are made by managers. The relationship between competition and innovation depends on how is the future situation of the firm expected to influence the wealth of managers. The wealth of managers is tied to the performance of the firms either through direct ownership (e.g. partnerships), or through restricted stock or stock options (e.g. public companies). We assume that each manager effectively owns a part of the firm. This “effective” ownership share  $s$  may vary from 100 % ( $s = 1$ ) to very small numbers. Typically, the larger the company, the lower the  $s$ .<sup>4</sup>

Considering firms of the same size, we will distinguish between two basic situations, how the potential profits or losses affect the wealth of managers. According to the first, managers are paid only from the profits of the firm and the ownership share  $s$  is constant. For example, if a firm is completely owned by managers ( $s = 1$ ), managers compensation is equal to the value of profit  $m$ . Under free competition, for instance, managers expect zero compensation. In the second situation, the size of the salary is constant. Moreover, the size of the salary is a function of the size of the firm. This situation is true for most public corporations. Here, the base salary is typically calculated as a function of revenue. Other types of compensation, like target bonuses, option grants and pension benefits, are expressed as a percentage or a multiple of the base salary.<sup>5</sup>

We also assume that prospect of innovation itself has a negative utility, called innovation disutility  $D_I$ . There are several reasons why innovation is expected to be unpleasant. Primarily, innovation usually requires additional managerial effort. Especially in smaller firms, many of the innovation tasks have to be done by the managers. And managers are assumed to be effort averse. Similarly, innovation brings additional uncertainty to ambiguity averse managers.<sup>6</sup> And thirdly, innovation may hurt interests of various stakeholders. We further assume that the larger the innovation project, the higher is the innovation disutility of the prospect of innovation. For the purpose of this model, the innovation disutility for disutility parameter  $d > 0$ <sup>7</sup> is assumed to be a linear function of costs:

$$D_I = dc.$$

---

<sup>4</sup> See Murphy 1999, p. 35

<sup>5</sup> See Murphy 1999, pp. 9-10

<sup>6</sup> For discussion of ambiguity aversion, see Ellsberg 1961 and Heath & Tversky 1991.

<sup>7</sup> In very special situations,  $d$  might be negative, implying that the prospect of innovating is pleasant. However, we believe that such situations are very rare.

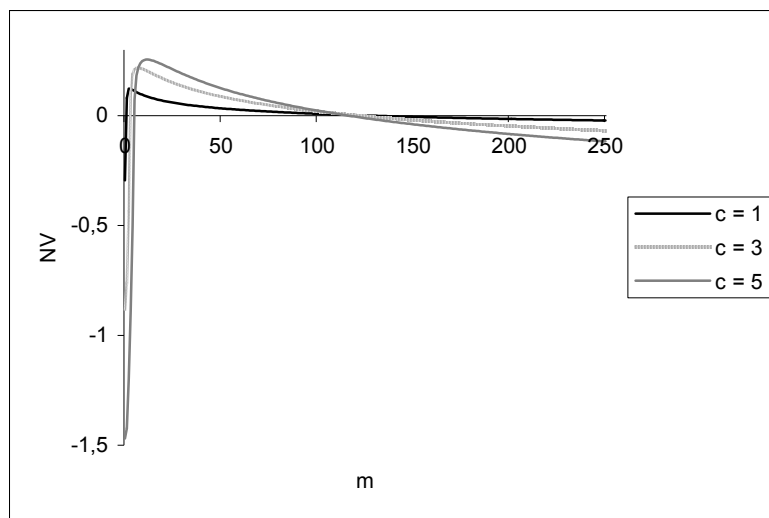
### 3. RESULTS

First, we will investigate the relationship between competition and innovation for  $s = 1$ . In the following situation, the measure of competition  $m$  will range from 0 (free competition) to 250 (low competition). Innovation will be measured using *net value* of innovation project and innovation costs  $c$ . Net value ( $NV$ ) is

$$NV = V_I - V_P - D_I = v[s(mt - rc - c)]w[P(A)] + v[s(mt - c)]w[P(B)] - v(smt) - dc,$$

where  $V_I$  is the value of the prospect of innovation and  $V_P$  is the value of the prospect of passivity.

Fig. 1: Model with a Constant Ownership Share for  $c = 1, 3$  and  $5$   
The relationship between profits and net value of innovation project for  $s = 1, d = 0.29, r = 3.5, P(A) = 0.5, \lambda = 2.25, \sigma = 0.88$  and  $\alpha = 0.65$ .<sup>8</sup>



Source: own calculation

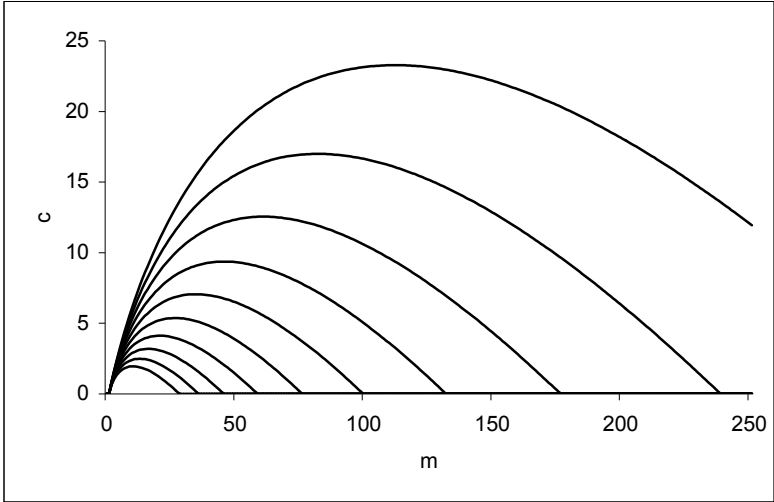
Fig. 1 shows the relationship between profits  $m$  and net value of innovation  $NV$  for different levels of  $c$ . All three lines are negative for very small and large profits and positive for medium profits. It means that firms facing medium competition would innovate while firms facing small and very intense competition wouldn't. Furthermore, it is evident from Fig. 1 that for medium competition (e.g. for  $m = 50$ ), larger innovation projects are preferred to smaller innovation projects, and that for high and low competition (e.g.  $m = 1$  and  $m = 200$ ), this preference is reversed.

Now, we assume that managers are able to choose the size of the innovation project  $c$ . In Fig. 2, we show relationship between competition  $m$  and optimal innovation costs  $c$  for different levels of  $d$ . If  $c = 0$ , then passivity is preferred to innovation. For given values of parameters, we identified inverted-U relationship between competition and innovation. In this model, the inverted-U shape is due to the two properties of prospect theoretical value function: loss aversion and diminishing sensitivity. If  $m < c$ , the outcome of a failed innovation is negative, i.e. it is perceived as a loss. By assuming that managers are loss averse, we suppose extremely risk averse behaviour in such situations. It means that managers avoid the prospect of loss by reducing the size of the project. We can see in Fig. 2 that for

<sup>8</sup> The values of  $\lambda$  and  $\sigma$  are taken from Tversky & Kahneman 1992 and the value of  $\alpha$  from Prelec 2000.

small  $m$ , the optimal  $c$  is also small. On the other hand, if  $m$  is large, the value of the prospect of innovation is reduced by the diminishing sensitivity property. The marginal value of the same additional profit from innovation  $rc$  is lower if also the expected profit without innovation is high. And while the change from 0 to 10 has higher value than the change from 100 to 110, the innovation disutility is the same in both situations. The decreasing part of the inverted-U reflects the fact that the marginal utility of innovation is decreasing while marginal disutility of innovation remains the same.

Fig. 2: Model with a Constant Ownership Share  
 The inverted-U relationship between  $m$  and  $c$  for  $d = 0.26$  (upper line) to  $0.35$  in  $0.01$  steps and for  $s = 1, r = 3.5, P(A) = 0.5, \lambda = 2.25, \sigma = 0.88$  and  $\alpha = 0.65$ .

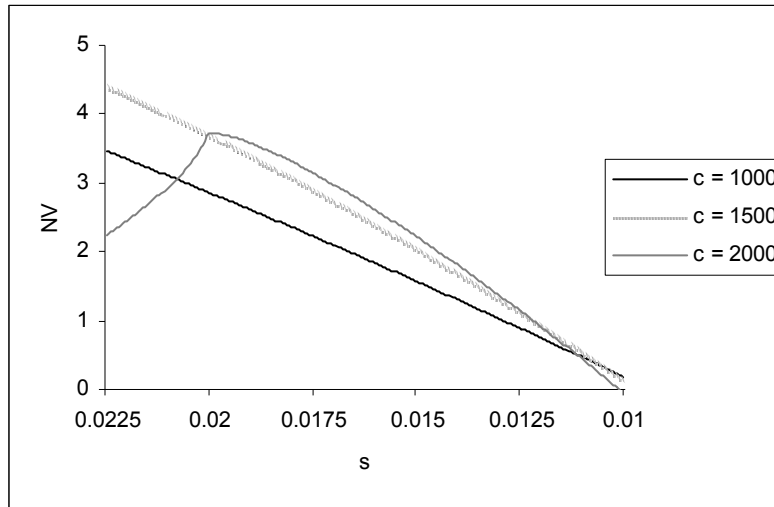


Source: own calculation

Next, we will investigate the relationship between competition and innovation for  $sm = 40$ . For measuring competition, we will use the ownership share  $s$ . In the following example, it will range from  $0.025$  to  $0.01$ .<sup>9</sup> The measures of innovation, net value and optimal sunk costs, are the same like in previous situation.

<sup>9</sup> This range corresponds to S&P Mid-Cap firms with average pay-performance sensitivity of  $0.0154$  (Murphy 1999, p. 35).

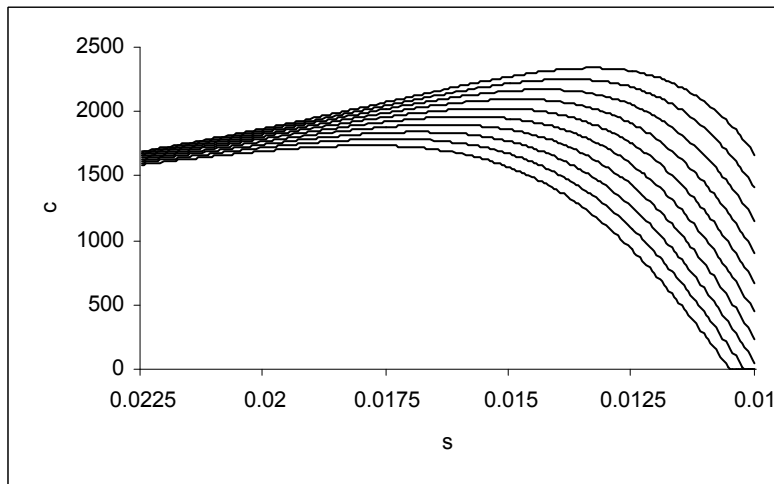
Fig. 3: Model with a Constant Salary for  $c = 1000, 1500$  and  $2000$   
 The relationship between  $s$  and net value of innovation project  
 for  $sm = 40, d = 0.0029, r = 3.5, P(A) = 0.5, \lambda = 2.25, \sigma = 0.88$  and  $\alpha = 0.65$ .



Source: own calculation

As we can be seen in Fig. 3,  $NV$  in this situation has no longer inverted-U form for all levels of  $c$  (in this instance just for  $c = 2000$ ). What is similar is the preference of size. Larger projects are again preferred under medium competition (e.g.  $s = 0.015$ ) and smaller under low competition (e.g.  $s = 0.01$ ) and  $c = 2000$  has lower value than the other lines also under high competition (e.g.  $s = 0.022$ ). This finding suggests that the relationship between  $s$  and optimal level of  $c$  will have again an inverted-U form.

Fig. 4: Model with a Constant Salary  
 The inverted-U relationship between  $s$  and  $c$  for  $d = 0.0026$  (upper line) to  $0.0035$   
 in  $0.0001$  steps and for  $sm = 40, r = 3.5, P(A) = 0.5, \lambda = 2.25, \sigma = 0.88$  and  $\alpha = 0.65$ .



Source: own calculation

The resulting inverted-U shape is shown in Fig. 4. Contrary to the inverted-U in the previous section, the increasing part of the curve is flat and the decreasing part is steep. The increasing part of the curve is flat, because managers are isolated from losses by the positive  $sm$ . Or in other words, the management position is usually so attractive that it is considered as a *gain* even with a failed innovation project of a small size (if  $sm > c$ ). The concave form, and eventually also the decreasing part, of the curve is again due to diminishing sensitivity. In

addition to the previous case, the decline in marginal positive value of innovation is reinforced by the decreasing ownership share  $s$ .

#### 4. CONCLUSIONS

In this paper, we present two models that explain the inverted-U relationship between competition and innovation activity. In the model with a constant ownership share, we see that firms with very low and very high profits innovate less than firms with medium profits. Similar patterns, just with flatter increasing and steeper decreasing part of the curve, are predicted by the model with a constant salary.

#### BIBLIOGRAPHY

- AGHION, P., BLOOM, N., BLUNDELL, R., GRIFFITH, R., HOWITT, P. (2005): Competition and Innovation: An Inverted-U Relationship. *The Quarterly Journal of Economics*, Vol. 120, No. 2, pp. 701–728
- AGHION, P., BRAUN, M., FEDDERKE, J. (2008): Competition and Productivity Growth in South Africa. *Economics of Transition*, Vol. 16, No. 4, pp. 741–768
- COMANOR, W. S. (1967): Market Structure, Product Differentiation, and Industrial Research. *The Quarterly Journal of Economics*, Vol. 81, No. 4, pp. 639–657
- ELLSBERG, D. (1961): Risk, Ambiguity, and the Savage Axioms. *The Quarterly Journal of Economics*, Vol. 75, No. 4, pp. 643–669
- FOX, C. R., TVERSKY, A. (1998): A Belief-Based Account of Decision under Uncertainty. *Management Science*, Vol. 44, No. 7, pp. 879–895
- GREER, D. (1971): Advertising and Market Concentration. *Southern Economic Journal*, Vol. 38, pp. 19–32
- HEATH, C., TVERSKY, A. (1991): Preference and Belief: Ambiguity and Competence in Choice under Uncertainty. *Journal of Risk and Uncertainty*, Vol. 4, pp. 5–28
- KAHNEMAN, D., TVERSKY, A. (1979): Prospect Theory: An Analysis of Decision under Risk. *Econometrica*, Vol. 47, No. 2, pp. 263–291
- LEVIN, R. C., COHEN, W. M., MOWERY, D. C. (1985): R & D Appropriability, Opportunity, and Market Structure: New Evidence on Some Schumpeterian Hypotheses. *The American Economic Review*, Vol. 75, No. 2, pp. 20–24
- MARTIN, S. (1979): Advertising, Concentration, and Profitability: The Simultaneity Problem. *Bell Journal of Economics*, Vol. 10, pp. 639–647
- MURPHY, K. J. (1999): *Executive Compensation* [online]. available at [http://windbichler.rewi.hu-berlin.de/Murphy\\_ExecutiveCompensation.pdf](http://windbichler.rewi.hu-berlin.de/Murphy_ExecutiveCompensation.pdf)
- OECD (2005): *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data*. 3. edition, A joint publication of OECD and Eurostat, OECD Publications, Paris, ISBN 92-64-01308-3
- PRELEC, D. (2000): Compound Invariant Weighting Functions in Prospect Theory. In KAHNEMAN, D., TVERSKY, A. (Ed.): *Choices, Values, and Frames*. Cambridge, Cambridge University Press, 840 pages, ISBN 0521627494
- SCHERER, F. M. (1965): Firm Size, Market Structure, Opportunity, and the Output of Patented. *The American Economic Review*, Vol. 55, No. 5, pp. 1097–1125
- SCHERER, F. M. (1967): Market Structure and the Employment of Scientists and Engineers. *The American Economic Review*, Vol. 57, No. 3, pp. 524–531
- SCHMALENSEE, R. (1987): *Inter-Industry Studies of Structure and Performance* [online]. available at <http://dspace.mit.edu/bitstream/handle/1721.1/2167/SWP-1874-18211615.pdf?sequence=1>
- SCOTT, J. T. (1978): Nonprice Competition in Banking Markets. *Southern Economic Journal*, Vol. 44, pp. 594–605



SCOTT, J. T. (1984): Firm vs. Industry Variability in R&D Intensity. In GRILICHES, Z. (ed.), *R&D, Patents, and Productivity*. University of Chicago Press, available at <http://www.nber.org/chapters/c10051.pdf>

STRICKLAND, A. D., WEISS, L. W. (1976): Advertising, Concentration, and Price-cost Margins. *Journal of Political Economy*, Vol. 84, pp. 1109–1121

TVERSKY, A., KAHNEMAN, D. (1992): Advances in Prospect Theory: Cumulative Representation of Uncertainty. *Journal of Risk and Uncertainty*, Vol. 5, pp. 297–323

TVERSKY, A., KOEHLER, D. K. (2004): Support Theory: A Nonextensional Representation of Subjective Probability. In SHAFIR, E. (Ed.): *Preference, Belief, and Similarity: Selected Writings*. Cambridge, MIT Press, 1040 pages, ISBN 0-262-20144-5

Ondřej Krčál  
Faculty of Economics and Administration, Masaryk University  
Lipová 41a  
Brno  
[krcalo@mail.muni.cz](mailto:krcalo@mail.muni.cz)

# COMPETITION AND PROFITABILITY

Ondřej Krčál

## ANNOTATION

In this paper, we investigate relationship between competition and profitability. We define dynamic and static competition and review economic literature about persistence and sources of profits. Moreover, we compare measures of competition based on profitability and relative profits. We argue that profitability measures are more suitable for firms with similar efficiency and for the long-run studies and inter-industry comparisons. Measures based on relative profitability, on the other hand, are likely to be more useful if efficiency of firms in the industry differs persistently.

## KEY WORDS

Competition, Profitability, Price-Cost Margin, Relative Profits, Relative Profit Differences

## 1. INTRODUCTION

In the last decades, economic theorists have identified number of situations in which the traditional link between competition and profits or prices is reversed.<sup>1</sup> Similarly, traditional view of competition as a market structure has been seriously questioned by the recent empirical research. The findings about the nature of competition and related measurement issues are of great interest for both economic policy and research. The introduction of new measures of competition by Jan Boone (2000, 2008) only documents the importance of discussion at this basic level.

In this paper, we investigate the relationship between competition and profitability. We define dynamic and static competition, present a short survey of empirical literature about profitability, and discuss the relevance and usefulness of measures of competition based on profitability and relative profits. The structure of the paper is as follows: Section 2 defines theoretical concepts of static competition and dynamic competition. Section 3 presents empirical evidence about the relationship between competition and profits. Section 4 discusses profitability measures of competition and compares them to measures based on relative profits. Section 5 concludes.

## 2. COMPETITION

According to Stigler's general definition, „[c]ompetition arises whenever two or more parties strive for something that all cannot obtain.“<sup>2</sup> Two inevitable questions follow from this definition: Who are the parties and what do they strive for? There are two goals that lead to competition in the market place. Buying product if there is too little of it – competition among buyers then drives prices up–, and selling product if there is too much of it drives prices down. This view of competition is even older than *Wealth of Nations*. The most complete treatment of this problem before Smith can be found in work of James Stuart,<sup>3</sup> who also points out that the ideal situation is simultaneous competition in both sides of the market. For

---

<sup>1</sup> Salop 1979, Rosenthal 1980, Amir 2002, Boone 2000

<sup>2</sup> Stigler 2008

<sup>3</sup> McNulty 1967, p. 396. Adam Smith (1776, p. 26) formulated the same idea nine years later: "The market price will sink more or less below the natural price, according as the greatness of the excess increases more or less the competition of the sellers, or according as it happens to be more or less important to them to get immediately rid of the commodity."

the sake of simplicity, only the competition among seller will be considered here. It means that only the actions of other sellers in the industry, and not the actions of buyers, owners of factors, or firms outside the industry, can be seen as competitive actions.

The economic definition of competition would be then as follows. Competition arises if two or more firms face a situation, in which the supply of product exceeds the demand for it, i.e. whenever it is not possible to sell all the supplied product at the current price. The competitive action is a reduction of price. Intensity of competition depends on the speed of convergence to an equilibrium level.<sup>4</sup> In the short run, the supplied product is a sum of the products supplied by all the firms in the market. In the long run, the supplied product is a sum of product brought to the market by both incumbents and entrants.

The concept of competition as a process differs fundamentally from the concept of competition as a market structure. In what follows the term *dynamic competition* will describe the competition as a process, the term *competition* a market structure of certain properties. Perfect competition, as characterized by the relevant properties of the product, market, industry and technology, is a market structure, in which no change in the properties would induce dynamic competition. Competitive firms face infinitely elastic demand function at the level of equilibrium price and have economic profits eliminated in the long run. The properties of perfect competition are as follows:

1. There is a large number of firms acting independently in the market.<sup>5</sup>
2. Market clearing price is known to the firms.<sup>6</sup>
3. Product is homogenous.
4. There is infinite number of potential entrants with information about profits obtainable in the industry,<sup>7</sup> access to the most efficient technology, and with no entry or exit cost.<sup>8</sup>

In competition with these properties, there is no room for dynamic competition (price cutting) left unless the demand or supply changes. It means that prices are lowered down to the level of marginal costs in the short run and down to the level of average costs of the most productive firms in the long run. The intensity of competition depends on the properties of competition. In models of competition, exogenous industry properties are used for parameterization of intensity of competition. The parameters of competition include among others number of firms, substitutability of products, type of interaction (Cournot, Bertrand), ability to collude, transportation costs and costs of entry. It means that competition is the more intense the more firms, the higher the substitutability between goods, the lower the entry costs etc.

### 3. COMPETITION AND PROFITS: EMPIRICAL EVIDENCE

Two groups of questions have been studied by empirical literature. Questions concerning dynamic competition are as follows: Do profits converge? If it is so, what are the factors

---

<sup>4</sup> Definition used in persistence of profits literature (See for instance Mueller 1986).

<sup>5</sup> Stigler 1957, p. 14. Important is the small size of firms relative to the size of the market (Mas-Colell, Winston and Green 1995, p. 314 and p. 412). The number of traders is actually not important, the important thing is that all sellers believe that their actions will have no influence on market price. However, this is rather unrealistic to assume of the number of firms is small. The notable exception is Bertrand competition, in which rivalry between only two firms makes the demand curve each firm faces perfectly elastic (Mas-Colell, Winston and Green 1995, p. 389).

<sup>6</sup> According to Stigler (1957, p. 14), it is sufficient if „the traders have full knowledge of all offer and bid prices.“

<sup>7</sup> Stigler 1957, p. 15

<sup>8</sup> Mas-Colell, Winston and Green (1995, p. 334)

behind the intensity of competition (speed of convergence)? What is more important, firm- of industry effects? Questions about static competition are following: Do profits converge to the same long run levels? If it is not so, what are the factors behind the differences in the (long run) profits? Are it firm specific or industry specific factors?

The results of the empirical literature can be summarized as follows: There is no doubt that profits do converge to some extent.<sup>9</sup> Moreover, the evidence shows that industry effects on the speed of convergence are more important than firm effects.<sup>10</sup> The single most important factor limiting convergence is industry concentration.<sup>11</sup> Other factors are entry and exit conditions,<sup>12</sup> and product differentiation together with advertising or R&D intensity.<sup>13</sup> On the static competition side of the research, there is a wide agreement on that profits do not converge to the same long run profit rates.<sup>14</sup> Firm effects are more important than industry effects in explaining the differences in current and long run projected profits.<sup>15</sup> The single most important factor correlated with the level of profits is market share.<sup>16</sup> Other possibly important factors are product differentiation,<sup>17</sup> advertising intensity,<sup>18</sup> and risk.<sup>19</sup>

Even though we might raise methodological objections to the measurement of the speed of convergence,<sup>20</sup> the evidence suggests that industry specific factors reduce convergence of profits after a positive demand or supply shock.<sup>21</sup> Adding rather small but still present influence of industry structure on (long-run) profits, we have found empirical support for the existence of the relationship between competition (as market structure) and profits. On the

---

<sup>9</sup> There is a great number of studies, for instance all the persistence of profits literature studies cited in this paper, documenting this fact.

<sup>10</sup> Mueller 1990; Cubbin & Geroski 1990; Odagiri & Yamawaki 1990; McGahan & Porter 1999; Schumacher & Boland 2005; Bou & Satorra 2007.

<sup>11</sup> Odagiri & Yamawaki 1990, Cubbin & Geroski 1990; Cuaresma & Gschwandtner 2008.

<sup>12</sup> Waring 1996. Khemani & Shapiro 1990 on the other hand conclude that convergence of profits is likely due to competition among incumbents.

<sup>13</sup> Cubbin & Geroski 1990; Waring 1996. Odagiri & Yamawaki 1990 on the other hand found that advertising and R&D intensity increases convergence.

<sup>14</sup> Again all the persistence of profits studies cited in this paper with one notable exception: the study by Jacobsen 1988.

<sup>15</sup> Mueller 1990; Cubbin & Geroski 1990; Odagiri & Yamawaki 1990; Rumelt 1991; Roquebert, Phillips & Westfall 1996; McGahan & Porter 1997; Mauri & Michaels 1998; Brush, Bromiley & Hendrickx 1999; Hatawini, Subramanian & Verdin 2003; McGahan & Porter 2002; Maruyama & Odagiri 2002; Bou & Satorra 2007; Yurtoglu 2004. Important industry effects or even industry effects that are more important than firm effects found Schmalensee 1985; Wernerfelt & Montgomery 1988; Khemani & Shapiro 1990 and Jenny & Weber 1990.

<sup>16</sup> Rumelt 1991; Schmalensee 1985; Wernerfelt & Montgomery 1988; Szymanski, Bharadwaj & Varadarajan 1993; Mueller 1986; Odagiri & Yamawaki 1990; Maruyama & Odagiri 2002; Yurtoglu 2004.

<sup>17</sup> Mueller 1986

<sup>18</sup> Odagiri & Yamawaki 1990; Schwalbach & Mahmood 1990. Schmalensee (1987, p. 48) states that effect of market share on profitability is positively related to the advertising intensity.

<sup>19</sup> Mueller (1986, p. 131) found negative relationship: more profits mean less risk. Other studies with similar results are cited by Cuaresma & Gschwandtner (2008, p. 9). Yurtoglu (2004) on the other hand found positive correlation.

<sup>20</sup> Cable & Mueller (2008) conclude that structural breaks such as radical innovations or exogenous shocks would affect the reliability of the measurement of profit persistency using first order autoregressive process (this method is used by vast majority of persistency of profits studies cited here). The importance of this objection is to be investigated by future research.

<sup>21</sup> This might be one possible explanation of the positive correlation between concentration and profits found in literature. From Weiss's review of literature between 1951 and 1974 follows that there is a weak positive correlation between market concentration and industry profitability (Peltzman 1977, p. 229). However, the relationship often turns negative or insignificant once market share is added into the regression (Schmalensee 1987, p. 48).

other hand, firm-specific factors explain the (long run) profits significantly better than industry factors. The most important empirical regularity is that firms with small market shares are less profitable than the industry leaders.<sup>22</sup>

However important is the last finding, the interpretation of it is rather controversial. It is because the causality may run in both directions in this situation. Higher profitability due to better efficiency may lead to higher market share of firms.<sup>23</sup> Or high market share and profits of firms gained because of any reason may help sustain profits in the long run. The former explanation is more attractive because it provides direct link between profitability and market share. Level playing field<sup>24</sup> models of competition with differences in cost levels of firms (with innovation) generate similar industry pattern: more efficient firms have higher market share and profits, and charge lower prices. This last prediction is however not supported by the fact that seller concentration (typically strongly correlated with market share) is positively related to the level of price.<sup>25</sup> Higher price, on the other hand, is consistent with the latter explanation: Companies that from luck or skill secured high profits and gained important market share might be able to keep their advantage in different ways: increase product differentiation, secure scarce natural resources or land sites, or obtain legal or political protection.<sup>26</sup> This way different firms (or groups of firms) in one industry may wield different monopoly power on their specific markets. The profit differences may be protected by different barriers to entry outside the industry, and different resource position barriers or mobility barriers inside the industry.<sup>27</sup>

#### 4. PROFITABILITY AND RELATIVE PROFITS

In this section, we will compare profitability measures with measures based on relative profits. First, we will introduce the measures and explain their respective theoretical merits. In the second part of the section, we discuss their empirical relevance.

The most widely used profitability measure is price-cost margin (PCM)  $(p - mc)/p$ , where  $p$  is price and  $mc$  is marginal cost.<sup>28</sup> Profitability of an industry is measured using total industry profits or sales weighted price-cost margin. In the long-run competitive equilibrium, profitability is zero ( $p = mc$  and  $p = ac$ ). For firms with similar efficiency, profitability measure is monotone in competition (competition parameters).<sup>29</sup> Profitability measures indicate the distance of the industry structure from perfectly competitive situation. However, the competitive situation in the industry is better reflected in the measure in the long run for two reasons: First, because of entry and exit, there is clear correspondence between profits and long-long run equilibrium. In the short-run, the level of profits might be deflected by shocks in demand or supply. Another advantage of profitability in the long run is that different industries can be compared to the ideal situation of perfect competition. For this reason, profitability measures of competition are more adequate for comparing intensity of competition across industries.

---

<sup>22</sup> Schmalensee 1987, p. 46

<sup>23</sup> Demsetz 1973

<sup>24</sup> See Boone 2008, p. 1248.

<sup>25</sup> Schmalensee 1987, p. 52

<sup>26</sup> Mueller 1977, p. 370.

<sup>27</sup> See Wernerfelt 1984 and Caves & Porter 1977 respectively.

<sup>28</sup> In empirical studies, instead marginal costs are often used average costs or average variable costs.

<sup>29</sup> See Boone 2000, p. 17–18. There are several specific situations of rather small importance in which this rule doesn't hold (see e.g. Amir 2002).

Relative profitability measures of competition, on the other hand, are more useful for measuring short-run changes in competition in the same industry if the efficiency of firms is different. If firms differ only in cost levels and the competition is symmetric, rise in competition increases profits of any firm  $\pi'$  relative to profits of any less efficient firm  $\pi$  in the market.<sup>30</sup> Relative profit measure is then  $RP = \pi' / \pi$ . Relative profit differences (RPD) are defined as  $(\pi'' - \pi) / (\pi' - \pi)$ , where  $\pi'' > \pi' > \pi$ .<sup>31</sup> RPD is based on the reallocation effect of competition. It means that higher competition reallocates market share from inefficient firms to the more efficient firms. Consequently, profits of leaders relative to the profits of the laggards will rise. RD and RPD measures of competition react very strongly to changes in efficiency of firms. Any innovation activity that changes relative efficiency of firms in the industry will make measurement of competition very difficult. For this reason, the measure is more suitable for analyzing short-run exogenous changes in competition. On the other hand, important changes in costs or demand function that affect do not relative efficiency of firms cannot be measured. This in turn complicates use of relative profitability for comparing competition across different industries.

Finally, the empirical evidence presented in previous section is more in favor of relative profit measures. Even though the persistent differences in profitability across industry members have not one clear theoretical interpretation, the efficiency theory seem to better account for the correlation with market shares. And as mentioned earlier, RP and RPD are more reliable if firms have different efficiency.

## 5. CONCLUSIONS

In this paper, we investigate the theoretical and empirical relationship between competition and profitability. We define dynamic and static competition and review economic and management literature studying sources and factors of profitability. Comparing different measures of competition using profits, we conclude that profitability measures are more suitable for firms with similar efficiency. Profitability might be also superior if intensity of competition in different industries and over the long run is compared. On the other hand, measures based on relative profitability are likely to provide better results if exogenous changes in one industry are analyzed and if efficiency of industry members differs persistently.

## BIBLIOGRAPHY

- AGHION, P., HARRIS, C., HOWITT, P., VICKERS, J. (2001): Competition, Imitation and Growth with Step-by-Step Innovation. *Review of Economic Studies*, Vol. 68, pp. 467-492
- AMIR, R. (2002): Market Structure, Scale Economies and Industry Performance. Mimeo.
- BAIN, J. S. (1951): Relation of Profit Rate to Industry Concentration: American Manufacturing, 1936-1940. *The Quarterly Journal of Economics*, Vol. 65, No. 3, pp. 293-324
- BOONE, J. (2000): Competition. Center for Economic Research Discussion Paper No. 2000-104**
- BOONE, J. (2008): A New Way to Measure Competition. *The Economic Journal*, Vol. 118, pp. 1245-1261**
- BOU, J.C., SATORRA, A. (2007): The Persistence Of Abnormal Returns at Industry and Firm Levels: Evidence from Spain. *Strategic Management Journal*, Vol. 28, pp. 707-722

---

<sup>30</sup> Boone 2000, pp. 4-5

<sup>31</sup> Boone 2008, 1252

- BRUSH, T. H., BROMILEY, P., HENDRICKX, M. (1999): The Relative Influence of Industry and Corporation on Business Segment Performance: An Alternative Estimate. *Strategic Management Journal*, Vol. 20, pp. 519–547
- CABLE, J. R., MUELLER, D. C. (2008): Testing for Persistence of Profits' Differences Across Firms. *International Journal of the Economics of Business*, Vol. 15, No. 2, pp. 201–228
- CAVES, R. E., PORTER, M. E. (1977): From Entry Barriers to Mobility Barriers: Conjectural Decisions and Contrived Deterrence to New Competition. *The Quarterly Journal of Economics*, Vol. 91, No. 2, pp. 241-262
- CUARESMA, J. C., GSCHWANDTNER, A. (2008): Explaining the Persistence of Profits: A Time-varying Approach [online]. *Working Paper No: 0806*, available at <http://www.univie.ac.at/vwl/Working%20Papers/2008/vie0806.pdf>
- CUBBIN, J., GEROSKI, P. A. (1990): The Persistence of Profits in the United Kingdom. In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits: An International Comparison*. Cambridge University Press, 216 pages, ISBN 0-521-38372-2
- DEMSETZ, H. (1973): Industry Structure, Market Rivalry, and Public Policy. *Journal of Law and Economics*, Vol. 16, No. 1., pp. 1–9
- HAWAWINI, G., SUBRAMANIAN, V., VERDIN, P. (2003): Is Performance Driven by Industry- or Firm-Specific Factors? A New Look at the Evidence. *Strategic Management Journal*, Vol. 24, pp. 1–16
- JACOBSEN, R. (1988): The Persistence of Abnormal Returns. *Strategic Management Journal*, Vol. 9, p. 415-430
- JENNY, F. Y., WEBER, A.-P. (1990): Persistence of Profits in France. In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits: An International Comparison*. Cambridge University Press, 216 pages, ISBN 0-521-38372-2
- KHEMANI, R. S., SHAPIRO, D. M. (1990): The Persistence of Profitability in Canada. In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits: An International Comparison*. Cambridge University Press, 216 pages, ISBN 0-521-38372-2
- MARUYAMA, N., ODAGIRI, H. (2002): Does the “Persistence of Profits” Persist?: A Study of Company Profits in Japan, 1967–97. *International Journal of Industrial Organization*, Vol. 20, pp. 1513–1533
- MAS-COLELL, A., WHINSTON, M. D., GREEN, J. R. (1995): *Microeconomic Theory*. New York: Oxford University Press, 977 pages, ISBN 0-19-510268-1
- MAURI, A. J., MICHAELS, M. P. (1998): Firm and Industry Effects within Strategic Management: An Empirical Examination. *Strategic Management Journal*, Vol. 19, pp. 211–219
- MCGAHAN, A. M., PORTER, M. E. (1997): How Much Does Industry Matter, Really? *Strategic Management Journal*, Vol. 18, pp. 15–30
- MCGAHAN, A. M., PORTER, M. E. (1999): The Persistence of Shocks to Profitability. *The Review of Economics and Statistics*, Vol. 81, No. 1, pp. 143-153
- MCGAHAN, A. M., PORTER, M. E. (2002): What Do We Know About Variance in Accounting Profitability? *Management Science*, Vol. 48, No. 7, pp. 834–851
- MCNULTY, P. J. (1967): A Note on the History of Perfect Competition. *The Journal of Political Economy*, Vol. 75, No. 4, Part 1, pp. 395-399
- MUELLER, D. C. (1977): Persistence of Profits above the Norm. *Economica*, Vol. 44, pp. 369–380
- MUELLER, D. C. (1986): *Profits in the Long Run*. Cambridge University Press, 378 pages, ISBN 978-0-521-30693-5
- MUELLER, D. C. (1990): The Persistence of Profits in the United States. In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits*

- ODAGIRI, H., YAMAWAKI, H. (1990): The Persistence of Profits in Japan. In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits: An International Comparison*. New York: Cambridge University Press, 216 pages, ISBN 0-521-38372-2
- PELTZMAN, S. (1977): The Gains and Losses from Industrial Concentration. *Journal of Law and Economics*, Vol. 20, No. 2, pp. 229-263
- ROSENTHAL, R. W. (1980): A Model in Which an Increase in the Number of Sellers Leads to a Higher Price. *Econometrica*, Vol. 48, No. 6, pp. 1575-1579
- ROQUEBERT, J. A., PHILLIPS, R. L., WESTFALL, P. A. (1996): Markets Vs. Management: What 'Drives' Profitability? *Strategic Management Journal*, Vol. 17, pp. 653-66
- RUMELT, R. P. (1991): How Much Does Industry Matter? *Strategic Management Journal*, Vol. 12, pp. 167-185
- SALOP, S. C. (1979): Monopolistic Competition with Outside Goods. *The Bell Journal of Economics*, Vol. 10, No. 1, pp. 141-156
- SCHMALENSEE, R. (1985): Do Markets Differ Much? *The American Economic Review*, Vol. 75, No. 3, pp. 341-351
- SCHMALENSEE, R. (1987): Inter-Industry Studies of Structure and Performance [online]. *Working Paper No.1874-87*, available at <http://dspace.mit.edu/bitstream/handle/1721.1/2167/SWP-1874-18211615.pdf?sequence=1>
- SCHUMACHER, S. K., BOLAND, M. A. (2005): The Persistence of Profitability among Firms in the Food Economy. *American Journal of Agricultural Economics*, Vol. 87, pp. 103–115
- SCHWALBACH, J., MAHMOOD, T. (1990) In In MUELLER, D. C. (Ed.): *The Dynamics of Company Profits: An International Comparison*. New York: Cambridge University Press, 216 pages, ISBN 0-521-38372-2
- SMITH, A. (1776): *An Inquiry into the Nature and Causes of the Wealth of Nations*. Edinburgh: Adam and Charles Black, New Edition, 669 pages
- STIGLER, G. J. (1957): Perfect Competition, Historically Contemplated. *The Journal of Political Economy*, Vol. 65, No. 1, pp. 1-17
- STIGLER, G. J. (2008): Competition. In DURLAUF, S. N., BLUME, L. E. (Eds.): *The New Palgrave Dictionary of Economics*, 2. edition, *Palgrave Macmillan, The New Palgrave Dictionary of Economics Online* [online]. available at [http://www.dictionaryofeconomics.com/article?id=pde2008\\_C000261](http://www.dictionaryofeconomics.com/article?id=pde2008_C000261)  
doi:10.1057/9780230226203.0279
- SZYMANSKI, D. M., BHARADWAJ, S. G., VARADARAJAN, P. R. (1993): An Analysis of the Market Share-Profitability Relationship. *The Journal of Marketing*, Vol. 57, No. 3, pp. 1-18
- WARING, G. F. (1996): Industry Differences in the Persistence of Firm-Specific Returns. *The American Economic Review*, Vol. 86, No. 5, pp. 1253-1265
- WERNERFELT, B. (1984): A Resource-based View of the Firm. *Strategic Management Journal*, Vol. 5, pp. 171-180
- WERNERFELT, B., MONTGOMERY, C. A. (1988): Tobin's q and the Importance of Focus in Firm Performance. *The American Economic Review*, Vol. 78, No. 1, pp. 246-250
- YURTOGLU, B. B. (2004): Persistence of Firm-level Profitability in Turkey. *Applied Economics*, 2004, Vol. 36, pp. 615–625

Ondřej Krčál  
 Faculty of Economics and Administration, Masaryk University  
 Lipová 41a  
 Brno  
 krcalo@mail.muni.cz



# DOUBLE COINCIDENCE OF WANTS AND THE ESSENTIALITY OF MONEY

Rostislav Staněk

## ANNOTATION

This paper is focused on the microeconomic foundation of the theory of money. I argue that the absence of double coincidence of wants per se is not able to explain the existence of money. The argument has two parts. First, I argue that existing models without double coincidence of wants include also other frictions. Second, I show that double coincidence of wants is neither sufficient nor necessary condition for the essentiality of money. Game theory is applied for this purpose. Finally the paper provides indirect support for the claim that money is a record-keeping device that solves the problem of imperfect monitoring.

## KEY WORDS

Money, Double Coincidence of Wants, Search models, Infinite games

## INTRODUCTION

In this paper I will offer a contribution to microeconomic foundations of money. To explain what a microfoundations of money is about, let me start by summarizing of historical context. There is a long tradition of monetary thought which tries to incorporate the monetary theory into the theory of value.<sup>1</sup> But this tradition, which culminated in a work of Don Patinkin by introduction of money into the utility function, failed, because of internal inconsistency.<sup>2</sup> Hahn (1965) showed that the marginal rate of substitution in consumption of money and other goods does not depend on the fact whether the person wants to trade at all. Another serious critique of this approach was made by Clower (1967) who pointed out that the construction of standart budget constraint enables barter exchange and does not find a proper role for money.<sup>3</sup> Clearly money turned out to be non-essential in this approach, because the frictionless walrasian model finds no reason for the existence of money.

Therefore in order to explain the existence of money some microeconomic theory that incorporates frictions into the process of exchange is needed. There was a clear intuition that money is necessary to facilitate trade at least since Jevons (1875) or Menger (1882). Carl Menger describes in his seminal paper the trading process with lack of double coincidence of wants in the following way: “Even in a relatively simple case, where an economic unit, A, requires a commodity possessed by B, and B requires one possessed by C, while C wants one that is owned by A – even here, under a rule of mere barter, the exchange of goods in question would as a rule be of necessity left undone.”<sup>4</sup> But as was mentioned above, this intuition were not explicitly stated in monetary models. Also today we can find a gap between two categories of monetary models. The first category is used for study of an impact of monetary policy. In such models money is assumed to be productive and theoretical shortcuts are used to derive the demand for money.<sup>5</sup> The second category of model ask whether and why money is essential, whereas money is essential if it improves the efficiency of resource allocations relative to an a economy without money. The second category lies in my focus.

---

<sup>1</sup> As I know this claim was first explicitly presented in Hicks (1935)

<sup>2</sup> Ostroy, Starr (1990)

<sup>3</sup> Clower suggested to solve this problem by introduction of the so called cash-in-advance constraint.

<sup>4</sup> Menger (1882)

<sup>5</sup> Wallace (2001)

Now I will offer a brief classification of the second category models and reasons that lies beyond the essentiality of money. We can find at least three types of models with frictions underlying the essentiality of money; overlapping generation model (OLG),<sup>6</sup> Townsend's spatial separation model<sup>7</sup> and search models.<sup>8</sup> OLG and spatial separation models are very similar concerning the nature of frictions they impose on the exchange process. Both models are made of agents that are not able to trade because agents meet only once and at that time one trading partner has no consumption good to offer. Put shortly, in both models agents cannot trade, because some markets are missing. Hence, quid pro quo exchange with one agent or in one period is suspended.<sup>9</sup> The difference is that agents are separated intertemporally or spatially. The introduction of money then leads to the creation of the market of intertemporal or interspatial exchange. Furthermore there is imperfect monitoring friction in both models. Young generation is not able to monitor actions of older generation in OLG and there is no monitoring among separated markets in spatial separation model. Compare the structure of OLG and spatial separation model with Menger's description of trading frictions cited above. We can see that they share the impossibility of quid pro quo exchange. But there is a different specification of the lack of double coincidence of wants in search model literature. Here it is random matching and the absence of centralized market that imposes search costs on agents.<sup>10</sup> The mutual acceptance of money can then reduce the search costs. Also here is established the imperfect monitoring problem because of random matching and information limitation.

So we can see that all models under consideration contains two frictions; absence of double coincidence of wants and imperfect monitoring. At the same time the definition of double coincidence of wants is not unambiguous. According to the family of search models absence of double coincidence of wants means that trading process is connected with some search costs. In a broader sense absence of double coincidence of wants covers the impossibility of quid pro quo exchange. The latter I call a quid pro quo condition.

### **AIM AND METODOLOGY**

When looking for the microfoundation of money it is usually asserted that money is helpful in overcoming difficulties of exchange, difficulties which fall under the heading lack of double coincidence of wants. The aim of this paper is to investigate this claim. Models connecting lack of double coincidence of wants with the essentiality of money contains also other friction. Therefore it is not clear whether it is absence of double coincidence of wants that generates the essentiality of money. I try to adress this problem by separating double coincidence from imperfect monitoring. Partly I follow the methodolgy of Kocherlakota (1998) who considered the relationship between perfect public memory and money.

The analysis is primarily connected to two literatures. The trading environment is based on random matching employed in the above mentioned search models of money. In accordance with this literature I define money as intrisically useless objects that do not enter utility function, but at the same time it circulates among members of society and allow society to achive allocation that would not be otherwise achievable. For the analysis of trading process the theory of the infinite horizon games with discounting is employed. I present trading game

---

<sup>6</sup> Block (1990)

<sup>7</sup> Townsend (1980)

<sup>8</sup> Kiyotaki, Wright (1989), Kiyotaki, Wright (1993), Wright, Lagos (2005)

<sup>9</sup> Quid pro quo condition requires that value of sales is equal to value of purchases.

<sup>10</sup> This definition of double coincidence of wants goes much more in Jevons' way than Menger's.

with homogenous agents taking place in two kinds of environment. One of them is featured by absence of double coincidence of wants, the other is with double coincidence of wants. The environment also differ in the possibility of monitoring of actions of other agents. Then I will study if money is essential in these environments, i.e. if introduction money improves the allocation of resources. This study enables me to answer the question whether double coincidence of wants creates sufficient or necessary condition for the essentiality of money. Finally the analysis could indicate what kind of friction imply that money is essential.

## RESULTS

### Environment of trading game

The physical environment is similar to many search models or random matching models.<sup>11</sup> Time is discrete and infinite, indexed by  $t=1,2,3,\dots$ . There are  $N$  perishable types of goods, where  $N \geq 3$ . The population consist of  $N$  identical types of infinitely-lived agents and finitely or infinitely many agents of each type. An agent of type  $i$  produces only good  $i$  and consumes good  $i+1$  modulo  $N$ . Hence, trade is necessary for consumption to take place. Each agent maximizes expected discounted utility with discount parametr  $\delta \in [0,1]$ . The utility function for one period is  $u(x)-a$ , where  $x$  is the amount of good consumed and  $a$  is the amount of good produced. Suppose that the utility function  $u$  is strictly increasing, strictly concave, continuous, differentiable and such that  $u(0)=0$ .

The environment is characterized by decentralized trade. At each date, each agent meets some portion of other agents. Denote as  $P_t(i)$  the agents who are in agent's  $i$  match in period  $t$ . So if it is the case that agent  $i$  meets agent  $j$  in a period  $t$ , then  $P_t(i) = j$  and also  $P_t(j) = i$ . Obviously also in each match  $P_t(i) = i$ . We can see that in each period agent produces or consumes only if he meets proper trading partner. So if agent  $i$  is matched with agent  $i-1$ , then agent  $i$  is called producer and agent  $i-1$  is called consumer. Otherwise an agent is idle.

To define the trading game we must specify the players' possible actions and payoff functions. Let's first describe the stage game. It is obvious that an agent has a possibility of choice among some actions only if he is a producer. Then he can choose how much good will he deliver to his trading partner. The action set of any agent-producer  $i$  is therefore  $A_i = [0, \bar{a}]$ , otherwise the action set is  $\{0\}$ . The payoff of agent  $i$  in period  $t$  can then be defined as a function  $v_{t,i} : \times_{j \in P_t(i)} A_j \rightarrow R$ ,<sup>12</sup> such that  $v_{t,i} = u(x_{t,i}) - a_{t,i}$ . It means that the payoff of agent  $i$  in a period  $t$  depends only on the actions taken by him and agents in the same match. To be specific his utility depends on the amount of consumption good that he gets from producer and the amount of good that he delivers as a producer.

Now we can define the infinite horizon game by describing agents' information sets, strategy spaces and infinite payoff functions. Denote  $h_{t,i}$  the informations about action outcomes in previous periods available to the agent  $i$  at the start of the period  $t$ , i.e.  $h_{t,i} = \{a_{\tau,j}\}$ , where  $\tau \in \{0, \dots, t-1\}$ . Note that we have not yet imposed any restrictions on the information that the

<sup>11</sup> Kiyotaki, Wright (1993)

<sup>12</sup> It is clear that in the case of bilateral match the payoff function is defined as  $v_{t,i} : A_i \times A_j \rightarrow R$ , where  $i$  and  $j$  are trading partners.

agent is able to have. So it is clearly possible that the agent can know only action that he directly observed or he can have information about all past actions. Restrictions on the available information will be imposed later. The pure strategy is an infinite sequence  $s_i = (s_{0i}, s_{1i}, s_{2i}, \dots)$  of  $s_{t,i} : H_{t,i} \rightarrow A_i$  defined by  $s_{t,i}(h_{t,i}) = a_{t,i}$ . It means that the pure strategy  $s_i$  for agent  $i$  in the infinite game is the sequence of maps that map possible histories to actions. Furthermore denote  $S$  to be the set of strategies of the entire population. The payoff function of the infinitely repeated game can then be written in the following way

$$V_i(s) = v(s_{0,P_0(i)}(h_{0,P_0(i)})) + \sum_{\tau=1}^{\infty} \delta^{\tau} v(s_{\tau,P_{\tau}(i)}(h_{\tau,P_{\tau}(i)}))$$

### Planner's problem and one shot game

The planner's problem is to maximize overall payoff. But the planner cannot transfer resources over periods and also actual choices have no influence on the set of possible future choices. The planner's problem is thus reduced to the optimization problem in one period. By assumption  $v_{t,i}$  is continuous and action set is compact which implies that the planner's problem has solution. Moreover this solution is unique because the utility is strictly concave. To determine the optimal production and consumption is quite easy. Since all producers are identical the planner chooses  $a_t$  to maximize  $v(a_t)$ . Denote this value as  $\tilde{a}$ .

It is also clear that the action  $A_t = 0$  is a dominant strategy in one shot game. Naturally complete autarky is the only Nash equilibrium of one shot game, because producers have no incentive to deliver any positive amount of good.<sup>13</sup>

### Trading without double coincidence of wants

Now I will specify how the trading without double coincidence of wants looks like. Suppose that at each date each agent is matched with only one other agent at random, i.e.  $P_t(i) = \{i, j\}$ . In each period agents are randomly divided into three groups. Some of agents are producers, some are consumers and the rest is idle. Each agent can be consumer or producer with similar probability  $1/N$  and he is idle with probability  $1-2/N$ . If the agent is a consumer he receives utility  $u(x)$ , where  $x$  is an amount of good  $i+1$  that his trading partner delivers. If she is a producer she receives disutility derived from the consumption that the agent chooses to deliver to his trading partner. Idle agent receives zero utility. Therefore the expected one period utility is  $v_{t,i}(a_{t,P_t(i)}) = 1/N(u(x_{t,i}) - a_{t,i})$ . We can see that such an environment is characterized by lack of double coincidence of wants according to both possible definitions. It is impossible to trade quid pro quo and employed kind of matching also generates implicit search cost, because agent obtains some positive payoff only with probability  $1/N$ .

The task of this paper is to make a clear distinction between absence of double coincidence of wants and information constraint in exchange. For this purpose we have to also explicitly introduce information available to representative agent. To avoid imperfect monitoring there is introduced an information announcing mechanism. Suppose that information about all past actions are made public in each a period  $t$  with time invariant probability  $\beta$ . Clearly this is the more general case. If there is a perfect monitoring, then  $\beta=1$ . On the other hand if the information are not public at all then,  $\beta=0$ . Generally, if the contemporary period is  $t$ , then the probability that public information will be announced in period  $t+1+n$  is  $\beta(1-\beta)^n$ . Moreover

<sup>13</sup> This property is also called lack of commitment or no commitment (Kocherlakota, 1998).

it is natural to assume that between announcing periods agents have information about directly observed actions. Recall the planner's problem. Optimality requires that every agent delivers surplus maximizing amount of good to his trading partner. The main question is whether this allocation is feasible in the environment without double coincidence of wants. In the case of perfect public monitoring, i.e.  $\beta=1$ , we can ignore agents' private information. Furthermore if the agents are sufficiently patient, the optimal allocation could be a Nash equilibrium according to folk theorem<sup>14</sup>. Kocherlakota (1998) has shown that money is not essential in this case. But what about a more general case, where information occurs at random?

Consider a strategy when every producer delivers a desirable amount of good only if he has never observed different behaviour. Otherwise he produces nothing. Such a strategy is thus defined in the following way:

$$s_{t,i}(h_{t,i}) = \begin{cases} \tilde{a} & \text{if } h_{t,i} = (\bar{a}_0, \bar{a}_1, \dots, \bar{a}_{t-1}) \\ 0 & \text{if } h_{t,i} \neq (\bar{a}_0, \bar{a}_1, \dots, \bar{a}_{t-1}) \end{cases}$$

and I will call it Aggregate Tit for Tat (AGT) strategy. The similarity with Tit for Tat strategy is clear but according to AGT strategy the agent does not distinguish among other agents. The AGT strategy contains not only the rule of cooperation, that is socially desirable, but also a punishment for deviation from cooperation. Clearly, AGT strategy supports optimal allocation. Now I will derive condition in terms of parameters of the game under which AGT strategy is a Nash equilibrium. Note first that the AGT strategy is time invariant and payoff function does not change over time, therefore each subgame is a copy of infinite horizon game. Now we can formulate the following statement.

The AGT strategy is the best response of every agent and the corresponding strategy profile is a perfect subgame Nash equilibrium if

$$\frac{1}{1-\delta} \frac{1}{N} (u(\bar{a}) - \tilde{a}) \geq \Omega \frac{1}{N} u(\tilde{a}) + \tilde{a}, \text{ where } \Omega = \frac{(1-\beta)\delta}{1-(1-\beta)\delta}.$$

To proof this statement we have to consider an agent who wants to deviate from AGT strategy. First consider the case when agents follows socially optimal route. Then agent will not deviate from the AGT strategy if

$$-\tilde{a} + \sum_{n=1}^{\infty} \delta^n \frac{1}{N} (u(\bar{a}) - \tilde{a}) \geq 0 + \sum_{n=1}^{\infty} (1-\beta)^n \delta^n \frac{1}{N} u(\tilde{a}),$$

which implies the stated condition. Second we have to proof that the agent do not want to forgive in order to terminate permanent autarky. But this part of the proof is quite easy. The consumption that agent receives is independent on the production of agent. It depends only on the fact whether the information about deviation was announced or not. Thus it is always better for her to choose  $a=0$ .

The statement can be interpreted so that the optimal allocation is feasible if the agents are patient enough or information are announced sufficiently often. Put differently the stated condition holds every time, when  $\beta \rightarrow 1$  or  $\delta \rightarrow 1$ . Nevertheless it is sufficient if only one of these conditions is fulfilled. Let me summarize this subsection. I have presented the trading game in an environment without double coincidence of wants where money need not be non-essential. Thus it has been shown that double coincidence of wants does not constitute sufficient condition for the existence money. This claim holds, because agents can be

---

<sup>14</sup> Fudenberg, Tirole (1990)

punished for deviation from socially desirable strategy by collective deviation and information about deviation can spread sufficiently quickly in the population.<sup>15</sup> There are still search costs imposed by bilateral random matching, but there is no way how can introduction of money lower these costs.

### Trading with double coincidence of wants

In this part I will focus on the environment with double coincidence of wants and I will show that money can be essential in such environment. There are two important differences in comparison with the former game. Matching is not random, but agents are supposed to meet each other at trading spots. Precisely there are  $N+1$  trading spots whereas two goods  $i$  and  $i+1$  are traded at each trading spot. This implies that an agent can be a producer or consumer in each period. The expected one period utility is  $v_{t,i}(a_{t,P_t(i)}) = 1/2(u(x_{t,i}) - a_{t,i})$ , which implies that there are no search cost. The agent simply knows where to go to trade. On the other hand there is still double coincidence of wants in a broader sense. The agent clearly cannot trade quid pro quo with one other agent, but he is able to make a quid pro quo exchange in two successive periods. Also the trading remains decentralized, which means that agent meets only one trading partner.

On the other hand the information announcing mechanism is missing. Agent has information only about actions that he directly observed, i.e.  $h_{t,i} = (a_{0,P_0(i)}, a_{1,P_1(i)}, \dots, a_{t-1,P_{t-1}(i)})$ , and there is no communication among separated markets. With an infinitely many agents of each type, it follows that the probability of meeting any previous trading partner again is zero. Shortly, agents is not able to know anything about trading history of her future trading partners and consequently she is not able to made an enforceable commitment. The equilibrium of each stage game of infinite horizon game is therefore equivalent to the equilibrium of one shot game. Thus permanent autarky is the only equilibrium of the game. To proof it suppose the agent chooses a different action in some period. Then his payoff is negative in that period. But his future payoff is unaffected, because his choice will not be reflected in the information sets of his future partners.

To finish my argument I have to show that introduction of money is able to improve the allocation of resources. Money has features common to search models. Money is indivisible and each person can store at most one unit of it from date to the next. At the beginning of the game each agent receives one unit of money with one half probability. The information set is  $h_{t,i} = \{m_{t,P_t(i)}\}$ , i.e. agent knows only money balances of his trading partner. Note that nothing excludes that the market is competitive and prices are known. Thus we can assume for simplicity that price of one unit of money is  $\tilde{a}$ .<sup>16</sup> The organization of trading spots ensures that each trading pair consist of producer and moneyholder. Then the following strategy

$$s_{t,i}(h_{t,i}) = \begin{cases} \tilde{a}_t & \text{if } m_{t,P_t(i)} = 1 \\ 0 & \text{if } m_{t,P_t(i)} = 0 \end{cases}$$

<sup>15</sup> This condition will be fulfilled more likely in smaller groups, where information can be transmitted very quickly through gossip. This claim constitutes a possible explanation for the fact that some primitive societies did not evolve monetary distribution. Alternative explanations are discussed in Einzig (1966, p. 333)

<sup>16</sup> Otherwise the amount of good delivered by the producer depends on the bargaining weight of trading partners. Then the consumption need not be optimal in all trades. But also if optimal allocation is not reached, the introduction of money enables trade and improves efficiency of resources allocation.

is an optimal allocation supporting Nash equilibrium. In order to proof it consider that agent can deviate in two ways. He can offer some positive amount of consumption good to the agent without money, i.e.  $s_{t,i}(h_{t,i}) = a$  if  $m_{t,p(i)} = 0$ . But this has no consequence for his future payoff, because it is not reflected in his money holding. Or agent can deviate to permanent autarky, if he refuse to deliver good to a moneyholder. But this is beneficial only in the extreme case if  $\tilde{a} \geq \delta u(\tilde{a})$ .

## CONCLUSION

The paper addressed the issues of the function of money. It has been shown that lack of double coincidence of wants per se is neither necessary nor sufficient condition for the existence and essentiality of money. Note that this does not mean that double coincidence of wants is absolutely irrelevant to the question of essentiality of money. Furthermore the impossibility of quid pro quo exchange does not create a sufficient condition for the essentiality of money, but it was not ruled out that this creates a necessary condition for the essentiality of money.

In both environments under study the essentiality depends on the possibility of monitoring other agents' actions. This result is the same as in Kocherlakota (1998). Moreover this analysis was extended. It has been argued that even if information occur at random and agents are patient enough, then money are non-essential. If imperfect monitoring of past actions offers plausible explanation for the essentiality of money. Then money then can be interpreted as a record-keeping device rather than an object that circulates in the market because of lack of double coincidence of wants.

## BIBLIOGRAPHY

1. Brock W. A. (1990). Overlapping generations models with money and transactions costs Handbook of Monetary Economics, in: B. M. Friedman and F. H. Hahn (ed.), Handbook of Monetary Economics, volume 1, Elsevier, pp. 263-295
2. Clower, R. W. (1967) A Reconsideration of the Microfoundations of Monetary Theory, Western Economic Journal, Vol. 6, 1967, pp. 1-9.
3. Einzig P. (1966). Primitive Money. In its Ethnological, Historical and Economic Aspects. Oxford, Pergamon Press, 1966.
4. Fudenberg D. and Tirole J. (1990). Game Theory, The MIT Press, 1990
5. Hahn (1965). On some problems of providing the existence of an equilibrium in a monetary economics, In: Hahn, Brechling (eds.), The theory of interest rates, London, Macmillan, 1965.
6. Hicks J. (1935). Suggestion for Simplifying the Theory of Money, In: Critical Essays in Monetary Theory, Oxford, Clarendon Press, 1967.
7. Jevons W. S. (1875). Money and the mechanism of exchange, Honolulu, University Press of the Pacific, 2002.
8. Kocherlakota N. (1998). Money is Memory, Journal of Economic Theory, Vo. 81, Issue 2, August 1998, pp. 232-51.
9. Kiyotaki N. and Wright R. (1989). On Money as a Medium of Exchange, The Journal of Political Economy, Vol. 97, No. 4, August 1989, pp. 927-954
10. Kiyotaki N. and Wright R. (1993). A search theoretic approach to monetary economics, American Economic Review, Vol. 83, Issue 1, pp. 63-77
11. Menger C. (1892). On the Origin of Money, The Economic Journal, Vol. 2, Issue 6, Jun. 1892, pp. 239-255

12. Ostroy J. and Starr R. (1988). The transaction role of money, In: Friedman, Hahn (eds.) Handbook of Monetary Economics Vol. 1, Amsterdam, North Holland, 1990.
13. Townsend R. (1980). Models of Money with Spatially Separated Agents, in J. H. Kareken and N. Wallace (ed.), Models of Monetary Economies, Minneapolis: Fed. Reserve Bank Minneapolis, 1980, pp. 265-300
14. Wallace N. (2001). Whither Monetary Economics, International Economic Review, Vol. 42, No. 4, November 2001, pp. 847-868

Full name: Rostislav Staněk

Institution: Faculty of Economics and Administration, Masaryk University

Street: Lipová 41a

City: Brno

Email: [rostanek@mail.muni.cz](mailto:rostanek@mail.muni.cz)



**BUSINESS ECONOMICS, MANAGEMENT AND  
MARKETING**

# **CREATING AND MANAGING GLOBAL BRAND ARCHITECTURE**

**Emmanuel Selase Asamoah**

## **ABSTRACT**

The global market place has become more and more dynamic and multinational companies are constantly faced with the challenge of managing the various brands in their portfolio. Depending on the nature of a company and the size of its product range, appropriate structures can be put in place to gain a favorable position in the target market. The aim of this paper is to find ways of creating and managing brand architecture across international markets. The paper suggests ways on how firms can develop a workable brand architecture that will facilitate its operations in the global market place. Analyses are made with secondary data from various sources to permit informed decision making and consequently facilitate the development of strategies for building brand architecture. From the analysis, it is seen that, there is no single strategy that can be used in creating and managing brand architecture. The findings from this paper will help managers to understand the intricacies involved in brand architecture and decrease the use of 'trial and error' when entering into unfamiliar markets. It will also help managers to develop clear and concise branding strategies to manage and position their brands in international markets

## **KEY WORDS**

brand architecture, global brands, brand, brand strategy, brand portfolio, global market

## **INTRODUCTION**

Over the past decade, the world has evolved into a global market place and trade across borders has become very common. The global market place has become more and more dynamic and multinational companies are constantly faced with the challenge of managing the various brands in their portfolio. Consequently, globalization has had a huge impact on the branding strategies of many international companies.

There are varied views on whether a firm should adapt a global brand strategy or localize their brand to suite the culture of the country in question. Kotler (2001) believes that, adapting products and marketing strategies to the specific needs of each market gives a greater return. Douglas and Wind (1987), on the other hand argue that, for certain segments and conditions, global branding might be more appropriate although it should not be seen as the best strategy for all segments and cultures. Furthermore, Douglas and Wind (1987), Meyer and Tran (2006) are also of the view that both global and local branding strategies are appropriate under certain conditions. Also, industry structure, the locality of the environment and the core competences of the companies involved are the key elements that determine which strategy is appropriate for use.

The major role of branding is to establish the identity of company and further build its position in the global marketplace among its customers, retailers and other market participants. Therefore is of utmost importance for firms to establish a clear-cut international branding strategy. Vital to the success of such a strategy is to ensure harmony and consistency in brand architecture across countries and product lines, and further define the number of levels and brands at each level.

Experts in the field of marketing vary in opinion as to whether there is a distinction between global and international branding. However, Kapferer and Schuiling (2004) distinguish international and global branding accurately. According to them, international branding

involves having a marketing strategy or mix that is fully or partially adaptable to local markets, whereas global branding uses the same positioning, brand name, product and distribution strategy in all target market. For the purposes of this article, “global” and “international” will be used interchangeably.

### **GOAL AND METHODOLOGY**

The main goal of this paper is to suggest ways of creating brand architecture and managing such architecture. Also, suggestions of how to position brands appropriately in the global marketplace will also be provided.

The paper makes use of empirical observation and secondary data from various sources. Secondary data is sometimes called desk research. These are from sources such as internal data within an organization, libraries, trade associations, government departments, published reports exhibitions, online databases and the internet. From these sources important questions concerning brand architecture are raised.

Analyses are made from this information, after which conclusions and recommendations are drawn to permit informed decision making. Empirical evidence of how global companies develop and manage their brand architecture is used as examples in the analysis. These analyses altogether, will facilitate the development of strategies for building brand architecture.

### **BRAND ARCHITECTURE**

Brand architecture could be seen as a family tree that indicates relationships between the various members of a family. Brand architecture is a powerful tool and can therefore help companies better organize the various brands within their portfolio. It should provide a structure for the brand and clearly define all the supporting as well as individual parts. This will ensure a harmonious combination of each part to provide a more powerful presence in the market.

Usually brand architecture becomes necessary when the product range has become too large and customers become confuse as to what is offered by the company. Brand architecture also follows mergers and acquisitions. As companies merge with others and some acquire new companies and products, the branding categorization as well as marketing decisions become exceedingly complex, hence the need for brand architecture.

In a company, brand architecture refers to the hierarchy of brands. It is the interrelationship of the parent company, subsidiary companies, products, and services, and should mirror the overall marketing strategy of the particular company.

Some companies like Procter and Gamble have successfully managed their brand portfolio across different countries. Procter & Gamble uses worldwide strategic-planning groups of three to twenty people for each category to encourage and support global strategies. The groups mine local knowledge about markets and disseminate that information globally. They gather data about effective country-specific marketing efforts and encourage testing elsewhere. They create global manufacturing sourcing strategies as well as develop policies that dictate which aspects of the brand strategy must be followed everywhere and which ones are up to country management.

The aim of brand architecture is to indicate the levels of branding there are (usually not more than three), which brands are at each level, which brands relate as brand or sub-brand, which relate as endorsed brand or endorsing brand and which remain independent of one another.

Any organization that is growing needs to constantly evaluate the brand architecture strategy that will support its future growth. Most large companies with large portfolio of products and services have a mixture of strategies.

There are three main types of brand architecture system. Firstly, there is the monolithic system; this is where the corporate name is used on all products and services offered by the company. The second is the endorsed system; this is where all sub-brands are linked to the corporate brand by means of either a verbal or visual endorsement. Lastly, the freestanding system is where the corporate brand operates merely as a holding company, and each product or service is individually branded for its target market.

Carefully structured brand architecture brings consistency, visual and verbal order of the brand to help a company grow and market more effectively.

## **DEVELOPING GLOBAL BRAND POSITIONING**

In order to position a brand in a global environment, there are two main factors that must be taken into consideration. They are the internal and external positioning. An understanding of this phenomenon by managers will allow global and local marketing analyses to be linked together.

Internal brand positioning is essential for gaining an understanding of how the brands' global and local organizational constructs shape the brand expression. Variables such as, corporate culture, organizational structures, business strategy, the relationships between global and local brand management and the brand's significance to the organization all play a role in shaping brand expression of a company. These individual elements, must serve as a guide to global and local marketing activities engaged in by multinational companies.

The important thing is for managers to know how the companies advertising campaigns and product or service development connect in order to provide consumers with the required brand experience.

External brand positioning on the other hand focuses on how prevailing conditions in a foreign market affect the brand image. The ways consumers observe a particular brand is affected by the environment they find themselves. These circumstances tend to affect their understanding of what the brand stands for as well as its relation to other brands. Specific situational factors affect brand perception elements in a particular manner. Therefore brand recognition is a function of the perception of the brand to consumers in its environment.

Managers responsible for brand management across different countries need to know how various markets compare on these issues in order to determine the strategies to manage their brands. When companies are able to identify the differences in business strategy, brand expression and marketing, they are provided with the necessary information of the extent, to which the organization's policies and activities regarding the brand diverge, as well as the causes and rationale for divergence.

Furthermore, the brand perception and the brand recognition provide an understanding of the extent to which the brand is perceived differently across markets, and the factors that causes these differences. A complete analysis offers brand managers an appreciation of the core elements of the brand, as expressed and perceived around the world. The information companies derive from such analysis will form the basis for strategy formulation for the branding process.

The decisions of multinational companies with regards to brand extensions, synchronization rebuilding, portfolio rationalization, alliances and acquisitions depend largely on a thorough knowledge of a brand and the environment.

## **IMPORTANT FACTORS FOR BUILDING AND MANAGING BRAND ARCHITECTURE**

For brand architecture to be effective it should be as simple as possible to make it easy for the various stakeholders involved to understand. There are certain important factors that must be considered by managers when deciding on building the architecture of a brand.

Firstly, managers should ask what name should be given to the brand. Attempts should be made to link the corporate logo with the brand. Here the important thing is to determine whether to use a descriptive name or a brand name. In the case of Proctor and Gamble, the individual brands names are presented to consumers, and the parent company name is given little or no prominence.

Secondly, it is important for companies to know the number of brand levels to adopt. A company can adopt one brand level for the various categories in its portfolio. For example, the product can be given a single identity or name which is placed on the various ranges. In the case of Panasonic, there is Panasonic televisions, Panasonic mobile phones and Panasonic digital cameras. This ensures uniformity and easy identification. Also, the cost of advertisement is reduced in the long-run after the brand gains reputation in the market.

Thirdly, there is a need to determine the visibility to give to the corporate name, group name and the company name on the packaging and communication. Siemens and Axa bring everything together under one name. Siemens and Axa give visibility to the corporate name in all spheres of their operations. Within groups, it is of paramount importance to determine whether the brand is situated at the corporate level (Hilton), or at the divisional or business unit level, as with the Hilton Casino or Hilton Hotels brands.

The fourth important factor is to ask whether the same architecture should apply around the world. This is a crucial question, and a reliable answer will make the product on offer easy to read, while at the same time building the brand's reputation through this offer. (Kapferer J.N., 2008). However, if different strategies are adopted for different markets, then there should be consistency in promoting the brand image. There should also be consistency with respect to the number and diversity of product lines within the company as well as the different markets. Finally, it is vital to distinguish between the name of the company and the commercial brand. In the case of France Telecom, the name of the institution is still France Telecom, and Orange is now the key commercial brand. France Telecom-Orange is the number three mobile operator and the number one provider of broadband internet services in Europe and, under the brand Orange Business Services, is one of the world leaders in providing telecommunication services to multinational companies. The distinction makes it possible for France telecom to promote a peculiar and unique brand - Orange.

## **SUMMARY AND CONCLUSION**

In conclusion, it must be emphasized that there is no single strategy that can be used in managing brand architecture. Therefore, strategies for brand architecture must be varied to suite the market the company is dealing with. A single strategy could be effective for the portfolio of one company but it might be unsuccessful when the same strategy is applied to a different company with a different product range.

However, in spite of the varied degree of strategies available, managers must not lose sight of the fact that brand architecture serves as an outward facing navigation tool for customers by minimizing customer confusion. For brand architecture to be considered efficient, the lay out of the product structure should be such that customers will not have any difficulty in finding what they are looking for and to understand what the company has to offer.

This paper will help managers to understand the intricacies involved in brand architecture and decrease the use of 'trial and error' when entering into unfamiliar markets. It will also help

managers to develop clear and concise branding strategies to manage and position their brands in international markets.

### **BIBLIOGRAPHY**

Aaker, David (1996), *Building Strong Brands*, New York: The Free Press.

Doole, I. and Lowe, R. (2001), *International Marketing Strategy - Analysis, Development and Implementation*, Thomson Learning, 3rd Ed.

Douglas, S. P. and Wind, Y. (1987), "The Myth of Globalization" *Columbia Journal of World Business*, (winter), pages 19-29

Kapferer, Jean-Noël (2008), *New strategic brand management: creating and sustaining brand equity long term*. Kogan Page Limited 4th edition.

Kapferer, J. N. (2002), "Is There Really No Hope for Local Brands?" *Brand Management*, 9 (January), pages 163-170.

Kapferer, J. N. & Schuiling, I. (2004), "Executive Insights: Real Differences between Local and International Brands: Strategic Implications for International Marketers". *Journal of International Marketing*, 12 (winter), pages 97-112

Keller, Kevin. 1998. *Strategic Brand Management*, New Jersey: Prentice Hall.

Kotler Philip (2001) *A Framework for Marketing Management*, Prentice-Hall

Meyer, K. E., & Tran, Y. T. T. (2006) Market penetration and acquisition strategies for emerging economies, *Long Range Planning*, 39(2), pages 177-197

Muhlbacher, H., Helmuth, L. and Dahringer, L. (2006) *International Marketing - A Global Perspective*, Thomson, 3<sup>rd</sup> Edition

Emmanuel Selase Asamoah, Ing.

Faculty of Management and Economics

Tomas Bata University

Mostní 5139

760 01 Zlín

# **AIRPORT CHARGES AND GOVERNMENT TAXES BENCHMARKING METHODOLOGY**

**Miroslav Belorid**

## **ANNOTATION**

This paper illustrates the most principal considerations in determination of approach and optimization of basic assumptions in airport charges and government taxes benchmarking methodology. Evaluation of the competitiveness of an airport is comprehensive task involving multiple factors and airport charges being one of them. Airport charges are positioned as the equivalent of competitiveness of an airport on international level. The heterogeneity of airport charges system at the airports shows that a comparison of the airport charges structure represents a great challenge.

## **KEYWORDS**

Airport charges, airport industry, benchmarking methodology, comparative analysis, government taxes, quantitative analysis.

## **INTRODUCTION**

The airport sector in Europe has experienced significant changes over the last decades. European airports are no longer mere infrastructure providers but have become fully fledged businesses. Faced with the necessity to finance their own operating and development costs, they have diversified their sources of revenue, relying not only on the traditional aeronautical revenues made up of airport charges, but also increasingly on a variety of other revenues including retail, parking, real estate, etc. For instance, if the only source of revenues of international airport such as Brno Tuřany would have been aeronautical revenues in form of airport charges, this airport couldn't survive. And we must not forget that nobody is doing business just for covering costs.

There is now effective and growing competition among European airports, brought about route liberalization and airport privatization. The major European airports compete with each other for point to point and transfer traffic in order to expand both their route/airline portfolio and reduce their dependence on their established hub carriers. Small and medium sized airports have also become accustomed to market pressures, as they compete for no frills and regional services.

Privatization has become an increasingly important trend in the airport industry, accelerating the above mentioned changes and introducing even more efficiency across the sector. Indeed, whether public or private, airport operators across Europe now follow comparable management and financial models. Moreover, both have to strike a delicate balance between market discipline meeting shareholders' expectations and a wide range of local, national and European public interests.

## **AIM AND METHODOLOGY**

With the view of creating consistent comparative analysis we will use approach and assumptions that are strongly supported by objective facts and information from IATA Airport and Air Navigation Services Charges Manual, manufacturer's manuals or manufacturer's websites and consultations with individual airports as well as other reliable sources. We focus in our research on the benchmark of Central European airports charges and government taxes and their regulation, using the following research questions. How are Central European airports charges structured and decided upon? Which airports or which

countries levy a departure taxes? And which consequences and efficiency aspects arise from it (also for passengers, infrastructure, costs and airport charges).

To facilitate a consistent comparison between the airport charges and governmental taxes at selected airports, the amount and composition of the air traffic is assumed to be equal at all airports. The traffic data used is based on selection of two aircraft types that are present and dominant by the number of movements at selected airports. Furthermore, we'll make some assumptions concerning load factors per aircraft type.

For a time series analysis of the airport charges structure we will also use data coming from selected peer international airports. The collection of data from airports concerned will succeed only as a result of the cooperation with the airports.

We believe that comparison based on these assumptions in combination with objective methods would provide an equitable and reliable picture of airport charges.

## **RESULTS**

### **Airport selection**

Airport selection is the basic task when creating airport charges benchmarking. Whether we have or we don't have consumer of our project, we should be capable of limiting the scope of airports that we'll select for our benchmarking. We could compare airport charges between European and American airports and we could find some parallels and differences but in the end, it would probably provide just information without any value for any kind of stakeholder. This case would be similar to the comparison of real estate pricing in two different cities in two different continents. Such a comparison would be irrelevant because main interest of every stakeholder is obviously the number in the last row, which would be: Total revenues collected by the airport.

And this is our main target- creation of relevant and consistent quantitative analysis on the level of airport charges without necessarily taking into account the quality of service provided nor value added to its users. Big international airports are similar to big cities and due to highly individual structure of every airport and an increasingly deregulated market, a comparative analysis of charges is difficult. This is mainly related to the economic environment in which each airport is located, their available infrastructure and the market they serve- in terms of destinations and carriers. Notwithstanding the complexity of airports, we are still capable of finding important parallels and create certain assumptions, on which basis it is feasible to create quantitative benchmarking exercise, in spirit of "apple-to-apple" comparing principle.

First of all, we should pick airports with international services that are above certain level of passenger movements (e.g. above one million passenger movements per year). Adding smaller regional airports seems to be irrelevant because of different service, handled aircraft and opposite charging policy.

With regard to Europe, we should pick airports with similar traffic flow profiles and airports that compete for the traffic flow. Consequently, we can choose airports with similar catchment area, and competitors on transfer market.

Inside this selection, airports would be similar in regard to passenger number, aircraft movement, number of gates, terminal size and types of landing aircraft.



### **Aircraft selection**

We will choose two types of aircraft by size, which are dominant by the number of movements on selected airports. For the calculation of the level of airport charges for the peer airports we will use following data: Aircraft weight, passenger number and parking duration.

- As for the aircraft weights, we will use maximum weights (MTOW- Maximum Take off Weight, MAW- Maximum Apron Weight), that we can obtain from manufacturer's manual for the calculation. For the airports in our benchmarking we shall ignore differentiations of the actual aircraft weight due to different cabin configuration and type of services provided.
- The assumed number of passengers used in the calculation is a multiple of the average seating capacity and the passenger load factor. The number of seats is an average of the actual seating capacity of each aircraft type of a sample of ten different airline operators. The passenger load factor is reported by ICAO, which is the average for international services worldwide on per year basis.
- Parking durations for the large and small aircraft movement are assumed as typical for a traditional scheduled service airline.

These parameters are then applied to the airport charges formulae for international services at each peer airport to derive the total airport charges received by the airport in local currency. They are then converted to Euro using dated exchange rates for comparison.

### **Charging structure variations**

Besides calculating the total revenues from airport charges and government taxes for all airports concerned, we are also engaged in every separate charge, tax and component and the differences that play an important part in the calculation of the charges and taxes. After all, this will provide only information for the stakeholder that might be useless to him/her, but it is very important for the correctness of the computation of our benchmarking exercise. What constitute airport charges varies from one airport to another. For instance, the cost of lighting is charged separately at some airports while it is aggregated into a single landing charge in other airports (see Fig.1).

Fig.1 Components of Airport Charges

<b>Components of Airport Charges</b>	<b>Airports</b>							
	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>	<b>F</b>	<b>G</b>	<b>H</b>
<b>Landing</b>	X	X	X	X	X	X	X	X
<b>Lightning</b>		X					X	X
<b>Parking</b>	X	X	X	X	X	X	X	X
<b>Terminal navigation</b>		X		X			X	X
<b>Noise</b>			X					
<b>Passenger Charge</b>	X	X	X	X	X	X	X	X
<b>Security</b>	X		X		X		X	X
<b>Aerobridge</b>		X	X	X	X	X	X	X
<b>Baggage handling</b>		X	X					

Or, at some airports terminal navigation charge, the approach and aerodrome air traffic control services are also included in landing charge of the airport while at other airports it is treated as a separate charge. In this respect, charges at some airports might seem to be simpler with four to five components of airport charges only while other airports are relatively more

complex with eight or more different charges. But these charges are just embedded in other items of the airport charges. On this basis, we can identify several common charging items that we can consider to be present at every airport in our selection just because of one clear reason that no international airport could presume to omit these charging items in its cost structure. It is important therefore to obtain actual information about all the relevant charges in order to make aggregated and consistent comparable analysis. This can be only achieved by personal meetings with contacts from airports concerned, or with persons with outstanding industry practices. Sending questionnaires to contacts in airports concerned in order to obtain insight seems to be insufficient method. Besides the variances driven by the differences in assumptions abovementioned, it is observed that there are other variances that are believed to be driven by different interpretations of airport charges of individual airports and potentially calculation errors. We should oversee the calculation formula and the applications of the airport charges components as described in IATA Charging manual. Based on these discussions in person, it is believed that adjustments would ensure correct and objective result. The reason behind this discrepancy is that the contact in question could be influenced by the marketing strategy of airport charging policy. For example: Some airports provide the first two or three hours of free parking. In reality of course, the parking charges for these airports are embedded in other items of the airport charges. This discrepancy would be misleading for our objective calculation and we can not allow that to happen. Reveal marketing strategy of airport's charging policy is not our objective though. Industry background should stay in methodology background and serve only as aid to avoid mistakes in calculations. Only the information that is transparent and accessible to general public should be used.

Passenger charge at many airports is levied on passengers directly on a per passenger basis, either collected on behalf of the airport by the airlines on ticket or at the point of check-in. As mentioned above, to better reflect the competitiveness of an airport as a whole, we use the total cost approach irrespective of who is payable for the charge. Based on this rationale, both passenger and security charges should be included in the total cost computation even though they may not often be part of the airline's out-of-pocket cost for airports where passengers pay those charges directly. We consider the level of total airport charges received by the airport irrespective of a payee a fairer measure as it reflects the total costs (infrastructure and operating) of providing the necessary airport facilities and services.

### **Government taxes**

Government taxes tend to be country rather than airport-specific, as they are levied by national authorities. They are usually in form of a departure tax, and can vary by destination and/or class of travel.

Government taxes on passengers are not strictly part of an airport's charging structure, as the revenue generated does not directly benefit the airport itself. That's why we can regard departure tax, which is paid by passengers, as purely a fiscal measure since it is no different from sales tax or taxes levied on tobacco and liquor and is fully retained by the government. Increase or decrease of the departure tax is purely a government's decision and consequently, several airport operators and other independent survey entities do not take them into consideration in their own benchmarking methodologies.

The fact, that government taxes got nothing to do with airport's charging structure and that it won't eventually affect the airline-airport business, is rather naive presumption. Although not part of an airports' charging structure, government-levied departure taxes can have a significant impact on passenger costs.

That's the reason why IATA also included in its own airport charges benchmarking methodology other fees including check-in counters, TV displays and flight announcements

even though, that these fees are generally not treated as part of airport charges but commercial charges and are not included in IATA Airport and Air Navigation Services Charges Manual. In addition, airport operators, shareholders, stakeholders and other airport related entities shouldn't exclude government taxes even if they are not part of total revenues collected by the airport, because they form important consideration for the future of their investments. Thereby, airport charges benchmarking should contain information about airports, or countries that levy a departure taxes, which part they apply to, what are the amounts involved and detail the scale and nature of departure taxes in each country.

## **CONCLUSION**

Airports becoming business more than ever before. When we want to compare several different things such as international airports, we have to be aware of every relevancy and every contradiction, what is true and what isn't. Since every international airport is unique, every selection of several international airports is also unique, thus benchmarking methodology that works excellent in one airport selection might not work in another selection good as well. This paper discusses basic general principles, assumption and methodology approach that might work broadly since they arise from aviation industry market.

## **BIBLIOGRAPHY**

- [1] ZUIDBERG, J., VELDHUIS, J., SEO Economic Research,: Benchmark for airport charges and governmental taxes.
- [2] HONG KONG AIRPORT AUTHORITY, ECONOMIC DEVELOPMENT AND LABOUR BUREAU: Airport Charges Comparisons. Submission to Hong Kong SAR, Legislative Council, Economic Services Panel.
- [3] BARBU, M., HEINZ, D.B., German Airport Performance,: Changes in the Structure of German Airport Charges (2003-7).

Miroslav Belorid  
University of Žilina  
Air Transport Department  
Univerzitná 1  
01026 Žilina  
[miroslav.belorid@fpedas.uniza.sk](mailto:miroslav.belorid@fpedas.uniza.sk)

# **EXPANDING THE POOL OF KNOWLEDGE: TOWARDS MUTUAL COMPETITIVE ADVANTAGE**

**Dan-Eugen Birtu**

## **ANNOTATION**

The rapid development and the accelerated fluctuations of the business environment, engendered by the new economy, have compelled organizations to shift their attention towards knowledge as a reliable source of sustainable competitive advantage. Additionally, as all companies are part of networks, and any network can only be as strong as its elements, it is insufficient to endeavor solely on the internal resources. In order to reap higher benefits, companies have begun focusing on larger pools of resources, hence developing mutual competitive advantage. The aim of this paper is to develop a classification which encompasses the levels of data, information and knowledge sharing across the networks. Furthermore, seven global companies will be analyzed according to this classification. While different companies adopt different strategies, a tendency towards tightening the connections inside networks can be observed.

## **KEY WORDS**

data, information, knowledge, wisdom, knowledge creation, networks, supplier integration, supplier associations

## **INTRODUCTION**

The extensive evolution of products and technologies, the rapid changes of markets and regulations, and all the characteristics of the new economy are continuously generating changes, and causing fluctuations to the business environment, in an accelerated manner. In these day-to-day conditions, organizations are being compelled towards improving their abilities and permanently seeking new means to acquire superiority over competition.

The rapid evolution of information technology (IT) and of the Internet from the second half of the twentieth century has clearly changed not only the way of doing business, but the entire society. Great success attained by the first movers has determined massive investments in IT [3, 13], and for a short while, IT has become a source of competitive advantage. However, as the source of competitive advantage “is not ubiquity but scarcity”, after the IT productivity paradox [2, 13], history has proved once more the difficulty of gaining sustainable advantage from using technology. Due to its omnipresence, IT has become the cost of doing business that must be paid by all, but provides distinction to none [3]. Despite the controversial aspects regarding IT, it has enabled the storage, processing and transfer of information in much higher amounts than previously possible, and a worldwide information infrastructure has been created, allowing information to travel globally at the speed of light.

In order to achieve sustainable competitive advantage, companies have shifted their attention towards a resource which is not widely available, nor easy to copy or imitate. “Knowledge has quickly become a new keyword” [15] and knowledge management has emerged [16]. Nowadays, many scholars emphasize the importance of knowledge creation, ownership and dissemination, and a knowledge-based perspective of the firm has emerged in the related literature [11]. The modern enterprise depends upon timely and effective flows of knowledge through its organization for success.” [10]. The use of common language in serious research “has led to the confusion between knowledge and information and its famous tautological

reduction (knowledge  $\Leftrightarrow$  information), which brought knowledge management decades back in its evolution” [17]. For these reasons, a proper differentiation between knowledge and information is essential. Furthermore, in order to provide a coherent image, an accurate distinction of data, information, knowledge and wisdom is necessary.

### **Data – Information – Knowledge – Wisdom**

Data mainly refers to raw symbols, facts and numbers, which can be usable or not, according to the context, and it doesn't have a precise meaning of itself. Data means a set of discrete and objective facts concerning events [4], while “information is data with attributes of relevance and purpose” [5]. Due to their nature, data and information are highly related to IT. The information infrastructure, the big entangled web of information which is getting denser every day has contributed to an overwhelming amount of information available one click away. Consequently, people often confront with too much information, or information overload. Conversely, knowledge cannot be too much, and it is improper to refer to knowledge overload.

The literature does not provide a definition of knowledge which is universally accepted, but most scholars agree that knowledge is not the same thing as information and they are not on the same level. Zeleny [15] defines knowledge as “purposeful coordination of action”, while information is the “symbolic description of action”. Nonaka [11] defines knowledge as “justified true belief”, and he classifies it into tacit and explicit. These dimensions are widely used, quoted and even expanded in the literature. However, Zeleny [15] stresses that these “are not separate dimensions and should not be treated separately” and “there is no explicit knowledge, only information”. Information can only describe action, while knowledge is action, therefore simply reading information is not sufficient to become knowledgeable. “Information technology can assist knowledge management, but knowledge management involves much more than the astute use of IT tools” [14]. Knowledge can also be described as a process, while information is only a part of that process. Wisdom is a desired strategic dimension, and it can only be achieved through the continuous evolution of knowledge. Wisdom is “socially accepted or experience-validated explication of purpose” [15].

### **Knowledge across networks**

The previously mentioned differences are highly important, considering their influence upon the evolution of knowledge management. In addition, companies are not detached entities, working in isolation, therefore focusing entirely on internal resources is insufficient. Modern organizations are part of networks, and any network can only be as strong as the weakest element. Knowledge resides in these networks, and its acknowledgement can lead to higher benefits. Recognizing their potential and the advantages of closer connections between suppliers and customers, companies have started to be involved in supplier development programs. The idea behind this concept is that mutual benefits can be acquired from working closer and sharing knowledge. The resulting advantages can be numerous, from higher effectiveness to joint product development, and they can come in the form lower costs, higher quality or faster production time.

A possible articulation of closer connections and knowledge sharing across the networks, between suppliers and customers, is the formation of supplier associations. Their origins are in *Kyoryoku Kai* – a Japanese feature since the 1950s, which has played a pivotal role in the development of high performance supply chains, and has constituted the core of international competitiveness of many Japanese companies. *Kyoryoku Kai* is an extension of a supplier partnership, and represents a collection of a company's most important suppliers, grouped

together for mutual help, learning and development. Hines [8] defines a supplier association as a “mutually benefiting group of a company’s most important suppliers brought together on a regular basis in order to achieve strategic and operational alignment through the development of awareness, education and implementation programmes designed to achieve both radical and incremental improvements.” Furthermore, the aims of a supplier association may include the improvement of the abilities and skills of the suppliers, facilitating the flow of information and strategy within the networks, increasing the trust, allowing closer relations, allowing development benefits to be shared and keeping suppliers in touch with market developments.

As the focus of this paper is the sharing of knowledge across networks, and companies may adopt different strategies, a classification regarding network development, which encompasses the levels of data, information and knowledge sharing, will be introduced.

### **Five levels of network development**

The **first level** encompasses the companies which only provide suppliers with data and information regarding specific requirements, including environmental, human resources, managerial and ethical issues. No information regarding possible improvements is shared. On the **second level**, the type of data and information shared is meant to help generating possible improvements. Companies may be involved in performance measurement processes, and feedback regarding product or company-level improvements is provided to suppliers. The **third level** includes different strategies of supplier development, except supplier associations. Higher collaboration and closer working with suppliers takes place, and knowledge sharing occurs. The **fourth level** is characterized by the presence of supplier associations. On the **fifth level** the highest degree of knowledge sharing takes place, and it includes not only supplier associations, but also other types of supplier development processes as well. Several strategies of mutual development exist which contribute to a large extent of knowledge sharing. In order to provide some examples, seven global corporations will be examined and classified according to the previously described levels of network development.

**Nokia** provides its suppliers a comprehensive set of global Nokia Supplier Requirements (NSR), which includes environmental, human resource and management policies, which the suppliers must adopt in their own companies, and towards their own suppliers. Regarding the environmental issues, suppliers shall have an Environmental Management System (EMS), which includes, raw material contents data management, waste management and programs for environmental performance. [21]. As no evidence regarding further information or knowledge sharing has been found, it can be asserted that Nokia is on the first level of network development.

**Xerox** Corporation has established a set of detailed environmental, health and safety (EH&S) requirements for its suppliers. Also Xerox Supplier Diversity Program has been developed, in order to establish relations with companies that ordinarily might not be considered as supplier candidates. Furthermore, as part of this program, Xerox has consistently established business partnerships with Minority- and Women-owned Business Enterprises (MWBE) companies [24]. However, no evidence regarding knowledge sharing has been found, therefore it can be asserted that Xerox is on the first level of network development.

In 2002, **IBM** had thirty supply chains, involved into multiple lines of business, each pulling towards separate improvement, reducing the overall performance. The integration which has followed and the centralization of supply-chain operations, is not only a practice for the

company, but it is included in the name of its supply-chain organization: the Integrated Supply Chain (ISC). The integration process has been completed in 2003, with the creation of a single business unit for global supply chain operations. By 2005, ISC helped saving \$25 million per business day. However, ISC has meant to be a rather internal integration of supply-chain management processes, designed to serve as a bridge to align enterprise operations horizontally. For the next decade ISC is expected to play an important role in IBM's innovation-led strategy, by spawning a Supply Chain Process Innovation Network [20]. Currently, IBM has more than 30.000 supplier locations in more than 60 countries. However, the supply chain is becoming increasingly concentrated. The number of strategic suppliers has decreased from 328 in 2004 to 196 in 2007. In the same year, more than half of the company's expenditure was with just 20 companies. IBM's policy is to regularly measure the performance and provide feedback to core and strategic suppliers. This feedback is provided through formal performance reviews, participation in supplier performance programs and through normal business communication channels. In 2004, IBM implemented a global supply chain responsibility program which requires suppliers to adopt Supplier Conduct Principles. These principles are a necessary minimum, and they refer to sound practices with regard to protecting the environment, employee health and safety, and ethical conduct. Furthermore, IBM provides to its suppliers a high amount of information regarding compliance guidelines, supplier diversity, environmental and packaging requirements, printed circuit board information, IBM standard terms and conditions, etc. [20]. It can be observed that IBM's policy is to tighten the supply chain; additionally, suppliers undergo performance reviews, feedback is provided and information is shared. As no knowledge appears to be shared, IBM is on the second level of network development.

Since 2005, **Ford** Motor Company has adopted Aligned Business Framework (ABF); a strategy for working closer and more collaboratively with key suppliers. The strategy is designed to "create a sustainable business model to increase mutual profitability, improve quality and drive innovation." Furthermore, ABF agreements "outline business practices designed to increase future collaboration, including phased-in up-front payment of engineering and development costs for production suppliers, extended sourcing and data transparency." [18] Ford is offering up-front payment of engineering and development costs in exchange for supplier commitment to bring technology innovations to Ford. [1] In addition, all the suppliers doing business with Ford have to adhere to Ford's global terms and conditions, which include labor issues and prohibit any practice in violation of local laws. ABF suppliers also have to align with Ford's Code of Basic Working Conditions (CBWC), which include proper working conditions and responsible environmental management. In June 2009, Ford has announced the expansion of ABF with 16 new suppliers, bringing the total number to 82. Moreover, ABF aims at cutting the number of Ford's suppliers worldwide in half, from approximately 1600 to around 850, by the end of 2009. Survivors are rewarded with long-term deals and early access to product-development programs, improving their chances of profitability. [18] Through ABF, Ford is tightening its network and closer and more collaboratively working relations with the suppliers are developed. Although the tendency is to increase the communication and the information transfer, some knowledge sharing may occur, therefore, Ford is on the third level of network development

**Honda** Motor Company Ltd. has a philosophy of supporting free competition, equal partnership and suppliers' managerial self-reliance, as its three fundamental purchasing principles. [12] In this context, Honda's supplier development has begun after the first oil shock in 1973, with a team of seven engineers. A group of eight suppliers has been identified, and changes have started to be implemented, from cleaning the shopfloor, to changing the

company layout. This activity has become known as “Soft Best Position” (SBP). After 1985, Hard BP became popular. HBP refers to large improvements, which can be achieved through major capital investments. However, after the 1990s recession, the emphasis shifted back to SBP. Nonetheless Slim and Solid Production (SSP) has been announced, which extends supplier development from production line level to the entire company. [12] Due to Honda’s purchasing philosophy, the initial impression might be that little supplier development occurs. However, Honda is using both individual-based shopfloor assistance and study groups. Moreover, Honda’s supplier development activity has developed and broadened over time, from SBP to HBP, and eventually, SSP. [12] Although Honda does not have a supplier association, it has an “inner core” group of closer suppliers, whom benefit from SSP. [12] In order to ensure high-quality of products is maintained, Honda’s R&D and purchasing experts work closely with suppliers right from the initial stages of product development. This work includes factory visits and inspection of production processes. Additionally, Honda established Green Purchasing Guidelines and Life Cycle Assessment system in order to share information with suppliers regarding environmental issues. [19] It can be observed that Honda uses several strategies of supplier development, although it doesn’t have a supplier association. However, not only data and information, but also knowledge is shared across its network, therefore it can be asserted that Honda is on the third level of network development.

**Panasonic** Corporation has a supplier association (Kyoei-Kai) which includes 102 members. [22] Panasonic’s Corporate Purchasing Division (CPD) has started a campaign which has been meant to bring top suppliers together in a collaborative network, and the goals for Kyoei-Kai have been stated in a 1993 “Revitalization plan” [9]. In the beginning, Panasonic’s practice had been to design the parts on its own, and provide the suppliers with blue prints for producing them. As Kyoei-Kai advanced, Panasonic started to transmit product development decisions to suppliers and mutual product development has began [9]. Panasonic’s Kyoei-Kai connects the suppliers with the manufacturer, in a collaborative pact, so that development tasks are shared [6]. Furthermore, formal training or personnel transfers started to occur [9]. Kyoei-Kai is a mechanism for organizing Panasonic’s suppliers as a network, and it encourages connections between members, based on membership, compliance with the rules, knowledge sharing and capability enhancement activities [6]. Furthermore, Kyoei-Kai membership also means that all operations are based on Panasonic’s CSR Procurement policy. This includes environmental issues, compliance and information security programs and human rights issues. As Panasonic employs a supplier association, it is on the fourth level of network development.

**Toyota** currently, uses processes for information and knowledge sharing across its network. The most important are: the supplier associations, Toyota’s operations management consulting division, voluntary learning teams and inter-firm employee transfers [7]. Toyota has two supplier associations: Kyohakay which was created in 1943 and comprises 217 part suppliers, and Eihokai, which was created in 1983, and comprises 125 suppliers. [23] In 1996, Kyokokay’s purposes were: information exchange between member companies and Toyota, mutual development and training among member companies and socializing events. Through Kyohakay, connections between members are tightened, and data and information is exchanged. Toyota’s Operations Management Consulting Division (OMCD) was created in 1960s to solve operational for both Toyota and its suppliers. OMCD facilitates knowledge sharing, and it operates by gathering teams of consultants which are being sent to provide free assistance to the suppliers which encounter problems or difficulties. If the required knowledge resides within another supplier, Toyota may assist in the knowledge transfer among the suppliers. [7, 12] Voluntary learning teams (jishuken) consist of several suppliers, and their



purpose is to help them assisting each other regarding productivity and quality improvements. The group establishes a schedule to visit each other's factories and jointly develop solutions for improvement. Furthermore, OMCD is involved in assisting these groups, and contributes to knowledge sharing among Toyota and suppliers. [7, 12] Inter-firm employee transfers are another important instrument of knowledge sharing from Toyota to suppliers. Each year, Toyota transfer approximately 120 - 130 individuals to other firms. These transfers can be temporary or permanent. As Toyota employs not only supplier associations, but also several other processes regarding supplier development, it is on the fifth level of network development.

As Nokia and Xerox provide suppliers only data and information regarding specific requirements, they are on the first level. Although IBM's ISC is an internal tool, it is still evolving and the connections are tightening. However, as the current emphasis is on data and information sharing, rather than knowledge, IBM is on the second level. Through ABF, Ford adopted a strategy of working closer with suppliers, and it is on the third level. Honda uses several strategies of supplier development, but it doesn't have a supplier association, therefore it is situated on the third level. Panasonic has a supplier association, being situated on the fourth level. Toyota employs the best supplier development. It uses not only a supplier association, but several other supplier development processes as well, being situated on the fifth level.

## CONCLUSIONS

In a continuously changing business environment engendered by the new economy, companies have shifted their attention towards knowledge as a source of sustainable competitive advantage. However global companies are part of networks, which can only be as strong as the weakest parts, therefore an internal focus on knowledge might hinder its true potential. Knowledge creation and sharing across the networks can lead to higher benefits and mutual advantages. Still, global corporations adopt different strategies regarding knowledge and their networks. A classification regarding the degree of network development, in terms of data, information, and knowledge shared has been introduced, and seven companies have been analyzed and classified accordingly. Many differences occur, but a general tendency towards tightening the connections and consolidating the network can be observed.

## BIBLIOGRAPHY

- [1] BLANCHARD, D.: *Supply Chain Management Best Practices*, John Wiley&Sons, Inc., 2007
- [2] BRYNJOLFSSON, E. *The Productivity Paradox of Information Technology: Review and Assessment*, Communications of the ACM, December 1993, pp. 66-77
- [3] CARR, N.G. *IT Doesn't Matter*, Harvard Business Review, May 2003, pp. 41-49
- [4] DAVENPORT, T.H., PRUSAK, L. *Working Knowledge*, Harvard Business School Press, Boston, MA., 1998
- [5] DRUCKER, P. *Post-Capitalist Society*, HarperCollins Publishers, 1994
- [6] Guillot, D., Lincoln, J.R. *Dyad and Network: Models of Manufacturer-Supplier Collaboration in the Japanese TV Manufacturing Industry*, Advances in International Management, Vol. 17, pp. 159-185, 2004
- [7] DYER, J. H., NOBEOKA, K. *Creating and Managing a High-Performance Knowledge-Sharing Network: The Toyota Case*, Strategic Management Journal, Vol. 21, No. 3, pp. 345-367, 2000

- [8] HINES, P., RICH, N. *Outsourcing Competitive Advantage: The Use of Supplier Associations*, International Journal of Physical Distribution & Logistics, Vol. 28, Iss. 7, pg. 524, Bradford: 1998
- [9] LINCOLN, J. R. *Interfirm networks and the management of technology and innovation in Japan*, pp. 215-234, in WHITTAKER, H. M. and COLE, R. E. (eds.): *Recovering from Success: Innovation and Technology Management in Japan*. New York, Oxford University Press, 2006
- [10] NISSEN, M. E. *An Extended Model of Knowledge-Flow Dynamics*, Communications of the Association for Information Systems, Vol. 8, pp. 251-266, 2002
- [11] NONAKA, I. *A Dynamic Theory of Organizational Knowledge Creation*, Organization Science, Vol. 5, No. 1, 1994
- [12] SAKO, M. *Supplier Development at Honda, Nissan and Toyota: Comparative Case Studies of Organizational Capability Enhancement*, Industrial and Corporate Change, Vol. 13, No. 2, pp. 281-308, 2004
- [13] STIROH, K. J. *Information Technology and the U.S. Productivity Revival: What Do the Industry Data Say?* , Federal Reserve Bank of New York Staff Report, no. 115, 2001
- [14] TEECE, D. J. *Strategies for Managing Knowledge Assets: the Role of Firm Structure and Industrial Context*, Long Range Planning, Vol. 33, No. 1, 2000, pp. 35-54, 2000
- [15] ZELENY, M. *Human Systems Management: Integrating Knowledge, Management and Systems*, World Scientific, 2005
- [16] ZELENY, M. *Management Support Systems: Towards Integrated Knowledge Management*, Human Systems Management, vol. 7, no. 1, pp. 59-70, 1987
- [17] ZELENY, M. *The KM-MCDM Interface in Decision Design: Tradeoffs-Free Conflict Dissolution*, Int. J. Applied Decision Sciences, Vol. 1, No. 1, 2008
- [18] [www.ford.com](http://www.ford.com)
- [19] [www.honda.com](http://www.honda.com)
- [20] [www.ibm.com](http://www.ibm.com)
- [21] [www.nokia.com](http://www.nokia.com)
- [22] [www.panasonic.net](http://www.panasonic.net)
- [23] [www.toyota.co.jp/en](http://www.toyota.co.jp/en)
- [24] [www.xerox.com](http://www.xerox.com)

Dan-Eugen Birtu  
 Thomas Bata University, Faculty of Management and Economics  
 Mostní 5139  
 760 01 Zlín  
[birtudan@yahoo.com](mailto:birtudan@yahoo.com)

# **AN EXAMPLE OF PROJECT MANAGEMENT IN ELECTRONICS**

**Olaf Flak**

## **ANNOTATION**

The paper will present an example of a project in electronics within multinational team. There will be described resources, procedures, environment, tasks and effects. The project was managed in Poland from 2006 to 2008. The participants came from several European countries. The main goal of the project was to create an electronic unit by a multinational team, but members did not work together in one place.

An author will draw some conclusions about managing projects in multinational environment when the participants work together in remote.

## **KEY WORDS**

multinational team, project management, goals of a project, cooperation within a team

## **INTRODUCTION**

Multinational teams are more and more common in present companies. Specially large ones employ people from different countries and cultures in order to increase a potential of managing projects. It is said that the diversity of humans in a project can give advantages such as increasing the rate of productivity in a company, improving the quality of production involving all employees in the decision-making process, increasing job satisfaction. As important as these results are also reducing a time wastage (looking at working systems and practices), working together with customers to build closer relationships so that the needs of the market can be better understood.<sup>1</sup>

Additionally many project in electronics, IT, heavy industry are being conducted by members who come not only from different countries but also from different companies. These factors force managers to use different ways of managing projects as if they did in the past. Except knowledge and skill there is strong need to have some tools, which will able to build a cooperative platform between team's members.<sup>2</sup>

## **AIM AND METODOLOGY**

The paper presents an example of a project in electronics within multinational team. The aims of the paper are:

- to present a theoretical background of project management in a multinational teams,
- to describe resources, procedures, environment, tasks and effects of an example of such a project.

The project was managed in Poland from 2006 to 2008. The participants came from several European countries. The main goal of the project was to create an electronic unit by a multinational team, but members did not work together in one place.

At the end of the paper there are some conclusions about managing projects in multinational environment when the participants work together in remote.

---

<sup>1</sup> G. A. Cole: Personnel Management. DP Publications Ltd, London 1993

<sup>2</sup> O. Flak, G. Głód: The Managerial Tools in a Commercial and a Public Sector. An Example of Benchmarking Method. Strategic Management and its Support by Information Systems, Jindrich Kaluza (ed.), VSB – Technical University of Ostrava 2009

Methodology used in the article is based on a literature study and a case study. In order to keep to scientific approach the author decided to combine theoretical laws, rules and reckons with a description of the project.

## RESULTS

The research done by many scientist proved that an subordinates work more efficiently in groups and teams than in isolation. Such situation is a result of that is a synergy effect. Additionally team membership and the status that goes with it very often is more important to individuals than monetary incentives or good physical working conditions. Informal (unofficial) groups in the work-place have a strong influence over employee behaviour. However, supervisors and managers must be able to manage a team if they want to obtain commitment to organizational goals.<sup>3</sup>

### Types of project management teams

Project management is always done in teams. There are very few projects which are being conducted by only one man. That is why we can distinguish several types of projects teams. The list there is in the figure no. 1.

Fig 1. Types of projects teams

<b>EXECUTIVE TEAM</b>	A cross-functional group headed by chief executive. Members are chosen by role. The team meets regularly, depends on information from lower levels of a firm.
<b>CROSS-FUNCTIONAL TEAM</b>	A multi-disciplinary team, found in any level of an organization. It is to removes obstacles in exchanging new ideas and skills.
<b>BUSINESS TEAM</b>	A group of people in charge of the long-term running of a project or unit within their organization. It runs a particular unit and strongly depends on the leader.
<b>FORMAL SUPPORT TEAM</b>	A team providing support and services, such as finance, information systems, administration. The team depends on processes and is to raise productivity of the area.
<b>TASK TEAM</b>	A team selected and kept together for the duration of a project, such as the construction of a new facility. The efficiency depends on close understanding among members and well-organized work practices.
<b>CHANGE TEAM</b>	A group of experts briefed to achieve change. Value depends on collective ability. It must be led by believers in change, with a high level dedication to their organization.
<b>HOT GROUP</b>	An autonomous body set apart from the rest of an organization, often in a remote site. Flexible, independent and high-achieving groups of people getting fast results.
<b>TEMPORARY TASKFORCE</b>	A short-term body set up to study or solve a specific problem or issue and report back to management. Useful in establishing new procedures under intense time pressures.

*Source: L. L. Thompson: Making the Team. A guide for managers. Prentice Hall, New Jersey 2008 and G. A. Cole: Personnel Management. DP Publications Ltd, London 1993*

<sup>3</sup> R. Szczepanik: Budowanie zespołu. Gliwice, Helion 2005

In the case presented in the article the team which was planned to conduct the project filled conditions of several teams presented in the figure no. 1. On the base of the analysis of the project it was cross-functional, tasks, hot and temporary taskforce team.

### **Challenges in electronic industry**

Current trends of globalization, mass-customization and increased competition are leading industry towards networked organizations, such as virtual organizations and dynamic business teams. Increasingly, products must be rapidly adapted to customer needs, leading to faster innovation cycles and more complex concurrent engineering.

In many industry sectors, a demand for increased value creation on the supplier side of the networks is observed, emphasizing knowledge content and services. This requires significant growth in knowledge sharing, management services and in connection of work environments and work management services. The core problems and challenges in the area of faster and more flexible design and manufacturing concern are:

- concurrency in all operations,
- quick and inexpensive formation of networked manufacturing organizations,
- ability for each enterprise in the production chain to have their own production knowledge and product design processes and use their own software and services (transitions in the production chain must bridge the gaps between heterogeneous knowledge, processes, systems, services and ways of working),
- processes and products that can be rapidly reconfigured to accommodate diverse and changing needs and opportunities; change management across the entire production chain requires coordination of individual changes and support for iterative adjustments,
- collaborative product, process and service engineering must thus be managed and performed across networked organizations.

Support for strategic and opportunistic change is the most important in network manufacturing organizations, where new cross-partner knowledge is continuously created and must be shared, executed on and managed. Innovations must be captured, implemented, deployed and combined through Internet and shared understandable among the participants in the network.<sup>4</sup>

The paradigm shift from lean manufacturing to agile manufacturing reflects most of the above named challenges. However, the dimension of flexibly adapting not only the manufacturing related parts but the complete enterprise calls for application and adaptation of concepts from (networked) enterprise engineering and (active) knowledge sharing.

Design engineering in networks creates a new engineering paradigm that needs to be supported with new design methodologies, practices and tools. Although concurrent engineering has been advocated for already more than a decade, in practice, it remains typically restricted to engineering groups from large global companies, but even there support for collaboration between different company's sites proves to be limited.<sup>5</sup>

Many researchers admit that in such networks the most important are tools. So that the author took this point of view into consideration and presents the results of theoretical studies in the further parts of the paper.

### **Assumptions of the managed project in electronics**

---

<sup>4</sup> J. Goossenaerts, C. Brecher, F. Possel-Dölken, K. Popplewell: Co-operative and virtual engineering: A broad roadmap. International Journal on e-Collaboration, accepted for publication in Special Issue on the State of the Art and Future Challenges on Collaborative Design. IDEA Group 2007 and A. Gunasekaran: Agile manufacturing: The 21st century competitive. Elsevier science 2001

<sup>5</sup> K. Zimmiewicz: Współczesne koncepcje i metody zarządzania. PWE, Warszawa 1999

In the knowledge age dynamic networked organizations will safely enable all stakeholders to be purposefully involved in manufacturing programs. Increased cooperation and collaboration among enterprises during the product lifecycle is a global demand. In line with this demand a special tool which results towards the following vision for European manufacturing: “In 2010, agile manufacturing companies can inexpensively form collaborative networks and quickly adapt to market demands.”

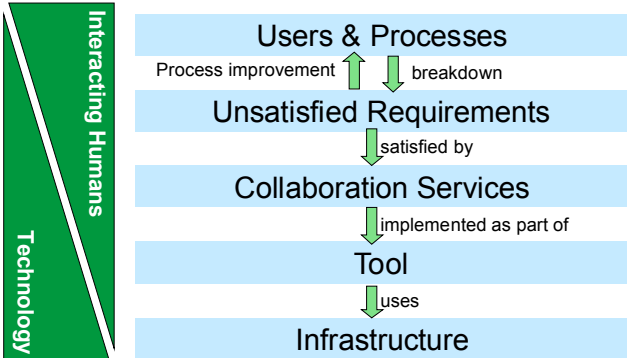
In the projects was used such a tool, called MAPPER which did the vision will be achieved by aiming at the following overall objective: “MAPPER will enable fast and flexible manufacturing by providing methodology, infrastructure and reusable services for participative engineering in networked manufacturing enterprises, demonstrating practical benefits and scientific values in three industrial pilots.”

Using MAPPER results, enterprises can transform into dynamically networked organizations. Through integrating, holistic views of the joint enterprise, today’s friction and process losses could be considerably lowered. This would result in more effective operations, innovative designs, and increased business opportunities. Approach of the members of the project seeked to extend Europe's competitive advantage, such as the agility, skills and competence of the workforce, and the requisite strengths of diverse economies in the European Union.<sup>6</sup>

**Theoretical approach to multicultural teamwork**

In the project in electronics there was a strong theoretical approach, which based on the management science. The figure no. 2 presents a way of thinking managers of the project and attention to different layers in multinational teamwork.

Fig 2. Title



Source: Deliverable D10, Model-based Adaptive Product and Process Engineering, Programme: Integrating and Strengthening the European Research, May 16th, 2007

As it was noticed below, the main effort was put into building a special tool, called MAPPER. It was in order to able a manager to complete the functions of management. If it should be possible, a manager needs applicable managerial tools. In the literature, in the management science there are many terms such as managerial skills and abilities, managerial roles, managerial attitudes, managerial functions.<sup>7</sup> In the other meanings many scientists use a “method” and a “technique” for a manager. For example, as a managerial technique it is understood from one hand a research instrument, from another a way of using it. A

<sup>6</sup> Integrating Technologies for the Fast and Flexible Manufacturing, Enterprise, Model-based Adaptive Product and Process Engineering, Programme: Integrating and Strengthening the European Research, October 14th, 2004  
<sup>7</sup> J. D. Antoszkiewicz, Z. Pawlak: Techniki menedżerskie. Skuteczne zarządzanie firmą. Poltex, Warszawa 2000

managerial method means a systematic approach and a procedure, whose aim is to solve a special problem in an organization.<sup>8</sup>

From the lexical point of view these terms above do not contain a material context of things as tools. Additionally, they do not imply the use in a real world. Therefore the authors of this paper reckon it is worth defining the term “a managerial tool”. It means a simple or complex instrument, which let to lead functions of management.<sup>9</sup> It is supposed that such an instrument can be material (sheets of paper, work cards, tables) or immaterial (an informative system, a computer program, data bases in a computers’ memory).

When a manager uses a managerial tool, he can use an appropriate technique to do something. The technique in this case means an aimed and rational way of doing something, based on theoretical knowledge and research. Techniques may be collected in methods.<sup>10</sup>

### **Resources, procedures, and tasks in the project**

Within the MAPPER focus area the Process Of Innovation (POI) has been selected to be the target for creation of solutions based on MAPPER. The POI shall facilitate the combination of creativity and innovation with detailed system support, flexibility and adaptability. This combination developed new concepts (due to many constraints) and at the same time allowing for creative freedom is a key success factor. The POI consisted of three main phases:

- the idea analysis phase aims at creating and assessing ideas for a given goal,
- the visualization phase concerns the test of selected concepts from the idea analysis phase including design tests,
- the reporting phase documents findings and proposals to reach the given goal,

Within these phases, the core tasks contributing to the development of innovative products were identified and captured in active knowledge models.

To establish a material specification comprised roughly the steps of preparing a draft, testing the material, performing process trials and releasing the material specification. In the following, these tasks would be described in more detail.

In order to start preparing a draft, the project manager of the POI project selected a research and development engineer (RDE), to whom is assigned the task of developing the material specification and who is responsible for coordinating this process. The RDE received the order, the product requirement specification (if available) and specific material requirements from the project manager or design responsible. The order provided information about target of the project, time frame, resource allocation and other frame conditions. The customers’ product requirement specification and the (internal) material requirement were usually described in separate documents. The RDE used a template to create the draft of a material specification. Furthermore, a material number is created. A material specification described characteristics and limits of the material. The draft was submitted to the person ordering the material specification, who in turn procured samples of the material for test purposes.

Testing the material was initiated by the RDE when receiving the samples of the material. The test engineer who would conduct the test was identified and informed about the test and also get the necessary documents. In some cases, suppliers to KA were asked to conduct tests based on test specifications provided by KA. The RDE received the test results as soon as the test is completed. If the results were satisfactory, the process trial would be started. Otherwise, a new supplier would be selected and new material samples would be ordered for repeated material testing.

---

<sup>8</sup> Z. Mikołajczyk: Techniki organizatorskie w rozwiązywaniu problemów zarządzania. PWN, Warszawa 1998

<sup>9</sup> O. Flak: Rola metod ilościowych w budowaniu narzędzi menedżerskich. Rola informatyki w naukach ekonomicznych i społecznych, Zeszyty naukowe 5a, K. Grysa (Ed.), Wyższa Szkoła Handlowa, Kielce 2007

<sup>10</sup> J. Penc: Leksykon biznesu. Agencja Wydawnicza Placet, Warszawa 1997

A process trial was initiated by the RDE. The engineer who would be responsible for the trial is identified and assigned to the trial process. Again, the necessary documents were handed over. The trial was conducted based on the specifications and experiences of the engineer. After the process trials had been completed, the RDE received the trial results. If the results were satisfactory, the specification would be prepared for releasing. Otherwise, the RDE had to repeat material testing, i.e. a new supplier would be selected and new material samples would be ordered.

In order to release the material specification, the RDE invited to a specification meeting. The participants of the meeting usually were the POI project manager, the person responsible for production, the product designer and the material engineer, who get the necessary documents before the meeting. The purpose of the meeting was to receive additional and final input to the specification. The RDE wrote the final material specification based on the results of the meeting. The material specification was submitted to the production manager for approval and then to the design manager for approval. After approval from both persons, the released material specification was registered, archived and distributed. The person ordering the material specification was notified that the process has been completed. The specification was made available to the complete POI project team.<sup>11</sup>

### **Problems to be solved in multinational project team**

The objective of the Participative Engineering Methodology developed in MAPPER were to facilitate participative engineering in a networked manufacturing enterprise. The focus had been on sharing knowledge and approach for the development of a methodology consisting of reconfigurable knowledge models. The following aspects caused following problems and questions:

- collaboration among humans in a networked enterprise (how should we go about forming and retaining collaboration relationships with other people from different countries, inside and outside our own company?),
- organizational learning in a networked enterprise (how should we provide for maximum learning in a networked enterprise?),
- multi-project management obstacles (how to plan and coordinate several parallel projects, where each project may have participants and resources from several companies?),
- modelling a networked enterprise (how to plan and perform a modeling effort, covering the whole life-cycle of models, from planning and development to application and management?).

## **CONCLUSION**

As the results of the project in electronics industries it is possible to draw some conclusions in order to make more effective a teamwork. The categories of them imply:

- an improvement of efficiency of performing manufacturing activities by supporting integrated planning, management, and operations of distributed and participative engineering,
- a support innovation and continuous improvement of the organization by providing services for defining, planning, managing, performing, adapting and re-engineering tasks,
- a possibility of learning from previous experience on the organizational, the team and the individual level (this is facilitated through capturing, evaluating, and reusing models, and task execution settings),

---

<sup>11</sup> S. G. Johnsen and team: Model-based Adaptive Product and Process Engineering, , New Technologies for the Intelligent Design and Operation of Manufacturing Networks. M. Rabe, P. Mihók (eds), Stuttgart, Fraunhofer IRB Verlag 2007



- a supply of services and constructs to support all main objectives of enterprise modeling and solutions development.

## BIBLIOGRAPHY

- 1) Antoszkiewicz J. D., Pawlak Z.: Techniki menedżerskie. Skuteczne zarządzanie firmą. Poltex, Warszawa 2000
- 2) Cole G. A.: Personnel Management. DP Publications Ltd, London 1993
- 3) Flak O.: Rola metod ilościowych w budowaniu narzędzi menedżerskich. Rola informatyki w naukach ekonomicznych i społecznych, Zeszyty naukowe 5a, K. Grysa (Eds.), Wyższa Szkoła Handlowa, Kielce 2007
- 4) Flak O., Głód G.: The Managerial Tools in a Commercial and a Public Sector. An Example of Benchmarking Method. Strategic Management and its Support by Information Systems, Jindrich Kaluza (ed.), VSB – Technical University of Ostrava 2009
- 5) Johnsen S. G. and team: Model-based Adaptive Product and Process Engineering, , New Technologies for the Intelligent Design and Operation of Manufacturing Networks. M. Rabe, P. Mihók (eds), Stuttgart, Fraunhofer IRB Verlag 2007
- 6) Mikołajczyk Z.: Techniki organizatorskie w rozwiązywaniu problemów zarządzania. PWN, Warszawa 1998
- 7) Penc J.: Leksykon biznesu. Agencja Wydawnicza Placet, Warszawa 1997
- 8) Szczepanik R.: Budowanie zespołu. Gliwice, Helion 2005
- 9) Thompson L. L.: Making the Team. A guide for managers. Prentice Hall, New Jersey 2008
- 10) Goossenaerts J., Brecher C., Pospel-Dölken F., Popplewell K.: Co-operative and virtual engineering: A broad roadmap. International Journal on e-Collaboration, accepted for publication in Special Issue on the State of the Art and Future Challenges on Collaborative Design. IDEA Group 2007 and A. Gunasekaran: Agile manufacturing: The 21st century competitive. Elsevier science 2001
- 11) Zimniewicz K.: Współczesne koncepcje i metody zarządzania. PWE, Warszawa 1999
- 12) Deliverable D10, Model-based Adaptive Product and Process Engineering, Programme: Integrating and Strengthening the European Research, May 16th, 2007
- 13) Integrating Technologies for the Fast and Flexible Manufacturing, Enterprise, Model-based Adaptive Product and Process Engineering, Programme: Integrating and Strengthening the European Research, October 14th, 2004

Olaf Flak, dr inż.  
Systems and Methods of Management Department  
The University of Economics  
1-go Maja 50 street  
40-297 Katowice  
Poland

olaf.flak@ae.katowice.pl

# **ON-COMING NEW OPPORTUNITIES AND APPLICATIONS OF WEB-BASED SOCIAL NETWORKS IN KNOWLEDGE MANAGEMENT**

**Jiří Franek**

## **ANNOTATION**

We live and work in web2.0 environment. Last decade showed that internet based social networks are crucial to today's life and business and it has great impact on knowledge management as well. Knowledge sharing is critical to organizations that wish to use their knowledge as an asset to achieve competitive advantage. One of the basic problems of knowledge management is to bridge sharing and transfer of information and knowledge that it can contribute to business processes. Main demands are low costs, efficiency, security, cross-enterprise participation and inter-employee trust. In this paper are analyzed and discussed new trends and future applications of social networks such as twitter, LinkedIn, Facebook and many others. Main objective is to present business opportunities that would arise to boost up innovations not only in knowledge management, but also in other management and business domains.

## **KEY WORDS**

Communication, internet, knowledge economy, knowledge management, knowledge management systems, knowledge sharing, knowledge society, social network, web2.0.

## **INTRODUCTION**

Today's knowledge economy is characterized by a rapid rate of change, globalization, and knowledge-intensive products. This makes knowledge management (KM) vital to organizations. The organizational performance depends not only on its market and competitive position but also on its internal capabilities and know-how in combining its resources to deliver products and services. Naturally, organization is a social arrangement of people grouped on purpose to pursue collective goals, with its own behaviour, and has a boundary that separates it from its environment. People in such organization possess own combination of knowledge, skill, innovativeness, and ability of a company's individual employees to meet the task. It is called human capital. Human capital refers to the tacit knowledge embedded in the minds of employees. Organization has to understand how those capabilities, knowledge and skills are generated. Humans are inherently social beings and they create important values and thus generate social capital. Social capital can be perceived as a sum of actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual or social unit. Entrepreneurs and knowledge management have to deal with new phenomena that have an impact on both intellectual and social capital. These phenomena have one common ancestor and it is called the World Wide Web. In roughly 20 years of existence it has influenced every piece of human life. Nowadays in the form of Web 2.0 it also has great effect on social networks. In last years we witness rise of such web-based social networks, virtual communities, that we cannot ignore their implications in the future life and business. In this paper we will focus on changes in knowledge management that this new phenomena might have.

## **PRELIMINARY TERMS AND DEFINITIONS**

In this part main terms will be described in order to understand the further issue. Knowledge management (KM) is proposed as a managerial discipline determined to improve

organizational performance. Jennex (2005) considers KM as a method that selects knowledge ensuing from experiences, past, present and future decision processes for instant improvement of organizational effectiveness. It is purposeful management of developing, search, gathering sharing and utilization of knowledge. Davenport (1995) stresses that actual KM is a „hybrid” process, which includes people and technology. Knowledge includes the creation and sustainment of communities of practice, coping with behavioural

Broadly a network is generally defined as a specific type of relation linking a defined set of persons, objects, or events. Social networks are set of resources and information flow that were established through relationships between its members (persons). Social networks enable searching and transferring various forms of skills, information, knowledge or technology by exchange or transfer among members of groups or organizations. Through such networks, individuals have more opportunities to share resources, information, ideas, and thus increase innovative potential of organization.

Web-based social network is a concept known also as computer supported social network, which only includes relationships supported through computer environments, e.g., chat, news, and e-mail, set of technologies that has come to be termed Web 2.0 or social software. Examples are forums, Wikis, Weblogs, “social” bookmarking or tagging solutions. Web-based social networks are defined as type of web services. Web-based social networks can create a virtual community that uses software programs as interfaces and internet connection for exchange and transfer of data and information. Virtual communities can be described as social aggregations that emerge from the Internet when enough people carry on public discussions long enough and with sufficient human feeling to form webs of personal relationships in cyberspace. Cyberspace is the total interconnectedness of human beings through computers and telecommunication without regard to their geographical location.

## **SOCIAL NETWORKS AND THEIR ROLE IN KNOWLEDGE MANAGEMENT**

### **Social networks**

Each individual participates in a number of social networks simultaneously, and social networks are a critical resource in building teams and in transmitting and maintaining knowledge in an organization. Uzzi (1997) claimed that interaction created in social network can be strengthened by mutual exchange of feelings and it can increase support to get commitment of resources, improve the collection of information, and enhance competitive advantage in a complex social environment. That fact is important for uncovering tacit and implicit knowledge. Social networks can be established around pivotal issue or as need for place to meet with other individuals. Social networks are also important for the purpose of knowing who to ask in different situations. Supporting social networks in an organisation also supports a natural way of finding things out.

### **Web-based social networks**

Social networks can exist and function independently of technology, in which case they tend to be hidden and function out of sight. Social networking websites make visible the networks of connections among people that are usually hidden in the real world. Social networking sites vary in the facilities they provide but usually include personal profiles, comments and private messaging. Internet social networks are being used as a shopping for knowledge and information that make people more individual as they cannot share own experiences with others, its getting more difficult to find some one with exactly same interests, knowledge etc. We just need help of computers and social network systems to find people by filling in a form of vast array of questions. There will be barely any link between people as they don't share

some common values (core values). Social networks give more opportunities for interactions and can produce more value. The main object of engaging social networks into KM is to follow its determination as a form of information and knowledge exchange. "Knowledge networks" can be seen as a special case of social networks. If social networks represent "who knows who", then knowledge networks represent "who knows what". According to field research findings development of social network must be monitored in order to prevent its negative effects. According to Nielsen (2006), in most online communities 1% of participants contribute most of the content; 9% contribute occasionally, and 90% read but never contribute. Blogs are closer to 0.1%, 5%, and 95%, respectively, while Wikipedia is 0.003%, 0.2%, 99.8% - in other words, 1000 users contribute 2/3 of the content. Nielsen observes that it is impossible to overcome this inequality, but suggests some ways to encourage broader participation.

### **Implications of Web 2.0 social network environment in knowledge management**

Knowledge management is inherently collaborative and variety of collaboration technologies can be used to support KM practices. Engagement of Web 2.0 tools that allow people to share documents, make comments, engage in discussion, create schematic diagrams, and so on are valuable aids to support organizational learning.

Social networks supported by relationships established through computer environments serve as a base for communities of practice. Communities of Practice (CoPs) are becoming increasingly more common in organizations due to the fact they are a means of sharing knowledge. They are frequently defined as groups of people who share a concern, a set of problems, or a passion about a topic and who extend their knowledge and expertise in this area by interacting on an ongoing basis. Internet connection makes such communities more versatile and global. CoPs are becoming the core knowledge strategy for large organizations. As groups of people who come together to share and learn from one another are driven by a desire and need to share problems, experiences, insights, templates, tools, and best practices. Informal CoPs are important for the development and sharing of expertise within organizations. These CoPs provide the essential context for the creation and dissemination of many areas of expertise that are vital to an organization's success and development.

Social awareness in the organisation is important for the concept of KM. Poor social networks will most likely produce poor communities of practice. Li, Liu, Wang, Li, Guo (2009) suggested that stimulating internal flows of knowledge, intrafirm knowledge sharing can help organizational members absorb new knowledge in order for them to shape the organizational member's shared views towards knowledge application. It will enable the existing knowledge-based resources to be synthesized and reconfigured into firm-level capabilities.

Practical CoPs enable employees to share knowledge via the company intranet and conduct real-time searches for the information they need for a specific activity. When the required knowledge is not found in the system, delivery site engineers and managers pose questions to the system. When appropriate, answers are validated by other field users and experts who are identified in the system.

Enterprise social networking tools offer community and collaboration features like profiles as a core component, blogging, bookmarking, RSS, wikis, and the creation of self-defined, self-managed online communities. Knowledge management systems (KMS) with social networking compound enable knowledge capture and intensive transfer of specific knowledge. It provides a contribution to the integration of knowledge creation as part the new product and service development that occurs in the research and engineering domain. Online connection allows users to pose queries and receive answers 24 hours of the day, 7 days of the week, 365 days a year, regardless of global location.

## PROSPECTS OF KNOWLEDGE AND SOCIAL NETWORKING

Future trends in business-focused virtual community practical applications project a greater dependence on advanced KM capabilities. Many researchers share the opinion that it is more difficult to categorize, document, and understand the knowledge generated within a customer-driven virtual community than it is in one driven by Internet professionals or members of the scientific or educational communities etc. The kind of “Free-form” customer-driven virtual communities, whether or not they are sponsored, have a tendency to use inconsistent methods for naming and archiving their data. When knowledge-collecting algorithms are connected to the databases or the discussion group archives of these virtual communities, they generally fail to associate similar topics and ideas together since the user comments display a wide variety of forms and terminologies.

Web-based social network system relies on individuals who input their own data, although some networks links are generated automatically by harvesting information from Web pages provided by the users. Individual private information is limited and cannot be fully verified. Some social networking sites, LinkedIn and Xing for example, are business focused and specifically link people in a business context. Other social networking sites like Facebook can be used for businesses purposes, with closed communities being created within Facebook for exclusive use of corporate members. Two major rising issues among all such communities are trust and security.

Trustworthiness plays a key role in knowledge sharing between members. Behaviour of trust can be seen as a representation of reliance on another individual. Hite (2003) distinguished that there are three categories of trust: (1) trust in personal goodwill, (2) trust in personal competency, and (3) social trust. These three categories manifest three different social components, such as personal relationships, economic interaction, and social capital, and each social component has different influence on trust. Vizcaíno, Portillo-Rodríguez, Soto and Piattini (2009) found that the trust is correlated to position, level of expertise, previous experience, intuition of each member. They developed a model which helps to detect an increasing problem in companies or communities in which employees are rewarded if they contribute with knowledge in the community. Thus, if a person introduces, for instance, non valuable documents with the sole aim of obtaining rewards, the situation can be detected since these documents will have low trust values and the person will also be considered to be less trustworthy. The agent will, therefore, not recommend those documents. Zaheer et al. (1998) also argued that interpersonal trust increases knowledge exchange, resource delivery, disagreement resolution and the use of knowledge and information by members, thereby enhancing their innovation capability. Trust increases mutual understanding and reduces the doubt behaviour within team. Chen and Wang (2008) pointed out that trust can have double-edged effects. Trust can increase the potential of enhancing performance under specific situations, but it can decrease team performance under other conditions. Members tend to rely more extensively on other member's information and knowledge when seeking the opportunities and threats, while paying less attention to the completeness and veracity of the information because trust accustoms members to rely on each other. Enterprise social networking tools offer community and collaboration features like profiles as a core component, blogging, bookmarking, RSS, wikis, and the creation of self-defined, self-managed online communities. Phenomena like MySpace, Facebook, flickr, Technorati, and Twitter aren't just web services. They are dynamic online communities, where new interactions are forming. Hence term „facebook“ is far the most searched word on Google. Now this new generation of knowledge workers is bringing the same interactive ethos into everyday life, including work, education, and consumption. As the new Web and the Net Gen collide with the forces of globalization we are entering what might be considered a perfect

storm, where converging waves of change and innovation are toppling conventional economic wisdom.

A growing number of businesses are supporting a corporate presence on public social networks like Facebook. We know that some businesses are using Facebook as a social networking portal linked to their management and technology systems behind the enterprise firewall. Businesses can also provide closed enterprise social networking sites restricted to authorised people i.e. staff, partner companies or ex-employees. KM is more commonly associated with communication and collaborative technologies, like blogs, wikis, RSS, discussion forums. These are far more purposeful tools than ordinary knowledge and information transfer. Businesses can choose to adopt different approaches to informal networks. Alternatively, they can recognise their existence, provide appropriate tools and support and clear out of the way to let them get on with it.

Upcoming knowledge workers will live much of their lives online, without distinguishing between the online and the offline. They will not distinguish their digital identity and their real-space identity as separate things. For these people, new digital technologies are primary mediators of human to human connections. Participants of Mobile World Congress in February 2009 (MOCOM 2020) predict that one third of the world population will be online 24/7 in less than ten years. While computer processors, storage devices, and communications capacity help us to enable large-scale production of information and knowledge on the Internet, social factors matter, too.

Other problems that KM and new knowledge workers will have to deal with are information overload and quality of information. Anyone who has access to the Internet and basic digital literacy skills can create own content. It is complicated to find dependable information. Dealing with information becomes highly complicated, because it is liable to human context. On the top of that the task of making quality judgments gets cognitively more demanding as the complexity of the information increases. Reputation and rating systems can help to mitigate these problems. These systems are key elements of many Web 2.0 applications. Rating systems allow users to build an opinion about the quality of the digital content they're interested in content without the need to experience the quality by consuming it. Many of the new information-navigation tools are based primarily on how information is organized in the online space. Traditional classification systems for information have broken down during the transition to the digital era. Traditional "experts" are still classifying things, now online, but they have been joined by groups of amateurs. Lack of information is not and problematic issue anymore.

The job of the chief knowledge officer (CKO) of the future should lay in help to create a self-service information environment that allows employees to navigate the increasingly complex array of choices for getting the information they need. In addition CKOs have maintain access to traditional pools of knowledge (such as books, journals, and case studies), CKOs should help employees figure out how to manage the flow of digital information that they encounter every day.

## CONCLUSION

Social networks are common phenomena for human society. Their virtual form as a web-based service helps to connect and communicate large groups of people. The real advantage for KM can arise from communities that aggregate around specific matter. Organizations should support their employees in socialization and engage contacts they might get throughout social network they are taking a part. Recent comments about web-based social network development speak for themselves. Don Tapscott, co-author of the popular management book *Wikinomics*, suggested that "*the Facebook generation will wipe out the command control infrastructure in business today*". Richard Sambrook (Director, BBC

Global News Division) likened the increasing use of user-generated content on internet to a sports game. The crowd is not only invading the field but also seeking to participate in the game, fundamentally changing the sport. Cory Doctorow (Canadian journalist and science fiction author) expressed his view of the new Net generation: „*humanity's natural affinity for expression, communication, and entrepreneurship is merging with the increased penetration of Internet connections and the growing accessibility of new user-friendly collaboration tools.*“ In turbulent and increasingly competitive global environment you get a powerful mix that demands deep changes in the strategy and architecture of firms. The depth and scope of this revolution is broadening because the Web is the natural habit for a new community of collaborators called the "Net Generation." Organizations will have to find a way how to utilize new habits and lifestyle in order to employ them in KM process. Ability to work in global and connected world of information is just an opportunity but not an immediate competitive advantage.

## BIBLIOGRAPHY

- [1] BRAGANZA, A., et al. Organizational knowledge transfer through creation, mobilization and diffusion. : A case analysis of InTouch within Schlumberger. *Information Systems Journal*. 2009, vol. 19, no. 5, p. 499-522.
- [2] BOLINO, M., C., TURNLEY, W., H., BLOODGOOD, J., M. Citizenship behaviour and the creation of social capital in organizations. *Academy of Management Review*. 2002, vol. 27, no. 4, p. 505-522.
- [3] UZZI, B. Social structure and competition in inter-firm networks: the paradox of embeddedness. *Administrative Science Quarterly*. 1997, vol. 42, no. 1, p. 35-67.
- [4] HITE, J.,M. Patterns of multidimensionality among embedded network ties : A typology of relational embeddedness in emerging entrepreneurial firms. *Strategic Organization*. 2003, vol. 1, no. 1, p. 9-49.
- [5] ZAHEER, A., MCEVILY, B., PERRONE, V. Does trust matter? Exploring the effects of interorganizational and interpersonal trust on performance. *Organization Science*. 1998, vol. 9, no. 2, p. 141-159.
- [6] CHEN, Ming-Huei, WANG, Ming-Chao. Social networks and a new venture's innovative capability : The role of trust within entrepreneurial teams . *R&D Management*. 2008, vol. 38, no. 3, s. 253-264.
- [7] JENNEX, M., E., CROASDELL, D. Is knowledge management a discipline?. *International Journal of Knowledge Management*. 2005, vol. 1, no. 1, p. Preface.
- [8] DAVENPORT, T., PRUSAK, L.: *Working Knowledge: How Organizations Manage What They Know*. 2nd ed. Harvard Business School Press, Boston, MA, 2000. 224 p. ISBN 0875846556.
- [9] Li, YUAN et al. How Entrepreneurial Orientation Moderates the Effects of Knowledge Management on Innovation. *Systems Research and Behavioral Science*. 2009, vol. 26, no. 6, p. 645-660.
- [10] PALFREY, J., GASSER, U. *Born digital : Understanding the first generation of digital natives* . 1st edition. New York : Basic Books, 2008. 375 p. ISBN 978-0-465-00515-4.
- [11] DELIC, K., A., RILEY, J., A. Enterprise Knowledge Clouds : Next Generation KM Systems?. In KUSIAK , Andrew , LEE, Sang-goo. *International Conference on Information, Process, and Knowledge Management (eKNOW)* . 1st edition. Cancun : The Institute of Electrical and Electronics Engineers, Inc, 2009. EKNOW 2: Knowledge Management Systems. p. 49-53. ISBN 978-0-7695-35.
- [12] VIZCAÍNO, A., PORTILLO-RODRÍGUEZ, J., SOTO, J., P., PIATTINI, M. Encouraging the Reuse of Knowledge in Communities of Practice by Using a Trust Model . In KUSIAK , Andrew , LEE, Sang-goo. *International Conference on*

Information, Process, and Knowledge Management (eKNOW) . 1st edition. Cancun :  
The Institute of Electrical and Electronics Engineers, Inc, 2009. EKNOW 2: Knowledge  
Management Systems. p. 28-33. ISBN 978-0-7695-35.

- [13] *MOCOM 2020* [online]. 2009 , 22.10.2009 [cit. 2009-12-02]. World Wide Web:  
<<http://www.mocom2020.com/>>.
- [14] NIELSEN, J.. *Jakob Nielsen's Alertbox : Participation Inequality: Lurkers vs.  
Contributors in Internet Communities* [online]. 2008 , 14.5,2008 [cit. 2009-12-02].  
World Wide Web: <[http://www.useit.com/alertbox/participation\\_inequality.html](http://www.useit.com/alertbox/participation_inequality.html)>.

Ing. Jiří Franek  
VSB-Technical University of Ostrava  
Sokolská 33  
728 30, Ostrava 1  
[franek.jiri@hotmail.com](mailto:franek.jiri@hotmail.com)



# **CHANGES IN THE MACRO MARKETING ENVIRONMENT AND IMPLEMENTATION OF THE MARKETING MIX IN THE CLOTHING INDUSTRY**

**Katarína Gubíniová**

## **ANNOTATION**

The paper is written as a part of a solution of a project called “Strategic analysis of textile and clothing industry in Slovak Republic and trends in these industries” / “Strategická analýza situácie textilného a odevného priemyslu v Slovenskej republike a trendy vo vývoji” (Comenius University Grant No. UK /91/2009), and it focuses on very important industries, the clothing and fashion sector. Over the last years, the textile and clothing sector has been a subject of radical transformations induced by the technological changes, evolution of the different production costs, and the emergence of important international competitors.

## **KEY WORDS**

clothing industry, fashion industry, macro marketing environment, PEST, marketing strategy, implementation of the marketing mix, optimisation of the marketing mix

## **INTRODUCTION**

The clothing and fashion industries are an important part of the European manufacturing industry, giving employment to more than 2 million people. European textile and clothing industry has undergone significant restructuring and modernisation efforts during the past ten to fifteen years, making redundant about one third of the total workforce, increasing productivity throughout the production chain, and reorienting production towards innovative, high-quality products.

Like many other sectors, these industries have been greatly affected by the phenomenon of globalisation (e.g. outsourcing, intellectual property and piracy, environmental challenges etc.).

## **AIM AND METODOLOGY**

The purpose of this article is to contribute to the discussions on impacts of challenges and changes in the macro marketing environment in the clothing and fashion sector. The aim is to identify and analyse the main factors in political, economic, socio-cultural and technological environment which have impact on clothing and fashion industries.

The analysis of the macro environment is important in the creating marketing strategy and in following step – in implementation and optimisation of the marketing mix in the clothing and fashion company.

In the paper was used the literature from the applied marketing in the textile and clothing industries as well the secondary sources of information from organizations e.g. World Trade Organization, Euratex and internal materials of clothing and fashion companies. The main methods used and applied in the paper were descriptive analysis, methods of induction and deduction.

## **RESULTS**

### **Characteristic features of the clothing industry**

The clothing and the fashion industry are both labour-intensive and they offers entry-level jobs for unskilled labour in developed as well as developing countries. Job creation in the

sector has been particularly strong for women in poor countries, who previously had no income opportunities other than the household or the informal sector. The textile and clothing sector has also grown very fast in more developed countries that have entered into preferential agreements with the European Union or the United States or both (e.g. Bulgaria, Lithuania, Macedonia and Jordan).<sup>1</sup>

It is a sector where relatively modern technologies can be adopted even in poor countries at relatively low investment costs. This factor makes the industry suitable as the first rung on the industrialization ladder in poor countries. The textile and clothing industry have high-value added segments where design, research and development are important competitive factors. This high end of the fashion industry uses human capital intensively in design and marketing. The same applies to market segments such as sportswear where both design and material technology are very important. Research and development is also important in industrial textiles where material technology is an important competitive factor.

As a conclusion we can say that the clothing and the fashion sector is both a labour-intensive, low wage industry and a dynamic, innovative sector, depending on which market segments one focuses upon.

### **The macro marketing environment in the clothing sector**

All clothing companies operates in market places and are affected by forces outside their control. This trading environment can be analysed at a macro level using various versions of a model generally known as PEST (i.e. Political environment, Economic Environment, Socio-cultural environment and Technological Environment, which have impact on all organizations). There are endless variations according to the elements that clothing and fashion companies consider to be most likely to impact on their businesses.

#### Political environment

In some European countries (e.g. France, Italy) the textile and clothing sector is strongly economically supported directly and indirectly by government. In other countries these industries are not seen as being of economic significance, and this would appear to be the case in the Slovak Republic. There are countries where is much more legal control over clothing and fashion marketing activities than in others. In France, for example, the start and duration of the biannual sales is legally controlled, whereas in Slovak Republic not. In United Kingdom there are many legal statutes controlling the sale and marketing of clothing products, as well as the way in which they are promoted. Certain elements of marketing come under control of voluntary codes, which are not policed by the legislature but are instead controlled and censured by the industry's own lead bodies (e.g. Advertising Standards Authority).

#### Economic environment

The size, level of growth and general state of the economy can have a direct bearing on how much products of the clothing industry are bought by the population of any country. How evenly a nation's wealth is spread among its different social classes can have a huge impact on its clothing market. Younger age groups spend far more on fashion products than older ones, and women spend approximately twice as much on clothes per year than men. Levels of unemployment and the housing market are two key factors which affect consumer confidence. During economic downturns, fashion can often suffer as a result of people's decision to hold off purchasing. The easy availability of credit and modern students' acceptance of debt are encouraging young consumers to spend rather than save.

---

<sup>1</sup> HILDEGUNN KYVIK NORDÅS: *The Global Textile and Clothing Industry post the Agreement on Textiles and Clothing*. Geneva : World Trade Organization, 2004, p. 1.

### Socio-cultural environment

Changing social structures (e.g. more and more women working) and demographic changes (e.g. ageing population) can have a profound effect upon the type and level of fashion consumption. Western countries are enjoying unprecedented levels of personal wealth, although it now appears that there is a growing divide between the rich and the poor. Poverty is still increasing, and it is estimated that one child in approximately five is being brought up in poverty. It is very important for managers in the clothing and fashion companies to be aware of wealth distribution across the social and geographical divide. The growing ethnic communities in many European countries are creating new demand patterns for retailers. In some areas with large Asian population, clothes need to be made available in smaller sizes. Despite what is known as the homogenisation or internationalisation of fashion, many ethnic or cultural subgroups are not catered for by mainstream fashion. The clothing and fashion marketers should be fully aware of the location of these subgroups and their needs and wants. These subgroups may be wealthy. The growing gay community is often wealthier than the heterosexual majority, and is a valuable segment of the fashion market. Children are maturing earlier, mainly as a result of improved diet and health facilities, and are entering the consumer arena at an ever-younger age. Children as young as five or six are now demanding the latest trends, styles and brands from their distraught parents.

### Technological environment

There are many technological advances that have historically and will in the future change the way in which consumers select fashion. Home shopping via Internet may well reduce the market demand for traditional retailers, especially as picture definition, transaction security and download speeds improve. The speed of data transmission, the complexity of what needs to be analysed and the speed at which it can be interpreted by fashion buyers and merchandise planners are critical for competitive success in today's crowded high streets. Speed is the essence in all clothing and fashion industries, with technology now vitally important in the decision-making processes. Marketers need to keep abreast of technological developments if they are to ensure that their business is delivering the best and fastest decisions. Garment and textile manufacturing is continually developing and improving, meaning that those who embrace technology first will enjoy at least a temporarily sustainable competitive advantage. Sometimes the advantage is more sustainable if copyrighting or patenting has been possible. Virtual flagship stores can now be found online.

### **Marketing strategy and implementation and optimisation of the marketing mix**

The marketing strategy of clothing and a fashion business is the strategy that leads to the implementation of a marketing mix. There exist a number of models which are extremely useful in planning a strategy for developing the sales of products in the markets (i.e. marketing strategy). Before analysing the strategic options it is helpful to consider some related assumptions that include the following:<sup>2</sup>

- Change is inevitable, especially in fashion, so it is better to plan for change than to react to it.
- Boundaries exist in the minds of consumers about the scope of products that a brand can sell credibly. For example, supermarkets have been able to sell fashion products by understanding the hierarchy of benefits sought by consumers such as low price, value and convenience.

---

<sup>2</sup> JACKSON, TIM – SHAW, DAVID: *Mastering Fashion Marketing*. London : Palgrave Macmillan, 2009, p. 313.

- There are varying levels of risk associated with the implementation of the various product / market options. Each option<sup>3</sup> has an opportunity cost attached to its implementation.

Once a marketing strategy is agreed, the most important and final process of the strategy developed is to plan its implementation through the 7 Ps of the marketing mix. It is sometimes hard to be prescriptive about how each element of the marketing mix should best be used, owing to the huge number of variables faced in each fashion-marketing scenario. However, fashion managers need to establish the best means of utilising the elements to achieve sales targets across different markets.

The product element in marketing mix in the clothing / fashion company

The fashion product is the most important part of a fashion marketing mix, as it is what consumers buy; the most common way for people to convey how fashionable they are; a brand statement of quality; the principal output of a fashion design process; the focus for the other marketing mix elements and the tangible representation of a brand.

In the fashion industry the decisions relating to the product element of the marketing mix are undoubtedly the most important. Key issues include:

- product attributes: brand name, style, colour, size, quality, features and packaging,
- product benefits: relate to image and performance (e.g. sports clothing would need to perform effectively under stress vs. evening dresses would need to enhance to body's contours),
- support services: e.g. personal style or shopping consultant, ease of exchange after purchase, etc..

The price element in marketing mix in the clothing / fashion company

A detailed pricing schedule that clearly defines planned pricing in relation to competitors and the market in general is a normal starting point. Much secondary information is freely available in secondary sources. With price competition currently being an issue, continuous price surveillance is very important. Key price points will also be identified at this stage, especially the entry-level price. For retailers, prices will mainly be fixed. However, manufacturers, wholesalers and brands may well have prices that appeal to and are relative to different levels at the market. The pricing of fashion garments in a retail context is very much in the domain of the buyer and the merchandiser. It is very rarely solely a marketing-led decision in view of the fact that selling at the correct price level must generate enough margin for the business to survive and thrive.

The place element in marketing mix in the clothing / fashion company

It is important for certain fashion brands to be seen in certain retailers. Upmarket brands would not wish to see their brand values and integrity compromised by their product being sold in low-end outlets – an exclusive and limited distribution would be appropriate. For fashion retailers themselves, the position and geographic spread of their chain will depend upon a wide range of variables, such as available sites, location of targeted market segments and competitors' sites. International fashion marketers also need to select the right countries and retail partners in which to sell their products. Fashion businesses may often choose to place their products through several channels of distribution, for example retail shops and the

---

<sup>3</sup> These options are following: market penetration (current market + current product), product development (current market + new product), market development (new market + current product), diversification (new market + new product)

Internet. Marketing strategies will sometimes need to vary for different marketing channels and / or stages of the supply chain. Each distribution channel may need to make substantial adjustments to the marketing mix. The decision about how fashion products get to market vary widely as result of geography, the structure of the supply chain, adaptability and the most important customer expectations.

The promotion element in marketing mix in the clothing / fashion company

There is a wide variety of promotional tools that can be selected, but in general each level of the clothing market has certain tools that are appropriate. Lower-priced businesses will usually rely more heavily on sales promotions, whilst more upmarket fashion businesses may rely heavily upon advertising in glossy magazines. Whatever tools are chosen, the key is to achieve the best response for the money available. It is usual to define more clearly the marketing communications objectives, which generally revolve around the consumer response. Having well-defined marketing and marketing communications objectives are vital in ensuring that all marketing and marketing communications expenditure is used effectively and efficiently.

The people element in marketing mix in the clothing / fashion company

Much of the fashion sold, in all types of business, involves the use of personal selling. The Slovak Republic suffers from a culture where the personnel involved with the selling process are nit generally very highly regarded. This is not a case in some countries, e.g. France and Italy, where selling and serving at the customer interface is much more valued. Personal selling is the front line of marketing, and many more fashion businesses are realising its huge significance. Increasing levels of self-service in fashion retailing are the result of retailers trying to cut costs. This has led to a general diminution of selling skills, which is now of great concern to fashion businesses. The service element of the marketing mix must be faced head-on in the development of a marketing strategy. Good training, motivation and more importantly recognition of the importance of the selling role are critical factors that need to be addressed. Differentiation through improved service levels is increasingly important, especially across global fashion markets.

The physical element in marketing mix in the clothing / fashion company

In nearly all types of business the selling environment has gained significance, probably as a result of increasing levels of wealth, which have led to the higher environmental expectations of customers. Drab, run-down shops and showrooms and slow, unexciting websites are no longer acceptable. The total span of sensory stimulation needs to be addressed in the development of a good marketing mix. Attention to detail is again a great way to differentiate a business, in an industry where product-led innovation becomes harder to achieve as information flows and supply chains seem to become ever faster. Service is hard to copy and to produce more cheaply. The marketing of clothing and fashion is very much a “touchy-feely”, people-oriented business.

The process element in marketing mix in the clothing / fashion company

The way in which customers are dealt with from beginning to end needs clear and focused attention when developing marketing strategy. This is of importance in both B2B and B2C marketing. However, within the B2B supply-chain context, the complexity of the transactions means that efficient process management is important. So much can go wrong between the original concept and the final delivery to the shop. The need for efficient supply chain management places a new onus on process management strategies.

## CONCLUSION

Marketers in the clothing and fashion industry find many opportunities by identifying changes and trends (directions or sequences of events that have some momentum and durability) and megatrends (major social, economic, political and technological changes that have long-lasting influence). Within the rapidly changing global picture, marketers must monitor few major macro environmental forces.: demographic, economic, social-cultural, natural, technological, and political-legal.

The critical stage of marketing strategy is when the fashion marketers decide how the marketing mix will be manipulated and controlled most efficiently and effectively to achieve the planned financial and marketing objectives. At this point of strategic marketing planning process fashion marketers ensure that the right product at the right place is distributed to the right place using the most effective and efficient marketing tools.

## BIBLIOGRAPHY

- [1] JACKSON, TIM – SHAW, DAVID: *Mastering Fashion Marketing*. London : Palgrave Macmillan, 2009, 376 p. ISBN 978-1-4039-1902-1.
- [2] HILDEGUNN KYVIK NORDÅS: *The Global Textile and Clothing Industry post the Agreement on Textiles and Clothing*. Geneva : World Trade Organization, 2004, 37 p. ISBN 92-870-1244-X.
- [3] NÍZKA, HELENA: *Aplikovaný marketing*. Bratislava : Iura Edition, 2007, 198 s. ISBN 978-80-8078-157-6.
- [4] STENGG, WERNER: *The textile and clothing industry in the EU*. Luxembourg : Office for Official Publications of the European Communities, 2001, 59 p. ISBN 92-894-1280-1.

Mgr. Katarína Gubíniová  
Comenius University in Bratislava  
Faculty of Management  
Department of Marketing  
Odbojárov 10, P. O. BOX 95  
820 05 Bratislava 25  
Slovak Republic  
katarina.gubiniova@fm.uniba.sk

# **KNOWLEDGE MANAGEMENT ENABLERS IN DEVELOPING COUNTRIES BUSINESS MANAGEMENT: TOWARD THE INSTITUTION-BASED VIEW**

**Nguyen Thi Hai Hang**

## **ANNOTATION**

There have been many studies about knowledge management (KM), but most of them focused on developed economies (such as American, European, Japan) or big/strong emerging economies (such as China, India, Korea) while medium and small developing economies are integrated parts of the world's economy, but are not much focused. This paper, adopting institution-based view, attempts to analyze KM enablers in developing countries business management to see how these enablers work in a specific context of developing economies. Case of small and medium size enterprises (SMEs) in Vietnam – a typical developing country in Southeast Asia – characterized by a semi-opened market economy (namely socialist market economy), a Confucian culture, and a majority of small and medium sized enterprises, is taken as exemplar in this paper.

## **KEY WORDS**

Knowledge management, Knowledge management enabler, developing country, developing economies, institution-based view

## **INTRODUCTION**

Knowledge management (KM) presents the most important competitive advantage factor for organization (Halaw, Aroson, and McCarthy) [1] in today knowledge-based era. But practices have showed that the application of KM is a big challenge of business, especially for business in developing countries, where there is void of supportive factors for business management generally and for KM particularly. But as the late-comer in the global market, developing countries' business has – from a very low starting point – needs to choose the smarter way to take the short-cut keeping pace with other competitors. KM may become the suitable strategic solution for developing countries' business in this case. There are many studies about KM with many different approaches; but little attempt has been made to address the possibility to apply KM in the context of developing countries as well as to propose appropriate frameworks of KM for their business management. From the approach of the institution – based view, the paper focuses on the issues (1) which factors are KM enablers and (2) how they may influence the success of KM program (KMP) in the specific context of developing country such as Vietnam. Despite the proliferation of knowledge management literature, there have been few studies to examine the KM enablers in developing economy context. In this paper, the author's concept of knowledge and knowledge management are briefly mentioned as they are the root of this paper's approach. Accordingly, the paper will present the literature review of KM enablers in previous studies as the foundation for further research in the context of developing economies. In the framework of this paper, the author's judgements are only at the conceptual level, and logically developed from the theoretical analysis to estimate how KM enablers work in the certain context to set up the background for developing the appropriate framework of KM. Case of Vietnam – a typical developing country in Southeast Asia with its typical characters (semi-opened market economy, Confucian culture, and a major existence of small and medium sized firms...) is taken as exemplar.

## FRAMEWORK OF KM ENABLERS ANALYSIS

This paper addresses the approaches to the issues (1) which factors are KM enablers and (2) how they may interact with each others to support the success of KMP in the specific context of developing country with the institution-base view. Understanding these matters can help researchers and practitioners build up the appropriate framework or models of KM program in this specific context or in the similar ones.

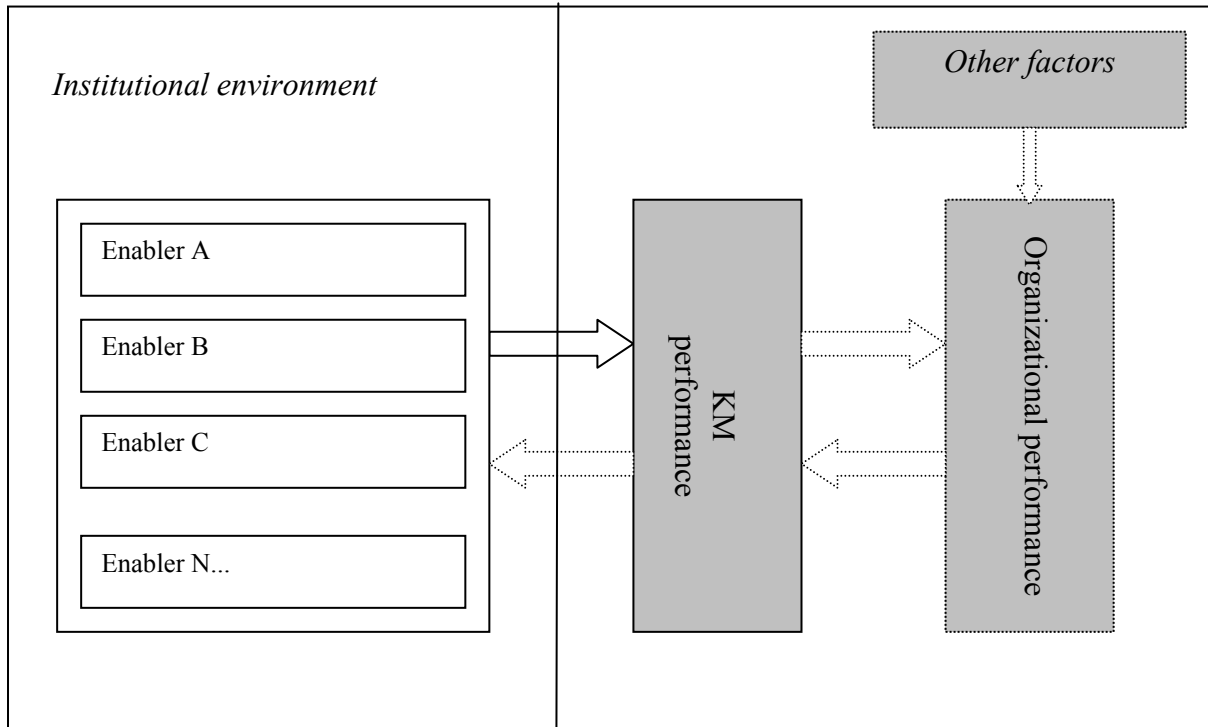


Figure 1: General framework of KM enablers analysis

The enablers are identified by the combined analysis of reviewed literature and the results from the empirical survey as described as described in following figure:

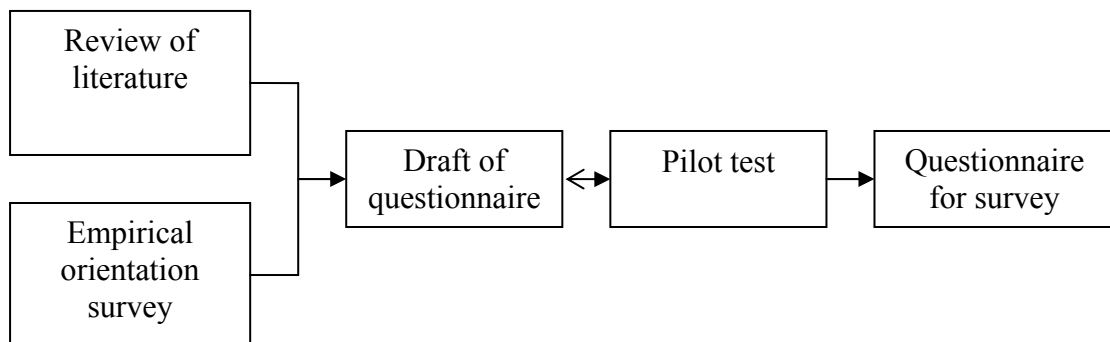


Figure 2: Research stream



## KNOWLEDGE MANAGEMENT AND ITS ENABLERS

KM has a long history even though it has been named only since last decades of the 20th century. It's naturally dispensable for the continuity and development of human society. Thousands of years ago, when human society was established and basic productive activities (picking fruits, hunting animals...) were started, knowledge was naturally "inherited" from generation to generation as instinct of self-preservation and KM was unconsciously implemented as a consequence. Many people talk about KM but normally avoid defining exactly what knowledge is. It is a broad concept, and people tend to translate it into whatever they want according to their background and purposes. And accordingly, KM is defined. Among existing definitions there are two remarkable ones. Davenport and Prusak (1998) defined knowledge as a fluid mix of framed experience, value, contextual information, and experts' experiences that provide a framework for evaluating and incorporating new experiences and information [2]. Hall and Andriani (2003) regarded knowledge as skills, intuition, organizational culture, reputation, and codified theory that potentially would influence human thought and behavior [3]. These opinions supported the approach of the paper's author who believes that knowledge is not one of the component of product, but the process of producing – "knowledge is coordination itself" [4]. This point of view is a challenge to scholar and practitioner, but it focuses on the real value of knowledge and KM. KM is not only about existing knowledge but also about creating new knowledge. KM's main function is facilitating the creation of new knowledge, what is the decisive factor for setting up the competitive advantage of firm. To some extents, at organizational level, managing knowledge is continuous processes to facilitate the dynamic interactions between and among internal and external knowledge sources by managing effectively enablers. Figure 3 describes symbolically the formation of organizational knowledge from the internal and external possible knowledge sources and the overview of knowledge management.



*IK: Individual Knowledge*  
*OK: Organizational Knowledge*  
*KA: Knowledge from Authorities*  
*KB: Knowledge from Business Partners;*  
*KC: Knowledge from Customers*  
*KCo: Knowledge from Competitors*

Figure 3: The formation of Organizational Knowledge and the Overview of KM

Source: Author's design

### *Why it is KM for business in developing countries?*

It's suggested that latecomers essentially start as imitators and differentiate themselves in terms of costs. Coming late to technology intensive industries, these latecomers can be classified as emulators or blind imitators based on their strategic learning intent. Then as the natural consequence, competition and legitimacy concerns would force firms to renew their resources and develop innovative offerings [5]. Here is really an implication of 'smart learning'. As other developing countries, firms in Vietnam have no better option than adopting this suggestion – becoming a smart learner and differentiating (not only in term of cost, but also in term of unique and added value). KM with its function (to harvest existing

knowledge and to create new knowledge for organization) and its typical character as an *autopoietic system* can be the promising solution for this strategy.

Moreover, in the developing countries, the majority in national economy is small enterprises. According to the Vietnam Chamber of Commerce and Industry (VCCI), in 2008, there were more than 376.000 enterprises in Vietnam, not includes hundreds thousands other household businesses in the economy. This number will be 500.000 in 2010; and almost 100% are small and medium enterprises. The boom development of small and medium firms is not only in Vietnam, it's a popular phenomenon in other developing countries. While the role of KM in big firms is to create the sustainable competitive advantage, its role in small firms is more crucial – 'To be or not to be'. There is not yet any formal survey about the reason of bankruptcy of small and medium enterprises in Vietnam, but KM issue can be one of the main reasons. In SMEs, business depends on key person or a small group of key people. There is no concept of organizational knowledge. Thus, when key people leave and new staff joins the enterprises or organizations, the business has to bear the bad effect caused by lacks or little sharing or use of knowledge and information that the previous staff and organization have acquired. To maintain the business, organization has to invest budget, energy, time... into training new staff and the cost is not limited within it, there are a lot more costs that can not be calculated, etc. In this meaning, KM plays vital role in the existence of firms. If firms can find out the smart way to apply KM in their management, key people can leave, but they can not take away organizational knowledge from firms. Firms must be an independent living organism, not a simple summary from group of people. From this point of view, KM is optimum choice for business in developing countries to be in being.

### **The institution-based view and knowledge management enablers in developing countries**

Chauvel and Despres (2002) defined knowledge management enablers as the structural or functional conditions in an organization that are responsible for the success of a knowledge management initiative [6]. Lee and Choi (2003) and Yeh et al. (2006) treated them as the mechanism or factors for facilitating knowledge creation, sharing, application, and protection within organization [7]. Previous studies have identified many different factors which impact on the success of knowledge management program. To have this multifaceted point about KM enablers, it took a long way to go. But the big questions here are if these KM enablers are the same in any contexts or if their impacts are the same regardless of the specific context. Despite the proliferation of knowledge management literature, there have been few empirical studies to examine these differences.

The institution-based view has been advocated by Peng to be one of the three leading perspectives in management (industry-based and resource-based views). According to Peng, institutions set forth the "rule of the game" and provide the legitimacy for the firms embedded within them. Institutions, both formal (rules, regulation, and markets) and informal (norms and culture) are important for doing business. In the related works, Peng cited that from many studies of emerging economies scholars reported two interesting things: While studies focusing on the technical core such as organizational tasks and technology are likely to find "no significant problem in applying mainstream theories in these countries", studies focusing on the organization's relationship with its broader environment (context-based) are more likely to find "serious difficulties in applying mainstream theories in developing countries, thus necessitating major adjustments [8]. And as KM is determined as the areas of management and organizational behavior, not in management information systems or information technology; not about data mining, databases, information warehousing, storage or exchange; but the strategy of organization for learning, training, developing, sharing and

coaching processes and mechanisms in a corporation [4], the application of KM in different context is different. This theoretical foundation has confirmed the approach of contex-based knowledge.

In the previous studies about KM, a number of critical factors/KM enablers were indentified. Davenport (1998) mentioned that the link to economic performance or industry value, technical and organizational infrastructure, standard and flexible knowledge structure, knowledge-friendly culture, clear purpose and language, change in motivation practices, multiple channels for knowledge transfer, and senior management support are critical for the success of KM in an organization [2]. Later, Lee and Choi (2003) stated that collaboration, trust, learning, centralization, formalization, T-shaped skills, and IT support are the important enablers for KM [7]. From the point of resource-based view, Chuang (2004) indentified that technical resource, structural resource, culture resource, and human resource play the decisive role in the development of KM [9]. In 2006, in his relared work, Yeh identified corporate culture, people, information technology, and strategy and leadership as the success drivers of KM [10]. We can see the multidirectional approaches in previous related studies. This consequence was caused by the fact that the concept of knowledge and knowledge management are not static but changing according to the specific context, specific approach. Respecting the impact factors of KM at the organizational level, adopting the institution-based view, it's believed that the role of enablers are different in certain context; Even some factors can be the KM enablers in this context, but in another one, they may not become the KM enablers any more. Moreover, KM enablers are different (or at least, their roles, their contributions are different) in each stages of KM maturity.

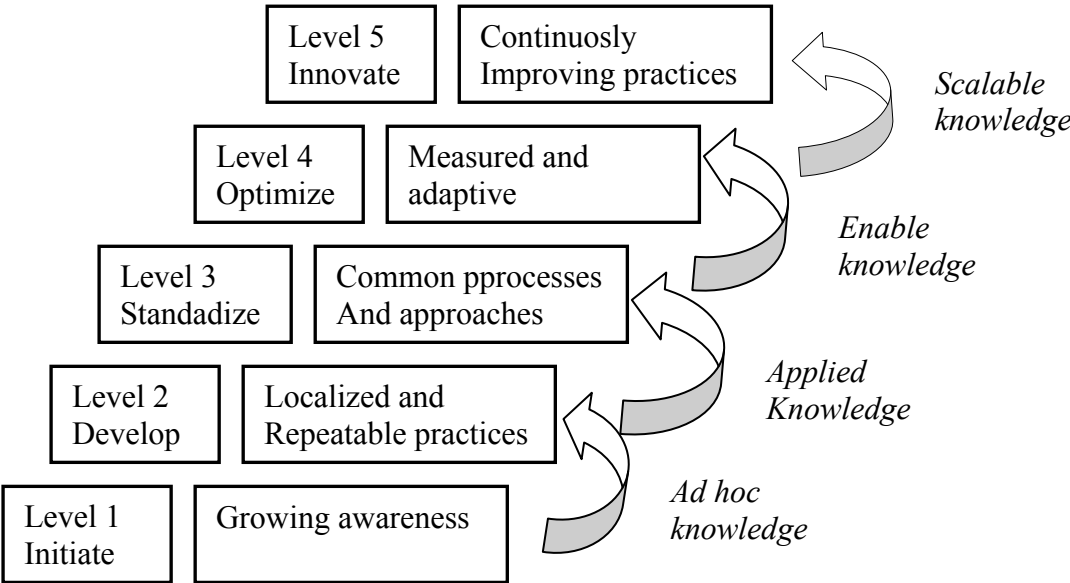


Figure 4: APQC's Stages of Knowledge Management Maturity – Source: APQC. [www.apqc.org](http://www.apqc.org)

Following the approach of the institution-based view, the case of Vietnam economy is discussed in this paper as an examplar. In current Vietnam economy as well as in other developing economies, formal institutions are not strong enough to facilitate the operation of firms. And when formal institutions are lacking, firms have to rely more on informal institutions such as personal social networks for accessing capital and other resources, business norms, business culture, and national culture [11]. For example, it's stated that the

above mentioned informal institutions strongly affect the extent to which firms are open-minded, innovative, and take risks [11, 8, 12]. It's the case of Vietnam economy where many small enterprises were established based on the privilege that the owner may have from their personal relationship. The personal social network plays very important role not only in these previous situations but also in whole economy generally. Operating in such environment, factors those can affect on the success of KM may be different from identified factors in previous studies while they mostly focused on developed economies.

Another popular KM enabler is IT. It's thought that applying KM requires many resources and big investment in term of money, thus it's not applicable for developing countries due to lack of supportive resources. This way of thinking has scare firms from developing economies. The practices have proved that even rich resource firms with the huge investment in the modern IT system still failed in applying KM, while a small household with a limited resource can also be successful. The core factor that makes thing happen and be success is human factor, not technology. It's impossible to admit the important role of IT, but in the context of developing countries, where people are not equipped with certain level of education, human factor is the decisive one. It has to be thought that technology is a tool, which can change the manner of activities, but can not be the end solution. The role of IT and how it interacts with other possible factors need to be identified scientifically in the certain context.

Leadership was mentioned in some studies as an KM enablers. In the case of developing such as Vietnam, leadership plays more important role in comparison with it in other developed economies. Effected by Confucian culture, Vietnamese people trend to respect leaders' absolute power and be rather passive. Along with leadership, ownership is an important factor in Vietnam context. Ownership strongly affects on leadership in transforming economies, where in many cases there are not clear barrier between owner and executive. The education background of owner and executive is needed to take into account. While it was not identified as KM enabler in any previous studies, it may be a KM critical driver in the context of Vietnam.

The organizational culture was identified as one of the important enablers in any context, but it is more important when the formal institution doesn't clear enough to direct the operation of business. In the recent forum organized by Vietnam Economist Magazine and Vneconomy on 16 October 2009 in Hochiminh City titled "Strategy to improve competitive capabilities for enterprises", practitioners and scholars stated that the domination character of Vietnamese firm's culture is badly affected by psychology of small household. This has led to the consequence that lack of the cooperation inside the firms as well as among the business community. This is a vital challenge for KM as cooperation and knowledge sharing are its core values. There are some studies stated that cultural elements have a strong impact on Vietnamese business innovation and business activities [13]. Vietnamese social culture is a complex of Communism ideology, Confucian culture, and Western living style. From the institution-based view, it needs a lot of adjust when adapt certain management systems into this context, and KM is not an exclusion. Moreover, businesses in developing countries are also challenged because of the human resource's fluctuation. Many workers are from the countryside with the mind of small farm holders. Firms in Vietnam with the limitation of resources are difficult to have the commitment from such kind of workers as they don't care about long-term development in carrier while employing high-skilled permanent workers is too costly. The question how to build up an healthy organizational culture for KM development is harder for business in Vietnam in this case.

Adopting the institution-based view, as discussed above, a quantitative research will be conducted as described in figure 2. In the first stage survey (orientation survey), a limited size of sample will be selected basing the convenience principle. The interviewees have to meet the criteria such as having high education background, have at least 10 year working experience, and currently are on the middle management position in firm. The objectives of this part is to have an overview about the business management (especially KM) in Vietnam firm and to find out which factors can be considered as KM enablers here according to experts/potential practitioners' opinion. The results of this stage can give the hint for designing questionnaire for second stage. The second stage survey includes the pilot test and the actual one. The questionnaire will be designed basing on the results from the orientation survey and the previous literature to make sure that it would cover most of the potential factors. The results of this research will give us the general picture of KM maturity stages in Vietnam at the moment, which are KM enablers in certain context, how they may interact with each others, how they impact on KM performance. The research on Vietnam context may provide a good reference for other researches in the similar contexts.

## CONCLUSION

Despite the efforts toward the better KM, firms are struggling with KM implementation. Applying KM successfully into firm operation is challenging. It is much more challenging for firms in developing countries. KM has not yet had the expected achievements in development. Reasons may vary, but among them are two remarkable reasons: The paucity of accumulated research on the enabling conditions or context of KM, organizations can not select KM strategies and tools appropriate for their specific needs and situations [14], and the ambiguous return from the investment on KM program (the KM measurements). The institution-based view provides the theoretical foundation of further research on specific context to find out the possible frameworks for KM program in developing countries. The approach to analyse the impact of KM enabler in developing context is the first step to the end objectives. The context-based empirical researches are critical to contribute valuable bricks to the development of KM.

## BIBLIOGRAPHY

- [1] HALAWI L, ARONSON J and MCCARTHY R. *The Electronic Journal of Knowledge Management*, Volume 3, Issue 2, pp 75-86
- [2] DAVENPORT, T.H., PRUSAK, L.1998. Working knowledge. Harvard Business School Press, Boston.
- [3] HALL, R., ANDRIANI, P., 2003. Managing knowledge associated with innovation. *Journal of Business Research* 56, 145-152
- [4] ZELENY, M. *Human System Management: Integrating Knowledge, Management and Systems*, World Scientific, 2005. ISBN-10: 9810249136. ISBN-13: 978-9810249137
- [5] JIATAO LI. RAJIV KRISHNAN KOZHIKODE – *Knowledge Management and innovation strategy: The challenge for latecomer in emerging economies* – Published online: 5 Feb 2008. Springer Science + Business Media, LLC 2008
- [6] CHAUVEL, D., DESPRES, C., 2002. A review of survey research in knowledge management: 1997-2001. *Journal of Knowledge Management* 6 (3), 207-223.
- [7] LEE, H., CHOI, B., 2003. Knowledge management enablers, processes, and organizational performance: an integrative view and empirical examination. *Journal of Management Information System* 20 (1), 179-228.
- [8] PENG, M.W., WANG, D. YL., and JIANG, Y. *An institution-based view of international business strategy: A focus on emerging economies*. *Journal of International Business Studies*, Vol.39, 920-936.

- [9] CHUANG, S.H., 2004. A resource-based perspective on knowledge management capability and competitive advantage: an empirical investigation. *Expert Systems with applications* 27, 459-465
- [10] YEH, Y.J., LAI, S.Q., HO, C.T., 2006. Knowledge management enablers: a case study. *Industrial management and Data Systems* 106 (6), 793-810
- [11] MEYER, K. E., and PENG, M.W. (2005). Probing theoretically into Central and Eastern Europe: Transactions, Resources, and Institutions. *Journal of International Business Studies*, 36, pp.600-621.
- [12] WENNEKERS, S., and THURIL, R. (1999). Linking entrepreneurship and Economic Growth. *Small business economics*, 13, pp.27-55.
- [13] HA, T.T. and SWIERCZEK, F.W. *Motivation, entrepreneurship and the performance of SMEs in Vietnam*. *Journal of Enterprising Culture*, Vol.11 (3), pp.47-68.
- [14] RUGGLES, R. (1998). The state of the notion: knowledge management in practice. *California Management Review*, vol.40, No.3, pp.80-89.

Full name: Nguyen Thi Hai Hang

Institution: Faculty of Management and Economics - Tomas Bata Univerzity in Zlin

Street: TGM 3050

City: Zlin

Email: [nguyen@fame.utb.cz](mailto:nguyen@fame.utb.cz)

# **SPECIFIC INTERNAL SUCCESS FACTORS FOR GERMAN DIRECT INVESTMENT IN CHINA**

**Sebastian Hecker**

## **ABSTRACT**

China and its economical boost and modernization process are unique and countries all over the world are curious how this development continues. With more than 1.3 billion citizens China is a consumer market with great potential but at the same time an ideal location for cheap production due to cheap labor and an advantageous economical framework. German companies are also fascinated by China and its opportunities/ advantages and therefore it is my ambition to illustrate internal success factors for German companies when expanding to China.

Due to the rapid change of the economical environment in China findings for internal success factors that were valid ten years ago only partly hold for today's situation. Since no current study of internal success factors for German companies entering China can be found in literature my work fills in this gap.

Within this paper the internal uncertainty for German direct investment in China will be analyzed by the core competences factors of the company. Core competences of a company are divided into the firm's resources and the firm's skills. A company's resources contain tangible and intangible assets. A company's skills are the aptitude of a company to allocate its resources well in order to function effectively.

The analyzed factors are the most important internal success factors for direct investment according to several studies conducted in the 1990's. Within my study it is my goal to see whether these factors are still valid and if a deferral of the importance of each factor has taken place as years pass by.

## **INTRODUCTION**

Within this paper the internal uncertainty for German direct investment in China will be analyzed on the means of the competitive strategies defined by Porter. The paper starts with a definition of the internal success factors in general, followed by the illustration of the special factors needed for a market entry strategy into China. Afterwards, Porter's different competitive strategies are introduced and then the internal success factors are related to them. The analyzed factors are the most important internal success factors for direct investment according to several studies conducted in the 1990's. Within my study it is my goal to see whether these factors are still valid and if a deferral of the importance of each factor has taken place as years pass by.

## **DEFINITION OF INTERNAL SUCCESS FACTORS**

Internal success factors are significantly responsible to what extent a company is able to make use of the opportunities of the markets and avoid the risks of the market environments (Warren 2002). Porter defines the internal success factors as the assets and skills of the company in comparison to its competitors including financial means and recognition of the brand. According to Hamel and Prahalad the internal success factors account for the core competences of an enterprise. These core competences are divided into resources and skills. Resources are defined as tangible assets (financial means, assets and raw materials) and intangible assets (know-how of the employees, patents, corporate image). The

skills on the other hand are defined as the aptitude of a company to allocate its resources well in order to function effectively.

## **INTERNAL SUCCESS FACTORS OF A MARKET ENTRY STRATEGY FOR CHINA**

An analysis of internal success factors of a market entry strategy for China has to therefore review the resources and skills, e.g. the strengths and weaknesses of a company. The goal of every enterprise in this case should be the “strategic fit” between the internal strengths and weaknesses and the external chances and risks of China. The “strategic fit” defines the market entry strategy (Hamel/ Prahalad 1993).

One theory of direct investment illustrates under which conditions German firms operate successfully in China und relates it to resource oriented international management. This theory, formulated by Fayerwaether, states that multinational companies are able to transfer their resources to various countries and obtain competitive advantages in comparison to truly national operating firms. The competitive advantages are lower if the host country prevents the multinational company from transferring their resources or if the company is not able to transfer the resources due to for example high transfer cost or bad fit of resources to the host country.

## **EVALUATION OF INTERNAL SUCCESS FACTORS ACCORDING TO PORTERS THEORY OF COMPETITIVE STRATEGY**

Most German enterprises entered the Chinese market with the goal of selling their products to Chinese customers within the 80’s and 90’s. Therefore, the internal success factors are evaluated according to Porter’s theory of competitive strategy. Porter states: “The competitive strategy demands that a company places itself within the market in such way that the highest value for its resources is given and competitive advantages are being created.”

Porter differentiates between three basic types of competitive strategies: the cost leadership, the differentiation and the niche strategy. The cost leadership is based on a cost advantage compared to the competitors which is realized through low cost in all business areas. Differentiation is based on the principle of qualitative inimitable products or services which hardly can be copied by competitors. The niche strategy is defined by a focus on a specific niche market, a specific customer group, a geographical boundary or a specific part of a product program.

Taking the increasing competitive environment in China from the mid nineties into account German companies had to define a clear competitive strategy. Competitive advantages had to be developed in order to face the newly entered competitors in the Chinese market.

## **COST LEADERSHIP STRATEGY AS AN OPTION FOR GERMAN DIRECT INVESTMENT IN CHINA**

Retrospective, it can be stated that the cost leadership strategy for German companies in China has not been a successful option. German companies that have been cost leader on the German market and tried to be cost leader within the Chinese market often failed due to the fact that many Asian competitors were having much lower cost structures within the area of cheap labor or the area of financing their business with cheap loans. Moreover, Chinese customers are very patriotic and rather buy a product from a Chinese company than from a foreign enterprise if it is sold for the same price and no other differentiation attribute is in place. Only companies that are world leaders within their business field were able to enter the Chinese market and operate successful with the cost leadership strategy. The reasons are the



low cost structures, well known brands, the huge experience in internationalization/ entering new markets and of course the strong financial background (Williamson/ Zeng 2004).

### **DIFFERENTIATION STRATEGY AS AN OPTION FOR GERMAN DIRECT INVESTMENT IN CHINA**

Higher success rates were accomplished by German companies that followed the differentiation strategy. Due to advanced technology and inimitable products German enterprises outperformed their competitors and gained or defended their market share. Furthermore, the market segments with the high quality products promised high profit margins in comparison to the volume segments where the price was most important and not the quality. Another advantage of the differentiation strategy in comparison to the cost leadership strategy is that high quality products are harder to copy than low cost products. Especially Chinese competitors compete in the way that they copy the products of the market leaders instead of developing products on their own. Due to the low costs of production within the Chinese firms, this strategy of copying has been very successful in the past and harmed many German companies who entered the Chinese markets with their products (Fischer/ Junkes/ Reden 2004).

The company internal requirements for a successful differentiation strategy were very high taking the increasing competition into account. Sufficient personnel, market experience and financial resources were needed to fulfill this type of strategy in China (Fu 2004). Personnel management as an important success factor for the differentiation strategy is divided into personnel recruiting and personnel development. German companies pursuing a low cost strategy were in the need of cheap labor and therefore did not put such an enormous effort in personnel recruiting or personnel development. The differentiation strategy asks for qualified employees who can for example establish a strong marketing and sales organization. Of course, finding the right qualified employees in China was costly and extensive. Furthermore, the competition for skilled workers is harsh and in conclusion German firms have to offer special deals, e.g. salary and company training for Chinese workers in order to keep them with the company (Semetkeova 2001).

### **NICHE STRATEGY AS AN OPTION FOR GERMAN DIRECT INVESTMENT IN CHINA**

Many companies pursuing the differentiation strategy pursued on top a niche strategy. One reason to concentrate was for the example the huge country in China where it was impossible for a new market entrant to coevally serve all regions with its products right from the beginning. Therefore, often German companies started in regions around Shanghai and Beijing where already many other German firms were located where the new entrants could obtain help for their China venture. Starting from these cities as home base, German companies focused on customers in the more developed areas on the east coast of China.

Another niche strategy that was aligned to the differentiation strategy was to focus only on the rich customers in China. An example for a German company that was using differentiation strategy and niche strategy at the same time was “Burmester Audiosysteme GmbH – Handmade in Germany”. The company produces high end audio systems and is one of the top brands in the audio market worldwide. Burmester already pursues a niche and differentiation strategy within Germany since their audio systems are sold to very few customers who look for this high end sound and of course sold at very high prices which also narrows down the customer base. The development of the strategy for China was rather pragmatic for Burmester. They just continued with what they were already doing in the rest of the world:

selling to a small amount of people who have the desire to listen to high end music and who are able to pay for that ([www.manager-magazin.de](http://www.manager-magazin.de)).

In general, it can be determined that almost all German firms started with a niche strategy in China. The big German companies of course had the mid to long term strategy to leave the niche market, broaden their customer base and be present on the entire market. Many small to medium sized German companies stayed with their niche strategy since a broader strategy would also mean much more investments which those companies do not have (Brede/ Nerb 2004).

## **COMPETITION STRATEGIES IN THE NEED FOR THE BEST ALLOCATION OF COMPANIES' RESOURCES**

### **THE BEST ALLOCATION OF FINANCIAL RESOURCES**

Among the competitive strategies the cost strategy has not been successful for German enterprises in China and is therefore not pursued by many companies. As a result, only the differentiation and niche strategies have been analyzed for the best allocation of resources in the successive part of the paper.

Good financial resources have been defined as one of the most important internal success factors for German direct investment in China. Resources like raw materials or company equipment are not as important in this context since in almost all cases these resources are not transferred to China since first of all it would be to expensive since the distance is so long but second also because of the fact that these resources most of the time can easily be bought in China as well (Zinzius 2000). Therefore, the analyses of resources start with the financial resources of a German firm entering China.

Financial resources are needed as basis for the differentiation and niche strategy of German companies in China. German firms have to offer extensive performance, e.g. service support in order to satisfy the price sensitive Chinese customer who will easily change to cheaper suppliers. Therefore, high financial resources are inevitable to establish those tight customer ties (Haas/ Rehner 2003a). Many German firms faced financial problems due to the long time until the company has been established on the Chinese market. Strong competition accompanied with price wars is only one example why the financial resources of German enterprises were overstrained (Brede/ Nerb 2004).

German companies pursuing a differentiation strategy moreover faced the fact that their refinance options in China were limited (Zinzius 2000). In general, German firms had access to the following finance instruments which all were aligned to the way German firms were instructed to use their bank accounts in China. The Chinese government approved three different accounts: the current account, the capital account and the loan account. The current account is used for the daily payments, such as invoices of suppliers. The capital account is only approved one-time. German companies can only transfer their equity to this account once in order to pay the liabilities of the firm in China, e.g. investments, marketing and sales expenses. If the capital on this account is used up, German companies are not able to transfer further money. Instead, the account is terminated (Seimetz 1997). Therefore, the recommendation of the AHK (German Chamber of Foreign Trade, Shanghai) for German companies planning their China market entry was/ is to fill up this account with enough equity. In 1997 the Chinese government required the following minimum equity rates for German direct investment in China. If the investment sum was below 3 million US\$, the equity rate had to be at least 70%. Do the foreign firms want to invest between 3 to 10 million US\$ the equity rate had to be minimum 50%. Investment between 10 to 30 million US\$

required a minimum equity rate of 40% and investments above 30 million US\$ a minimum of 33%.

German companies who needed debt financing in China were also restricted to use two ways. One way was the shareholder loan and the other way the RMB (Chinese currency) bank loan. Both loans were booked on the loan account of the firm. The shareholder loan for example was a loan given by the mother company in Germany. Unfortunately, the loan had to be registered with the Chinese banking authorities and on top these authorities had to also approve the currency exchange to RMB. This approval was only given in exceptional cases. Therefore, German companies sometimes were handicapped because they could not use their transferred money due to the adherence of the Chinese banking authorities (Seimetz 1997). Until the beginning of 1997, the RMB bank loans were only offered to German enterprises by Chinese banks. After this date also foreign banks were permitted to propose bank loans but due to very restrictive loan laws the option to receive money for German firms was very limited (Chai/ Fan/ Kueh 1999). The allocation of loans has been done by the centralized allocation system which defines duration times, interest rates, volumes and the designated use. It is an open secret that Chinese federal companies were always favored in loan allocations in comparison to foreign companies (Dai 2002). According to experience, German companies were able to receive short term loans with durations from 6 to 12 months. Mid to long term loans had to be approved by the federal planning authority. This allocation process has been interminable and in most cases ended unfavorable for the German enterprises. A good relationship with a Chinese bank could help to accelerate the approval process. Once the loans were granted the disadvantage was that the interest rates were higher than the interest rates which the German companies got from the German banks in Germany (Seimetz 1997).

German companies also had difficulties in refinancing since their investments had long amortization durations in China which were four years on average. In comparison to German direct investment in India or other Asian countries the amortization duration of the investments was higher (Roland Berger 1998). An example of a German direct investment in China with a long amortization duration has been the "Deutsche Chemie AG". Deutsche Chemie already entered the Chinese market in 1986. At this time the only favorable entry strategy was the joint venture with a Chinese firm. During the first five years after entry the profits were lower than expected and the company operated with losses. With the beginning of year 1991, Deutsche Chemie was able to generate profits and start recovering their original investments. It is needless to say that during the first five years Deutsche Chemie had to finance the operations and therefore needed a strong financial nest egg to stay within the Chinese business. Due to the only small amount of internal financing Deutsche Chemie had to bring in money from the mother company in Germany which was not always easy to accomplish. For example, Deutsche Chemie had to change currency on the "grew swap market" in Shanghai where money exchange was expensive and not 100% legal (Trommsdorff 2000).

A current study conducted by the AHK (German Chamber of Foreign Trade, Shanghai) has shown that the financial environment for German companies has changed much due to the fact that China entered the WTO and the country opened up and a less restricted financial system was implemented. The positive outcome for German companies has been the easier access to refinancing capital which was offered by Chinese and foreign banks. The loan processes have been aligned to international standards and the interest rates have fallen to international standards as well. German companies and especially German small to medium sized enterprises benefit much from these changes and can focus more on other difficult aspects of the market entry in China rather than the financing (German Chamber of Foreign Trade, Shanghai 2008).

## **THE BEST ALLOCATION OF THE EMPLOYEE AS RESOURCE FOR SUCCESS**

Another important internal success factor is the resource “employee”. German companies have two main choices for their employee strategy in China: either they send German staff to China and thereby transfer German know-how or the companies hire Chinese workers and train them locally. German employees which are sent to China are called “expats”. In most cases only a few German expats per firm go in order to built up the business in China. They are the source of know-how, implement the German strategy for China and develop the business accordingly. Expats mostly run the business as CEO’s or are the technical staff that starts production and trains the local workers. Since not many German employees are willing to spend a longer period of time in China, expats are paid a premium for their stay in China. Of course, these expenditures raise the cost for the market entry into the Chinese market and especially small to medium sized companies struggle with those high costs. Another reason why there are only a few German workers in China has to do with the fact that not many people are open for this kind of working environment. Of course, one can imagine that it is a hard step for an employee to decide on living in a foreign country with a total different culture which on top is so far away that occasional visits in Germany are rare (Holtbrügge 2004).

The recruitment of the right employees in China can be seen as another key internal success factor for German companies entering the Chinese market even though the workers are taken from the external working environment. Before deciding on the staff, a company has to question itself what kind of strategy it will pursue, either a cost oriented or a differentiation strategy. Each strategy has a different need for employees. Whereas a cost oriented strategy is looking for a low cost production facility with low skilled workers who will not earn much, the differentiation strategy is looking for qualified sales or high technological production in the new market and therefore needs qualified employees, e.g. staff who costs more but also will boost up the new company (Holtbrügge 2004).

Companies who set up a low tech production plant in China have the luck to select from a broad range of low skilled, cheap workers who mostly come from the countryside to earn more than they could earn when working on their farms. On the other hand, foreign companies that enter China and pursue a differentiation strategy are in high need for qualified Chinese employees. As a result, skilled employees are rare and at the same time not cheap to get. Moreover, due to the competition of foreign firms for qualified staff, Chinese workers are not loyal and the fluctuation rate is extremely high. Foreign companies implemented incentive programs in order to tie Chinese workers to their companies (Holtbrügge 2002).

The search for qualified employees is still a hug problem within China. No system is in place to support foreign companies within their staff search. Headhunters are present in China but they are expensive and especially SME cannot pay this amount of money each time, especially when thinking of the high fluctuation rate. Moreover, the evaluation of Chinese workers is tricky since on the one hand foreign companies cannot properly range between good or fair resumes, for example which universities of prospective employees are good or not. On the other hand, Chinese employees tend to fake their resumes in order to get better jobs. Therefore, foreign firms work with a mouth to mouth system among themselves to possibly avoid the risk of an “unsound” worker (Holtbrügge 2002).

Big German companies started cooperating with universities in order to generate future employees who where already trained the way the companies needed them. Examples are SIEMENS or SAP who partner with the Tongji University which already had a German chair and was teaching the German/ Western way of business ([www.siemens.de](http://www.siemens.de) and [www.SAP.de](http://www.SAP.de)). Whereas BOSCH implemented the German vocational school system and opened up several of these schools to offer employees concurrent work in its Chinese plants and attend the school ([www.bosch.de](http://www.bosch.de)). This way of training your own people has been a huge

success for these companies and more and more other German companies follow their example and send their Chinese employees to these schools (Reisach/ Tauber/ Yuan 2003).

### **THE ALLOCATION OF PATENTS AS A RESOURCE OF SUCCESS**

Patents are always a strong competitive advantage in the business world and therefore an internal success factor for German direct investment. Nevertheless, the advantages of patents within the Chinese markets are much lower in comparison to the western business world. The original mean of the patent is to protect the idea or the product from being copied by another company. Due to a functioning law system and deep-rooted ethical believes in the western business world patents work. In China the situation is different since two disadvantages harm the power of the patent: the first disadvantage is the Chinese belief that it is an honor for the inventor if his idea or product is copied. In other words this means that copying a successful product of a competitor is nothing bad in the perception of the Chinese. The second disadvantage is aligned to the just illustrated belief: the Chinese law does not prosecute the copying of patented products since it does not see the infringement. German firms had to suffer in the in the early 90's because their new technologies where they put high efforts and R&D cost in were easily copied by Chinese competitors. Today, German companies have reacted and pursue two strategies among others to prevent the harm of copying. The first strategy is that German firms do not sell their newest/ latest technology products in China but instead offer products which are predecessors to the products which are currently sold in the western markets. One example for that is Volkswagen who sells its cars in China with the engines of predecessor cars. The second strategy of German companies pursuing a differentiation strategy is that the products are not fully manufactured in one plant in China. All pieces are produced in different facilities and only assembled together in one plant. This way makes it harder for the Chinese competitors to copy (Haas/ Rehner 2003).

### **THE ALLOCATION OF BRANDS/ CORPORATE IMAGE AS A RESOURCE OF SUCCESS**

Brands or the corporate image are an important internal success factor as well. But there are differences between the brands or the corporate images. If a company is already well know in the western world before entering the Chinese market the chances are high that this brand is already known among the Chinese consumer and therefore the brand or the corporate image is a big advantage. On the other hand, German companies who are market leaders in Germany but do not have world wide recognition yet have not only to built up their businesses in China but also have to built up their corporate image. Generally, the Chinese consumer goods customer has a high affinity for brands. A high impact on the success of a brand is related to good advertising in China. German companies take this into account when preparing an advertising campaign in China. ADIDAS for example is using both Chinese and German top athletes to transport its advertising messages and to create a positive corporate image (Zinzius 2000).

### **COMPETITION STRATEGIES IN THE NEED FOR THE BEST ALLOCATION OF COMPANIES' SKILLS**

Companies who enter the Chinese market have to make the best out of their given resources. Within this paper the skills are defined as the aptitude of a company to allocate its resources well in order to function effectively. The skills of German companies have been advanced within the time. Of course, big German companies who have been international long before they entered the Chinese market already had the skills to allocate their resources well since they were experienced. Nevertheless, also the big companies had to learn and

adjust to the Chinese culture and Chinese business culture. Companies who were not that experienced in internationalization made several mistakes when entering the Chinese market since they devolved their German strategies to the Chinese market which did not work since business does not function the same way in China as it does in the western world. This has mostly happened in the 80's and early 90's when China was not a common place to invest as it is today and still a closed communist country (Hagen/ Wöllich 1999).

Today, the skills of allocating their resources well are much more developed among the German companies willing to move to China. The reason is that companies today can rely on their own experience from the internationalization process but also rely on external help which had not been there in the 80' and 90's. For example, the network of German companies which already made the successful step into the Chinese market helps new entrants to find their way. Furthermore, a lot of institutions are in place to offer information and assistance with the China venture. For example, the AHK (German Chamber of Foreign Trade) in Shanghai helps with information and contacts. German companies can also hire consulting companies specialized on market entry in China. These consulting companies go along with the process of expansion. The internet is another important element which helps German companies to search for information which they can use for their China strategy.

Even though there are still several German companies who fail with their China market entry due to a badly developed entry strategy, the environment today offers much more information and certainty for German companies eager to enter the Chinese market. Therefore, the majority of German firms today are much more successful in China than in the past. Of course, not only the improved skills are the reason for success but also the change of China as a country to be more open for foreign business partners (German Chamber of Foreign Trade, Shanghai 2008).

## CONCLUSIONS

The internal success factors for a market entry of a German company into the Chinese market that were valid in the 1980' when the first companies started their China engagement are still valid today. Nevertheless, the characteristics of the factors have been changed over time. Financial resources have been and still are one of the most important success factors for German companies entering China. Changes have taken place over time in the way that in the 80's and early 90' German firms had difficulties in refinancing themselves in China, whereas today the financial markets are open and this disadvantage has mainly dissolved. In the past and still today, employees or the know-how of employees are important internal success factors. German companies need their know-how in China in order to build up their businesses successfully. The costs of the know-how transfer to China are notably high. Therefore, German companies need to develop strategies which incorporate a perfect ratio between cost and know-how transfer. Due to external assistance, e.g. trade institutions, consulting firms and internal experience the allocation of the resource "employee/ know-how" is better performed today than in the past. The same can be stated for the use of patents. Today, German companies know that they need to protect their ideas or products with special protection strategies. Corporate image or brands are important internal success factors since the Chinese customer looks for brands. This culture has not changed much over the past decades. Due to a fiercer competition German companies face hard times in creating a positive corporate image in China. Furthermore, a lot of advertising is needed which results in a lot of corporate spending. German companies have to evaluate the benefit of those expenditures and incorporate this into their China strategy.

In conclusion, it can be stated that German companies have learned over the past decades and are much more experienced in the internationalization process. Today, the firms clearly know that the keys to success in a foreign country have been and are still today an in-depth research

on the market and an in-depth research on the own resources in order to develop a successful market entry strategy.

## REFERENCES

- Brede, Y./ Nerb, D. (2004); "Der chinesische Markt als Wachstumsperspektive für ausländische Unternehmen. Chancen und Risiken aus Sicht des deutschen Mittelstands", in: China im Aufbruch, Oberender, P., Bayreuth, p. 357-383.
- Chai, J./ Fan, G./ Kueh, Y.Y. (1999); "Industrial Reform and Macroeconomic Instability in China, Oxford.
- Fayerweather, J. (1975); "Internationale Unternehmensführung. Ein Begriffssystem", Berlin.
- Fischer, U.A./ Junkes, J./ Reden, K. (2004); "Risikoanalyse und -management im Chinageschäft", in: Markterfolg in China, Erfahrungsberichte und Rahmenbedingungen, Nippa, M., Heidelberg, p.87-105.
- German Chamber of Foreign Trade Shanghai (2008); in Business Focus China – Special Issue: German Business Expansion in China: 2008-2010.
- Haas, H.D./ Rehner, J. (2003b); "Wirtschaftliche Raumstrukturen: Attraktive Standorte in China", Wiesbaden, p. 114-144.
- Hagen, v.W./ Wöllich, M. (1999); "Strategien der Zukunft – inwiefern wird sich der Markteintritt in China verändern?", DIHT in collaboration with the Bureau of delegates of the German Economy in China, year 3, no. 2, p. 31-35.
- Hamel, G./ Prahalad, C. (1993); "Strategy and Stretch", Harvard Business Review, yr71, no. 2, p.75-84.
- Holtbrügge, D. (2002); "Shandong, Standort für betriebliche Engagements", report by the order of the Bavarian State Ministry for economy, infrastructure, transport and technology, München.
- Holtbrügge, D. (2004a); "Shanghai, Standort für betriebliche Engagements", report by the order of the Bavarian State Ministry for economy, infrastructure, transport and technology, München.
- Porter, M. E. (1988); "Competitive Strategy – methods to analyze industries and competition", 5<sup>th</sup> Edition, New York.
- Porter, M. E. (1999); "Wettbewerbsstrategie. Methoden zur Analyse von Branchen und Konkurrenten, 10. Auflage, Frankfurt.
- Reisach, U./ Tauber, T./ Yuan, X. (2003); "China – Wirtschaftspartner zwischen Wunsch und Wirklichkeit. Ein Seminar für Praktiker", Frankfurt.
- Roland Berger (1998); "Erfolgsanalyse deutscher Direktinvestitionen in der VR China. Ergebnisse einer repräsentativen Umfrage", Peking.
- Seimetz, M. (1997); "Finanzierung von Unternehmen mit ausländischer Beteiligung in China", in: Deutsch-Chinesisches Wirtschaftsforum, DIHT in Zusammenarbeit mit dem Deligiertenbüro der Deutschen Wirtschaft in China, yr 1, no. 3, p. 34-38.
- Semetkeova, A. (2001); "Marketing und Distribution in China. Ergebnisse einer Marktstudie durchgeführt bei den in China tätigen deutschen Unternehmen", in: German-Chinese Business Forum, DIHT in collaboration with the Bureau of delegates of the German Economy in China, year 5, no. 5, p. 50-55.
- Trommsdorff, V. et. al. (2000); "Joint Venture als Markteintrittsstrategie in China: Shanghai Medical Products Co. Ltd." in: Fallstudien zum Internationalen Management, Zentes, J./ Swoboda, B., Wiesbaden, p. 495-512.
- Warren, K (2002); "Competitive Strategy Dynamics", London Business School, West Sussex.
- Williamson, P.J./ Zeng, M. (2004); "Die verborgenen Drachen", Harvard Business Manager, no. 1, p. 56-57.

[www.bosch.de](http://www.bosch.de)

[www.manager-magazin.de](http://www.manager-magazin.de)

[www.sap.de](http://www.sap.de)

[www.siemens.de](http://www.siemens.de)

Zinzius, B. (2000); "China Business. Ratgeber zur erfolgreichen Unternehmensführung im Reich der Mitte", Berlin.

Sebastian Hecker

Master of Business Administration

Ph.D. Student

International Ph.D. Program in Business Administration

University of Pecs, Hungary

hecker.seb@gmail.com



# **THE ROI METHODOLOGY AS AN UNIVERSAL PROCEDURE OF MEASURING THE EFFECTIVENESS OF HUMAN RESOURCES' INVESTMENTS**

**Kinga Hoffmann**

## **ANNOTATION**

An article presents an analysis of selected methods used to measure an effectiveness of human capital. The method elaborated by J.J. Phillips deserves for the particular attention among available ways to measure the return on investment in human capital in organizations. The author prepared a procedure, which can be conducted in relation to every HRM scheme. By dint of ROI methodology managers are more rarely to perceive HRM departments as cost centers. Phillips' method allows to understand better that people are the most valuable asset for the company.

## **KEY WORDS**

ROI Methodology, effectiveness, investment, human resources, human capital, measurement, instruments

## **INTRODUCTION**

Contemporary organizations are investing not only in production area but in human capital also. Treating expenses on human resources as investments instead of costs is more frequently. This change is establishing the approach that people are the most valuable assets for the company. It is possible thanks to improvement of methods of measuring the effectiveness of human resources management.

## **AIM AND METODOLOGY**

There are many concepts of methodology of measuring the HR function in organizations. We can say that the problem has not been researched yet. Nonetheless there is a method which deals with human resources management comprehensively and gives a possibility to measure an effectiveness of each program concerning the HRM area. The article presents the most popular methods of measuring an effectiveness of HRM, particularly the ROI Methodology by J. J. Phillips.

## **MEASURING THE EFFECTIVENESS OF HUMAN RESOURCES MANAGEMENT**

Today's HR professionals need a balanced set o measures and processes to show the value of the HR contribution. Measuring the return on investment (ROI) is emerging as a promising tool to provide convincing data about the contribution of specific human resources programs and processes<sup>1</sup>. The topic of HR effectiveness often appears in literature and during conferences, where professionals, economists, academic representatives etc. search the best solution to the problem of measuring return on investment in human capital. As a result of that research there have been suggested quite interesting methods. A few of them are presented below to show the main ways of understanding the problem.

---

<sup>1</sup> J. J. Phillips, P. P. Phillips, R. D. Stone, The human resources scorecard: measuring the return on investment, Butterworth-Heinemann, Woburn 2001, x.

### **Human Capital Metrics**

Human Capital Metrics is a set of econometric indexes, which measure the effectiveness of human capital investments. They are divided into groups as follows:

- metrics connected with human resources' movements (VSI – voluntary substitution index, OI – outsourcing index, MRI – manager's rotation index, OSRI – operation's staff rotation index, MAI<sub>1</sub> and MAI<sub>2</sub> – managerial appointments index, PRI – positive rotation index),
- revenue metrics (HCROI – human capital return on investment, HCVA – human capital value added, HCRI – human capital revenue index, TC – turnover cost index, TIF – training investment factor).

Most of these metrics are quite difficult to calculate. They are also based on financial data registered according to accountancy standards, which do not allow for pinpointing the results achieved by HRM department. In many companies these indexes are calculated by financial department and then passed to HRM one. If there is a need for reliable calculation, this situation has to be reversed<sup>2</sup>.

### **HR Balanced Scorecard**

The method shows a strategic role of HRM departments in creating a value. Balanced Scorecard formulated by R. Kaplan and D. Norton is a foundation on which HR Scorecard has been developed. The procedure of this method amounts to educe and set results of HRM processes in organizations. This is necessary to understand an influence of HR department on two issues of company's operating:

- an increase of income as a consequence of improving a customer satisfaction by product innovations, a reliability of supplies etc.,
- an improvement of productivity concerned a production rate which depends on maintaining an accurate number of employees.

The HR Scorecard demands preparing a set of human capital metrics. Human resources management has a strategic impact on an enterprise if its politics, processes and activity are effective. The authors of the method suggest to include four elements: a capability of HR department in creating values, work system based on effectiveness, external correspondence with a strategy of the company and human resources management efficiency. There is a need to identify metrics in every of mentioned areas. The metrics are grouped within four perspectives: operational, strategic, customer relations and finance. Each index is connected with an objective and a level of the company or its strategic business unit<sup>3</sup>.

The advantages of using the HR Scorecard are undoubtedly impressive:

- distinguishing an efficiency of HRM system and its capability to create values,
- controlling of costs and creating values,
- evaluation of HRM department's influence on a strategy and final financial result of the company (strategic role of human resources management)<sup>4</sup>.

## **MANAGEMENT BY OBJECTIVES**

This is perhaps the oldest approach to a problem of measuring HR performance. The method deals with developing specific objectives and evaluating performance against them by human resources professionals. Setting objectives is the main process in MBO. The most popular measures are: turnover, absenteeism, job satisfaction, employee health which connected with expenses are quantifiable and could be objectives for the HR function. The

---

<sup>2</sup> J. B. Stepień, Mierniki funkcji kadrowej (I, II, III), *Personel i Zarządzanie* 2001.

<sup>3</sup> B. E. Becker, M. A. Huselid, D. Ulrich, *Karta wyników ZZL*, Oficyna Ekonomiczna, Kraków 2002, p. 65-66, 75, 86.

<sup>4</sup> *ibidem*, p. 87-88.

cost of implementation the MBO procedure is relatively low, but information obtained are moderately valuable<sup>5</sup>.

### **HR Case Studies**

This is an attractive approach to evaluation. The key point of the method is to examine the success of individual programs, policies, practices and report the results of these to selected audiences. Research shows that HR case studies does not cost much and bring many interesting solutions of problems which appears in the organization. Despite this advantage the presented approach has some weaknesses. It does not represent a balance of the performance of the HR function or a program, but instead provides some evidence that certain programs are successful. Besides the quantitative data are not always a part of these studies<sup>6</sup>.

### **HR Auditing**

The HR auditing is an investigative, analytical, and comparative process that attempts to reflect the effectiveness of the HR function. An auditing can use a variety of methods to conduct audits including interviews, surveys, observations and others. Typical categories of HR auditing are department mission, organization, personnel, labour relations and other functions of HRM. The difficulty is that there is little direct connection between the information in the audit and the overall effectiveness of the organization<sup>7</sup>.

### **HR Cost Monitoring**

The method deals with costs of operating of HR department. The evaluation of HR performance is connected with development of HR costs and using them in comparisons with cost standards. Followers of HR cost monitoring say that comparisons with other, similar organizations in that area may be more effective than comparisons with internal costs in the company. The most common measure is HR cost per employee (percent of payroll and company budget). Other costs of HR function are: cost of work stoppages, cost per grievance, accident costs, total compensation costs etc.<sup>8</sup>

### **HR Reputation**

This approach underlines an importance of HR function in effectiveness of an organization and customer satisfaction context. The reputation of HR department should be judged by the feedback from those it is designed to serve. The assessment includes measures such as:

- open communication,
- high-performance standards,
- rewards to employees based on performance,
- effective use of employee skills and abilities,
- encouragement of employee participation in work decisions
- advancement opportunities, etc.<sup>9</sup>

## **HUMAN RESOURCES ACCOUNTING**

This concept attempts to place a value on employees as assets in an organization and to measure improvements or changes in these values using standard accounting principles. The process includes identifying, measuring and communicating information about human

---

<sup>5</sup> J. J. Phillips, *Accountability in human resource management*, Butterworth-Heinemann, Woburn 1999, p. 45.

<sup>6</sup> J. J. Phillips, R. D. Stone, P. P. Phillips, *Ocena efektywności w zarządzaniu zasobami ludzkimi*, Human Factor, Kraków 2003, p. 25.

<sup>7</sup> J. J. Phillips, *Accountability...*, op. cit., p. 38

<sup>8</sup> J. J. Phillips, R. D. Stone, P. P. Phillips, *Ocena efektywności...*, op. cit., p. 27.

<sup>9</sup> J. J. Phillips, *Accountability...*, op. cit., p. 35.

resources to facilitate effective management within an organization. It can be defined as an extension of the accounting principles of matching cost and revenues and of organizing data to communicate relevant information in financial terms. Human resources are viewed as assets or investments of the company. In the context of measuring the HR contribution, HRA does not focus on the performance of the HR function but instead reflects the value and contribution of all employees. The accountancy standards do not allow to calculate precisely HR contribution. There are many controversies surrounding questions about people being assets, costs that should be capitalized and methods of establishing a value form employees with the eventual allocation of such value to expense<sup>10</sup>.

### **HR Benchmarking**

Benchmarking is the method of comparing an organization's activity with others. It is possible to assign, whether the effectiveness of the company diverges standards defined by organizations chosen to comparisons (benchmarks). The main HRM issues considered as benchmarks are: a number of employees, absenteeism index, productivity, training costs, number of training day per trainer, costs of recruitment per employee, time of recruitment, costs of health service per employee, procedures, rules and guidelines realised by HRM department<sup>11</sup>.

Benchmarking is an important instrument from the point of view of building an advantage in the market. Comparisons and learning from the best organizations in as far as HRM practises allow to compete capably. Because people are the key elements in benchmarking, the concept needs an apprehension the organization and its problems by all employees. That demands thorough changes within organizational culture<sup>12</sup>.

### **HR Profit Centers**

The profit-center approach requires a shift from the traditional view of the HR department as an expense center in which costs are accumulated to a view of HR as an investment that can achieve a bottom-line contribution and, in some cases, operate as a profit center. Increasing the investment in HR, through additional staff, programs, and resources, are expected to improve the performance of the organization<sup>13</sup>.

### **ROI Methodology**

The ROI Methodology is a step-by-step tool for evaluating any HR program, project, or initiative in any organization. It helps keep the process manageable, allowing users to address one issue at a time. The model also emphasizes that this method is a logical, systematic process, flowing from one step to another and provides a way for evaluators to collect and analyze six types of data<sup>14</sup>.

Jack J. Phillips say that it is impossible to manage something if it is unreal to measure this. He has formulated a procedure which guides through 5 levels of measurement.

The procedure of ROI Methodology includes following stages:

- I. Developing evaluation plans and baseline data
- II. Collecting data during and after program within four levels:
  - a. reaction and planned action,
  - b. learning,

---

<sup>10</sup> J. J. Phillips, *Accountability...*, op. cit., p. 36.

<sup>11</sup> J. Bramham, *Benchmarking w zarządzaniu zasobami ludzkimi*, Oficyna Ekonomiczna, Kraków 2004, p. 19.

<sup>12</sup> *ibidem*, p. 27-28.

<sup>13</sup> J. J. Phillips, *Accountability...*, op. cit., p. 36.

<sup>14</sup> J. J. Phillips, L. Zuniga, *Costs and ROI: Evaluating at the Ultimate Level*, John Wiley and Sons, San Francisco 2008, p. xxi.

- c. application and implementation,
- d. business impact and consequences,
- III. Isolating the effects of a program,
- IV. Calculating the Return-on-Investment
  - a. converting data to monetary values,
  - b. capturing costs of program,
  - c. identifying intangible measures (benefits),
- V. Reaching conclusions and generating a report – communicating information to target groups<sup>15</sup>.

Typical applications of the ROI Methodology are programs concerning apprenticeship, gain-sharing, self-directed teams, career development, leadership, skill-based or knowledge-based compensation, competency systems, recruiting strategies and others connected with HRM activity<sup>16</sup>.

The author of the ROI Methodology, J. J. Phillips, has completed many analyses for many companies where managers wanted to know if it is worth to invest in human capital. The activity of ROI Institute, which had been established by J. J. Phillips, professionally deals with conducting the ROI procedure. It has many successful implementations on its account (over 2000 companies went through the process of evaluation of HRM effectiveness), what confirms that the ROI approach has been refined for over 25 years. Nowadays the Institute runs special workshops during which participants can obtain a certificate in the ROI Methodology<sup>17</sup>.

## COMPARISON OF METHODS

The methods mentioned in this article do not pose a closed list of ways of measuring an effectiveness of human resources departments' activity. It is hard to say which of them is the best one, because every approach has its qualities and defaults. Besides the assessment of these should be done in relation to a specific HR program. The most noticeable characteristics of mentioned methods are presented in the table below (fig. 1).

**Fig. 1: Strengths and weaknesses of selected methods of measuring an effectiveness of human resources department**

Method	Strengths	Weaknesses
Human Capital Metrics	<ul style="list-style-type: none"> <li>- many indexes measuring different areas of HRM activity</li> <li>- clear formulas</li> </ul>	<ul style="list-style-type: none"> <li>- problem with calculating caused by lack of cooperation between the HRM and financial department</li> <li>- narrow apprehension of HR function in an organization</li> </ul>
HR Balanced Score Card	<ul style="list-style-type: none"> <li>- quite valuable information obtained by drawing up a scorecard</li> <li>- affiliation a process of measurement with strategic objectives</li> <li>- analysis of HRM results from a point of view of customers, finance, internal business processes, learning and growth</li> </ul>	<ul style="list-style-type: none"> <li>- moderately high costs of implementation</li> <li>- time-consuming procedure</li> </ul>
Management by objectives	<ul style="list-style-type: none"> <li>- low cost of implementation</li> <li>- clear procedure known by</li> </ul>	<ul style="list-style-type: none"> <li>- low value of information from the point of analysis of HRM</li> </ul>

<sup>15</sup> J. J. Phillips, Measuring ROI. Fad, fact, or fantasy?, *T+D* [serial online]. April 2007;61(4):42. Available from: MasterFILE Premier, Ipswich, MA. Accessed December 11, 2009.

<sup>16</sup> J. J. Phillips, P. P. Phillips, R. D. Stone, H. Burkett, *The ROI fieldbook: strategies for implementing ROI in HR and training*, Butterworth-Heinemann, Oxford 2006, p. 12-13.

<sup>17</sup> *ibidem*, p. 3., [www.roiinstitute.net](http://www.roiinstitute.net).

	managers - motivational influence on employees who participate in drawing objectives	effectiveness
HR Case Studies	- learning by experience - preparing solutions to the problems by analyzing many different situations in HR function - low costs of implementation	- low value of information - lack of quantitative information (analysis concerns only qualitative data)
HR Cost Monitoring	- low cost of implementation - basing on accountancy data	- low value of information - concentrating on costs and omitting the question of investments
HR Reputation	- moderately valuable information - analysis of attitudes and perception towards HR activity	- little specific information on effectiveness of HRM department - omitting an influence of HRM on results of a company
HR Auditing	- systematically collected and precisely analyzed data concerning a year period - wide and accurate analysis of effectiveness of HRM department's activity - low cost of implementation	- low value of information - lack of an affiliation between the effectiveness of HRM and results of the company
Human resources accounting	- treating human resources as an assets / investments	- lack of information about effectiveness of HR function
HR Benchmarking	- possibility of learning good practices from other companies - valuable information obtained by comparing the HR activities between companies	- high cost of implementation - undervaluating advantages of benchmarking by managers
HR Profit Centers	- valuable information on HR contribution in company's outcomes - perception of HR department as a profit center which generates costs and obtains an income for services provided for other departments in an organization	- high cost of implementation - organizational resistance caused by innovative approach towards HRM department
ROI Methodology	- complex method of evaluation of an effectiveness of HRM department in the context of company's results - wide information by dint of a measurement on 5 levels - possibility of predicting a ROI index - prospective orientation of the method - reliability of the method which satisfies wants of many different groups of people - it does not demand complicated calculations - flexibility	- quite high costs of implementation - time-consuming procedure - it can not be used in relation to small programs and project realized by HRM department

Source: Author's analysis based on literature.

## CONCLUSION

The methods presented above shows that the HRM departments have a quite big arsenal of tools which can help to solve the problem of measuring the effectiveness of human resources in their organizations. Against a background the Phillips' method seems to be the most comprehensive because it builds in measurable and immeasurable results of analysed

programs. Nevertheless it can not be implemented in relation to every HR program. The ROI experts suggests to adopt the procedure in case of bigger programs and do it selectively. There is also a problem of learning the method. Currently the ROI Institute organizes workshops which can help to become a certified consultant of the ROI Methodology. This 5-day course is very expensive and not possible to attend in many countries e.g. in Poland. There are no doubts that the issue of measurement of effectiveness of human resources' investments is developing and will bring new ideas of dealing with it. Those who search a perfect methodology should understand that it is not possible. As long as managers are lacking of flexibility in their thinking about the problem, there will not be a good solution to that.

## BIBLIOGRAPHY

- [1] J. J. Phillips, P. P. Phillips, R. D. Stone, *The human resources scorecard: measuring the return on investment*, Butterworth-Heinemann, Woburn 2001
- [2] J. B. Stepień, *Mierniki funkcji kadrowej (I, II, III)*, *Personel i Zarządzanie* 2001
- B. E. Becker, M. A. Huselid, D. Ulrich, *Karta wyników ZZL*, Oficyna Ekonomiczna, Kraków 2002
- [3] J. J. Phillips, *Accountability in human resource management*, Butterworth-Heinemann, Woburn 1999
- [4] J. J. Phillips, R. D. Stone, P. P. Phillips, *Ocena efektywności w zarządzaniu zasobami ludzkimi*, Human Factor, Kraków 2003
- [5] J. Bramham, *Benchmarking w zarządzaniu zasobami ludzkimi*, Oficyna Ekonomiczna, Kraków 2004
- [6] J. J. Phillips, L. Zuniga, *Costs and ROI: Evaluating at the Ultimate Level*, John Wiley and Sons, San Francisco 2008
- [7] J. J. Phillips, *Measuring ROI. Fad, fact, or fantasy?*, *T+D* [serial online]. April 2007;61(4):42. Available from: MasterFILE Premier, Ipswich, MA. Accessed December 11, 2009.
- [8] J. J. Phillips, P. P. Phillips, R. D. Stone, H. Burkett, *The ROI fieldbook: strategies for implementing ROI in HR and training*, Butterworth-Heinemann, Oxford 2006
- [9] [www.roiinstitute.net](http://www.roiinstitute.net)

Full name: Hoffmann Kinga  
Institution: Karol Adamiecki University of Economics  
Street: 1 Maja 50  
City: Katowice  
Email: [kinga.hoffmann@ae.katowice.pl](mailto:kinga.hoffmann@ae.katowice.pl)

# **CRISIS MANAGEMENT WITHIN THE CONFINES OF PROJECT**

**Tomasz Janicki**

## **KEY WORDS**

Crisis, management, projects

## **INTRODUCTION**

Many enterprises functioning in present times are afraid crisis, mainly in view of negative influence on reputation of firm and huge financial losses (calculated often in millions dollars). Researches in USA and some European countries show that firms which experienced crisis of reputation have lost on their market value (average about 8%) [6, p. 9]. In addition, crisis (jointed with loss of reputation) exposes firms on large costs. The Exxon have lost 13 billion dollars in result of catastrophe tanker and in consequence of leak of petroleum, the Pan Am have lost 652 million dollars in result of bomb explosion in airplane of line Pan American World Airways over Lockerbie, in result of explosion in factory in Bhopal the Union Carbide have lost 527 million dollars. It is possible to show more such examples and among them indicate crises witch touching different kind of projects - unique ventures, which feature is larger probability of failure, than in case of ordinary economic activity.

## **AIM AND METHODOLOGY**

Article was created not only for exhibition important aspects in course of managing crisis of projects (this aspects very often appear in generally comprehended managing crisis in enterprise). Second purpose is emphasis a role skills effective managing crisis when company realize projects – authors of project management books very seldom write about this matter. It is important knowledge which should possess all members of project team. Why? Because only 33% projects ends success, and the largest organizations spend approximately 20% their annual budget on project activity [1]. To prepare this article I use: case studies and analysis of literature.

## **MANAGING CRISIS OF PROJECTS – EXAMPLES**

The beginning of the crisis management within the projects is dated back to 1982 when it occurred that the Johnson & Johnson painkiller, called Extra-Strength Tylenol, consisted of poisonous element-potassium cyanide. Its pill's content amounted to 65 milligrams, 10000 more than what is necessary to kill a human. As a result of taking the pills seven people from Chicago died in about one week. This situation caused that Johnson & Johnson faced the crisis. The alone crisis might have resulted in withdrawing the most profitable product, or even, destroying their mark gained from 1886. The organization reacted immediately. They withdrew about 93 000 products from the market. From the very beginning Johnson & Johnson tried to keep in touch with the media in order to receive the earliest news about the situation in the country and also to inform the public as well as they could, everything to avoid the panic. Frankness, the honest attitude towards the situation, and the most important thing – admitting their guilt in public made the people persuaded to the thing that the company was the victim itself. Bob Andrews, „the American public saw this company also the victim of an unfortunate incident and gave us our market back” [4, p. 978]. Despite the fact that this was enormous effort put in trying to rescue the company image, the poison with Tylenol was discovered five years later in California. This time the medicine contained strychnine. Johnson & Johnson had to withdraw the product once again, that cost the



company about 100 000 000 dollars. The company was afraid about their clients and their image so it launched safer covers. It was also being testified by media. The company also carried wide public relations campaign. As a result 35 % Johnson & Johnson share in the painkillers market increased in 1982 to about few percentages [7].

The next adventurous and the same time commonly known project, which came across the crisis during realization, is The Large Hadron Collider, built in order to discover the Higgs' boson (takes part in giving mass to the particle elementary) and particles creating the dark matter. The Large Hadron Collider was awaking a lot of panic until the start. "The Wyborcza Newspaper" discloses, that several months before planned start of researches, two citizens of Holland took planners of the project to the Court demanding stop experiments in CERN (Organisation Européenne pour la Recherche Nucléaire). In their opinion, such researches like this can be a reason of damage to our planet and even more - whole the universe. Moreover, the scream was fueled by one information in December 2008 (nine days after that experiments started). At the time the leak of helium took place in LHC, causing seriously damages to powerful magnets. Consequently, only 16 out of 53 magnets could be repaired; the rest 37 had to be exchanged. Scientists expected problems during so large project, so they spent a few months testing all functions of the machine before real experiments, initially planned in spring 2009. However, nobody had supposed that failure blocked continuation the project for over year and that the cost of repair might amount about 30 million franc (repair works - 15 million franc, devices exchanged - among 10 to 20 million franc). The investigation after crash showed a necessity in using better helium valves and recommended the introduction system of early warning against helium leaks. In statement from June 2009, CERN expert Steve Myers said that Scientists believe they have figured out how to prevent a repeat of the problems that caused the 10 billion Swiss franc (9.2 billion Euro) Large Hadron Collider to be shut down just nine days after it was switched on last September [5].

The crisis management of the projects is visible now when talking about the Poland and Ukraine preparations for the European Football Championship in 2012. Many people concentrate on this event, which will be also a promotion for these two countries. Despite the fact that the teams will meet on the huge stadiums, the biggest problem lies in the development of infrastructure. Many infrastructural aims had been cancelled such as: the new railway station modernization in Eastern Warsaw, the construction of the express road between two cities – the organizers (Poznan-Wroclaw about 107 km), the extension of airports in Warsaw (the city – organizer), etc [2]. What is more, 29% of Polish people claim that the roads will be not well- prepared for EURO 2012 [9]. The other aim is to extend the metro in Warsaw. The second line of the metro was supposed to help in delivering the fans for the matches. Nevertheless the end of this activity is doubtful for many councilors of Warsaw as the schedule eliminates any delays, although their occurrences are noticeable. Additionally, at the very beginning, the main builder was chosen in delay, what increased the risk of fail. The crises had been noticed by M. Borowski-the Chief of National Sport Centre. His opinion is that the metro will be built according to the words "design and build". During this project many surprises may appear but as he said all steps had been taken to solve this problem. In the plan B he stated that the trams and walking would be used. M. Borowski claims that it will be impossible to build new railway stations in Warsaw (Eastern or Western). Each big invests lasts for about four hours from the beginning of the project preparation. He is afraid that the fans come across the refurbishments of the rails in Warsaw [8].

## CONCLUSIONS FROM CASE STUDIES

In spite of peculiarity of every crisis, there are some units, which always appear during realization of project in crisis time. In correctly managing the crisis of project may be distinguished especially:

1. Leader of the Crisis Team – a person responsible to managing the crisis of project and having complete authority to commit corporate resources to the project; this position is often created to realize large enterprises.
2. The Crisis Committet – also exists during crisis of large projects; It should be composed of the senior - most levels of management with interdisciplinary knowledge.
3. Crisis communication – important action is a communication with all stakeholders of project (especially with mass media – 200 years ago N. Bonaparte said, that “three hostile newspapers can be more dangerous that one thousand of bayonets”). However, correctly relations with stakeholders (for example endlessly and reliable communication about crisis) may improve company’s image and in consequence, it’s position will be stronger on the market (example: Johnson & Johnson).
4. Earlier preparing to crisis situation – companies which realize projects, especially when projects are very costly and interest the public, needs preparing to prepare to possible risk (example: EURO 2012). Precautions (training employees in managing crisis) can do crisis easier to keep it under control and in consequence minimize costs and short the time of elimination results of crisis.
5. Stakeholders management – this aspect connected with the crisis communication. Companies should be able to designate all stakeholders, which measure company anticrisis operations and taking varied operations for influence on further realization of project (e.g. help in eliminating crisis or results of crisis).
6. Assume responsibility and response time – company should take responsibility for crisis and its consequences, as soon as possible. Enterprise should also start quickly anticrisis actions.
7. Compassion – especially, when negative results of crisis touch ordinary people (example: Johnson & Johnson).
8. Documentation and capture lessons learned – all situations which taking place in managing crisis of projects should be written as a document. This knowledge can be used later to managing next similar crisis (example: employees in CERN).

## CRISIS MANAGEMENT LIFE-CYCLE PHASES AND PURPOSES OF ELIMINATING CRISES PROCESS

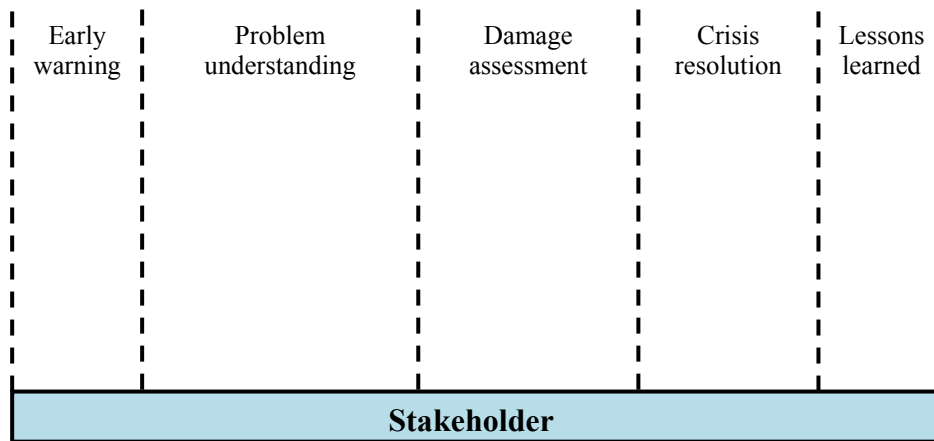
The development of the most crises within some projects may be presented in five phases making crisis management life-cycle (Fig. 1). The most frequent units of measure of some phases are illustrated with hours, days or months, and the wrong management within some phases can strengthen the crisis and end with the fiasco.

1. *Early warning* – the signals that are sent from lower-level employees, from customers or the delay of some activity realizations according to the schedule, that can suggest the beginnings of the birth of the crisis and they define the potential risk as well.
2. *Problem understanding* – understanding the problem causing the crisis let them show the right ‘ tools’ , the ways of dealing with crisis and concentrating on ante-crisis activities within the right activity sphere of the company. The first step of Johnson & Johnson was to understand in what time of the productive process it happened to the

contamination of the product – without this knowledge; the company could direct their steps to the right time of production process.

3. *Damage assessment* – due to which the company may estimate the costs of the crisis results or to choose the most successful methods of its elimination.
4. *Crisis resolution* – initiation of the steps to eliminate the crisis.
5. *Lessons learned* – gaining the knowledge about dealing with the crisis using own or somebody's experience.

Fig. 1: Crisis management life-cycle phases



Source: [4, p. 984].

In practice, enterprise suitably managing crisis of project should determine some aims, which realization can eliminate or minimize the results of crisis. For example K2 Consulting indicated 4 purposes, namely:

1. Work out and initiate procedures with improving organization activity:
  - To separate control processes (e.g. registration of problems and solutions), liquidation of problems processes (making changes) and decision processes (e.g. determination of priority actions),
  - Definition of information structure and flow of information.
2. Current informing about actual condition:
  - Clear principles of communications among members and with board of directors,
  - access to always current data about status of works.
3. To employ external consultants:
  - Support of external consultants in area of control and liquidation of problem (relieve key resources/employees).
4. Initiating of remedial measures:
  - Identification of potential threats,
  - Work out operations minimizing negative results incorrect realization venture,
  - Readiness for taking a decisions by board of directors in matter proposed remedial measures [3].

It is proper to notice, that third purpose is defined especially, when enterprise doesn't possess employees educated in managing crisis (also within projects). In addition, if

enterprise more quickly realize about necessity of describe of similar purposes, which determine executing definite operations, it will effectively fight with crisis.

## CONCLUSION

Informations included in this article showing how important in nowadays is suitable managing crisis within the confines of project. Company's employees should have knowledge about this aspect, because probability of crisis is large and negative crisis results might be assess in million dollars.

## BIBLIOGRAPHY

- [1] <http://careers.deloitte.com/polska/studenci/events.aspx?EventID=4436>
- [2] <http://masterplan.2012.org.pl/>, update 30.09.2009.
- [3] <http://www.k2c.pl/k2cnew/>, 13.10.2009.
- [4] Kerzner H., *Managing crisis projects. Tenth edition*, John Wiley & Sons Inc., New Jersey 2009.
- [5] MacInnis L., „Big Bang” collider set for autumn restart: CERN, Reuters, 19.06.2009.
- [6] Regester M., Larkin J., *Zarządzanie kryzysem*, PWE, Warszawa 2005.
- [7] Stefaniak P., *Dwie godziny – i po firmie*, [www.biznes.interia.pl](http://www.biznes.interia.pl)
- [8] Śmietana K., *Kibice poradzą sobie bez metra w czasie EURO 2012*, Gazeta stołeczna, 08.04.2008.
- [9] [www.euro2012-pl.org](http://www.euro2012-pl.org)

Full name: Tomasz Janicki  
Institution: Nicolaus Copernicus University  
Academical degrees: postgraduate  
Street: Ludowa 52/55  
City: Biskupiec, 11-300  
Email: [tjanicki@op.pl](mailto:tjanicki@op.pl)

# **INNOVATION CLASSIFICATION AND CORPORATE INNOVATION RECORDING SYSTEM**

**Cyril Kotulič**

## **ANNOTATION**

In the paper, the author analyzes different currently used innovation classification systems and proposes a design of an enterprise innovation recording system. The proposed corporate system for recording of innovations takes into account the type and degree of innovation. Corporations need to record innovations to assess economic benefits of innovations. At the same time there is a need to communicate some of this information to customers and employees. Recording of innovations should form part of an enterprise innovation support system. The proposed corporate recording system can be customised according to specific requirements of a corporation.

## **KEY WORDS**

innovation; innovation classification; innovation recording system.

## **INTRODUCTION**

Many corporations try to increase their competitiveness through innovations. The corporations, which make continuous innovations of one or more types, need to record and evaluate the innovations, which have been implemented. Enterprises differ primarily by the type of business. The type of business determines the type of innovations realized by the company. Within the European Union, innovation classification defined in Oslo manual is being used, although different types of innovations and different classification systems exist.

## **AIM AND METODOLOGY**

The aim of the paper is to propose an enterprise innovation recording system based on the type and degree of innovation. Innovation recording system is important with respect to the evaluation of economic benefits of innovations, plan control, rewarding and other factors. The proposed system was designed using analogy with the systems for information recording.

## **RESULTS**

Innovation classification analysis resulted in a set of recommendations concerning design and development of an innovation recording system supporting the corporation's business model. This system takes into consideration the type and degree of innovation. The corporate innovation classification should be unique and tailored to the corporations needs. The code for the labelling of innovations proposed in this paper should be standardized and individually adjusted and thus it could become an effective tool of the enterprise innovation management.

### **Innovation classification**

The term "innovation" appeared for first time in the work of the Austrian economist Joseph A. Schumpeter (1883-1950) at the beginning of the 20th century. The concept of innovations is based on the Latin word "innovare". Joseph Schumpeter (Schumpeter, 1934) defined economic innovation as:

- Introduction of a new method of production.
- Opening of a new market.
- Conquest of a new source of supply of raw materials or semiproduct.

- Carrying out of the new organization of any industry.

Innovations can be divided according to various aspects. Innovations can be basically divided into technical and non-technical ones. Another possible division is into process innovations and product innovations. Product innovations represent new or improved products or services. Process innovations include technological and organizational changes reflecting technological development (often rationalization) of the company's production or distribution system (Klímová, 2006).

Czech Statistical Office (ČSÚ), in accordance with the Oslo manual, classifies innovations into technical non-technological ones. Technical innovations include creation of new or improving existing products and services, production technologies and processes. Innovations within this concept represent a continuous process of implementing changes (in technical solutions, production technology, materials, etc.). Non-technological innovations are organizational and marketing ones (ČSÚ, 2005).

The Ministry of Industry and Trade of the Czech Republic has implemented in its instructions and manuals an innovation classification approach based on the second version of the Oslo manual dividing innovations into technical and non-technical ones. Innovation survey of the Czech Statistical Office carried out as part of Community Innovation Survey (CIS) serves as a basis for the establishment of the European Innovation Scoreboard (EIS).

Product innovations represent introduction of new and significantly improved products. Product innovations are widespread among many companies, seeking performance improvement.

Process innovations are innovations in production methods, introduction of new or significantly improved production or logistic methods. Process innovations are based on the need to replace outdated technology with new capabilities and they usually result in the improvement of the product quality while reducing specific input costs.

Marketing innovations represent introduction of a new marketing method, which was not used previously and which is part of a new marketing concept or strategy.

Organizational innovations can involve introduction of a new organizational method in corporate business practices, organization of the workplace or external relations.

Autonomous innovations can be implemented independently of the other innovations in the area. Systemic innovations are dependent on its surroundings. Advantages of these innovations manifest only if they are synchronized with related innovations around (Klímová 2006).

Some types of innovations need to be related to other fields of human activity. In this case ecological environment of innovation is being considered, where individual innovation requires changes in other fields. Open innovations for example represent attempts to address this issue, where companies share certain information with other companies (such as defined interface), and progress occurs only in certain areas of business, but also in downstream areas. Christensen uses marketing approach and distinguishes two types of innovations (Christensen, 2003):

1. Continuous (sustainable) innovations - designed for demanding customers and keeping pace with the current state of technological progress (which may be incremental and radical);
2. Disruptive innovations - for new customers they may not be technologically at the forefront, but they represent other benefits to customers (simpler, cheaper, easier to operate).

According to qualitative changes, innovations are divided into incremental (evolutionary) and revolutionary (radical, revolutionary).

Incremental innovations have only small requirements on new technologies. On the other hand, for the customer they represent only minor product changes, which do not require

changes of the user habits. Strategy of incremental innovations requires low costs on research and development, on the other hand, due to limited income potential return on investment is somewhat longer. In the long-term horizon these innovations lead to a position of an imitator, without a potential for improving company's competitive position.

Radical innovations are relatively rare. They lead to the greatest market growth and sales. The costs on research, development and implementation of high-degree innovations are very high. This category of innovations starts new life-cycles of products. A successful implementation thereof can lead to good return on investment. These innovations are treated as the best investment to create future profits.

Figure 1 lists currently used innovation classification systems (Valenta, 2001).

Fig.1 Degrees of innovation

Degree of innovation	Labelling	What is being preserved	What is being changed	Example
0	Regeneration	Object	Renewal of properties	Servicing and repairs
RATIONALIZATION				
1	Quantum change	All properties	Frequency of factors	Additional workforce
2	Intensity	Quality and interconnection	Velocity of operations	Increased belt velocity
3	Reorganization	Qualitative properties	Division of operations	Transfer of operations
4	Qualitative adaptation	Quality for the customer	Relationship to other factors	Technology constructions
QUALITATIVE INNOVATION				
5	Version	Constructive solution	Partial quality	Faster machine
6	Generation	Constructive concept	Constructive solution	Electronic machine
7	Species	Technology principle	Constructive concept	Jet loom
8	Genus	Belonging to a phylum	Technology principle	Non-woven fabric
TECHNOLOGICAL REVOLUTION - MICROTECHNOLOGY				
9	Phylum	Nothing	Approach to nature	Genetic manipulation

Source: Metodické vysvětlivky. Available at

[http://www2.czso.cz/csu/2006edicniplan.nsf/o/9605-06-v\\_roce\\_2005-metodicke\\_vysvetlivky](http://www2.czso.cz/csu/2006edicniplan.nsf/o/9605-06-v_roce_2005-metodicke_vysvetlivky)  
 Accessed on 30 November 2009.

Practical experience with using degrees of innovations has led to the conclusion that the following three-stage innovation classification is sufficient (Dvorak, 2006):

1. Incremental innovations
2. Semi-radical innovations
3. Radical innovations

Different enterprises would benefit from different incremental/radical innovations ratio. Innovations can also be structured according to needs of managerial practice needs (Hadraba, 2005):

- According to basic managerial functions (planning, organizing, staffing, leadership and monitoring).

- According to phases of enterprise reproduction process to innovations in pre-production processes (technical preparation of production, supply etc.), manufacturing processes and post-production processes.
- According to business functions to innovations in manufacturing, sales, supply, financing, research, investments, staffing and administration.
- According to basic marketing mix instruments to product, pricing, distribution and promotion innovations.

Comprehensive analysis of innovations within the enterprise results in innovation classification into ten types (Doblin research, 2009).

Ten Types of Innovation framework can help identify new opportunities in financing, process offering and delivery. Companies that are able to simultaneously innovate across multiple innovation types will develop offerings that are more difficult to copy and that generate higher returns.

Most companies equate innovation with the development of new products. But creating new products is only one of ten types of innovation, and on its own, it provides the least return.

Fig.2 Ten types of innovation

Finance		Process			Offering		Delivery		
business model	Networking	Enabling process	Core process	Product performance	Product system	Service	Channel	Brand	Customer experience
How enterprise makes money	Value chain and partnering	Routine no differentiating processes often outsourced to others	Differentiating proprietary process	Basic features and functions	Structured offering with an array of tailorable, integrated components	Assistance provided to prospects and customers	Channels through which offerings reach customers	How value is communicated to customers	All aspects of customer interaction with company and its brands

Source: <http://www.doblin.com/AboutInno/innotypes.html>, (accessed on 30. November 2009)

Innovations differ significantly in size depending on their type and industry area. However, it may be observed that innovation is a process, not a single event or action, and it must be managed as a process. (Tidd, Beasant, Pavitt, 2007).

Systemic approach to innovations such as the above-mentioned ten types of innovation framework is a good example of how to create an enterprise system for the classification of business innovations. The company management needs to use a systemic approach to create individual system for classifying innovations and supporting the company's business model. The innovation classification system will serve as a background material for the management, employees and customers. An enterprise innovation classification system different from other companies creates an offering, which is difficult to reproduce.

### Corporate innovation recording system

An enterprise, which wants to increase its competitiveness through innovations, would need to evaluate success of the implemented innovations. It is important to clearly record different



types of innovations to ensure evaluation accuracy. The corporate innovation recording system can be used for further evaluation of system performance.

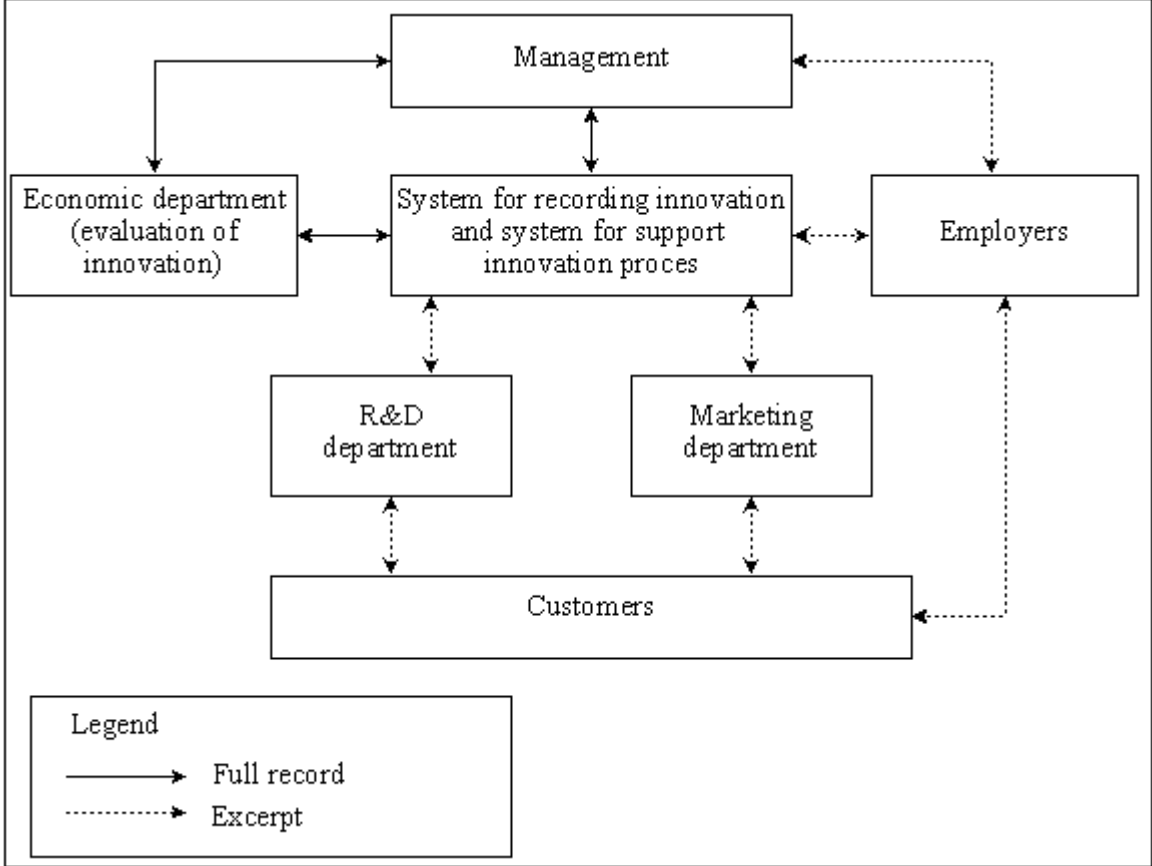
Innovation recording system should include at least:

- Type and degree of innovation
- Dependence with others innovation
- Staff working on the innovation implementation, contact patents
- Project duration
- Benefit delivered
- Budget
- Information about patents
- Links to sections, where ideas for innovations are collected

The innovation recording system should be linked to the existing enterprise information systems, which differ in different enterprises.

Outputs of the enterprise information system are used by the management, employees and customers. It is up to the management to decide who will get access to the records of realized innovations or innovations that are being realized, i.e. whether the access will be granted only to senior management, to designated personnel or to all employees. The access to records and details on forthcoming innovations may be granted also to customers, if they actively participate in the development. The range of information accessible to customers who are not involved in the development is determined by the produced value or declared value for the customer. An accessibility of information on innovations will depend on the type of innovation. Model of innovation reporting flows and recipients is provided in Fig. 3. The innovation recording system can also be linked to the place where the information for the support of innovation effort is gathered and shared.

Fig. 3 Model of innovation reporting flows and recipients



Source: Author

Each innovation should be assigned a unique corporate code, which describes its type and number and other data considered important by the company for easy orientation in innovations, which have been implemented and those, which are being realized. A general example of an enterprise recording system code is given below:

SC-Y-L-X-ZZZZZZZ-Q (SC-Y-L-X-ZZZZZZZ-Q)

where:  
 SC - Country code (if the company has divisions in multiple states);  
 Y - Incremental (I) or radical (R) innovation;  
 L - Degree of innovation (1-10) (see Fig. 2);  
 X - The type of innovation (see Fig. 4),  
 ZZZZZZZ -Code unique to each innovation (which may include department code or order of innovation);  
 Q - Autonomous (A) or systemic (S) innovation.  
 If the innovation is systemic, the related innovations are provided in brackets.

Fig. 4 Selected examples of codes indicating the type of innovation

X – code	Type of innovation
M	Marketing innovation
B	Business innovation
P	Product innovation
O	Organizational innovation
PR	Process innovation
PP	Production innovation
S	Service innovation

Source: Author

An example:  
 The following code: CZ-I-2-B-012345-A indicates that is the considered innovation is from the Czech Republic, incremental, second-degree, business, with assigned unique enterprise number 012345 and autonomous.  
 If the enterprise needs to record innovations in detail, it should choose the types of innovations, which are to be followed (recorded) depending on the enterprise’s area of business and needs, and should create a code-list, which will be used.  
 Uniform code as well as adherence to agreed principles for labelling of innovations would bring a number of benefits to the enterprise such as rapid orientation of new managers or employees, and facilitation of the work of consulting firms. The code should also be used for future innovation managing methods.

**CONCLUSION**

There are different approaches to the innovation classification. Some of the classifications take into account type of innovations while others are based on the degree of innovations. Well designed innovation recording system is necessary to evaluate success and benefits of innovations. The most appropriate classification system for an enterprise is an innovation classification, which takes into account the enterprise industry area as well as its business model. An enterprise innovation classification system should be unique and tailored to individual corporation's needs. Systemic approach to creating business innovation classification provides a better link between the business strategy and the company’s innovation capital, which is difficult to reproduce. Through a well-designed enterprise

innovation classification the enterprise informs its employees and customers about the corporate strategy and activities.

The proposed code for recording of innovation reflects the type and degree of innovation. Uniform code as well as adherence to the agreed principles for labelling of innovations would bring a number of benefits to the enterprise such as rapid orientation of new managers or employees, and facilitation of the work of consulting firms.

The corporate innovation classification should be unique and tailored to the corporation's needs. On the other hand, the code for the labelling of innovations should be standardized and individually adjusted to become an efficient tool of the enterprise innovation management.

## REFERENCES

- [1] ČSÚ: Metodické vysvětlivky. [http://www2.czso.cz/csu/2006edicniplan.nsf/o/9605-06-v\\_roce\\_2005-metodicke\\_vysvetlivky](http://www2.czso.cz/csu/2006edicniplan.nsf/o/9605-06-v_roce_2005-metodicke_vysvetlivky) (30. 11. 2009).
- [2] Hadraba, J.: K problematice členění inovací. In: Inovace : jediná účinná cesta k úspěchu v globální ekonomice. SVŠES, Praha 2005, ISBN 80-86744-26-4.
- [3] Doblin research: Ten types of innovation. <http://www.doblin.com/AboutInno/innotypes.html> (30. 11. 2009).
- [4] Dvořák, J. *et al.*: Vytváření firemní kultury, nepřetržité inovace, inovační sítě. VSMIE 2006, ISBN 80-86847.
- [5] Christensen, M. C.: The inovator solution. Harvard Business Press, 2003.
- [6] Klímová, V.: Inovační procesy. Masarykova univerzita, Brno 2006.
- [7] Schumpeter, Joseph (1934). The Theory of Economic Development. Harvard University Press, Boston.
- [8] Tidd, J., Beassant, J., Pavitt, K.: Řízení inovací. Computer Press, 2007.
- [9] Valenta, F.: Inovace v manažerské praxi. Velryba, 2007 ISBN 0-85860.

Ing. Cyril Kotulič, MBA  
Vysoká škola ekonomická v Praze  
nám. W. Churchilla 4  
130 67 Praha 3  
kotc01@vse.cz

# FINANCIAL MANAGEMENT IN THE TIME OF DOWNTURN

Dana Lesňáková

## ANNOTATION

My paper is designed to give proposals and suggestion to managers of businesses how they can manage through difficult times. Difficulties can be caused by external factors such as a fall in consumer sentiment, rising fuel prices, customers moving to competitors, difficulty accessing finance or increasing interest rates; or they could be caused by internal factors such as poor risk management, failure to manage cash flow properly or because of a margin squeeze. Regardless of the causes, businesses need to take action when the going gets tough. While there is no single cure-all, there are many steps a business owner can take to manage through the difficult times and position the business for future growth. This paper provides some proposals and suggestions for improving the financial position of the business in the time of downturn.

## KEY WORDS

downturn, recession, global crises, recovery scenarios

## INTRODUCTION

After many years, the dreaded “R” word has been back to haunt executives in the world economy. The global credit crisis accelerated a recession in the United States that started in the last quarter of 2007. The major European economies and Japan have been also in a recession, and economic growth rates in emerging markets slowed considerably in the latter part of the year. While recessions are inevitably challenging, some leaders seize opportunities to outdistance their competition and position themselves for future growth. Strategic responses based on an analysis of the current economy and research on how consumer and industrial product companies outperformed their peers in prior recessions can help chief financial officers navigate the current downdraft.

### 1. RECOVERY SCENARIOS AND RECESSION

All recessions come to an end eventually. After all, the definition of a recession is merely a fall in economic growth for two quarters or more. Given that economic activity is unlikely to decline ad infinitum, we can assume that sooner or later every recession will be over, too.

Most recessions since World War II have lasted less than a year, in spite of this fact, every recession is different. While there may be common factors running through different periods of economic contraction, every recession has a unique combination of causes and can only be properly understood in its historical context. It's still premature to predict the structure of the recovery, given a variety of exogenous risks.

Based on experience of previous recessions we can identify some models – recovery scenarios which can help management to prepare and act on time.

#### **First model – recovery scenarios**

- If the *recession continues* - or even worsens - then cash and access to credit will continue to be constrained and conditions will remain extremely difficult. The focus on relative performance will intensify.

- If the *rebound is already in sight* - if there really are signs of “green shoots”, management needs to be prepared to act quickly. Typically, a rebound arrives with speed, giving investors multiple choices and management little time. Analysts are unlikely to delay their assessment of performance because programs have yet to be fully implemented.

The economy is not a zero sum game where one side must always lose to let the other win. Only if the majority of businesses improve will the economy turn around.

## **Second model – recovery scenarios**

- The **V-shaped recovery** would see the world economy recovering almost as quickly as it declined.
- Another model would be a **U-shaped recovery** – an extended period of slow to no growth over the next two years followed by a recovery.
- An **L-shaped recovery** would describe extended economic stagnation similar to Japan’s low growth rates in recent years.

### **2. PROPOSALS AND SUGGESTIONS IN THE TIME OF DOWNTURN**

We can specify some suggestions and proposals in order to assist businesses to improve their performance management in the current economic downturn. The following 5 key areas could improve performance management not only in the time of downturn but also when the economy recovers.

We identified 5 key areas for management attention:

- **Securing present** — taking action to secure the immediate position faster so that the business can look to the future.
- **Protecting assets** — addressing a wider set of risk issues on both tangible or non-tangible assets to ensure that problems are not accentuated and mistakes are not repeated.
- **Improving performance** — leveraging performance and cost efficiency programs to achieve maximum efficiency with existing assets.
- **Reshaping business** — reviewing operations and business model to align with the new market situation.
- **Sustaining future** — exploiting opportunities that the downturn may provide to drive sustainable growth.

#### **1. Securing present**

To secure the present, it is imperative to focus on managing cash tightly and uncovering ways to release it. Accurate and robust cash flow forecasts, debt and financial restructuring, supplier stability procedures and customer reviews will keep cash under control. Pulling internal “levers,” such as working capital, accelerated divestment and tax measures, can generate much-needed cash.

#### **2. Protecting assets**

Risk management is under intense review. The role of risk management in supporting performance improvement and the delivery of key objectives is now more critical than ever. The capital markets and other stakeholders will increasingly expect companies to demonstrate that they are “in control” of their business and key assets. Risk management needs to be elevated from a compliance function and instead be used alongside performance management

to drive better decision making. In our fast-moving, competitive world, the speedy detection and resolution of risk are essential - whatever the economic climate.

### **3. Improving performance**

In a world where accessing new assets is likely to be constrained, performance improvement must be earned by improving the return from the assets that you currently have and, potentially, by transforming your whole business.

### **4. Reshaping business**

Companies seem to be taking on board the vital need to adapt their business model to the new economic environment. Executives could have been expected to adopt a reactive rather than proactive response to the crisis, delaying existing programs or delaying the launch of new ones, rather than initiating organizational changes. It is also very important to accelerate reshaping trends. Managers should be interested in active plans such as:

- to do strategic acquisitions in their core business
- to divest noncore activities
- to consider outsourcing or cosourcing
- to consider moving operations to lower cost locations.

### **5. Sustaining future**

Often when the market is under the most stress, organizations are forced to reexamine their business models and create more successful foundations for future growth.

Even in the depths of a downturn, there are company success stories; businesses where earnings are exceeding expectations and that continue to stay robust and even outperform. There are some sectors that are further through the economic cycle than others — telecoms, power, oil and gas to name a few — but others see a longer downturn — most notably asset management and real estate.

Management of companies should analyze their position and find growth opportunities in order to act and take advantage of them.

Managers should focused on:

- Increasing their sales by adjusting their customer propositions.
- Exploring new pricing models.
- Entering new markets or exiting others.
- Leveraging strategic alliances with suppliers, customers or competitor.
- Innovating their business models.
- Making and acting on decisions quickly.

The central ingredient in sustaining future is to have a clear view of where managers want to go, a view of the probable obstacles and the potential risks, and of what managers intend to do to address them.

## **2.1. PROPOSALS FOR IMPROVING THE FINANCIAL POSITION OF THE BUSINESS**

The importance of financial management cannot be overemphasised, especially when business conditions become difficult. While profits may be the measure of success, it is cash that determines business survival. It is very important for the viability of business to convert customers' outstanding debt into cash.

**Prepare regular cash flow forecasts.**

If business is having cash flow difficulties, managers should be preparing such forecasts on a regular basis. They will show the likely extent of any crisis, and how long it might last.

**Keep an eye on entire cash cycle.**

If management is in a difficult cash position, skew promotions towards those services or products which consume less resources or which can be turned into cash more quickly. In other words, generate cash through sales but don't undersell products or services. Business must make a profit.

**Measure and reward the right behaviour in staff.**

For example, sales commission should only be paid on receipt of payment, not when a credit sale is made. This will encourage sales staff to focus on making sales to customers who are most likely to pay.

**Make full use of terms of trade as this amounts to an interest-free loan.**

Don't pay suppliers too early or outside their agreed trading terms. Be seen as a solid, dependable customer. Having a good reputation will give better scope for negotiating deals and favourable trading terms.

**Don't let personal drawings get out of hand.** Ideally, the owners should take a modest but regular wage or drawing, and leave the remaining cash in the business. Keep any fringe benefits or withdrawals of stock to a minimum.

**Don't hide problems from bank.** Keep the lines of communication open. Demonstrate that management is on top of business and understands cash flow. Show that it is possible to provide financial information if management needs to ask for temporary relief on loans.

## **2.2. PROPOSALS FOR IMPROVING THE CASH POSITION AND PROFITABILITY OF THE BUSINESS**

A profitable business is generally a successful business and margin is a measure of that success.

**Prepare financial statements on a regular basis.**

These will give managers the information they need to determine overall profit margin and where costs can be saved. They can also be used to determine the margin on individual items of stock and to compare how business is performing against industry averages.

**Focus on boosting profit.**

Retained profit is an important source of cash to meet obligations and it can also be used for investment. To maximise profit, managers need to focus on sales that give them the highest margin, not just sales. The only exception to this rule is when managers deliberately set out to achieve another aim such as disposing of dead stock to make way for profitable stock.

**If possible, don't discount prices on lower margin products or services.**

Use an alternative strategy, such as bundling in support services for a higher price. This is an especially valuable strategy with slow moving lines as it justifies the investment in them.

**Understand the profit contributions of each products, and main customers.**

This will show management where to best focus efforts and identify opportunities for improvement.

**Don't discount unless it is possible to achieve the same or better gross profit margin.**

It may require large increases in sales to generate the same amount in gross profit. While some price discounting may be required to get shoppers attention, a much better approach is to deliver the discount through, for example, an add-on product. This should deliver higher gross profit to the business.

**Controlling costs**

Costs need to be controlled to a level consistent with the firm's needs. Don't just cut costs. Longer-term and recurring savings are better than short-term wins. Once the easy savings are made, focus on improving sales and gross profit, as that will have a larger impact on the future success of your firm.

**Identify the expenses that keep company in business.**

For example, presentation of premises, advertising and promotion, enhancing staff skills. Keep them at sustainable levels.

**Look at costs carefully, but don't criticise every individual transaction or usage.**

Often a review of the business's processes can eliminate the need for certain costs completely. For example, total interest costs might be reduced by changing debt products, by negotiating a lower margin with bank or another bank or by reducing the amount of debt being used.

**Measure the success of each promotional activity or campaign.**

For example, direct response type advertising (direct mail or emails or coupon ads) is considered more cost effective than advertisements in papers or magazines, as well as being more measurable. This does not necessarily mean cutting promotional spending, it just means increasing its efficiency.

**Be flexible in staffing arrangements.**

Review staff availability against customer flows. For example, a core of full time, permanent staff supplemented by a group of casual or part-time workers may help company through busy periods. However, make sure management is familiar with appropriate legal requirements.

**Don't forget that staff are a key resource, especially in today's tight employment markets.**

Replacing staff can be very costly. Correct motivation and incentives are key to creating an environment where people want to stay and succeed.

**Reduce customer debt**

It is necessary to keep in regular contact with customers about unpaid invoices.

**Keep in touch with customers by asking questions such as:**

- were you happy with the product/service?
- did we provide you with the right paperwork?
- when might we expect to be paid?



This is particularly important if managers are discounting sales, as they have less gross profit margin to generate the cash they need to run business.

**Negotiate periodic payments if that helps customer clear overdue amounts.**

But make sure they stick to their side of the deal. For example, managers might accept 90 per cent of the old balance if it's paid by a certain time.

**Perform credit checks and establish and agree on proper commercial terms for future dealings with customers, including realistic credit limits.**

Some customers may not be worth the effort if they continue to pay late and cause extra administration costs.

**Make sure that invoicing and debtors listing is well managed.**

Don't let poor or sloppy processes, such as not preparing aged debtor reports, contribute to customers delaying payment.

### **3. CONCLUSION**

The financial problems affecting the world economy have forced companies everywhere to address a new economic reality and challenge long-held assumptions and opinions. Many managers, including established market leader, have found it difficult to react to the changing times and have seen their performance and market share eroded as a result.

But a crisis for one company is usually an opportunity for another. Seen from another perspective, this downturn has opened up space in all local and global markets. Companies that cannot adapt to the new circumstances will be replaced. They will be replaced by exceptional enterprises with the agility to adjust to the new reality. All strong business leaders are changing their thinking in response to the current economic environment. They are evolving because they understand the difficulties in sourcing finance and maintaining liquidity and they see the pressures on their people, customers and suppliers, while also recognizing the increased importance of managing risk. The economic downturn is a window of great opportunity for those that can harness positive thinking and act ahead of the competition. To navigate this downturn, managers should successfully develop and execute playbooks to manage liquidity, navigate the downturn, prepare for recovery and manage risk. High performing managers will seize opportunities from the downturn and outdistance their competitors.

### **BIBLIOGRAPHY**

- [1] <http://www.ey.com/opportunities-in-adversity>, 07.11.2009
- [2] <http://www.ft.com/companies>, 10.11.2009
- [3] <http://gfc.cpaaustralia.com.au/>, 08.11.2009
- [4] [www.deloitte.com/vn/dtt/cda/doc/content/US\\_CFO\\_Recession\\_0209\(2\).pdf](http://www.deloitte.com/vn/dtt/cda/doc/content/US_CFO_Recession_0209(2).pdf), 02.11.2009
- [5] [www.continuitycentral.com/feature0624.html](http://www.continuitycentral.com/feature0624.html), 14.11.2009

Dana Lesňáková

Žilinská univerzita v Žiline, Fakulta prevádzky a ekonomiky dopravy a spojov

Univerzitná 1

Žilina

Email: sendrejova\_dana@post.sk

# **HUNGARIAN CORPORATIONS IN GLOBAL PERSPECTIVES – AN ANALYSIS OF STRATEGIC OPPORTUNITIES AND THREATS**

**Zoltán Lovas**

## **ANNOTATION**

Publications on globalisation in Hungary have paid so far only little attention to what kind of influence it has on the corporate sphere. In this study I examine the nature of strategic threats and opportunities globalisation poses to Hungarian based corporations. By means of an empirical research I determine these corporations' competitive situation, the main types of strategies they follow and the new elements of global competition. I analyse the organizational networks of the corporations, and where possible, I compare the findings with the corresponding facts and figures of previous researches.

This study aims to deal with the new strategic challenges related to the reshaping conditions of company operations. With the help of the experimental study of the Hungarian corporations, seeks an answer to the following question: in what form and to what extent Hungarian corporations are prepared for the new strategic challenges? Finally, the conclusions of the empirical survey give a reliable source for determining strategic directional changes and possible answers.

## **KEY WORDS**

Strategic challenges, Globalization, E-business, The scarcity of resources, Directional strategic changes and possible answers

## **INTRODUCTION**

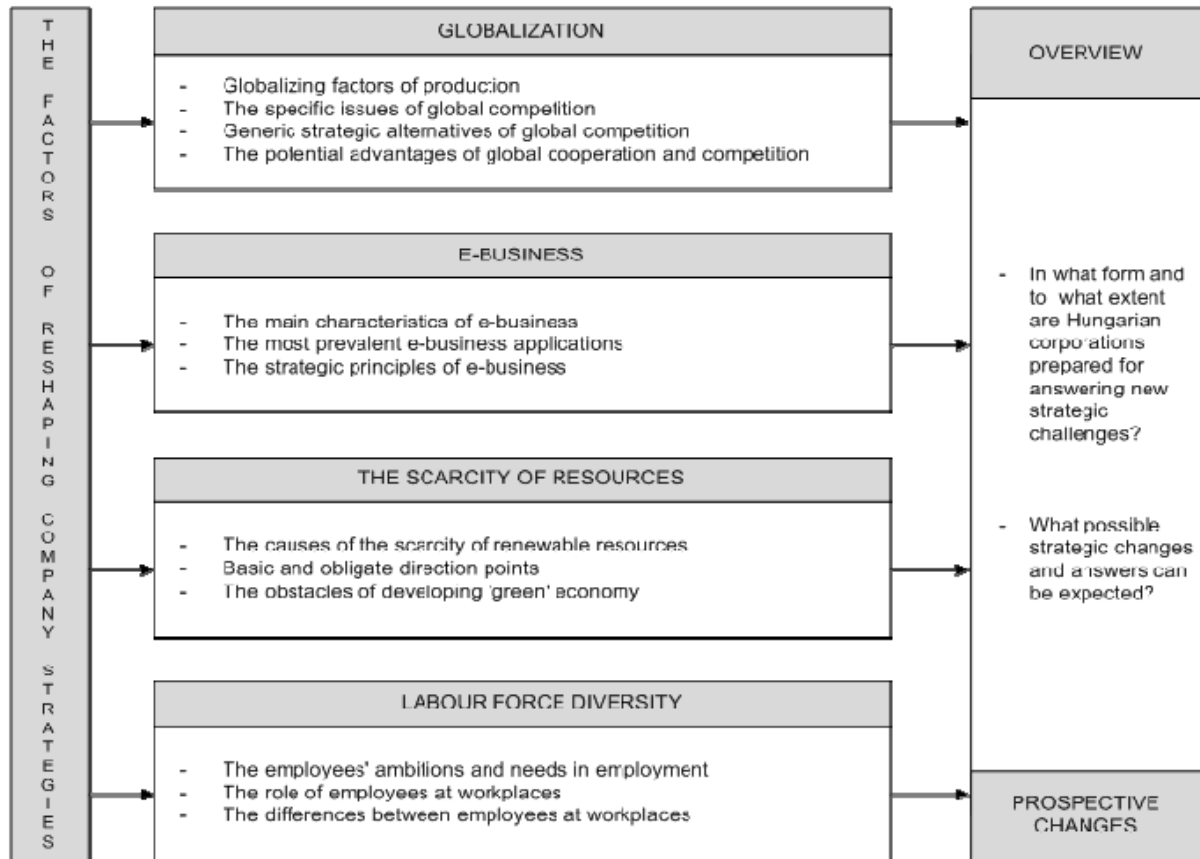
Over the past 30 years, international trade and investment has grown much faster than the world economy. Firms have multiplied their presence outside their country of origin, employing more and more people and selling and buying technology internationally. More and more Hungarian companies are confronted with the need to globalise or die. In our supposedly globalized economy, businesses are advised to charge across borders as if the whole world were one seamless, flat marketplace. But the world is not so flat after all. The largest companies are in flux. New pressures have transformed the global competitive game, forcing these companies to rethink their traditional worldwide strategic approaches. The new strategies, in turn, have raised questions about the adequacy of organizational structures and processes used to manage worldwide operations. Globalisation and the impact of the information-technology have become the most popular agenda in the economic, political and social lives of individuals, firms and nations.

## **AIM AND METHODOLOGY**

There were researches on New Economic Challenges in 2004 and 2009 at the Institute of Business Sciences, University of Miskolc. Professor Gyula Fülöp, who is an expert of the field of Strategic Management, led our researches. The fundamental aim of the last research was to examine how Hungarian corporations are affected by globalization and how they are able to abide the consequences originating from these four trends, respectively, what strategic answers may be given to these challenges. Because of the shortcomings of the relating statistical data and for the better understanding of the new strategic challenges, we conducted a survey based on questionnaires. As the main aim of the research was to characterize the situation in 2009, we could not take notice of the questions of previous surveys when determining the content of the

questionnaires. The corporations in the sample were chosen by their industrial branch, geographical location, ownership structure and the form of investment, based on the TOP 500 list published in HVG in January in 2009. Using the list containing 500 companies with the highest annual turnover (financial institutions are an exception), we asked 23 corporations out of the top 50 to take part in the survey. In this short study I focused only on two parts of the survey: Globalization and E-Business.

Fig. 1. The conceptual model of the study

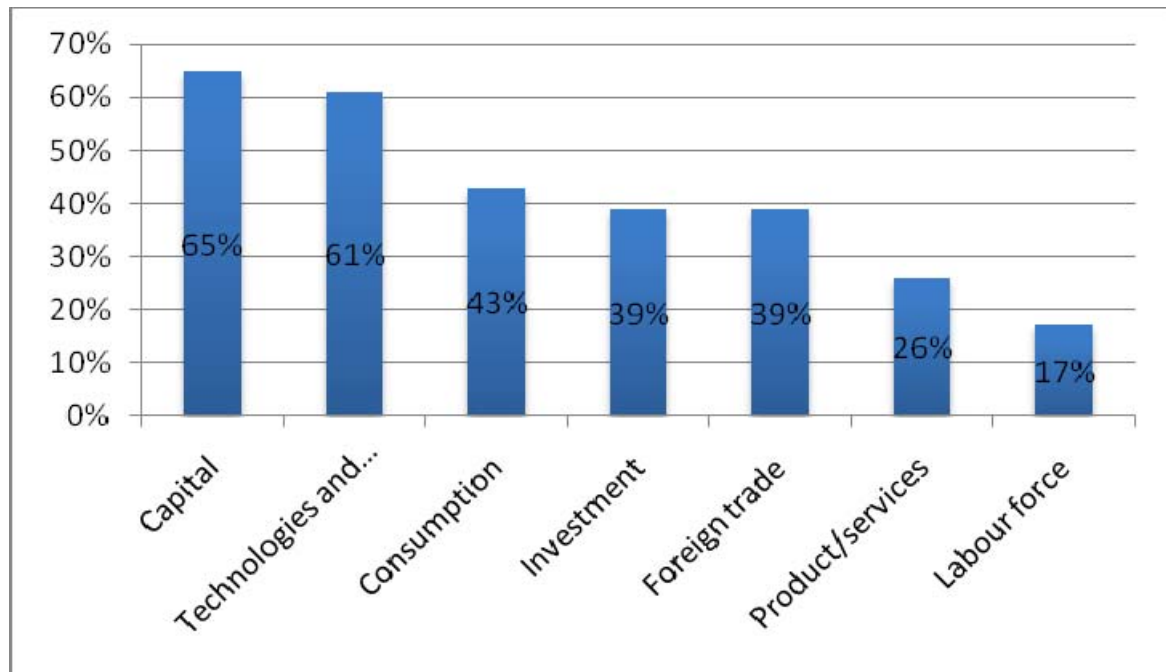


Source: *New strategic challenges – An experimental study of Hungarian corporations*, Gy. Fülöp – I. Pelcz Gall [1]

## RESULTS

Although the globalization of the factors of production is a general phenomenon, significant differences can be demonstrated in the globalization pace of the individual factors. 65 percent of the corporations state that capital and technology became globalized at the fastest pace among the factors of production. In contrast to this, labour force and products/services globalized at the slowest pace, according to 83 and 74 percent of the respondents. This refers to the fact that the labour force of the Hungarian corporations does not take part in the international division of labour extensively, and the products and services provided by these companies have not become globalized brands. 87 percent of the corporations appearing in the sample set store by solving the specific strategic questions of global competition, the aligned realization of market positions, facilities and investments on a global scale (Figure 2.).

Fig. 2. Factors of production globalized at the fastest pace



Source: Individual editing

At the same time, nearly two-third of the companies (65 percent) said that industrial policy and competition regulation were crucially essential for them. As the consequences, they need to be well informed on political issues as the industrial policy of the government of the host country may transform the aims of the companies and affect their positions in the global competition in various ways. Among the generic strategic alternatives, 74 percent of the Hungarian corporations attribute their success to taking part in the global competition extensively (Figure 3.).

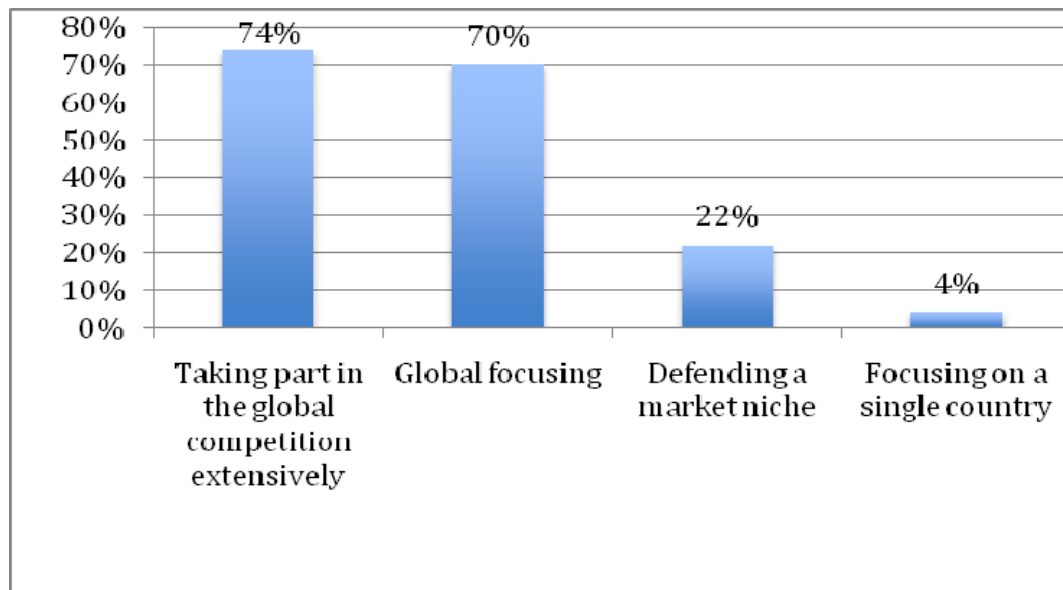
This strategy aims at exploiting the opportunities provided by the global competitive edge with using the industry's whole range of products in order to make the company's products distinguishable from others and produce at the lowest possible cost in the globalized economy. Global focusing would be chosen by 70 percent of the companies asked in those industry segments where the obstacles of global competition are not significant and the company's market position can be defended from the penetration of those corporations that take part in the global competition with wide range of products.

There are not many companies (4 percent altogether) that would aspire to focus on a single country in order to capitalize on the differences between the markets of given countries. One of the most obvious economic advantages motivating a company to follow global strategies is the possibility of reaching new potential customers with existing products or services (70 percent), which can directly increase the company's income. The other great advantage (70 percent) is that the company may have access to low-cost factors of production: cheap raw materials, low-cost labour force and new technologies.

Another important motivating force is the management of general economic risks (39 percent) by the diversification of business activities and, or rather by mixing a wide variety of investments within a portfolio. Among the generic strategic alternatives, 74 percent of the Hungarian corporations attribute their success to taking part in the global competition extensively. This strategy aims at exploiting the opportunities provided by the global competitive edge with using the industry's whole range of products in order to make the

company's products distinguishable from others and produce at the lowest possible cost in the globalized economy [1].

Fig. 3. General strategic alternatives of global competition

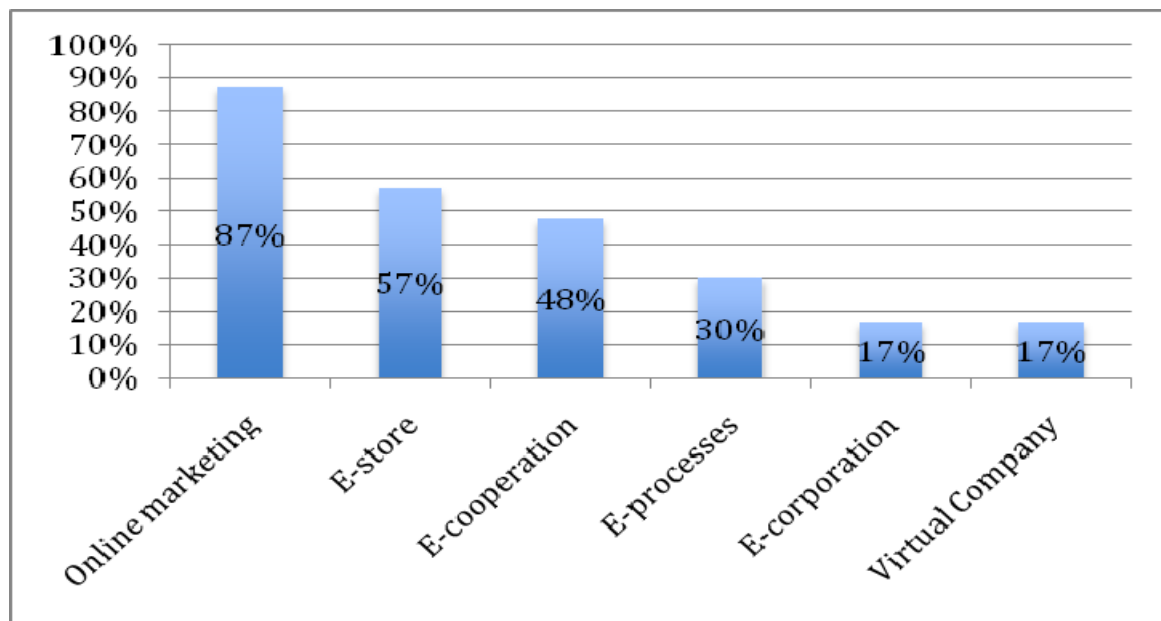


Source: Individual editing

Global focusing would be chosen by 70 percent of the companies asked in those industry segments where the obstacles of global competition are not significant and the company's market position can be defended from the penetration of those corporations that take part in the global competition with wide range of products. There are not many companies (4 percent altogether) that would aspire to focus on a single country in order to capitalize on the differences between the markets of given countries. One of the most obvious economic advantages motivating a company to follow global strategies is the possibility of reaching new potential customers with existing products or services (70 percent), which can directly increase the company's income. The other great advantage (70 percent) is that the company may have access to low-cost factors of production: cheap raw materials, low-cost labour force and new technologies. Another important motivating force is the management of general economic risks (39 percent) by the diversification of business activities and, or rather by mixing a wide variety of investments within a portfolio. 70 percent of the companies taking part in the survey fully agree with the statement that one of the main characteristics of e-business is expanding existing distribution channels. During the evaluation of the main effects of e-business, it was revealed that 43 percent of the managers asked had unanimously and fully agreed with the statements that e-business 'streamlined' purchase and supply processes, was able to increase the value of a product offered to the customer, and changed the traditional structure of the industry. These statements reflect that the Internet with its decreasing costs offers an extraordinarily useful tool to accelerate the operation of company systems and processes as well as to set prices, quality and style that suit better to customers' individual needs. In contrast to this, opinions were different (26-26 percent of the companies fully agreed, 26-17 percent of them did not agree) in judging whether e-business applications increase efficiency in production and service processes by leaps and bounds, and contribute to the reorganization of the value chain making value-added products. This difference in opinions may be attributed to the fact that the analysis methods based on the Internet do not

enable every organization to eliminate their gratuitous costs and their non-efficient technological and organizational phases. The vast majority of the companies in the sample (87 percent) thinks – similarly to the results of other Hungarian surveys, as it was shown by Péter Sasvári – that the most widespread e-business application is online marketing, which is followed by e-store (57 percent) and e-cooperation (48 percent) (Figure 4.). This is understandable as there are a lot of existing variations of e-business applications that are built upon one another. It is customary to regard online marketing as the basic level of e-business, it is required for most companies to establish e-stores and open towards e-processes if they want to improve their positions and remain in competition.

Fig. 4. The most prevalent e-business applications



Source: Individual editing

I have identified various sources of motivations behind the enterprises' internationalisation business strategy. They include:

- Secure key supplies in various geographical locations around the world;
- Access to low-cost factors of production;
- The ability to reduce costs – economies of scope and scale, together with focused production, reduce the cost of products and services;
- The ability to provide higher quality (because of economies of scope and scale);
- Enhanced customer awareness and loyalty due to the interaction of three forces: global availability, serviceability and recognition;
- Increased leverage over competitors by bringing resources of the worldwide network to bear on the competitive situation in individual countries;
- Greater access to human skills and knowledge, because global companies can access the best people in the world, irrespective of nationality;
- Increased access to financial resources and capital, including more frequent access to a variety of world stock exchanges;
- Increased availability of information resources is often the competitive edge [8].

### **Perspectives on globalisation**

The phenomenon of globalisation means different things to different people. For example, viewed purely from an economic standpoint, globalisation is conceived as a process of increasing involvement in international business operations.

Thus, globalisation is conceived as a business trend worldwide of expanding beyond domestic boundaries, which is creating an interconnected world economy in which companies do their business and compete with each other anywhere in the world, regardless of national boundaries.

Within this economic conceptualisation, Hungary and their home firms elect to trade with each other in their attempts to increase wealth and economic prosperity for their nations, firms and ultimately their citizens.

Meanwhile, a sociological view of globalisation defines globalisation as a more pervasive force throughout the world in a sense that globalisation leads to 'the constraints of geography on social and cultural arrangements recede whilst people around the world become increasingly aware that they are receding'.

Underlying these definitions is the belief that technological innovations in areas such as communications and transport have been the driving force behind the breaking down of national and international barriers including vast geographical distances and the presence of myriad linguistic and cultural groupings across the world. In other words, the world is increasingly becoming a 'global village'.

### **CONCLUSION**

There has been a sea change in the world economy, with perceived far-reaching consequences on all aspects of human civilisation. We are moving progressively further away from Hungary in which economies were relatively isolated from each other by barriers to cross-border trade and investment; by distance, time zones and language; and by national differences in government regulation, culture and business systems. We are moving towards a world in which national economies are merging into an independent global economic system, commonly referred to as globalisation.

The transformation now taking place in the global economy is unprecedented. The increasing availability of global capital, coupled with advances in computing and communications technology, is serving to speed up the processes of globalisation [2]. Concurrently, the barriers to globalisation are increasingly disappearing in Hungary.

The other key question is not whether to deploy Internet technology – companies have no choice if they want to stay competitive – but how to deploy it. Here, there is reason for optimism. Internet technology provides better opportunities for companies to establish distinctive strategic positioning than did previous generations of information technology [3].

The Internet will rarely be a competitive advantage. Many of the companies that succeed will be ones that use the Internet as complement to traditional ways of competing, not those that set their Internet initiatives apart from their established operations. That is particularly good news for established companies, which are often in the best position to meld Internet and traditional approaches in ways that buttress existing advantages. But dot-coms can also be winners – if they understand the trade-offs between Internet and traditional approaches and can fashion truly distinctive strategies. Far from making strategy less important, as some have argued, the Internet actually makes strategy more essential than ever.

## BIBLIOGRAPHY

- [1] Fülöp Gy.– Pelczné Gáll I.: Új stratégiai kihívások – a hazai cégek kísérleti vizsgálata [VII. Nemzetközi Konferencia Miskolc-Lillafüred, 2009. május 19-20., ISBN 978-963-661-891-9]
- [2] Gupta, Anil K.; Westney, D. Eleanor: Smart Globalization: designing global strategies, creating global networks – 1st ed., (The Jossey-Bass business & management series) [ISBN 0-7879-6532-4], Published by Jossey-Bass, USA-San Francisco, 2004;
- [3] Brynjolfsson E., Urban G.: Strategies for e-business success – 1st ed., (The Jossey-Bass business & management series) [ISBN 0-7879-5848-4], Published by Jossey-Bass, USA-San Francisco, 2001;
- [4] Magretta J.: Managing in the new economy, Harvard Business Review book, [ISBN: 1-57851-186-0], USA, 1999;
- [5] Bartlett C. A., Ghoshal S.: Managing across borders – 2nd ed. , [ISBN: 0-87584-849-4] Harvard Business School Press, USA, 2002;
- [6] Harvard Business Review on Corporate Strategy – [ISBN: 978-1578511426] Harvard Business School Press, USA, 1999;
- [7] Harvard Business Review on Advances in Strategy – [ISBN: 978-1578518036] Harvard Business School Press; 1st edition; Porter, M. A., Strategy and the Internet p.1-51, 2002;
- [8] Saeed J. – Contemporary Corporate Strategy, global perspectives [ISBN: 0-203-93298-6] Taylor and Francis Group; Routledge, p. 1-7, 2007.

Zoltán Lovas  
University of Miskolc – Institute of Business Sciences  
3515 Miskolc-Egyetemváros  
Miskolc, Hungary  
vgtlovas@uni-miskolc.hu



# **CHARACTERISTICS OF SMALL AND MEDIUM-SIZED INNOVATIVE ENTERPRISES AND PROBLEMS AFFECTING THEIR ACTIVITIES**

**Petra Matějovská**

## **ANNOTATION**

Innovation is generally considered as a motive power of economic growth nowadays. Especially new products, services and new methods of their production and providing are increasing the economic value and enable to improve the standard of living. SMEs are responsible for the most of the innovations that lead to new more valuable goods and services. SMEs include all types of companies from the single proprietorship to the cooperatives. Whereas some SMEs offer very traditional goods and services or craft products, many others are fast-growing companies in the field of top-technologies. Despite these differences the European SMEs are facing many common problems. Innovative process is described as basic innovative incentive development that should transform into a competitive advantage of new product in another processing stage - its high quality, affordable price and good timing of its launching on the market. In the European Union SMEs are considered as the base of national economics and in particular for the reasons introduced in the paper. The EU strategy in innovation area focuses on overcoming failure of the market and to eliminate market barrier that interdict innovative companies to grow and prosper through Europe. To achieve this objective EU takes political action improve the framework conditions for innovations in the cooperation with the member states. Innovations are very important for survival and prosperity of the enterprises today more than ever before. Markets are changing very quickly and competitive business of booming economics like China and India is becoming more significant. Research and development and realization of innovative ideas for SMEs are commonly more complicated than for large companies. SMEs often lack for financial resources and their own technical facilities for the implementation of research and it is hard for them to find a competent business partner for realization of their ideas and access to the programs that co-finance research and development.

## **KEY WORDS**

Small and middle enterprises, innovation management, research and development, market barriers, products and services.

## **INTRODUCTION**

Today's increased market competition requires that companies have the capabilities to manage the process of innovation, from their innovation strategy to original idea to final product. Only then companies will know with which products, services, processes or business models they will generate their revenues and profits in the near future.

## **AIM AND METODOLOGY**

The aim of this paper is to assess the current condition of the European economy and to describe problems that SMEs are facing. The most basic ingredient of our research is problems that affect the activities of SMEs.

The next section discusses what makes the European Union in the field of innovation. The future economic conditions will be shaped by the current and future policies and therefore entrepreneurs complain that the Act for small and medium-sized enterprises is not applied in practice.

## RESULTS

The definition of small and medium-sized enterprises (SMEs) is important for determining which companies can benefit from EU programmes aimed at SMEs and certain policies for example, the specific rules of competition for SMEs.

### Small and medium-sized enterprises in European economy

The basic criterion for assessing the size of entrepreneurs is the number of employees, the size of the annual turnover and the annual balance sheet (the size of assets). Information to be used to determine the number of employees and financial variables are the data relating to the last closed period of taxation calculated over a period of one calendar year.

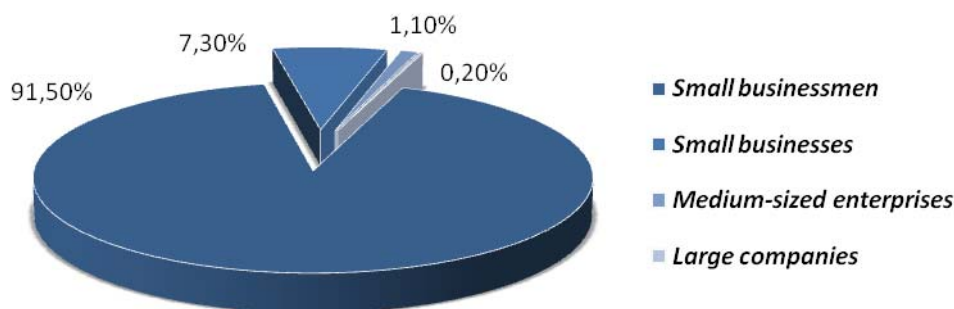
- **Medium-sized enterprise** is employing less than 250 employees and its annual turnover is not exceeding 50 million EUR or its annual balance sheet total is not exceeding 43 million EUR.
- **Small businesses** are defined as enterprises which employ less than 50 employees and whose annual turnover or annual balance sheet is not exceeding 10 million EUR.
- **Small businessmen** are entrepreneurs who employ fewer than 10 people and whose annual turnover or annual balance sheet is not exceeding 2 million EUR.

### European SMEs represent:

- 99,8 % of all European companies,
- 67,1 % jobs in the private sector,
- more than 80% of employment in some industries, such as metalworking, building and furniture industry.

Small businessmen represent real giants of European economy which is shown in the figure below.

Fig. 1 Division of main indicators by the size of company in non-financial sector of the economy



Source: Eurostat, *Structural statistics of enterprises*

Small and medium businesses are in the European Union considered the basis of national economies

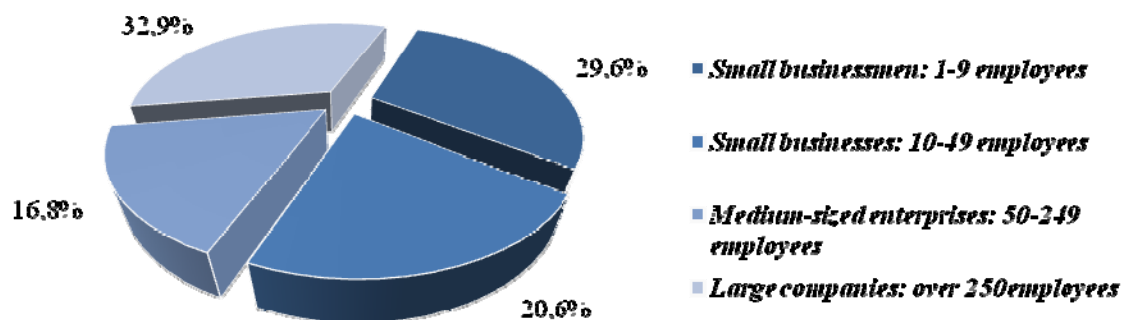
### In particular for the following reasons:

- they are flexible, able to adapt to the conditions and requirements of the market
- significantly contribute to the formation of new jobs
- support and develop competitive environment

- operate as an element of economic equilibrium, their unique and individual character is an antipole of the global economics.

A total of 67% of European jobs in the private sector are small and medium-sized enterprises described by percentage share of the total which are shown in the figure below.

Fig. 2 Division of number of employees by the size of company in non-financial sector of the economy



Source: Eurostat, *Structural statistics of enterprises*

### What problems small and medium-sized enterprises are facing?

SMEs include all types of companies from the single proprietorship to the cooperatives. Whereas some SMEs offer very traditional goods and services or craft products, many others are fast-growing companies in the field of top-technologies. Despite these differences the European SMEs are facing many common problems.

Setting up an SME is just the beginning. If SMEs are to have a significant impact on Europe's economy, they need to grow bigger – take on more employees, and expand their product ranges, markets and turnover.

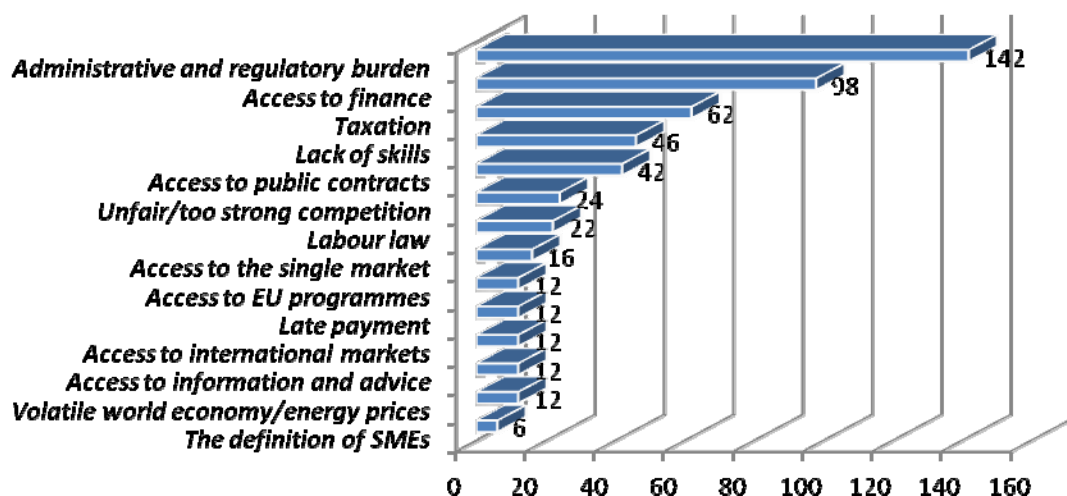
In many cases, the skills and experiences of an entrepreneur are not necessarily sufficient to grow the business to a much larger size. Further stages in the company's development require, amongst other things, new technologies and the know-how to implement them, new staff, with additional skills, and access to new markets. And of course, financial investment is a major requirement for growing a firm.

SMEs make up 99, 8 % of all enterprises in Europe, account for the majority of new jobs created, and make an important contribution to achieving the European Union's goal of more growth and more and better jobs. So the value of SMEs to an economically competitive Europe is therefore enormous.

There are quite a few crucial problems which SMEs have to face. While even major companies take advantage, it is even more crucial for SMEs because their portfolio of business activities is understandably not big enough for a general (uninsured) effective risk management. SMEs often have no chance to influence policy-makers – while SMEs get on with the job, large firms employ lobbyists to help tailor laws in their own favour.

The biggest problems faced by European SMEs have been processed using a questionnaire with one or several possible answers.

Fig. 3 Problems that affect the activities of SMEs expressed by the number of responses



Source: European Commission, Report on the results of open consultation about „Small Business Act“for Europe 2008

***Entrepreneurs complain, Act for small and medium-sized enterprises is not applied in practice***

European business lobby criticises the national parliaments that they were not able to implement the European Act for small and medium-sized enterprises yet although it has already been one year from the adoption of this Act by the European Council.

Three European business organisations had a meeting on a conference organised by the European economic and social Committee on December 2<sup>nd</sup> and appeal to national and regional leaders to give a greater efforts and take the concrete steps.

According to business associations no huge success has been achieved yet and on the part of companies disappointment is increasing. In particular, it is necessary for enterprises to facilitate access to finance which could invest in innovation and research. The European Commission believes that the implementation of European Act for small and medium-sized enterprises is evolving well but it will continue to aim at implementing at national level.

**SMEs and innovation**

Innovation is generally considered as a motive power of economic growth nowadays. Especially new products, services and new methods of their production and providing are increasing the economic value and enable to improve the standard of living. SMEs are responsible for the most of the innovations that lead to new more valuable goods and services (Although the production and marketing of such innovation can finally take large companies).

The main players in the innovation are enterprises and small businesses and therefore, the Commission focuses its efforts in the context of innovative policy on two areas. Firstly, it aims to raise awareness about the need for innovation and the benefits that they bring. While supports a number of initiatives to show that innovation apply to the widest possible scale of business. Policy in this area seeks to overcome the idea that only highly technically oriented

manufacturing companies are interested in innovation. Innovation in services and other sectors will have a greater effect on jobs and growth in Europe.

The second objective of the EU innovation policy is to encourage Governments and public authorities in the Member States to create an environment in which innovation is appreciated, supported and developed. Small businesses must be able to act quickly which is the basis for the innovation to communicate ideas and information and make easier the administrative and financial burden.

To ensure that SME could efficiently innovate, its management and staff must have certain capabilities and skills. These are:

- The systematic collection of all initiatives that could lead to innovation
- Staff creativity
- Project access and the ability to manage projects
- Effective teamwork
- Motivation of employees (employees want to improve the product and the company functioning)
- Adequate access to risk
- The ability to assess the feasibility of innovative idea
- Cooperation with external professional capacities (universities, research departments, etc.)
- Continuous training of employees
- The ability to finance innovative activities
- Innovative performance monitoring

Innovative process is developing the basic innovative initiative which in the other stages of the process must transform into competitive advantage of a new product - its high quality, acceptable price and good timing of its entry on the market. Sources of innovative initiatives are necessary to search both within the organisation and the external environment.

### ***Seven sources of innovative opportunities***

Drucker lists seven sources of innovative opportunities. The first four opportunities are internal, relative to the company or institution. They are relatively reliable indicator of changes which already occurred or to which just small effort is needed. These are:

- ***unexpected events*** - unexpected success or failure, unexpected external event
- ***contradiction*** - between the fact that really is and what the fact we want to have
- ***innovation based on the change a workflow***
- ***restructure of sector or market*** - that nobody is ready for

Next three innovation sources are external:

- ***demographic changes***
- ***changes in perspective***
- ***new knowledge***

These seven sources is ordered by decreasing reliability and predictability.

### **Stimulation of research and innovation in small and medium-sized enterprises**

Innovations are very important for survival and prosperity of the enterprises today more than ever before. Markets are changing very quickly and competitive business of booming economics like China and India is becoming more significant. Research and development and realization of innovative ideas for SMEs are commonly more complicated than for large companies. SMEs often lack for financial resources and their own technical facilities for the

implementation of research and it is hard for them to find a competent business partner for realization of their ideas and access to the programs that co-finance research and innovation.

***What makes the European Union in the field of innovation?***

The EU strategy in innovation area focuses on overcoming failure of the market and to eliminate market barrier that interdict innovative companies to grow and prosper through Europe. To achieve this objective EU takes political action improve the framework conditions for innovations in the cooperation with the member states.

EU-wide innovation strategy focuses on cross-cutting issues as intellectual property, standardisation and public contracts. It includes specific actions such as public and private sector partnership in the form of joint technology initiatives, initiatives of crucial markets and The European innovation and technological Institute (EIT).

The main financial instrument of innovation strategy of European Commission is the competitiveness and innovation framework programme (CIP). The Programme aims to encourage the competitiveness of European enterprises. With small and medium-sized enterprises as its main target, the programme supports innovation activities (including eco-innovation), provides better access to finance and delivers business support services in the regions. It encourages a better take-up and use of information and communications technologies and helps to develop the information society. It also promotes the increased use of renewable energies and energy efficiency. With a total budget of €3621 million the programme runs from 2007 to 2013.

Europe INNOVA initiative under the CIP unifies companies, research organisations and investors in order to exchange successful practices in the field of financing innovation, clusters, standards and management of innovation in specified sectors.

Currently, there are 11 networks of sector clusters, 10 sector financial networks, 6 networks for standards, 1 project of innovation management and recently started running innovative platforms knowledge-intensive home. There are involved more than 300 experts for innovation from 23 Member States.

Strong and effective cooperation networks which operate in a certain geographical area can be successful driving force for regional economic development and innovation. Europe is not missing these clusters but the leading clusters highly competitive on the world market. The EU intends all available tools to strengthen European clusters, particularly encouraging transnational cooperation among clusters, even among national public authorities and agencies for innovation, which are responsible for cluster programs.

In the future, to overcome fragmentation and for more efficient spending of funds, there will be decisive the interaction among policy makers and cooperation networks. The initiative PRO INNO Europe supports these programmes of cooperation at the level of policies in various areas of innovation.

## **CONCLUSION**

Many SMEs and young innovative companies do not possess the entrepreneurial skills needed to exploit innovation successfully and survive in a competitive market. Innovation management is about developing and organising capabilities within companies and translating them into competitive advantages and profits.

Innovation management is specifically aimed at supporting innovative companies in overcoming problems and involves reducing corporate barriers and connecting research and manufacturing departments, and also reaching outside the company for new ideas. Finally we can state that this requires two things: trust and openness.

### BIBLIOGRAPHY

- [1] *Akt pro malé a střední podniky není uplatňován v praxi, stěžují si podnikatelé* [online]. EurActiv.cz 2009. [cit. 2009-12-05]. Dostupný z WWW: <<http://www.euractiv.cz/podnikani-a-zamestnanost/clanek/akt-pro-male-a-stredni-podniky-neni-uplatnovan-v-praxi-stezuji-si-podnikatele-006819>>
- [2] DRUCKER, P.F. *Inovace a podnikavost*, Praha: Management Press, 1993. 266 s. ISBN 80-856-0329-2
- [3] *Eurostat, klíčové ukazatele pro podniky v nefinančních sektorech hospodářství* [online]. European Commission, 2008. [cit. 2009-11-09]. Dostupný z WWW: <[http://ec.europa.eu/enterprise/newsroom/ce/document.cfm?action=display&doc\\_id=4582&userservice\\_id=1&request.id=0](http://ec.europa.eu/enterprise/newsroom/ce/document.cfm?action=display&doc_id=4582&userservice_id=1&request.id=0)>
- [4] *Making SMEs more competitive* [online]. European Commission, 2009. [cit. 2009-11-27]. Dostupný z WWW: <[http://ec.europa.eu/enterprise/sme/competitive\\_en.htm](http://ec.europa.eu/enterprise/sme/competitive_en.htm)>
- [5] *Supporting Innovation in a Changing World* [online]. Europe INNOVA, 2009. [cit. 2009-11-19]. Dostupný z WWW: <<http://www.europe-innova.eu/web/guest>>
- [6] *The competitiveness and innovation framework programme (CIP)* [online]. European Commission, 2009. [cit. 2009-11-29]. Dostupný z WWW: <[http://ec.europa.eu/cip/index\\_en.htm](http://ec.europa.eu/cip/index_en.htm)>

Ing. Petra Matějovská  
Technická univerzita v Liberci  
Ekonomická fakulta - Katedra podnikové ekonomiky  
Studentská 2  
461 17 Liberec 1  
petra.matejovska@tul.cz

# COMPETITIVENESS OF CZECH COOPERATIVE

Petr Mikus

## ANNOTATION

The paper describes the current trends in cooperatives, particularly focusing on added value in cooperatives and its coherence and impact on the competitiveness of cooperative organizations in the modern economy. The analysis made in the article is processed by qualitative data gathered through a questionnaire, as well as on quantitative data obtained from the primary financial statements of cooperatives. These data were obtained by exploratory survey of Czech cooperatives.

## KEY WORDS

cooperative, competitiveness, trends

## INTRODUCTION

Cooperatives were considered as a remnant of the former regime for years after the velvet revolution in 1989. The strange taste of mark „cooperative“ was caused by the governmental actions during the 50s and the 60s. Nowadays, this „resistance „ceased, and cooperatives (agricultural, manufacturing and sequential) are undergoing renaissance. Due to recent emancipation, cooperatives were placed and considered on the same level as other “classical” legal forms of entrepreneurships.

The position of contemporary cooperatives on the same level with these subjects places them not only on the same market but also forces them to face same amount of competition forces. Cooperatives must demonstrate the same effort in surviving on the market, in cooperation. This position also produces pressure on optimization of internal operations.

The problems of the cooperatives competitiveness is not well described so far. It is therefore useful to understand the common remarks and differences among cooperatives and other legal forms – especially value added as a factor of competitiveness.

## AIM AND METODOLOGY

### The Aim

The aim of this article is the analysis of the value added and the competitiveness in the Czech cooperatives, as a phenomenon, which is currently understood and associated with more traditional forms of business (Joint Stock Company, Public limited company etc.). This main goal is divided into two sub-goals:

- The comparison of the value added among other cooperatives
- The comparison of the value added among other legal forms of enterprises (Joint Stock Company, Public limited company etc.)

The article also incorporates analysis of competitiveness of cooperative production.

Partial objectives of article (sub-goals) are added value in comparison with other forms of cooperative enterprise and analysis of trends in value-added cooperatives during the past three years. The article also incorporates analysis of competitiveness of cooperative production.

The analysis, done in the article, is utilises qualitative data gathered through a questionnaire, as well as on quantitative data obtained from the primary cooperatives. These data were obtained by exploratory survey of Czech cooperatives. Therefore for the elementary non-



context qualitative analysis were used answers obtained during this-year survey among the Czech manufacturing cooperatives.

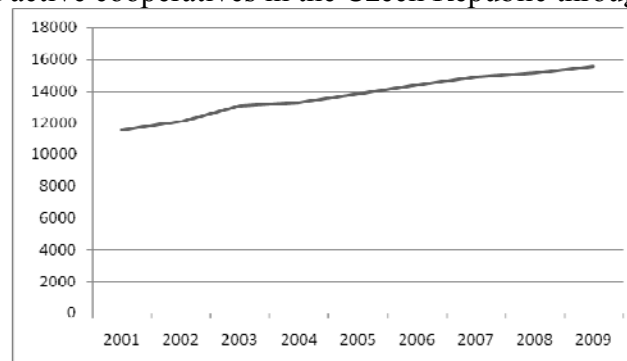
## RESULTS

Starting in the reference point of aims, it is expected, that the subjective feeling of ability to compete in cooperatives will be significantly lower than in the other legal forms of entrepreneurships. It is also expected, that the value added (factor of competitiveness) in cooperatives will be lower compared to the other legal forms than with other cooperatives. These two indicators above are non-dynamical. The expectations are made towards dynamical indicator of tendency of the value added. These three indicators will be analysed to estimate the rate of the competitiveness and extrapolate the importance and influence of these three indicators on the overall competitiveness.

### Position of the cooperatives in the national economy

The number of cooperatives in national economy rises proportionally to rise of the number of the other legal forms of enterprises. The tendency of increasing number of the cooperatives shows graph #1. This increase is more or less linear.

Figure #1: Number of active cooperatives in the Czech Republic through years 2001 – 2009



Source: Author with utilisation of CZSO data

- Structure of cooperatives by the area of their activities  
Agriculture and forestry 1548 (38%), building 888 (21%), manufacturing 691 (17%), retail 624 (15%), other 368 (9%).
- Share of the cooperatives among other legal forms in national economy of CZ  
Joint-stock company 23055 (7%), State enterprises 430 (0%), Cooperatives 15540 (5%), corporate bodies<sup>1</sup> 297840 (88%)

### Structure of research sample

Total number of respondents was 249. For the purposes of qualitative analysis were used narrower samples due to failure to answer certain questions by the respondents. Despite all the limitations and incompleteness managed to get a large sample of cooperatives, is sufficient for both qualitative and especially for quantitative part.

---

<sup>1</sup> limited liability company, co-partnership company, special limited partnership – commandite

Figure #2: Number of respondents in groups sorted by sector

Sector	Count	
	Absolutely	Relatively
agriculture	89	48%
manufacturing	56	30%
consumer/retail	17	9%
other	24	13%
SUM	186	100%

Source: questionnaire

When sorting by size, the groups may be seen in table below.

Figure #3: Number of respondents in groups sorted by size (EU methodology)

Category	Employee limitation	Count	
		Absolutely	Relatively
Micro-coop	0 - 9	27	15%
Small coop	10 - 49	66	35%
Medium coop	50 - 249	75	40%
Large coop	250 and more	18	10%
SUM		186	100%

Source: questionnaire

### Value added

In the first table we see an overview of the value added by type of cooperative in a research sample. It is an absolute indicator. The table shows that most cooperatives (75%) fell into the category of medium added value. Low and high added value to other cooperatives have copied classical Gaussian frequency distribution curve, where most teams declares medium added value in comparison with other cooperatives.

Figure #4: Value added in comparison among cooperatives sorted by sector

Value added in comparison among cooperatives						
Sector	Low		Medium		High	
	Absolutely	Relatively	Absolutely	Relatively	Absolutely	Relatively
agriculture	6	3,2%	70	37,6%	8	4,3%
manufacturing	6	3,2%	44	23,7%	4	2,2%
consumer/retail	2	1,1%	11	5,9%	4	2,2%
other	2	1,1%	15	8,1%	2	1,1%
SUM	16	8,6%	140	75,3%	18	9,7%

Source: author using data of questionnaire

Quite a different perspective on the issue of added value in table below, in which the added value is compared among other legal forms of businesses, namely “non-cooperative” entities. One of the most important moments is the finding that in comparison among cooperatives the respondents (coops) had “greater” confidence. In the previous case the low value was reported by 16 cooperatives, when comparing with other cooperatives. On comparison with different legal forms, there were reported 66 cases (35% of all responses). It also decreased the number of cooperatives that marked their situation in terms of added value compared to other legal forms as a high from 18 to 15. This “decline” is not as striking as in the declaration of low added value.

Figure #5: Value added in comparison with other legal forms

Value added in comparison with other legal forms						
Sector	Low		Medium		High	
	Absolutely	Relatively	Absolutely	Relatively	Absolutely	Relatively
agriculture	37	19,9%	41	22,0%	5	2,7%
manufacturing	20	10,8%	33	17,7%	1	0,5%
consumer/retail	6	3,2%	10	5,4%	1	0,5%
other	3	1,6%	16	8,6%	1	0,5%
SUM	66	35,5%	100	53,8%	8	4,3%

Source: author using data of questionnaire

In comparing the relative qualitative characteristics the questionnaire was focused on the trend of value added per worker. The table is shows, that whole 43% of respondents cooperatives indicates a growing trend. The group leader are agricultural cooperatives, which had a growing tendency in more than 20%, followed by production cooperatives (11.3%), and finally consumer/retail cooperatives (5.9%) and others (5.4%). In contrast, in agricultural cooperatives is absolutely the most respondents with a decline in value added (17, 9.1% of responses). If we focus on overall figures, we find that the trend growth or stagnation was observed in 80, respectively 72 cooperatives. Only in 32 was declining.

Figure #6: Tendency of value addend per employee

Tendency of value addend per employee						
Sector	Growth		Stagnation		Fall	
	Absolutely	Relatively	Absolutely	Relatively	Absolutely	Relatively
agriculture	38	20,4%	35	18,8%	17	9,1%
manufacturing	21	11,3%	20	10,8%	14	7,5%
consumer/retail	11	5,9%	5	2,7%	0	0,0%
other	10	5,4%	12	6,5%	1	0,5%
SUM	80	43,0%	72	38,7%	32	17,2%

Source: author using data of questionnaire

### Production competitiveness

As an additional indicator of the characteristics of the cooperatives is the expression of the representatives of cooperatives to the competitiveness of their products or services. Here, a large majority of coops declared that their products are fully competitive, able to survive in the market. The agricultural cooperatives have been in 63 out of 88 respondents convinced that their products are competitive. This may be due to the specifics of the primary agrarian production, which is to some extent limited competition in the sector and also the potential non-competing among cooperatives in the industry/sector. For other coops, the reply is YES (the products are competitive) in about 75% of respondents. Last placed, the consumer/retail cooperatives, identified 50% of respondents competitiveness as a positive, rest as partial/limited. Even so the number of "positive response" is high (in the overall response 67%), and thus last year's research was verified.

Figure #7: Production competitiveness

Production competitiveness						
Sector	Yes		Limited/partly		No	
	Absolutely	Relatively	Absolutely	Relatively	Absolutely	Relatively
agriculture	63	33,9%	21	11,3%	4	2,2%
manufacturing	37	19,9%	18	9,7%	1	0,5%
consumer/retail	8	4,3%	8	4,3%	0	0,0%
other	17	9,1%	7	3,8%	0	0,0%
SUM	125	67,2%	54	29,0%	5	2,7%

Source: author using data of questionnaire

In terms of the size breakdown was identified as a negative competitive only in 4 agricultural and one production cooperatives. Large gaps in competitiveness declared 2 micro, 2 small and 1 medium-sized cooperatives. Large cooperatives described their production as a fully competitive on the market. 60% of cooperatives declared full competitiveness.

## CONCLUSION

The contribution deals with the analysis of the value added on relatively non-homogenous group of cooperatives. It encompassed the most important business sectors - agriculture, manufacturing, consumption and additionally, the other cooperatives (sectors). As in the pilot data collection has also managed to cover the entire scarf size structure splitting by EU directives.

Analysis of added value was divided into two parts. Research in the first part - the qualitative research - was relatively independent of the specificities of each cooperative and division of these cooperatives into clusters by industries or size.

84% of total number of cooperatives announced its added value in comparison with other cooperatives as medium or high. Interviewed cooperatives reported confidence in their own abilities.

If we focus on added value in comparison with other legal entities, cooperatives declare the value added at a higher level. About 89% of cooperatives indicate value added as a medium or high. Which is a surprise compared to proposition of more aggressive governance of non-cooperative corporate bodies, that are not "bound" by cooperative tradition, which, from the beginning, was the community rather than a tool to create profit.

Notably, it also revealed that the trend of increasing value added was declared mainly among agricultural cooperatives (as opposed to manufacturing during year-before research), followed by production and consumption cooperatives. Other cooperatives remained at the end of an imaginary scale, replacing the agricultural cooperatives. When we assort cooperatives by size, the characteristic of the research sample is distorted, due to missing size assorting data. But even here there are some attractions. It is an interesting shift in the declaration of the stagnation of growth, whereas the number of cooperatives has grown significantly. It is questionable how much is it due to the economic crisis or caution when respondents 'estimate' value added.

The last part was a qualitative analysis of the competitiveness of cooperatives products. Top competitiveness was evaluated by the agricultural cooperatives. In the agricultural sector is a relatively homogeneous production and entrepreneurship is on a similar business structure

between joint-stock companies and cooperatives, due to recent history development (transformation act). The worst competitiveness was stated by the consumer cooperative, where there is strong pressure from the competition (mainly in grocery area) and supermarket chains. The group of „other” cooperatives was highly non-homogenous (and is stated only for completeness), but on an average they stated the competitiveness was medium.

### **BIBLIOGRAPHY**

[1] HESKOVÁ, M., WILSON, M., ŠÚBERTOVÁ, E., LONERGAN, G. Encyklopedie družstevnictví - Svazek 1. 1. vyd. Bratislava: KARTPRINT, 2005, 71 s. ISBN 80-88870-51-8.

[2] MIKUŠ, P. Vysoce zhodnocující podnik. In Firma a konkurenční prostředí 2008. 1. vydání. Brno: Mendelova zemědělská a lesnická univerzita v Brně, 2008. od s. 81-89, 9 s. ISBN 978-80-7392-022-7.

[3] NOVOTNÝ, J., KLAPALOVA, A., SUCHÁNEK, P., MIKUŠ, P. Činitelé podněcující a tlumící zakládání a rozvoj malých a středních podniků v ČR jako členské zemi EU. První. Plzeň: Aleš Čeněk, 2008. 206 s. 1. vydání. ISBN 978-80-7380-092-5.

[4] SYNEK, M. a kol. Podniková ekonomika. 1. vyd. Praha: C. H. Beck, 2000. xxii, 456 s. ISBN 80-7179-388-4.

Petr Mikus  
Faculty of Economics and administration  
Masaryk university  
Lipova 41a  
Brno  
62765@mail.muni.cz

# **DUALITY AND COEXISTENCE IN BUSINESS ENVIRONMENT**

**Boris Molochny**

## **ANNOTATION**

Without doubts our physical surround is subject to dualities and coexistences. Modern physical models support the dual nature of light and transforming potential energy into kinetic energy and vice-versa. Nobody asks explanations why the Earth has the north and the south magnetic poles, why a battery has two “plus” and “minus” electrodes. It is obviously that there are natural coexistences that already proved by famous scientists at least during past two hundreds years. Business administration and management is relatively new science. During a few past decades, many researches tried to find out answers on dualities and coexistences in managerial spheres. In this paper authors investigate different aspects of duality and coexistence theories in modern business environment.

## **KEY WORDS**

Business Coexistence , Duality, Customer Orientation, Service, Marketing concept, Market Orientation, Marketing Orientation, Operations, Service Profit Chain, Service Management, Co-CEO.

## **INTRODUCTION**

Without doubts our physical surround is subject to dualities and coexistences. Modern physical models support the dual nature of light and transforming potential energy into kinetic energy and vice-versa. Nobody asks explanations why the Earth has the north and the south magnetic poles, why a battery has two “plus” and “minus” electrodes. It is obviously that there are natural coexistences that already proved by famous scientists at least during past two hundreds years. Business administration and management is relatively new science. During a few past decades, many researches tried to find out answers on dualities and coexistences in managerial spheres.

## **DUALITY AND COEXISTENCE IN ECONOMICS**

Fare&Primont (1996) introduced a complete duality theory based on directional distance functions. Based on the systematic exposition of Shephard (1953, 1970, 1974) and Luenberger (1992, 1995) who introduced the idea of radial distance functions as advanced tools for representation of a firm’s technology, and developed a number of dual representations that have been widely applied in empirical work. Fare&Primont (1996) extended the radial approach of Chamberts et al (1996), who introduced directional distance functions; these can be thought of as additive alternatives to the corresponding radial concepts. The authors (Fare&Primont, 1996) introduced and characterized indirect directional distance functions; these are directional versions of their radial counterparts. As a result, Fare&Primont found out a list of these dual functions–distance function pairs along with their related behavioral assumption:

- Revenue function – Output distance function: the firm maximizes the revenue from outputs given inputs and output prices;
- Cost function – Input distance function: the firm minimizes the cost of inputs given outputs and input prices;
- Indirect revenue function – Indirect output distance function: the firm maximizes

the revenue from outputs given input prices, total input cost, and output prices;

- Indirect cost function – Indirect input distance function: the firm minimizes the cost of inputs given output prices, total output revenue, and input prices, and
- Profit function: the firm maximizes profit given output prices and input prices.

Fare&Primont (1996) illustrated the ten representations of the technology and present them in the duality diamond, which can be separated into two types, those that possess a homogeneity property and those that possess the translation property.

Moczar (1997) investigated non-uniqueness through dualities of the von Neumann growth models. Von Neumann (1955), who studied quantum mechanics already had been experienced with a “dual nature “ of electromagnetic waves and discrete corpuscles and this definitely have had significant impact on developing his own economic duality concept. Moczar (1997) presented how to dissipate a down sizable von Neumann economy into a limited number of sub-economies in such a way that each sub-economy comes out in its irreducible (or, if possible, only-weakly reducible) pattern (both technologically and economically). Due to such a determination of multiple von Neumann positive equilibrium (Moczar (1997)) the author shows the existence of those goods that are not used as input goods and of those activities that are inefficient, and also to obtain a set of information as to what goods are produced, which goods are scarce with positive prices, as well as which activities are used and which activities produce free goods, and so on, at each distinct expansion factor. Kurz&Salvadori (1993) suggest that the conventional neoclassical interpretation of von Neumann’s growth model cannot be sustained. The authors advocate von Neumann’s model is rather fully compatible with, and anticipate in all relevant aspects the classical tradition.

The standard theory of production operates in terms of duality between the production function and the cost function of an individual competitive firm. Bidard&Salvadori (1995) conclude about a concept of duality between a set of vectors of input-output coefficients, one per each industry, named as a technique of the Leontief-Sraffa type, and a price vectors generated by it. The principle of duality between prices and technique based on distinguishes and similarities, since at company level, the cost function includes all the belonging data about technology, so at production system level, all relevant impacts of a technique can be achievable from vectors of price and wage rates. McLaren&Wong (2009) explored the application of duality theory for assessment of function approach to modeling price-dependent demand systems. The authors analyzed the application of duality theory in consumer demand studies. The results allow specification of a wide range of functional forms, which has helped significantly in the creating of empirical price-dependent demand systems. For the most part, description has focused upon either the direct utility function or the distance function. The authors advise a more extensive use of benefit functions in specifying inverse demand models by exploring the interrelationships between the inverse Marshallian (or Hicksian) demands and Luenberger’s adjusted price-dependent demands.

In the analysis of the long-run growth, endogenous technological change and new growth theories in the light of the recent (or current) international financial crisis, the author (Molochny, 2009) considers about a combining these models into singular theory of business coexistence between neo-classical growth models during “Peace time”, and unpredicted forces and engines, which move economics during “Crisis time”.

## **DUALITY AND COEXISTENCE IN MARKETING AND OPERATIONS**

Duality and coexistence of marketing approaches known as "Market orientation" (Kohli & Jaworski, 1990; Narver & Slater, 1990; Ruekert, 1992), "Marketing orientation" (Payne, 1988; Gummesson, 1991), "Customer orientation" (Kelley, 1990), "Integrated marketing" (Felton, 1959), "Marketing community" (Messikomer, 1987), on orientation and customer needs in business environment has been reviewed by Molochny (2008). The multiple discussion of this topic suggests that the market orientation, marketing orientation, customer orientation, means to be close to the customer and they are so similar that it is hard to establish a distinction among them.

Operations approaches on services delivery known as „Three management paradigms“ (Gummesson, 1994), „Service-Profit-Chain (SPC)“ (Heskett et al., 1994), "Customer Relationship Economics" (Storbacka et al., 1994) form a complementary view on the traditional marketing approaches for the same business task, and mutually support the links between organizational and customer factors in the delivery of services (Molochny, 2008).

In the practice, the coexistence of multiple channels and solutions allows more flexibility for service providers in achieving customer satisfaction and loyalty. Evidence from private insurance markets in Germany (Trigo-Gamarra, 2008) describes the coexistence of different distribution systems, where insurance products are mainly distributed both by independent and dependent agents. Trigo-Gamarra (2008) advises that economic theory provides different explanations for the coexistence of distribution channels: the product quality hypothesis states that independent agents provide both insurers and customers with higher service intensity and product quality and, therefore, remain on the market and the research analysis shows that a higher level of service quality among independent agents supports the product quality hypothesis.

## **DUALITY AND COEXISTENCE IN MANAGEMENT**

The successful implementation of modern managerial theories of change management fully depends on how well the process is managed. A series of steps when transitioning from a centralized to a decentralized system, learning leaders should consider communication as key to a smooth transition, as employees may be reassigned, resent the new structure and repel success. In the modern world of globalization, today's corporate learning strategy tends to be a hybrid: the most centralized strategy has to hug decentralization and vice versa. The need for co-existence between centralization and decentralization become a key factor for competing and surviving in today's global companies (Wickman, 2008).

Peng & Bourne (2009) investigated the impact of coexistence of competition and cooperation between rival networks. Drawing from a detailed case study of two healthcare networks in Taiwan, the authors demonstrate how they first initiated competition, followed by cooperation and then cooperation. From the analysis of this example of network cooperation, Peng & Bourne (2009) develop three propositions that address the forces driving competition and cooperation and the different structures that allow competition and cooperation to coexist. The authors found that two organizations will compete and cooperate simultaneously when each organization has complementary but distinctly different sets of resources and when the field of competition is distinctly separate from the field of cooperation. The report provides different view on coexistence that simultaneous existence of cooperation and competition is not dependent on closeness to the customer, as previously suggested, but on the balance between the forces for cooperation and for competition.

Many sources are dedicated to company CEO duality and board attention to monitoring and control firm's activity. The findings (Elsayed, 2007) show that the impact of CEO duality on corporate performance varies with industry context and corporate performance itself provides partial support for agency theory and stewardship theory. Presenting upon these findings, the



realistic matter is that the relationship between CEO duality and corporate performance should not be viewed as monotonic. Elsayed (2007) suggests that it should be considered as a dynamic relationship that may vary with corporate characteristics and/or industry context. Co-CEO structure is one of the forms of duality and coexistence, when Co-CEO is sharing the executive leadership by two officers. Although Co-CEO management structures are rare, they exist in many modern firms and non-profit organizations. The source of Co-CEO arrangements mainly resulted from co-founders, from the transfer of executive leadership to two positions and from the mergers activity. Dennis et al. (2009) emphasized that Co-CEO structures involve the sharing of power, although other forms of duality, such as CEO-COO or CEO-Chairman, involve a direct senior/junior relationship. The authors suggest that the only important set of a Co-CEO management arrangement is that the CEO is also the Chairman of the Board. No other reason is robustly significant, so in fact, few other factors ever achieve significance, either robustly or not.

In the research in Hong Kong, the authors (Lam & Lee, 2008) investigated the impact of CEO duality on companies' performance based on public data available from financial databases and the annual reports of a sample of 128 publicly listed companies in the country. The authors returned and confirmed previous findings that neither agency theory nor stewardship theory alone can adequately explain the duality-performance relationship. According to the empirical evidence the authors conclude that the relationship between CEO duality and accounting performance is contingent on the presence of the family control factor. Based on the research results, Lam & Lee (2008) assume that CEO duality has a positive impact on non-family firms, while non-duality has a positive impact on family-controlled firms.

## CONCLUSION

From the described examples and evidences of dualities and coexistences in different aspects of the society and science, we can conclude about a singular theory of coexistence of dualities, which put in balance the opposite nature of different dimensions from physical, chemical, and biological world, and as a result affects directly political, economical and managerial aspects of business environment.

## BIBLIOGRAPHY

- Bidard C. & Salvadori N. (1995), "Duality Between Prices and Techniques" **European Journal of Political Economy**, Vol 11, 379-389.
- Denis, S. A., Ramsey, D. & Turner, C. (2009), "Dual or Duel: Co-CEOs and Firm Performance" **Journal of Business & Economic Studies**, Vol 15 (1), 1-25.
- Elsayed, K. (2007), "Does CEO Duality Really Affect Corporate Performance?" **Corporate Governance: An International Review**, Vol 15 (6), 1203-1214.
- Fare, R. & Primont, D. (1996), "Directional Duality Theory" **Economic Theory**, Vol 29, 239-247.
- Felton, A.P. (1959), "Making the marketing concept work" **Harvard Business Review**, 65-79.
- Gummesson, E. (1991), "Market-orientation revisited: the critical role of the part-time marketers" **European Journal of Marketing**, Vol 25(2), 60-75.
- Gummesson, E. (1994), "Service Management: An Evaluation and the Future" **International Journal of Service Industry Management**, Vol 5(1), 77-96.
- Heskett, J.L. et al. (1994), "Putting the Service-Profit Chain to Work" **Harvard Business Review**, March-April, 164-174.
- Lam, T. Y. & Lee, S. K. (2008), "CEO Duality and Firm Performance: Evidence from Hong Kong" **Corporate Governance: The international Journal of Effective Board Performance**, Vol 8 (3), 299-316.

- Luenberger, D.G. (1992), "New Optimality Principles for Economic Efficiency and Equilibrium" **Journal of Optimization Theory and Applications**, Vol 75, 221–264.
- Kelley, S.W.(1990), "Customer orientation of bank employees" **International Journal of Bank Marketing**, Vol 6(8), 25-29.
- Kohli, A.K. & Jaworski, B.J.(1990), "Market orientation: the construct, research propositions, and managerial implications" **Journal of Marketing**, Vol 54, 1-18.
- Kurz, H.D. & Salvadori, N. (1993), "Von Neumann's growth model and the 'classical' tradition" **The European Journal of the History of Economic Thought**, Vol 1 (1), 129-160.
- Luenberger, D.G.(1995), **Microeconomic theory**, NewYork, NY: McGraw-Hill.
- McLaren, K. & Wong, K.K.G. (2009), "The Benefit Function Approach to Modeling Price-Dependent Demand Systems: An Application of Duality Theory" **American Journal of Agricultural Economics**, Vol 91 (4), 1110-1123.
- Messikomer, E.E. (1987),"Marketing changes the corporate culture - a company study" **Journal of Business & Industrial Marketing**, Vol 4(2), 53-58.
- Moczar, J. (1997), "Non-Uniqueness Through Duality in the von Neumann Growth Models" **Metroeconomica**, Vol 48 (3), 280-299.
- Molochny, B. V. (2008), "Marketing Philosophies and Marketing Orientation: A Review and Conceptual Analysis" **The Hungarian Journal of Marketing and Management**, Vol 42(1), 72-78.
- Molochny, B. (2008), "**Service Management: Operational vs. Marketing Approach**" in the book MendelNET 2008, Mendelova zemedelska a lesnicka univerzita v Brne, Brno, Czech Republic, ISBN:978-80-87222-03-4.
- Molochny, B. (2009), "Essay on International Financial Crisis and Endogenous Growth Theory" **International Journal of Economic Sciences and Applied Research**, Vol 2 (1), 7-15.
- Narver, J.C. & Slater, S.F.(1990),"The effect of market orientation on business profitability" **Journal of Marketing**, Vol 54, 20-35.
- Payne, A.F. (1988), "Developing a marketing-oriented organization" **Business Horizons**, 46-53.
- Peng, T. A. & Bourne, M. (2009), "The Coexistence of Competition and Cooperation between Networks: Implications from Two Taiwanese Healthcare Networks" **British Journal of Management**, Vol 20(3), 377-400.
- Ruekert, R.W. (1992),"Developing a market orientation: an organizational strategy perspective" **International Journal of Research in Marketing**, Vol 9, 225-245.
- Shephard, R.W. (1953), **Cost and production**: Princeton University Press.
- Shephard, R.W. (1970), **Theory of Cost and Production Functions**, Princeton, New Jersey: Princeton University Press.
- Shephard, R.W.(1974), "Indirect Production Functions. Mathematical Systems in Economics" Meisenheim am Glan: Verlag Anton Hain, No. 10.
- Storbacka, K., Strandvik, T. and Gronroos, C. (1994), "Managing Customer Relationships for Profit: The Dynamics of Relationship Quality" **International Journal of Service Industry Management**, Vol. 5 (5), 21-38.
- Trigo-Gamarra, L. (2008), "Reasons for the Coexistence of Different Distribution Channels: An Empirical Test for the German Insurance Market" **Geneva Papers on Risk & Insurance**, Vol 33 (3), 389-407.
- Von Neumann, J. (1955), **Mathematical Foundations of Quantum Mechanics**, Princeton, New Jersey: Princeton University Press.
- Wickman, L. E. (2008), "Centralization and Decentralization: The Need for Coexistence" **Chief Learning Officer**, Vol 6, 48-64.

Full name: Boris Molochny  
Institution: University of Pecs, Faculty of Business and Economics  
Street: Rakoczi st. 80  
City: Pecs, H-7622, Hungary  
Email: ephd@rambler.ru

# POST - MODERN MARKETING AND MARKETING COMMUNICATIONS

Jan Pospíšil

## ANNOTATION

The paper deals with the problem of marketing communications at the time – so called “post – modern” marketing. Conventional marketing models and techniques are built on modernistic paradigm, which presents unique and structured view of the world. Today's marketing communications are controlled by rational rules and they are concentrated above all on measurement, objectivity and verification possibilities. In spite of the marketing communications costs are still increasing, the management of these costs is starting to be ineffective. Specific way how to get out and the possibility how to change the old convention can be post-modern marketing communication, for which is typical interest in symbolism and designed truth. In this paper author sets up the basic characteristics of post - modern marketing and his influence over marketing communications. Post-modern marketing communication is playful, contains paradoxes, violation, more meanings and phantasmagoric attitude. Author offers certain manual, how we can use these characteristics for efficient marketing communication. He defines basic method, processes and tools of these "new" marketing communications.

## KEY WORDS

Post - modern marketing, marketing communications, behavioural economic, advertising, symbolism.

## INTRODUCTION

The amount of money which yearly goes to the advertising budgets is constantly accumulated. In today's turbulent time we can see eternal hunt after which highest target group hit. In the last year there were inserted more than 28 milliard CZK into the advertising budgets in the Czech Republic. Nevertheless this year of World economic depression, planned advertising budget investments are lightly near of 30 milliards CZK<sup>1</sup>.

This numbers are really gigantic. Remind to advertising Guru John Wanamaker well-known citation. He once said: "the half the money I spend on advertising is wasted. The trouble is I don't know which half." If this statement is true, it means that whole 15 milliards CZK invested in advertising are wasted. Of course it can be fault of bad written Brief or clients aversion for the campaign's pre-testing.

Unfortunately we can often see this case of there was available well written Brief. Campaign pre-tests were also excellent. But the campaign results were for the submitter one big disappointment. More and more there we can see decreasing advertising campaigns efficiency in the practice, which has in a result big influence over the whole companies marketing communications.

This problem can not be solved by the marketing agency change. We have to search another roots of this problem. Today we are hearing about post-modern marketing or behavioural economics. These wholly new approaches are bringing totally new and different views on consumer's behaviour and even on economies behaviour. These new findings absolutely changing marketing communications base paradigms. However these changes are often non-

---

<sup>1</sup> ČTK, "Za reklamu se příští rok utratí 29 miliard, říká odhad," *Týden.cz* (2009), [http://www.tyden.cz/rubriky/media/reklama/za-reklamu-se-pristi-rok-utrati-29-miliard-rika-odhad\\_82676.html](http://www.tyden.cz/rubriky/media/reklama/za-reklamu-se-pristi-rok-utrati-29-miliard-rika-odhad_82676.html).

accepted. So the reason how we can heighten marketing communication effectiveness is that we should know these new findings and work with them.

## AIM AND METHODOLOGY

The aim of this article is to chart the situation in marketing communications field in the post-modern time. In forepart author defines the essence of post-modernism and its structure. As well he looks on the impact to science of this new world outlook. In the second part is author dealing with post-modernism influence on marketing communication. He sets off the post-modern themes which has direct influence on marketing communications. In the third part he designates what is characteristic for post-modern consumer and community. At the end author considers applications of this new findings.

All the data used for this paper comes from actual Czech and foreign second bibliography. This paper is a synthesis of them.

## RESULTS

### Post-modernism

Post-modernism is the orientation which totally changes the view of today's world. Its prime characteristic is above all the heterogeneousness. It has arisen as a reaction against rationalism, scientism, or objectivity of modernism. Post-modernism say that there is no universal truth. Rationality by itself does not help us truly understand the world. The dogmatic claims are not regarded as knowledge in post-modernism. Everything accelerates very quickly - time, future or even the culture. Attention is given to play, images and symbols. For understanding how things works is not important the depth insight but more likely the surface, expressions etc. Typical statement representing post-modernism is that there is no universal truth, abstract, etc.<sup>2</sup>

The next post-modernism unique is that it breaks the distinction between "high" and "low" culture. There aren't any differences between "good" and "bad". It has also a tendency toward parody and self-reference.

Post-modernism has an influence on the society culture. Its style says that innovation is no longer possible, all that is left is to imitate dead styles - we can only remix what's been done. Post-modern attempts to provide illusions of individualism (ads for jeans, cars, etc.) through images that define possible subject positions or create desired positions (being the one who's cool, hip, sexy, desirable, sophisticated...)<sup>3</sup>

The post-modernism means above all totally new access to the science. The experts say that is the end of science. Modern science had tried to find exact explication every time. Post-modern science says that for the world understanding is very important the stories and symbols. This changed view of science altered aim of the research. The research aim is no more in searching the true but efficiency. The questions is no more "Is it true?" but "What is this for?". And this questions means either "Is it getting well market?" or "Is that effective?"<sup>4</sup>

---

<sup>2</sup> Stanley J. Grenz, *Úvod do postmodernismu* (Praha: Návrat domů, 1997).

<sup>3</sup> Digital Loyola College media lab, "Course materials," Digital Media Lab, Loyola College, <http://nmc.loyola.edu/intro/postmod/table.htm#>.

<sup>4</sup> Stanley J. Grenz, *Úvod do postmodernismu* (Praha: Návrat domů, 1997), 54.

Science is no longer an island of fair-mindedness in the sea of relativity. Therefore present researches of consumer behaviour cannot be objective.

### **Post-modernism and marketing communications**

For modernism it was typical unique and structured view of the world. Everything had its science well-founded rules. Thanks this there were often repressed spontaneity and creativity. Above all the spontaneity had been pushed in modernism very often. Modernism does not suppose that the consumer behaviour may be other than in agreement with rational economics models.

The traditional economist says that every human decision is rational and people know how to estimate all goods value and quite pragmatically they will count up what is able to bring them bigger profit. People try to maximize their profit and optimise their costs. In the result the product can't be for free because otherwise who would discover this product would consume it all at once without the rest. The result of this behaviour we can often see in the case of so-called free goods. If there is something for free, people consuming it absolutely headless.<sup>5</sup>

Post-modernism takes the old classic economic theories to the direct opposite with so-called behavioral economics. Behavioral economists they believe that people are liable to irrational influences. These influences are coming from people's surroundings - from emotions, feelings and other sources. People are more likely deciding on the short-sighted decisions basis than by the longtime plans. Behavioral economics findings are changing traditional view on marketing models and research techniques. They namely focus on measuring, objective and verification. Theirs function sets-up on cause and consequence understanding. Post-modernism successfully contradicts these old stereotypes. Scientific criteria are searching rather in art and humanities.<sup>6</sup>

For marketing it means bigger shift to symbolism and to stories - designed truth. Post-modernism denies objective truth and common ways of surveying. Therefore is needed to develop marketing theory and techniques which will respect post-modern findings. This can make marketing communication efficient. In her paper "The meaning makers: postmodern marketing" Leanne Tomasevic is presenting six basic post-modern marketing themes. These are hyper-reality, fragmentation, reversal of production and consumption, subject decentralization, paradoxical juxtaposition and loyalty lose.<sup>7</sup> To understand the post-modernism influence on marketing and marketing communication, I will closely describe these themes.

The first theme is hyper-reality. This is one of post-modernism requirements. It says that our original reality has changed into the something less real. Today's consumers aren't buying the product for their basic purpose, but rather because of the experience that the product will make possible. This is largely hanging together with behavioral economists approach. They say that the original exact supply and demand model is not valid. People are making decisions by other stimulations than the view of rational needs satisfying. With the product they are buying piece of story or some symbol. We can see this for example on the brands. People are

---

<sup>5</sup> Dan Ariely, *Predictably Irrational* (New York: HarperCollins Publishers, 2008).

<sup>6</sup> Leanne Tomasevic et al., "The meaning makers : postmodern marketing," *Admap Magazine*, is. 488 (2007), <http://www.warc.com/ArticleCenter/Default.asp?CTYPE=A&AID=WORDSEARCH87405&Tab=A>.

<sup>7</sup> *ibid.*

buying new things to get a social status. The brands is so-called "values cans".<sup>8</sup> Preferring of certain brand makes us a member of some social group. Post-modern reality is referring to virtual reality, unreal world. This world is designed by the symbols and stories.

The second theme is fragmentation. There is typical the unity fractionalism in the post-modernism. Modernistic mass community is going to split in minimal groups or even in individuals. So there is changed in the way of communication with the target group. Very often we can hear about "mass media disappearance". There's no wonder that the "old" mass Media are not able to speak to the target groups effectively. Market and single consumers are dividing in the name of generation of specific brands, products and also Media. It is very difficult today to find some collective characters of some community and also to define them. We cannot create sufficiently big homogenous target group. If we are taking advertising goal on big target groups, advertising is not so effective. That's why there are rising new Media and processes- to be possible communicate effectively with small target groups or even with single consumer. New trend is internet communication or digital television broadcasting.

The third theme is reversal of production and consumption. This is different from modernism - the production had an exclusive position in there and was determining, what consumers buy. Modernistic advertisement sells already made products and tries to sells it to as much people as is possible. The sense of modernistic production is in mass production which is able to cut the costs. Post-modernism has absolutely different view of human needs. It is connected again with behavioral economic. Today's consumers are buying rather emotions with the product, story or status than the single product. It has high influence on consumption. There is no wonder that the present consumer's behavior model is lost in its function. In this case there is need for change not only in principles of marketing communications (how to offer the product), but above all the consumer's behavior research methods.

The fourth post-modern marketing term is so-called "subject decentralization". It is again connected with the change of consumer's behavior. In the present marketing theory we can see consumer like determinate entity in consumer's process. Consumer was the clear personality that it was possible to identify by uniform and stereotyped criteria. Today's consumer is different. His individuality is broken down. Actually he has several independent individualities. One of them is able to live in the real world, alternative one in cybernetic world. Nevertheless there is only one man, his two personalities are totally different and every of them have different needs. So consumer is able to "play" several roles at a time. This is important to realize. The current marketing methods which are taking the consumer as one individual person with clearly given needs are unfortunately functionless.

The fifth post-modern theme is the paradoxical juxtaposition. Leanne Tomasevic said: *"supporting the notion of difference and that it is possible to have parts of the self that are in opposition, inconsistent and diverse, and that these variations can and do exist at the same time"*.<sup>9</sup>

The last theme is loyalty to lose. It is connected with world understanding of change. Former modernism reality view was unified. Science has only one true view of reality. Reality has been at the same time interpreted by help of logical definitions. These definitions - above all in case of consumer's world reality - relied with the principle of rationality in human's

---

<sup>8</sup> Jan Pospíšil, "Archetypes usage possibility in brand communication" (paper presented at international meeting "Branding", Vizovice, Czech Republic, November 7-8, 2008).

<sup>9</sup> Leanne Tomasevic et al., "The meaning makers : postmodern marketing," *Admap Magazine*, is. 488 (2007), <http://www.warc.com/ArticleCenter/Default.asp?CType=A&AID=WORDSEARCH87405&Tab=A>.

behavior. But as the behavioral economist says people are certainly not rational. In the marketing view it means that the consumer's liabilities happen evanescent. Also consumer's loyalty is working on the different base than it has been assumed.<sup>10</sup>

### **Post-modern consumers and community**

In the end it is needed to define how today's consumer or community looks like. What is typical for them? Above all is important to say that the consumer is a creator.<sup>11</sup> Using the symbolic content which is given by marketing communications. He uses it for identity making and also shapes this content to the different meanings. As an example I can state Consumer Generated Marketing. As a demonstration we can find home video, which capture an unusual experiment. Into the bottle of worldwide known Coca Cola was mixed several candies less known brand Mentos. This video was a big surprise for both brands holders. It started to expand in the internet very fast and many people also started to imitate this video. Finally for both brands it meant marketing success. There were consumers who took control over marketing communication.<sup>12</sup>

Consumer's role in the post-modern marketing is changing. The consumer has direct influence on production and he is giving wholly new sense to the produced products. His individuality is divided into the next several different personalities. Any of them lives in the different world. It makes consumers highly unpredictable. Their behaviour is chaotic and it is influenced especially by momentary mood and emotions. Consumers make decision after short-sighted plans.<sup>13</sup>

With the change of the consumer behavior also communities have been changed. By the help of individualization and separation of consumer individuality the former "mass community" was practically disbanded. It goes to feelings like isolation and uncertainty and also to need of fellowship. It's because the sense for community living is given to people genetically. Consumers therefore are trying to join some kind of community. But this is not so simple today. We can see this groping very often today. This situation is also influenced by consumption which often became substitute for fellowship. Consumption supplies fellowship feeling. Buying some kind of brand consumer is getting a member of specific community. Thanks to this consumer has fellowship feeling with others community members.

With the breakage of mass community and with the grow of consumers virtual personality there is increased importance of so-called social networks. Thanks to FaceBook, YouTube, MySpace or for example American Revver consumers can share their consumption with another people. They form virtual community that has influence all over the world. Step by step marketing is migrating to the world of virtual networks. It gives the possibility for consumers to create social relations and social networks. It has influence over the product reception changes. Product is a "ticket" to new and desired group. These products are for consumers more valuable.<sup>14</sup>

---

<sup>10</sup> Dan Ariely, *Predictably Irrational* (New York: HarperCollins Publishers, 2008), 65-80.

<sup>11</sup> Leanne Tomasevic et al., "The meaning makers : postmodern marketing," *Admap Magazine*, is. 488 (2007), <http://www.warc.com/ArticleCenter/Default.asp?CType=A&AID=WORDSEARCH87405&Tab=A>.

<sup>12</sup> Christina Spurgeon, *Advertising and New Media* (New York: Routledge, 2008).

<sup>13</sup> Dan Ariely, *Predictably Irrational* (New York: HarperCollins Publishers, 2008), 193.

<sup>14</sup> Leanne Tomasevic et al., "The meaning makers : postmodern marketing," *Admap Magazine*, is. 488 (2007), <http://www.warc.com/ArticleCenter/Default.asp?CType=A&AID=WORDSEARCH87405&Tab=A>.



## CONCLUSION

It is clear that post-modernism means for marketing and marketing communications the turning point. There is change of the view of the market. It is no longer homogenous but is divided into big amount of fragments. On such place there are almost no social structures. To the success the firms should create the space for meetings with consumers. They have to enable them create the bindings on their community. This is possible to achieve through on-line community. As well this is possible to achieve by special salesrooms which can offer experience and interaction.<sup>15</sup> Consumers are going to active part of production process. They are forming their own personal experiences.

To become efficient in advertising and whole marketing communication, firms has to understand that the consumers are making the brand content. They aren't already pure targets for products but experienced creators.<sup>16</sup> Marketing communications should target on experiences and offering the story.

## BIBLIOGRAPHY

- [1] Za reklamu se příští rok utratí 29 miliard, říká odhad. *Týden.cz* [online]. 2009 [cit. 2009-10-02]. Dostupný z WWW: <[http://www.tyden.cz/rubriky/media/reklama/za-reklamu-se-pristi-rok-utradi-29-miliard-rika-odhad\\_82676.html](http://www.tyden.cz/rubriky/media/reklama/za-reklamu-se-pristi-rok-utradi-29-miliard-rika-odhad_82676.html)>. ISSN 1210-9940.
- [2] GRENZ, Stanley J. *Úvod do postmodernismu*. 1. vyd. Praha : Návrat domů, 1997. 199 s. ISBN 80-85495-74-0.
- [3] LINDSTROM, Martin, UNDERHILL, Paco. *Buyology : Truth and Lies About Why We Buy*. 1st edition. New York : Doubleday, 2008. 240 s. ISBN 978-0-385-52388-2.
- [4] ARIELY, Dan. *Predictably Irrational*. 1st edition. New York : HarperCollins Publishers, 2008. 368 s. ISBN 978-0-06-185454-5.
- [5] TOMASEVIC, Leanne. The meaning makers : postmodern marketing. *Admap Magazine*. 2007, is. 488, s. 45-48. Dostupný z WWW: <<http://www.warc.com/ArticleCenter/Default.asp?CType=A&AID=WORDSEARCH87405&Tab=A>>.
- [6] *Digital Loyola College media lab : Course materials* [online]. Digital Media Lab, Loyola College, c2000 [cit. 2009-10-02]. Dostupný z WWW: <<http://nmc.loyola.edu/intro/postmod/table.htm#>>.
- [7] SPURGEON, Christina. *Advertising and New Media*. 1st edition. New York : Routledge, 2008. 135 s. ISBN 978-0-415-43035-6.
- [8] POSPÍŠIL, J. *Využití archetypů v komunikaci značky (Archetypes usagepossibility in brand communication)*. In.: Sborník příspěvků z mezinárodní konference „Branding“ (CD). FMK UTB ve Zlíně, FaME UTB ve Zlíně, RK ČMS ve Zlíně. Vizovice, Valašský šenk, 7. – 8. 11. 2008. ISBN: 978-80-7318-773-6, recenzováno.

Mgr. Jan Pospíšil  
Univerzita Tomáše Bati ve Zlíně, Fakulta managementu a ekonomiky  
Mostní 5139  
760 01 Zlín  
jPospisil@fame.utb.cz

---

<sup>15</sup>Leanne Tomasevic et al., "The meaning makers : postmodern marketing," *Admap Magazine*, is. 488 (2007), <http://www.warc.com/ArticleCenter/Default.asp?CType=A&AID=WORDSEARCH87405&Tab=A>.

<sup>16</sup> ibid.

# **THE NECESSITY OF INFORMATION AND COMMUNICATION TECHNOLOGY TO INCREASE THE COMPETITION OF ALBANIAN SMES**

**Enida Pulaj, Amali Cipi**

## **ANNOTATION**

“Do something! Lead or follow the others or leave the game “

This is a dynamic and difficult world that does not give medals for second place!

SME sector has an inalienable contribution in the process of economic development of our country. The development of small and medium enterprises is considered as an effective tool in transition economies and generates sustainable economic growth and poverty alleviation. The increasing competition in the domestic and global market through the development of information technology brings a reduction of administrative barriers and convenience in doing business.

What should be done to have competitive advantages in the market? What is E-commerce?

E- Commerce is a tool at the hand of management facilitating the interaction with all the agents operating in the external and internal environment through electronic channels. It is quite apparent the ease and the comfort that these electronic communication channels bring to businesses using the different messages, the payment of bills, market studies, customer services, finding new customers and potential suppliers, offering new products, etc.

The Albanian economy has been undergoing large transformations and this is reflected in the use of information and communication technology. Nowadays, in the context of a complex and dynamic environment, to face the high competitive rivalry wants to take some measures, one of which is the investment and the use of advanced technologies (including the E commerce). In their operations, the small and medium enterprises are in a favorable position to adopt new technology faster than large companies in which this process is hampered by strict bureaucracy or hierarchy.

The technology of information and communication has a positive impact on economic growth in Albania. It is a tool that helps global integration, improving the effectiveness and efficiency in the private sector and not only.

## **KEY WORDS**

E commerce, ICT, SME, development, management

## **AIM AND METHODOLOGY**

The principal aim of this paper is to make an evaluation and to analyze the issues concerning the problems of technological environment of Albanian SMEs development. An important place in this study has the determination of the factors which helps the development of E-commerce, and the important role of information and communication technology.

The paper is structured in three parts:

- The global perspective of E commerce development.
- The impact of companies that use and do not use E commerce.
- The government role related with technological developments

According the purpose of this work there are following the description and comparative methods.

The analysis of facts and tendencies is made through descriptive methods. The collection of information is made through the interviews from businesses that use and do not use the advanced technologies and also from direct observations.

## **RESULT**

Albania started its transition from a very weak political, economic and social position, which was reflected in weak institutions, fragmentation of civil society and poor economic performance.

Nowadays, EU countries are major trade partners of Albania and the liberalization with these countries is accompanied by increased competition. Benefit from these advantages will give the Albanian SME a really great support to increase efficiency, competition and contribution to economic growth. One of the challenges that must meet SME sector in this context is the use of E-Commerce techniques.

E-Commerce has brought a revolution in the economy and global markets. Developed countries are at the top of E-Commerce, which is evidenced in the high level of use of Information and Communication Technology (ICT) in the private sector, organizations and families.

Creating an appropriate climate for business means first a favorable macroeconomic situation, as well as creating a legal and physical infrastructure for business able to provide the latter, opportunities for reducing transactions costs and developing an activity free and without restrictions.

- *What are the advantages of E-Commerce business development of SMEs?*
- *Why SMEs must use E-Commerce?*

Doing business electronically is a form on the contemporary business organization, which means intensive use of information, particularly Internet technology, for implementation of all key business functions.

E-commerce is the use of information and communication technologies in conducting business transactions, to facilitate interaction with clients and suppliers. This includes conducting transactions via electronic channels: orders, invoices, transport documents, and use of information and communication technology in marketing, market research, service, clientele, finding potential clients and suppliers, offering new products and services, etc.

Albanian economy has been undergoing major transformations, and this is reflected in the use of information technology and E-commerce by entities that provide goods and services but also by those who wish to consume these goods and services. In particular SMEs are the engines of employment creation, the warm glass of enterprises for innovation, a very important factor in economic development of the country, so it is important that SMEs need to understand the potential advantages that offers E-commerce. They have to invest in this direction in order to ensure competitive advantage in the respective sectors.

### **1.GLOBAL PERSPECTIVES ON E-COMMERCE DEVELOPMENT**

Beginnings of E-commerce and E-business is that in 1970. But the biggest development in this field is achieved after 1990, with the introduction of the Internet. Global network enabled electronic transactions worldwide, and gave the opportunity to collaborate virtually organizational. Gradually E-commerce exceeded national borders exchanging the products and services on a large scale.

There are many ways that businesses benefit from E-commerce services starting from the best of existing customers, finding new customers and suppliers, improving the efficiency of business processes, expanding the range of products and services, how they offered to clients, new ways of payment, etc. Information infrastructure provides unique opportunities for SMEs as it provides the means to communicate and operate on a global scale.

Also, the new companies have demonstrated that the minimum investment can compete in large companies. This will contribute to increased competitive abilities, especially when these processes run by technological innovations.

The Internet has put SMEs challenges ahead. Studies have shown that initial investment, operational costs, communication standards, and access links have a positive influence in decision-making.

The main elements that promote the use of electronic business are:

- Connections with buyers / customers.
- Connections with suppliers.
- Global Infrastructure

## 2. E-COMMERCE AND ITS IMPACT ON ALBANIAN BUSINESSES

In terms of a dynamic and complex environment, where the rate of change and variety of factors operating environment is high, Albania is losing opportunities because of slow pace to access and use of infrastructure and information technology.

For the analysis of E-commerce not only for SMEs, but in general, must have a clear understanding on the problems of Albania on telecommunications network infrastructure and legal and regulatory framework which is in the first steps of its development.

Information and communication technology has a major positive impact on economic growth. In recent years this sector has increased a lot as a result of the increased number of Internet users, computer, mobile phone. Major changes have been achieved in the last 4 years. The table below shows the growing tendency to use computer and internet service.

Figure 1. Data on the use of ICT in Albania 2002-2008

	2002	2003	2004	2005	2006	2007	2008
Internet users (per 1000 inhabitants)	1.1	3.3	3.9	9.7	24.1	57.3	103.2
Computer users (per 1000 inhabitants)	8.2	9.8	11.7	78	113.6	147.2	174.3

*Burimi: Strategjia ndersektoriale per shoqerine e informacionit*

Despite the rapid growth and improvement in the use of information infrastructure, Albania indicators remain low compared to other Balkan countries and Eastern Europe. Today, Albania is ranked in 114th place from 115 countries in total, in terms of the willingness of businesses to trade electronically.

### 2.2 Advantages of using the E-Commerce.

However, environmental factors have affected technological awareness of SMEs to use new services that facilitate contacts and doing business worldwide. Today, E-Commerce affects all aspects of daily business operations but also in its strategy. It is clear that only organizations that use new technologies of Information and Communications will have an opportunity to improve their competitive advantages.

As a result of the use of E-Commerce, organizations can benefit in terms of:

1. Economic development by providing a better economic efficiency, effective competition and profit.
2. Reorganization and modernization of business processes adapted with trade activity and contemporary models.
4. Electronic links between business entities, citizens, public administration and non-governmental sector;
5. An increase of revenue through new more efficient channels of sale;
6. Cost reduction through more efficient business processes.
7. The improvement of a good image in the market through marketing.

8. Improved relations with customers through profiling and personalization of products using advanced techniques and software.
9. Developing links with multinational companies and domestic large companies. The links between different types of firms in developing countries provide an effective channel for local companies to gain access to markets, financing, skills and know-how.

It is clear that the use of technologies that favor E-commerce, increase with the enlargement of companies size. This is in accordance with technical skills, managerial capacity and invested funds to make the company part of these electronic methods of conducting the trade activity.

### **3. THE ROLE OF GOVERNMENT IN IMPLEMENTING POLICIES OF E-COMMERCE IN ALBANIA.**

Despite the potential barriers to use advanced technology systems, this process is not optional for the growth of SMEs in Albania, but is becoming as a condition because the expectancies of clients (businesses or consumers) are growing and changing continuously.

A great impact on raising awareness for the use of electronic business has the government role. The government support for the use of E-commerce affects the businesses in three ways: *First*, the rate of use of E-commerce by government itself. The state and the public sector companies are purchasers of goods or services provided by private companies.

The case of E-procurement techniques (electronic procurement) serves as a significant incentive for business and training SMEs to use E-commerce.

*Second*, the impact that government services have on businesses that try to use the E-commerce. The business receives from government services as customs clearance of goods, obtaining licenses, etc. As more the government improves the transparency and efficiency of these services to business, the better SMEs can compete with each other.

*Third*, the impact of the legal framework which protects the development of electronic business. The development of information society is conditioned by adaptation of relevant legislation necessary. The Albanian government has begun to focus on policies, legal problems and barriers that businesses face while trying to use E-commerce.

Until now, are drafted and adopted a series of important laws in the field of information technology. For example: the law "On electronic signature", "The protection of personal data", "On public procurement", which realizes the possibility of procurement, "National Center For registration" through which becomes new businesses registration, etc...

*What really happens with Albanian companies? How much they believe in the use of E-Commerce?*

Although the use of these techniques brings competitive advantage and benefit, there is a low level of E-commerce applications in Albania. Despite rapidly increasing number of Internet users last 5 years, E-commerce is still in initial stages and is progressing very slowly compared to the European market.

***Facts:*** Most companies use the Internet to provide information through websites. The common services offered from businesses through the Internet pages are:

- ✓ Information on company
- ✓ Contacts
- ✓ List of products and services.

*Companies that do not use E-commerce*

The main problem identified is that most of the companies are not prepared or they haven't a strategy for E-commerce to develop on-line services.

The businesses difficulty to use E-Commerce is related with the barriers that customers face with:

- Low usage of credit cards;
- Lack of trust in Internet transactions;
- Lack of knowledge and skills;
- The preference to negotiate with the seller before purchase.

The social-cultural environment may explain the low level of E-commerce in Albania because the people tend to participate in the process of purchasing as a form of exchange and social interact. In general, buyers have a regular network of suppliers for products and services and transactions are often supported by social interactions.

## **CONCLUSIONS**

The following conclusions were reached based on qualitative and quantitative analysis of statistics regarding the use of E-Commerce in Albanian businesses.

- SMEs in Albania are far European SMEs regarding the use of E-commerce techniques, which means far from competitive in international markets.
- Business may benefit more from investment in E-commerce techniques;
- Return on investment in E-commerce is still low compared with other investments performing SMEs;
- Adoption of new technologies by SMEs in Albania is generally lower than in other European countries, mainly due to the lack of understanding and the lack of skills in the field of Information Technology.
- Low level of E-commerce transactions shows that consumers are accustomed to buying Albanians through a "personal network";
- The lack of E-commerce strategies from the small and medium companies.
- The lack of information on the legal framework necessary for the protection of E-commerce process.
- It is necessary to be seen with the priority the education and training related to information technologies. E-commerce can not be implemented without the necessary human resources.
- Competitive skills of Albanian companies operating in ICT sector are not at the required level compared with other European countries. It seems that these companies are not interested in providing and encouraging use of new models E-commerce and E-business.

## **RECOMMENDATIONS**

Analysis on the role and contribution of SMEs show that this is the broader sector in Albania representing more than 90% of all private enterprises in the country. The highest percentage of SMEs in the total of all active companies in the country shows the importance that small and medium businesses have in job creation, investment, turnover and value added.

In these conditions for further development of these businesses, creating a competitive advantage and better position within their industry, recommend:

*Raising awareness on the benefits that come from using E-commerce techniques to business processes.*

It is important to understand that E-commerce does not serve as a solution for all business processes. In most cases, SMEs in Albania will face many difficulties which will make the implementation very costly in many processes. Businesses should determine which of their processes worthy of using these techniques.

*The necessity of government support for E-commerce.*

Despite the dynamics of promotion and application of E-commerce in the private sector, is very important that the Government engages to assist in the development of E-commerce.

These include policies related to improving the ICT, financial support, education and training (not only in areas related to ICT but also in project management and business development).

*The need for efficient investment in ICT infrastructure.*

The improvement of telecommunications infrastructure is a challenge for companies communication needs. New technologies play a crucial role for business activities especially for businesses which have close and persistent relations with clients. In these conditions low-cost investment in the telecommunications field, are important to provide services with competitive prices.

## REFERENCES

- Banka e Shqiperise ([www.bankofalbania.org](http://www.bankofalbania.org))
- INSTAT, statistika të përgjithshme mbi numrin, ndarjen, shtrirjen në vend të SME-ve.
- Ministria e financave. ([www.minfin.gov.al](http://www.minfin.gov.al))
- Nxitja e sipermarrjes. Raporti UNDP. Mars 2004
- OECD (2004) Promoting SME's for development
- Raporti vjetor statistikor. Tiranë-INSTAT (2008)
- Rezultate të përgjithshme të studimit strukturor të ndërmarrjeve ekonomike 2006, Tiranë-INSTAT (2007)
- *Revista Monitor.* ([www.monitor.al](http://www.monitor.al))
- *Strategjia ndërsektoriale për Shoqërinë e informacionit 2008-2013.* Buletin i agjencise kombëtare te Shoqërisë informacionit.
- UNDP Shqiperi (2006) Strategjia TIK për Shqipërinë
- [www.doingbusiness.org](http://www.doingbusiness.org)
- World Bank (2006) Teknologjia e Informacionit dhe Komunikimit

MBA.Enida PULAJ  
University of Vlora "Ismail Qemali"  
L.Pavaresia, Rr:Vlore Skele, Vlore  
e mail: epulaj@univlora.edu.al

MBA.Amali CIPI  
University of Vlora "Ismail Qemali"  
L.Pavaresia, Rr:Vlore Skele, Vlore  
e mail: acipi@univlora.edu.al

# OUTPLACEMENT AS A MANAGEMENT TOOL IN THE AREA OF LAYOFFS

Adrian Pyszka

## ANNOTATION

The paper presents an example of layoffs management using outplacement services. The aim of this research study is to identify the main categories that facilitate using outplacement while doing organizational workforce reductions and layoffs. The cross-case analysis revealed that successful outplacement should be implementing regarding best practices by: support career and employment changes by developing knowledge, skills and attitudes; integrated actors within change process; enhanced corporate social responsibility (CSR) inside the changed company.

## KEY WORDS

Outplacement, layoffs, workforce reductions, case study, cross-case analysis.

## INTRODUCTION

Firing workers has become as widespread as their recruiting. Many companies today can not operate in more uniform structures with constant number of employees. To meet the demands of today's dynamic markets they reach for outplacement. Outplacement also known as "monitored workforce reductions"<sup>1</sup> has become a phenomenon of the twentieth century associated with, the development and expansion of multinational corporations, the other big cyclical crises. The history of outplacement is associated with the management, mainly in the area of human resource management (HRM). Both the literature and business practice suggests that the outplacement lead to the imposition of two mutually interacting perspectives, personal and organizational change.

The first and most popular is the personal context aims to help redundant staff through emotional support to reduce anger and tension in relation to job loss and personal transition. Outplacement counselors assist people who have lost their jobs. According to Aquilanti and Leroux the ability to deal with transition in the world of work is one of the most prelevant challenges that workers face today.<sup>2</sup> Outplacement assistance prepares to identify their own potential and reconstruction of self-esteem, empowerment, and training in the direction of search for a new job and/or career. Continuously progressive evolution have resulted that outplacement process, "previously aimed at behavioral, psychological and social support"<sup>3</sup>, are going to be more marketing skills development tool, primarily to identify and fill gaps in the attitudes and behavior-driven development, and the sale of qualifications in the labor market.<sup>4</sup> Broderick noted that proposed change encourages efforts to raise the workers' employability, apart from the goal of obtaining new jobs (employment).<sup>5</sup>

The second context of outplacement is the process of implementing organizational change (especially with workforce reductions). It has to be done through the appropriate construct and run the advice tailored to the needs and possibilities for the organization and its employees. This advice may relate to actions taken before, during and after the reduction of

---

<sup>1</sup> Sekuła Z.: Planowanie zatrudnienia. OE, Kraków 2001, p.224

<sup>2</sup> Aquilanti T.M., Leroux J.: An integrated model of outplacement counseling. „Journal of Employment Counseling” Dec 1999, nr 4(36)

<sup>3</sup> Duffy E.M., O'Brien R.M., Brittain W.P., Cuthrell S.: Behavioral Outplacement. "Personnel", March 1988

<sup>4</sup> Pickman A.: The complete guide to outplacement counseling. New Jersey 1994, p.123

<sup>5</sup> Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.8



employment.<sup>6</sup> The framework developed by Freeman identifies two general approaches that organizations use when undergoing changes, as well as patterns of activities that accompany them (workforce reductions).<sup>7</sup> Downsizing driving redesign that involves incremental and low-level change. This kind of activity is associated with less communication and systematic analysis, narrow participation in change efforts, and lower magnitude change in other organizational attributes. Redesign driving downsizing involves more fundamental organizational change. Redesign is associated with high-level changes that involve restructuring, more communication and broad participation in change efforts, advance systematic analysis, and the use of interorganizational relationships.

Broderick suggested that organizations differ along many dimensions that influence their choices about outplacement practices. For example, differences in organizational size, centralization of decision makers, geographic location of major facilities, business mission, the extent of downsizing and the nature of the organization's current workforce will affect organizational planning and customization of outplacement practices.<sup>8</sup>

## AIM AND METODOLOGY

### Case Selection

Selected case studies are parts of the empirical data gathered by the author (2007 and 2008). The empirical research has been conducted in foreign companies operating in the area of Poland. Selection of firms was dictated by the results of previous studies<sup>9</sup> describing lack of outplacement in Polish companies undergoing restructuring. This study examined the role of outplacement as a management tool or even “emerging strategie”<sup>10</sup> that changing the methodology of redundancy.

The multiple cross-case analysis was facilitated by addressing the following questions for each case study:

1. How is outplacement broadly viewed by the company and its employees during workforce reductions?
2. What relations can be established between different actors during outplacement and layoffs?
3. What formal and informal activities related to outplacement that improve organizational effectiveness take place in the company?

### Data Collection and Analysis

The survey was conducted based on qualitative research methodology using case study analysis. According to Eisenhardt case study research strategy is focused on understanding the dynamics present in a single setting.<sup>11</sup> Referring to the experiences of various authors

---

<sup>6</sup> Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.16; Pickman A.: The complete guide to outplacement counseling. New Jersey 1994, p.131

<sup>7</sup> Freeman S.: The Gestalt of Organizational Downsizing: Downsizing Strategies as Packages of Change. “Human Relations”, Vol.52, No.12, 1999, pp.1505-1541

<sup>8</sup> Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.5

<sup>9</sup> Mroczkowski T., M. Wermus, L.D. Clarke: Employment Restructuring in Polish Companies during Economic Transition: Some Comparisons with Western Experience. "Journal for East European Management Studies". Chemnitz, 2005. Vol. 10, Iss. 1

<sup>10</sup> Doherty N.: The role of outplacement in redundancy management. “Personnel Review”, Vol.27, No.4, 1998, p.343-353

<sup>11</sup> Eisenhardt K.M.: Building Theories from Case Study Research. “Academy of Management Review”, 1989, Vol 14, No 4, pp. 532-550

emphasizes the flexibility of case study method, which can affect both individual and multiple cases investigated at many levels of analysis, including: projects between companies or between groups within company, between events in the test company and its environment . Case study combines different methods of data collection (analysis of archives, interviews, questionnaires, observations), resulting in the acquisition of quantitative data, qualitative or mixed. Yin suggested that case study is the preferred strategy when: asking questions "how" or "why", the investigator has little control over events and addresses of present phenomenon is occurring within range of a real context.<sup>12</sup>

According to Yin two different types of instruments were developed to collect the needed data. One was a field guide used in the case studies to collect information through field interviews and observations and from available documents. The other was a telephone survey instrument.<sup>13</sup> This approach was consistent with the principles of triangulation, consisting of diversification of sources of data, research, measurement tools and methods of interpretation.<sup>14</sup> Eisenhardt suggested that such treatment can increase the reliability of the results obtained. Analyzing the case studies the author focused on the analysis of the cross-case analysis to look for patterns between the studied cases.

Cross-case analysis bring together the findings from individual case studies and are the most critical parts of a multiple case study. Yin stated that "the analysis treats each individual case study as if it were an independent study".<sup>15</sup> The data analysis was carried out based on a comparative case study, containing an analysis of both internal and between cases. Comparative case study can be done for a small number of cases. The investigator should follow like a detective, where must construct an explanation for a crime. Starting the search for clues in the first and verify them in future cases, to be sure "who committed an offense." The investigator should observe something that describes as a "chain of evidence" respecting the precise citation of evidence discovered, moving from data collection through within-case analysis to the cross-case analysis and final conclusions.<sup>16</sup>

## RESULTS

The results are described in four cases, identified similarities and differences resulting from the analysis of empirical material (within-case analysis). For this purpose, after an analysis of the research unit (unit of analysis) and examination of collected cases (case screening) were selected for examination two types of companies: manufacturing (A and B) and service (C and D).

### Description of the Companies

In the following section, the findings of each site derived from the within-case analysis portion of the study are presented followed by the findings from the cross-case comparison.

Company A: pharmaceutical industry. It is one of the leaders in the global market. The company is located in the strongly growing urban center. The company specializes in manufacturing and developing medicaments. After the acquisition of one Polish companies was forced into a comprehensive restructuring, including business processes and quantitative changes in employment (more than 300 workers have been laid off). After data analysis there are three main themes. Perception of outplacement as an inclusive

---

<sup>12</sup> Yin R.K. [2]: Case Study Research: Design and Methods, Third Edition. Sage Publications, 2003, p.1

<sup>13</sup> Yin R.K.: Studying Phenomenon and Context Across Sites. The American Behavioral; Sep/Oct 1982; 26, 1; ABI/INFORM Global pg.84

<sup>14</sup> Denzin N.K.: Handbook of qualitative research. Thousand Oaks, CA: Sage, 1994

<sup>15</sup> Yin R.K. [1]: Applications of Case Study Research. Sage Publications, 2003, p.145

<sup>16</sup> Yin R.K: The Case Study Crisis: Some Answers. "Administrative Science Quarterly". March 1981, vol 26

process of linking all the activities associated with changes in employment. Second, the important role HR departments played in the process of change. Third, reactions and perceptions of outplacement by stakeholders (mainly affected employees and trade unions).

Company B: FMCG industry. It is one of the leading cheese manufacturers in the world. The company is located in a small town with high unemployment rate. Following the end of the social package, management board decided to conduct comprehensive technology changes, which avoids the need for internal workforce reductions (about 100 employees). In addition, the strategic objective was to maintain the leading position and develop new high quality products.

Company C: Telecommunications industry. The company deals with services in the market for telephony, mobile telephony, broadband internet and data transmission. As a result of the acquisition foreign strategic partner started radical changes which. The result of these changes was a need for reduction in employment, including due to closure of a number of non-core activities (about 30.000 employees have been laid off).

Company D: Financial institution. It is a part of one of the leading financial groups in the world. The company is engaged in retail and corporate banking. The main cause of the reductions was to optimize operational processes. The restructuring program in human resources was dictated by the company redesign. Two outplacement programs have occurred, 1st in 2003 and 2nd in 2005 (more than 1.000 employees have been laid off). At the same time the company constantly recruited employees necessary to achieve the new objectives.

### **Cross-case analysis**

The cross-case analysis examined interview transcripts and documents collected during the research and comparing the data. Data from the cases (abbreviated version) were compared and contrasted and eventually assimilated into categories believed to capture the role of outplacement in the companies.

Three major categories emerged from the cross-case analysis:

- Outplacement supported changes in the employment of individuals and organizations through the development of proper knowledge, skills and attitudes
- Outplacement integrated employees into the change process
- Outplacement enhanced the socially responsible behaviors in the organization

### Outplacement supported changes

Persons departing Company B were given the opportunity of a tailor-made training including preparation for the career-transition, coping with the new situation, launching own business, learning job search strategies, assets and weaknesses analysis. Participants benefit from a well-equipped and supported Career Center. Company A after using its own in-house outplacement decided to buy services outside. Companies C and D decided to strengthen the power of internal HRM departments creating their own solutions and arranging an external company to support laid-off people and developing survivors.

"... our company realized Development Center with the same counselor as outplacement program." (D1, 29)

Inside all the surveyed companies can be seen a gradual change from typical claim behavior toward acceptance and cooperation, both from the participants of the support process (redundant and retired workers), and the social partners (trade unions).

„The effect of the current program enjoys a much greater interest than the previous one (...) There have been 75% candidates compared to 25% in the previous program" (D3, 13)

### Outplacement integrated employees

As in previous cases, there are two groups. Company A, C, D, with a plenty motivational and integrative activities, but only to the survivors. Company B that used approach involving all workers, including those redundand.

" ... in front of the necessity to implement improvement and developmental changes, the managing board decided to developed a program, both for survivors and terminated employees." (B, 3)

A comparison of case-studies appeared another form of integration around the function of Career Center, established for redundant people and threatened with dismissal, or candidates that have been looking for career transition.

"... employees and candidates by 2.5 months could benefited from the external Career Center managed by HR staff. There have been additional councelors for each day, psychologists, insurers, business consultants."(A 20)

### Outplacement enhanced the socially responsible behaviors

All of the surveyed companies declared to minimize redundancy by looking for new opportunities, even using cost-cutting strategy.

„The aim was to maintain a workforce reduction vast number of jobs and improve a competitive position inside the group, to win new orders, transfers within the group."(A 10)

In case of workforce reductions (A, C, D) it was obvious that outplacement is necessary management tool.

There wasn't discussion whether outplacement is important. Decision came out spontaneously. Even trade unions supported the program (D1, 12).

Some companies apply inplacement, probably in conjunction with a larger size (C, D). Most of the firms implement outplacement into separation packages or even social policy.

"There is the social contract between company and employees that garantee outplacement in case of workforce reduction." (C 24)

## **CONCLUSION**

The analysis of the case studies revealed that each of the surveyed organizations in different ways perceived outplacement and its implementation during the reorganization process. Despite the discovered differences appeared, there is a number of similar activities, both formal and informal. This activities can be identified as: supporting changes in employment through the development of knowledge, skills and attitudes, integration of actors around the changes and growing interest in the implementation of personnel policies in accordance with the standards of social responsibility. Research has also shown an identification of outplacement as a comprehensive downsizing and even restructuring programm. Outplacement have been seen as a planned activity conducting also the process of recruitment internal employees by the process of inplacement. The classic perception of outplacement support as a psychological and physical process of redundancies were marginalized in favor of identifying him with the broader actions, inside of the organization and inplacement.

Outplacement counseling is a management tool for improving organizational effectiveness with minimum of stress to executives and employees.<sup>17</sup> Based on the qualitative analysis of the four case examples, the following theory is developed of what a workforce changes should look like after practising best practice in outplacement. In contrasting organizational situations certain outplacement characteristics recur:

- Benchmarking best practices and continuous measurement of outcomes,
- Shaping the business-activation and to adapt to customer needs,
- The involvement of trade unions in the process of change
- Maintaining a balance between the tangible and intangible incentives,
- Excellent planning and consistent implementation of planned activities,
- Customer focus and animation, both internal customers and external
- Transparent communication and centrally coordinate activities,
- Innovative HRM practices to the "survivors".

According to Appelbaum and Donia treating terminated employees with care, dignity and respect also sends a signal to surviving employees as to how they would be taken care of if in the same predicament.<sup>18</sup>

## BIBLIOGRAPHY

- [1] Sekuła Z.: Planowanie zatrudnienia. OE, Kraków 2001, p.224
- [2] Aquilanti T.M., Leroux J.: An integrated model of outplacement counseling. „Journal of Employment Counseling” Dec 1999, nr 4(36)
- [3] Duffy E.M., O’Brien R.M., Brittain W.P., Cuthrell S.: Behavioral Outplacement. “Personnel”, March 1988
- [4] Pickman A.: The complete guide to outplacement counseling. New Jersey 1994, p.123
- [5] Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.8
- [6] Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.16; Pickman A.: The complete guide to outplacement counseling. New Jersey 1994, p.131
- [7] Freeman S.: The Gestalt of Organizational Downsizing: Downsizing Strategies as Packages of Change. “Human Relations”, Vol.52, No.12, 1999, pp.1505-1541
- [8] Broderick R.F.: Issues In Civilian Outplacement Strategies, Proceedings of a Workshop. National Academy Press, Washington, D.C., 1996, p.5
- [9] Mroczkowski T., M. Wermus, L.D. Clarke: Employment Restructuring in Polish Companies during Economic Transition: Some Comparisons with Western Experience. "Journal for East European Management Studies". Chemnitz, 2005. Vol. 10, Iss. 1
- [10] Doherty N.: The role of outplacement in redundancy management. “Personnel Review”, Vol.27, No.4, 1998, p.343-353
- [11] Eisenhardt K.M.: Building Theories from Case Study Research. “Academy of Management Review”, 1989, Vol 14, No 4, pp. 532-550
- [12] Yin R.K. [2]: Case Study Research: Design and Methods, Third Edition. Sage Publications, 2003, p.1
- [13] Yin R.K.: Studying Phenomenon and Context Across Sites. The American Behavioral; Sep/Oct 1982; 26, 1; ABI/INFORM Global pg.84
- [14] Denzin N.K.: Handbook of qualitative research. Thousand Oaks, CA: Sage, 1994

---

<sup>17</sup> Brammer L.H. i Humberger F.E.: Outplacement and Inplacement Counseling. Prentice-Hall, INC., New Jersey, 1984, p.1

<sup>18</sup> Appelbaum S.H., Donia M.: The realistic downsizing preview - a multiple case study, part I. Career Development International, 6/3, 2001 [1]

- [15] Yin R.K. [1]: Applications of Case Study Research. Sage Publications, 2003, p.145
- [16] Yin R.K: The Case Study Crisis: Some Answers. "Administrative Science Quarterly". March 1981, vol 26
- [17] Brammer L.H. i Humberger F.E.: Outplacement and Inplacement Counseling. Prentice-Hall, INC., New Jersey, 1984, p.1
- [18] Appelbaum S.H., Donia M.: The realistic downsizing preview - a multiple case study, part I. Career Development International, 6/3, 2001 [1]

Full name: Adrian Pyszka, PhD  
Institution: University of Economics in Katowice  
Street: ul. 1 Maja 50  
City: 40-287 Katowice, Poland  
Email: [adrian.pyszka@ae.katowice.pl](mailto:adrian.pyszka@ae.katowice.pl)  
Mobile: +48 696 915 697

# **THE ROLE OF M&A IN CHINESE EXPANSION TO THE CZECH REPUBLIC**

**Martin Stuchlík**

## **ANNOTATION**

The subject of this paper is to determine the role of mergers and acquisitions in Chinese expansion to the Czech Republic, notably to review the popularity of mergers and acquisitions in comparison to the greenfield investment. Zero roles of mergers and acquisitions were determined in realised Chinese investments to the Czech Republic. Chinese companies favour exporting or alliances as an entry mode to the Czech Republic. In case of foreign direct investments, a popular mode of entry is greenfield investment, mainly due to investors' specifics and requirements on investments. Increasing number of mergers and acquisitions could be expected with gradual maturing of Chinese investors and increasing demand for acquisition of new technologies, know-how, and products and services with higher added value.

## **KEYWORDS**

China, mergers & acquisitions, foreign direct investments, cross-border acquisitions, market expansion, investing in the Czech Republic

## **INTRODUCTION**

The subject of the paper is to determine the role of mergers & acquisitions in Chinese expansion to the Czech Republic, specifically evaluation of the current position of mergers & acquisitions, analysis of the lack of usage of mergers & acquisitions in Chinese expansion to the Czech Republic and identification of their potential if certain pre-conditions are satisfied. The purpose of the research is to understand and help in promotion of attracting further foreign direct investments to the Czech Republic. Foreign direct investments help in the economic development of the particular country where the investment is being made. Mergers & acquisitions in particular create cost efficiency through economies of scale and can enhance the revenue through gain in market share, in some cases there is potential for tax optimisation. Many Chinese companies are facing the decision for global expansion. They are attracted by raw materials and natural resources, qualified and skilled workforce, technology and know-how and at last but not least by new markets. Chinese foreign direct investments grew tenfold in the period 2003 – 2008 and China is expected to become the world number one investor in 2010. As the recent experience suggests, they are also tempted to enter the Czech market to utilise strategic possibilities and market opportunities.

Approximately 90% of Chinese foreign direct investments were mergers & acquisitions in 2007. Nevertheless, zero roles of mergers & acquisitions in existing Chinese investments in the Czech Republic were discovered to date. Chinese companies prefer to enter the Czech market via forming alliances or exporting. In case of foreign direct investments, greenfield investments are favoured due to investors' specifics and investment requirements.

However, emerging interest in mergers & acquisitions in the Czech Republic is expected with gradual maturing of Chinese investors and increasing demand for acquiring new technologies, know-how, services and value added products. In addition, the current market situation such as survival issues and lack of financing could stimulate the appetite of Chinese investors to invest in the Czech Republic.

The highest interest in the Czech mergers & acquisitions is expected from Chinese medium sized companies. These companies are currently focusing on the regions of Southeast Asia,

Russia and Middle East. They predominantly manufacture commoditised production and technology, they are not internationally well-known and at present prefer exporting as a method of expansion. In addition, these companies would have to invest in research and development, quality, brand and technology, and their combination with a suitable Czech subject would help to achieve their global competitiveness.

## **AIM AND METHODOLOGY**

The aim of the paper is to monitor the past development in Chinese direct investments to the Czech Republic and review the role of mergers & acquisitions in comparison to greenfield investments. Moreover, analysis of Chinese behaviour specifics in opting for the entry mode is presented and key areas of interest are determined. A research following the outcome presented in this paper will focus on conditions for attracting of Chinese investments to the Czech Republic and their retaining.

To gather the required data needed for understanding to the current situation, secondary research was performed in databases such as Factiva by Reuters, Internet Securities, MergerMarket, Standard & Poor's Capital IQ and PricewaterhouseCoopers M&A Survey. Behaviour of Chinese investors was extracted from contemporary literature and journals of international strategy.

However, the successive research following this paper will be based on a qualitative research using interviews with industry representatives, consultants and corporate finance professionals. The motive is to collect subjective opinions about how to attract and retain Chinese investments, which might potentially become one of the major sources of foreign capital flowing into the Czech Republic.

## **RESULTS**

### **Specifics of Chinese Investments**

Chinese private and state companies are undergoing rapid restructuring and expansion. Many companies accelerated their expansion via domestic mergers & acquisitions and now they prepare for, or have already experienced, cross-border acquisition expansion (Koch & Ramsbottom, 2008). A study by McKinsey, a firm of consultants, found out that global expansion is a strategic priority of 80% requested Chinese top managers and at the same time 55% of requested managers responded, that expansion via mergers and acquisitions or alliances, would play a key role in expansion abroad (Dietz, Orr, & Xing, 2008).

As a result of increasing interest in foreign expansion, Chinese foreign direct investments grew tenfold in the period 2003 – 2008; almost 90% of all realised investments in 2007 were mergers and acquisitions (Luedi, 2008). However, majority of investments ended up in South East Asia, Middle East, Africa and Latin America, which are strategically important for China due to abundant natural resources and raw materials (Zastupitelský úřad Peking, 2009). The share of other regions is negligible.

China continues investing abroad despite a dramatic decrease of world investments due to the ongoing economic crisis (Barboza, 2009). Wall Street Journal analysis predicts, that China will become the world number one investor already in 2010 (The Wall Street Journal, 2009).

Key obstacle to expansion is the lack of experience and reluctance to acquire verified business practices commonly used in the developed world (Dietz, Orr, & Xing, 2008).

### **Realised Chinese Greenfield Investments in the Czech Republic**

Total foreign direct investments to the Czech Republic amounted to CZK 2,000bn as of 31<sup>st</sup> December 2007. However, the Chinese contribution was only CZK 2bn, i.e. only approximately 0.1% of total realised investments (Česká Národní Banka, 2008).

As there was no transaction recorded in available databases, it could be estimated that bulk of Chinese investments was realised either as a greenfield investment or via other investment



method or cooperation. The Ministry of Foreign Affairs presents the following examples of Chinese investments in the Czech Republic (Ministerstvo zahraničních věcí České republiky, 2009):

- Joint Venture of Chinese CITIC TIANJIN., CO and Czech company MARMES CZ s.r.o. – factory for assembly of bicycles CITIC-MARMES in Lanškroun.
- Changhong television manufacturing in Nymburk.
- Cooperation of Shanghai Maling Aquarius with Gastro Sunwick s.r.o. in building meat processing factory.
- Representation of Huawei and ZTE and their cooperation with Czech telecommunications operators.

#### Realised Chinese Mergers & Acquisitions in the Czech Republic

A brief look in professional databases of realised transactions, such as Standard & Poor's Capital IQ (Standard & Poor's, 2009) or MergerMarket (Financial Times Group, 2009), shows an underutilised potential of Czech-Chinese mergers and acquisitions. Only one realised Czech transaction in China is discovered (acquisition of Anhui Xinda Titanium Industry by the Czech Agrofert Holding) and zero realised Chinese acquisitions were recorded on the Czech market.

Better prospects are offered by a private analysis of PricewaterhouseCoopers Česká republika, a consulting partnership, which recorded three transactions in China:

- 19<sup>th</sup> February 2007: Unconfirmed acquisition of minority share in Chinese bank Three Gorges Bank by Czech investment group PPF Investments (PricewaterhouseCoopers, 2007).
- 6<sup>th</sup> April 2006: Cement producer Holcim Česko increased its stake in the leading Chinese cement producer Huaxin Cement Co (PricewaterhouseCoopers, 2006).
- 25<sup>th</sup> May 2006: Agrofert Holding acquired Chinese Anhui Xinda Titanium Industry (PricewaterhouseCoopers, 2006).

Nevertheless, even this database recorded no Chinese transaction in the Czech Republic (PricewaterhouseCoopers, 2008).

Undiscovered Chinese acquisition in the Czech Republic could also refer to either unrealised transaction potential or stress of Chinese investors on secrecy and subsequent difficult identification of the true country of origin. Investing via offshore economies, such as Cayman Islands or British Virgin Islands, or special administrative regions – Hong Kong and Macau, is highly sought after by Chinese investors (Zhao, 2007).

Additionally, the current supply does not correspond to needs of demand. Chinese investors are looking for sources of raw material, whereas the Czech Republic offers primarily stable business environment, skilled and effective labour and market, which has a good potential of further expansion to adjacent countries. Moreover, current Czech policy of investment subsidies favours greenfield investments over transactions. Therefore, mergers and acquisitions might not be the optimal choice of market entry mode for Chinese investors.

Currently, primarily medium sized Chinese companies are interested in expansion into developing regions, for example South East Asia, Russia and the Middle East. These companies usually offer commoditised production and technology and are internationally not well recognised. Their preferred mode of entry is exporting (Grant & Zhang, 2008). In spite of this, they would have to invest in research and development, higher quality, brand and technology to gain competitiveness on developed markets. Highest interest in investments in the Czech Republic is expected from this group of Chinese investors.

Furthermore, current situation at the companies market could lead to increase in the number of Chinese acquisitions. Frequent existential issues and lack of financial leverage on the

market (Davis, 2009) leads to decrease of competition among buyers. Whereas abundant Chinese savings leads to Chinese competitive advantage and potentially higher successfulness in investing via mergers and acquisitions.

## CONCLUSION

Many Chinese companies are facing the decision to expand globally. They are attracted by raw materials, natural resources, qualified and skilled labour, technology and know how and at last but not least by new markets. Chinese companies should carefully evaluate own capabilities and review obstacles, which are significantly different to the issues they face at home market, in order to achieve successful expansion. The lack of experience and inappropriate corporate structures would have to adapt rapidly to work well on global market (Dietz, Orr, & Xing, 2008).

One of the main challenges is successful integration of own management and the management of acquired company. The key is to hire local general director and a proactive approach to integration of cultural differences and business practices (Hirt & Orr, 2006).

Majority of Chinese companies attracted to enter the Czech market are interested in utilising strategic capabilities and due to market reasons. Even though, the popularity of mergers & acquisitions among Chinese investors is rising, greenfield investment remains the entry method of choice due to investment subsidies and investors' specifics.

The Czech Republic was not successful in attracting Chinese mergers & acquisitions so far. There was recorded no Chinese merger or acquisition on the Czech market in available databases. However, increasing number of realised Chinese mergers and acquisitions, especially in high value added industries, could be expected in the future as a result of gradual maturing of Chinese investors and their interest in acquisition of new resources and technologies.

## REFERENCES

- Barboza, D. (2009). *China Starts Investing Globally*. New York: The New York Times.
- Česká Národní Banka. (2008). Stav přímých zahraničních investic v České republice k 31. 12. 2007. Praha, Česká republika.
- Davis, I. (2009). The new normal. *The McKinsey Quarterly* .
- Dietz, M. C., Orr, G., & Xing, J. (2008). How Chinese companies can succeed abroad. *The McKinsey Quarterly* .
- Financial Times Group. (2009, May 24). MergerMarket. London, United Kingdom.
- Grant, A., & Zhang, R. (2008). How corporate China is evolving. *The McKinsey Quarterly* .
- Hirt, M., & Orr, G. (2006). Helping China's companies master global M&A. *The McKinsey Quarterly*
- Koch, T., & Ramsbottom, O. (2008). A growth strategy for a Chinese state-owned enterprise. *The McKinsey Quarterly* .
- Ministerstvo zahraničních věcí České republiky. (2009). *Obchodní a ekonomická spolupráce s ČR*. Retrieved May 24, 2009, from Ministerstvo zahraničních věcí České republiky: [http://www.mzv.cz/jnp/cz/encyklopedie\\_statu/asie/cina/ekonomika/obchodni\\_a\\_ekonomicka\\_spoluprace\\_s\\_cr.html](http://www.mzv.cz/jnp/cz/encyklopedie_statu/asie/cina/ekonomika/obchodni_a_ekonomicka_spoluprace_s_cr.html)
- PricewaterhouseCoopers. (2006). *Central & Eastern European Mergers & Acquisitions Survey 2006*. Prague: PricewaterhouseCoopers.
- PricewaterhouseCoopers. (2007). *Central & Eastern European Mergers & Acquisitions Survey 2007*. Prague: PricewaterhouseCoopers.
- PricewaterhouseCoopers. (2008). *Central & Eastern European Mergers & Acquisitions Survey 2008*. Prague: PricewaterhouseCoopers.

Standard & Poor's. (2009, May 25). Capital IQ. New York, New York, United States of America.

The Wall Street Journal. (2009). *Wall Street Journal Asia*. Retrieved May 24, 2009, from The Wall Street Journal: <http://www.wsj-asia.com>

Zastupitelský úřad Peking. (2009, April 1). Souhrnná teritoriální informace Čína. Beijing, People's Republic of China.

**Martin Stuchlík, MIB**

University of Economics, Prague

nám. W. Churchilla 4

130 67 Prague 3

Czech Republic

Tel: +420 602 280 978

Email: [mstuchlik@gmail.com](mailto:mstuchlik@gmail.com)

# **THE PRODUCT IS BETTER WHEN IT IS BRANDED**

**Róbert Sándor Szűcs, Zsolt Csapó**

## **ANNOTATION**

The young generation is the most influenced and vulnerable segment of the market. Secondary surveys confirm that a large percentage (20%) of children less than 3 years of age insists on brands. Children aged between 4-5 years insist on 20-30 brands already. We prove with the help of an aroma and flavour test that young people make their decision on brand equity. We prove that young generation does not insist on the flavour of the product, but on its brand. Flavours are not ranked in the course of their decision, but the strength of the brand. The young found Pepsi and Coca-Cola more delicious in the course of our experiment when branded than the same Pepsi and Coca-Cola products without brands. It can be stated that not the quality of the product, but its brand that plays the most important role during their decisions.

## **KEY WORDS**

Young generation, aroma and flavour test, brand, marketing, experiment

## **INTRODUCTION**

The young generation is one of the most preferred target groups on the area of the marketing. A mass of companies are looking for the young generation's flavors and taking aim at an age group that does not have individual incomes and formed preference system. The world of tastes is easy to influence, to persuade, and to shape according to their own corporate needs. Marketing focuses on children is very problematic. It causes a problem primarily since the polished marketing arsenal is used at special, impressionable segments who are surprised at everything (Töröcsik, 2003). The young are especially vulnerable according to a basic accepted statement. Children understand the essence of the advertisements less and they are more credulous from the average one. The absence of scepticism and strongly presenting a positive attitude in connection with the advertisements is significant (Boush, 1994). It is more recognized by the older children (10–12 years of age) that advertisement does not communicate the full truth all the time. Children express their suspense but the level of their knowledge and the sceptical view is not enough. It is a serious problem that an average American child (but the statement is also true about the Hungarian companion) spends roughly 4 hours in front of the television screen every day (Federal Communications Commission, 2003; Kunkel, 2001). They watch more than 40,000 television advertisements in a year (Strasburger, 2001, Kunkel, 2001). It means about 5 hours of clear advertisement watching weekly (Lindstrom, Seybold, 2003). It is a fact that children recognize the trademarks over the age of 3, but the beginning of the brand loyalty's forming may start from the age of 2 already (Fishers, 1991, McNeal, 1992). Secondary surveys confirm that a large percentage (20%) of children less than 3 years of age insists on brands already and influences their parents on its purchasing. Children aged between 4-5 years insist on 20-30 brands already. They identify products from the melody of the advertisings and the logo (Látos, 2005). Considerable part of the advertisements demonstrate foods with high level of fats, sugar and/or salt that is rich in energy but include low level of nutritive values and important nutritive materials (Linn, 2008). More than 75% of advertisements of games, flakes, candies and snacks is scheduled on Saturday morning, primarily on the channels for children (Macklin, 2003). We popularize foods with high level of fats, sugar and/or salt and we do not have an opportunity to comment when we see the success of our campaign. (The advertised

foods are sweets, sweetened corn flakes, snacks, soft drinks. 95% of food advertisements show foods with high level of fats, sugar and/or salt on the television.) In the report of International Obesity Task Force (2005) it is published that the level of childhood overweight and obesity is seen to be accelerating rapidly in some countries. The Mediterranean islands of Malta, Sicily, Gibraltar and Crete as well as the countries of Spain, Portugal and Italy report overweight and obesity levels exceeding 30% among children, in addition England, Ireland, Cyprus, Sweden and Greece report levels above 20%, while France, Switzerland, Poland, the Czech Republic, Hungary, Germany, Denmark, Netherlands and even Bulgaria report overweight levels of 10-20% among this age group. It means that 17.5 million overweight children live in the European Union (Fülöp, 2009). The responsibility of marketing could be questionable from this point of view. Hastings (2003), a professor's study responds to the question unambiguously with his method and his statements: there is a lot of food advertising for children; the advertised diet is less healthy than the recommended one; children enjoy and are engaged with food promotion; Food promotion is having an effect, particularly on children's preferences, purchase behaviour and consumption.

### **DESCRIPTION OF THE EXPERIMENT, AIM AND METODOLOGY**

Thomas Robinson published in 2007 that the children (of age 4-5) were affected by the strength of the trademarks already. In his research it was established that foods taste better to children if they carried the Golden Arches logo of the McDonald's fast food chain. One product was presented in packaging bearing the familiar McDonald's logo, while the other which contained exactly the same food as the first was in generic wrapping. The product was better when it was packaged in a McDonald's box and didn't taste so good without one. A flavour test was his examination method and the participant number was a group of 63 children aged three to five.

The above mentioned research was taken into account as a starting point of our research. In our research would like to know if the above mentioned statement is correct or incorrect concerning the older generation. We presupposed that the young persons' scepticism improves with growth, and children are influenced less by the advertisements (or the brand loyalty developed in the childhood) than in a younger age. Participants were 18 year-old youth. First class college students of Szolnok University College were involved in our research. The size of the sample was 68. We involved 2 products in the examination. They were Coca-Cola and Pepsi Cola. The participants got 4 glasses of soft drink in all in the course of the experiment. The 1<sup>st</sup> glass contained Pepsi Cola; the 2<sup>nd</sup> glass contained Pepsi Cola as just the 1<sup>st</sup> glass. The 3<sup>rd</sup> glass contained Coca-Cola and the 4<sup>th</sup> contained Coca-Cola just as in the 3<sup>rd</sup> glass. The tasting was performed in two phase. The participants compared the soft drink marked 1<sup>st</sup> glass to the second in the first tasting. During the second tasting the participants compared the soft drink marked 3<sup>rd</sup> glass to the fourth. It means that the product was compared to itself. They recorded their preferences on a questionnaire. We asked the participants to mark which number of soft drink was found the most tasteful during the first tasting and during the second one on the questionnaire. The participants got some information before the course of the experiment:

- About the first tasting we know that the glass numbered 1<sup>st</sup> contains Pepsi Cola and we have no information about the second glass. But we know there is no Coca-Cola.
- About the second tasting we know that the glass numbered 3<sup>rd</sup> contains Coca-Cola and we have no information about the fourth glass. But we that there is no Pepsi Cola.

We made sure that the consumers do not express their sympathy for Pepsi and Coca-Cola in the course of the experiment; therefore we could measure the strength of the brand and its effect. If the consumers make a decision expressively on basis of the taste then the consumers

would not feel the difference between the products during the first and second tasting. There was no difference because the consumer tasted the same product two times. It is a rational preference relation. If the strength of the brand influences the consumer’s decision considerably (the effect of the brand is higher than the importance of taste), then the branded product will be found preferred probably. In this case the rational preference relation, the assumptions of this relation (e.g. complete, reflexive, and transitive) are not realized. It may not happen according to the three basic principles that a consumer package is preferred strictly opposite to itself. It means that the consumer can identify all the products, and he or she identifies it within itself and is consistent.

**RESULTS OF THE FLAVOUR TEST**

We asked the consumers to rank the products on the questionnaire according to flavour (1 – the most tasteful product, 4 – the least tasteful product). See Fig.1.

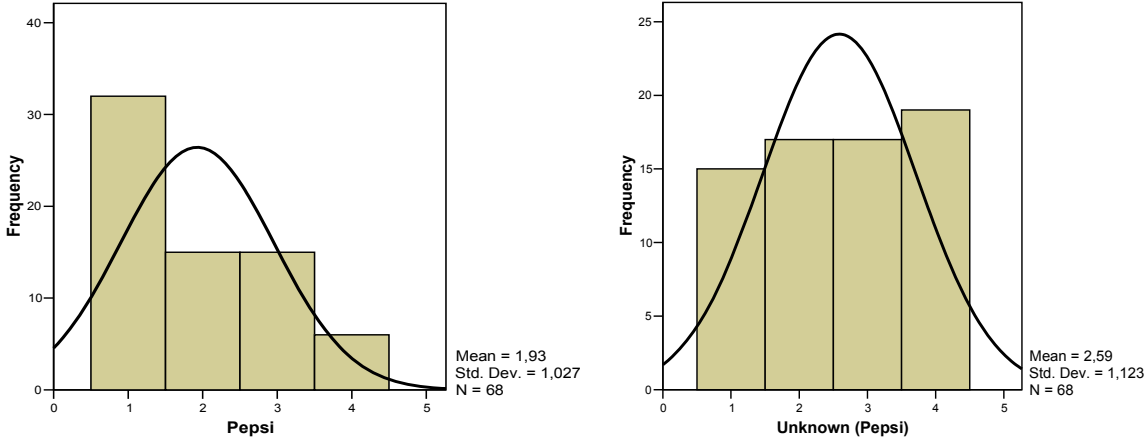
Fig.1 Description statistics of experiment

		Pepsi	Unknown (Pepsi)	Coca	Unknown (Coca)
N	Valid	68	68	68	68
	Missing	0	0	0	0
Mean		1,93	2,59	2,12	2,91
Median		2,00	3,00	2,00	3,00
Mode		1	4	1	4
Std. Deviation		1,027	1,123	1,100	,958
Minimum		1	1	1	1
Maximum		4	4	4	4

Source: own research

It can be stated from the Figure 1 that the brand name of product of which was known receives more favourable judgement (see the values of average, median and mode). In the course of the first tasting the participants compared the soft drink marked 1<sup>st</sup> glass (Pepsi) to the 2<sup>nd</sup> glass (Unknown=Pepsi). It means that the product was compared to itself; the consumer tastes the product two times. Despite the histograms of the branded and unbranded product there seems to be a considerable difference. (Fig. 2)

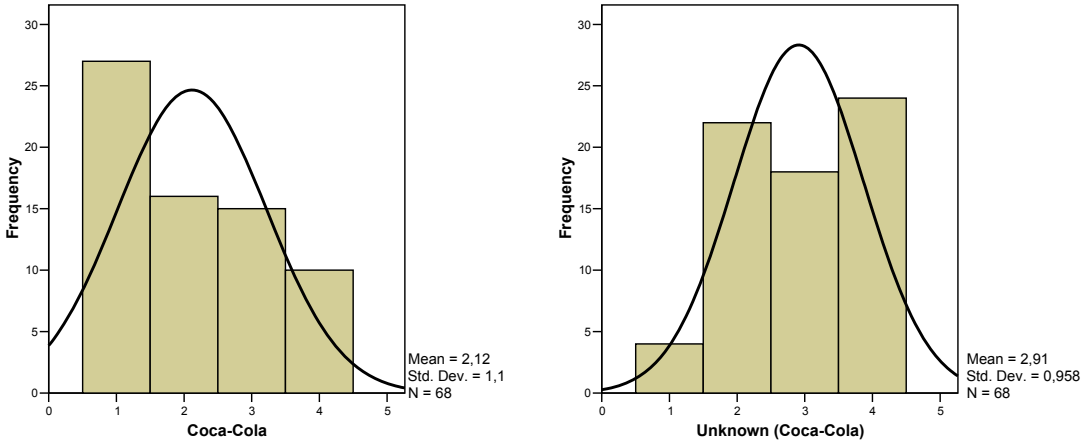
Fig.2: Histogram with a normal curve of the first tasting (Pepsi vs. the Unknown = Pepsi)



Source: own research

The histogram of the judgments of the products differs significantly in spite of the fact that we talk about the same products. The powerful influence of brand's knowledge can be seen according to the histogram. It is visible that the branded product's histogram shows left side asymmetry. It means that the consumers have positive opinion about the branded product; it is ranked into the first place. The product when it is unbranded ranked into the last place has unfavourable judgment. We may make a similar statement in the case of the second tasting to brand name Coke (Fig. 3).

Fig.3: Histogram with a normal curve of second tasting (Coca vs. the Unknown = Coca)



Source: own research

The histogram justifies that the products are not ranked based on a flavour (the same products were tasted two times), but they were ranked based on the strength of the brand primarily. On the basis of the consumers' value judgment an aggregated hierarchy between the 4 products can be set up (Fig. 4).

Fig.4: Consumers' value judgment an aggregated hierarchy between the 4 products

Tasting	Products	Average order value	Hierarchy	Proportion of 1. place
First tasting	1.) Pepsi	1.93	1.	47.1%
Pepsi vs. Unknown	2.) Pepsi	2.59	3.	22.1%
Second tasting	3.) Coca-Cola	2.12	2.	39.7%
Coke vs. Unknown	4.) Coca-Cola	2.91	4.	5.9%

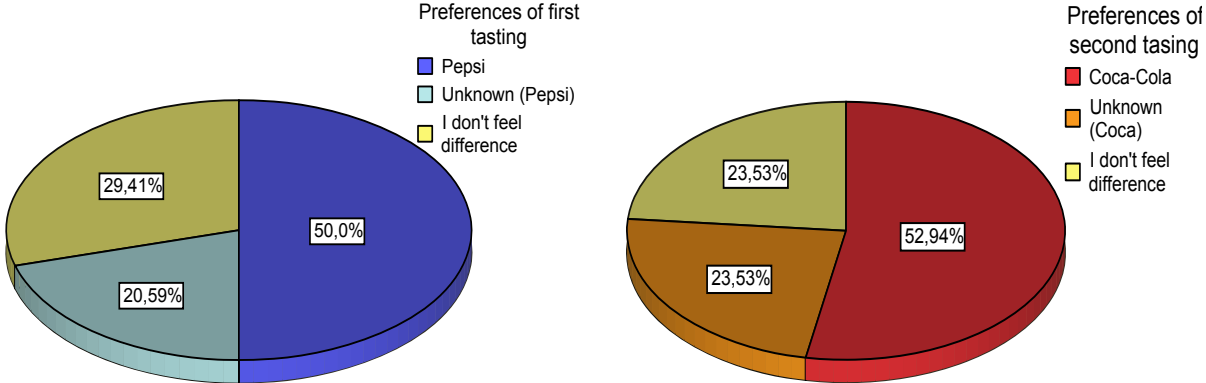
Source: own research

The table justifies the statement that the consumers do not make decisions on the basis of flavour, but it depends on the basis of the trademark of the product. 47.1% of the consumers felt that the most tasteful was Pepsi coke which can be found in the first glass. The value is 22.1% in the case of the unbranded Pepsi coke which can be found in the second glass. The difference was bigger in the case of Coca-Cola, the value is 39.7% and 5.9% successively. We may examine the agreement indicator of the consumers. Kendall's W can be calculated from these data. Kendall's W can be used for assessing agreement among the 68 raters. The value of Kendall's coefficient of concordance is 0,121. There is no overall trend of agreement among

the respondents, and their responses may be regarded as essentially random. The hierarchy reflects it well.

In the first questions we ask respondents to compare the branded Pepsi Coke (1<sup>st</sup> glass) with the unknown product (unbranded Pepsi in the 2<sup>nd</sup> glass). In the second question we ask respondents to compare the branded Coca-Cola (3<sup>rd</sup> glass) with the unknown product (unbranded Coke in the 4<sup>th</sup> glass). If the consumers make decisions on the basis of rationalism (flavour) they would not feel the difference between the branded and unbranded variants. In this case the brand name has no effect. The results of the experiment can be found in Fig. 5.

Fig.5: Which coke was more tasteful in the course of the first/second tasting?



Source: own research

50.0% and 52.9% of the participants found the branded product better than itself in the flavour test. It means that the product with the indication of brand name is tastier than the product without any brand name according to the half of the respondents. A quarter of the respondents were not able to make a difference (correctly) based on flavour. It means 20 persons (29.41%) in the course of first tasting and 16 persons (23.53%) in the course of second tasting. Altogether there were 4 persons who did not feel any difference between the branded and unbranded products (Pepsi and Coca-Cola altogether) on the basis of the products' flavour. There are 5.9% of consumers merely.

We suppose that consumers who drink coke often would be able to find out in all probability that they tasted the same product two times. Our assumption does not justify the fact that half of the consumers (46.2% at Pepsi and 48.7% at Coca) who drink coke at least once a week did not feel any difference between the branded and unbranded products. The calculated Cramer's V refutes our assumption. The value of Cramer's V is 0.243 in the case of Pepsi and 0.131 in the case of Coca-Cola. The values refute our assumption that the brand's effect would not prevail or lessen along the increase of consumption's intensity.

**CONCLUSION**

It can be stated that brand loyalty has been developing in the childhood and the influential strength of the brand also comes forth in the age of youth and lasts till early adulthood. The level of the scepticism with the quality of the product is not enough in this age group. The brand loyalty developed in the childhood oppresses the scepticism. Our experiment justifies that the consumer does not form a judgment on the flavour of the product, but primarily based on the strength of the brand name. The utilisation of this contributes to serious problems especially in the case of increasing consumption of foods with high level of fats, sugar and/or salt. In this case the increasing consumption of these products contributes to the drastic rising of the number of the overweight and diabetes type 2. It explains that a company like Coca-Cola why spend 20 million dollars on a product advertisement on the American Idol TV



show, a top rated program among children of all ages (Linn 2004). Companies who produce foods with high level of fats, sugar and/or salt realize profits. However, the budget covers the expenses. The direct costs of obesity are estimated to be approximately 7% of total health care costs (110 billion dollars in 1999) in the United States (Michael S. Finke, Sand J. Huston 2007). There was 123 billion dollars in 2003 (Endocrine Society and Hormone Foundation 2008). Obesity increases inpatient and ambulatory health care costs by 395 dollars per person per year - more than smoking or problem drinking (Sturm, 2002). More than 119 million people, 64.5% of the US population, are now considered overweight or obese<sup>1</sup>. We state that the regulation of foods with high level of fats, sugar and/or salt is obedient to businessman's approach. Our elemental interest is the drastic reduction of obesity. Its expenses load the budget. At the same time it is a fact that in the United States Coca-Cola and Pepsi Cola paid 3 billion dollars into the budget in 2001 (Brownell, Horgan 2004). Our experiment calls attention to several facts which can be accepted by companies easily:

- Youth are not able to establish that they taste two products two times. The difference was a few seconds between tasting.
- Absolute majority of consumers would not realise it if the company reduced the basic expense or changed the ingredients of the product.
- Consumers would not notice the change in flavour, because the effect of the brand would oppress it.
- It may be an additional interesting question if the strong brand name owners would make turnovers of a new product with medium (or lower) quality, which raises the risk of getting overweight.
- Majority of consumers would not refuse the consumption of a product. We state that the effect of brands can outweigh the rationality factor.

## **BIBLIOGRAPHY**

- [1] Boush, D. M., M. Friestad, G. M. Rose (1994): Adolescent Skepticism toward TV Advertising and Knowledge of Advertiser Tactics, *Journal of Consumer Research* 21 June, 165–175.
- [2] Brownell, Horgan (2004): *Food Fight: The Inside Story of The Food Industry, America's Obesity Crisis, and What We Can Do About It*; McGraw-Hill Company, ISBN 0-07-1402-50-0
- [3] Endocrine Society and Hormone Foundation (2008). *The Endocrine Society Weighs In: A Handbook on Obesity in America*. Chevy Chase, MD: Obesity in America, 2005. Accessed at <http://www.obesityinamerica.org/links/HandbookonObesityinAmerica.pdf>,
- [4] Federal Communications Commission (2003): *Children's Television: Programming & Commercial Limits*, <http://ftp.fcc.gov/commissioners/abernathy/news/childrenstv.html>
- [5] Fischer, Paul M., Schwartz, Meyer P. (1991): Brand logo recognition by children aged 3 to 6 years: Mickey Mouse and Old Joe the Camel. *Journal of the American Medical Association*, 266, p. 3145 - 3148.
- [6] Fülöp, Süllös, Huszka (2009): *A Dunántúlon élő fiatalok táplálkozási szokásainak fókuszcsoportos vizsgálata*, Kaposvár, 2009. 08. 25-26, MOK, ISBN 978-963-9821-12-5
- [7] Hastings, G., Stead, (szerk.) (2003). *Review of the research on the effects of food promotion to children.*, London, Food Standards Agency.
- [8] International Obesity Task Force (2005). *EU platform on diet, physical activity and health*, March 15. 2005, Brussels, (eds. Lobstein, Rigby, Leach.). *Obesity Reviews* 5, p. 9.
- [9] Kunkel, D. (2001): *Children and television advertising. The handbook of children and media*, Thousand Oaks, CA: Sage Publications p. 375-394.

---

<sup>1</sup> <http://www.commongroundcommonsense.org/forums/lofiversion/index.php/t36210.html>

- [10] Látos Eszter (2005): Gyerekek, marketing, pszichológia és etika – összehangolható fogalmak?, Budapesti Gazdasági Főiskola, p. 18.
- [11] Lindstrom, M., P. B. Seybold (2003): Brand Child, London, Kogan Page
- [12] Linn (2004): Food Marketing to Children in the Context of a Marketing Maelstrom, Journal of Public Health Policy, Volume 25, Numbers 3-4, 2004, p 367-378
- [13] Linn (2008): Calories for Sale: Food Marketing to Children in the Twenty-First Century, The annals of the American Academy of Political and Social Science, Vol.615, No1, p133-155
- [14] Macklin, M. C. (2003): ‘Children: Targets of Advertising’, in J. McDonough, K. Egolf (eds.), Encyclopedia of Advertising, 1, (New York, NY: Fitzroy Dearborn), pp. 294–298.
- [15] McNeal, J. (1992): Kids as customers. NY:Lexington Books.
- [16] Michael S. Finke, Sandra J. Huston (2007): Low-Cost Obesity interventions: The Market for Foods, Behavioral Science, June 06 2007, ISBN 978-0-378-36899-3
- [17] Robinson, Borzekowski, Matheson, Kraemer (2007): Effects of fast food branding on young children’s preferences, Arch Pediatr Adolesc Med. 2007;161(8):792-797
- [18] Sturm R. (2002): The Effects of Obesity, Smoking, and Drinking on Medical Problems and Costs, Health Affairs, 2002, vol. 21, pp. 245-253.
- [19] Töröcsik M (2003): Fogyasztói magatartás trendek, KJK-Kerszöv Kiadó, Budapest, p.163.

#### **First Author**

Full name: Róbert Sándor Szűcs, assistant lecturer, PhD. student

Institution: Szolnok University College, Hungary

Street: Petőfi tér 1.

City: Mezőtúr, Hungary

Email: kawics@yahoo.com

#### **Second Author**

Full name: Dr. Zsolt Csapó, associate professor

Institution: University of Debrecen, Faculty of Applied Economics and Rural Development, Hungary

Street: Böszörményi út 138.

City: Debrecen, Hungary

Email: csapo@agr.unideb.hu

# **THE MAIN PILLARS OF THE CRM**

**Kamila Tišlerová**

## **ANNOTATION**

This paper aims to analyse differential approaches to the Customer Relationship Management theory. The main pillars of the CRM concern the customers as the core value to the company. From establishing, developing, finishing and evaluation customer relations, with the help of technology, obtain, analyse and valuably use of the customer information and exchange at the aim of establishing a long-term relationship for profitability and competitive advantage. CRM, in some aspects, takes the customer as business partner and this concept helps the company act more effectively, efficiently and productively. The future of the business is the competing of the information and communication, this is the key point to obtain and keep the customer.

## **KEY WORDS**

CRM, pillars, customer, strategy, competitive advantage

## **INTRODUCTION**

There are many ways how to understand Customer Relationship Management (CRM) and how to define its main pillars. Generally we can recognize it as a strategy but there are some differences and it is necessary to know how to implement CRM correctly.

## **AIM AND METODOLOGY**

This paper aims to analyse and compare various approaches to Customer Relationship Management. It treats with different streams of CRM theory.

### **What to understand by CRM**

It is a strategy used to learn more about customers' needs and behaviours in order to develop stronger relationships with them. There are many technological components to CRM, but thinking about CRM in primarily technological terms is a mistake. The more useful way to think about CRM is as a process that will help bring together lots of pieces of information about customers, sales, marketing effectiveness, responsiveness and market trends.

CRM is a company-wide business strategy designed to reduce costs and increase profitability by solidifying customer loyalty. True CRM brings together information from all data sources within an organization (and where appropriate, from outside the organization) to give one, holistic view of each customer in real time.

Many CRM initiatives are motivated and measured by cost reduction. Although successful CRM programs may reduce costs, cost savings alone should never be what justifies a CRM initiative. Instead, CRM should focus on building customer loyalty and increasing profits over time through business processes that are well-aligned with customer strategies.

### **Traditional CRM pillars**

In the first few generations of CRM we saw the basic three pillars (sales, marketing, and customer service), a common data model, and common integration points to the existing systems in the organization: ERP, legacy, and databases.

These implementations collected data across all functions in the front office, store it in a central location and use it. That data was all operational: who did what when, for how long, and what were the results. The promise of a “holistic customer representation” or “360 view

of the customer” did not materialize since we were missing the most important item in the equation: what the customer wanted when they came to see us, why did they need that, and what was the result of the interaction. In other words, we had the content but we were missing the context and intent of those interaction.

### **Social CRM (SCRM)**

In this stage organizations start to listen to customers. They acknowledge there is a lot of data about their business but don't know how to find it or tap into it. Companies feel empowered by what they are discovering — but there is still no framework to take advantage of this. The tools give some guidelines and insights as to how to proceed, but nothing really in the sense of strategy or what to do with it.

That is why one more pillar was added – Feedback Management. It becomes the fourth pillar for CRM. This is the quintessential integration that makes CRM work in a social environment. Most of what we capture from the communities must be considered feedback. The limited operational data we obtain can be easily separated by the business rules and stored in the appropriate places. [2]

### **The IDIC model**

In the mid-1990s CRM was described as the four necessary components of a successful CRM strategy: [5]

1. Identify
2. Differentiate
3. Interact
4. Customize

The IDIC concept became famous within the CRM community. Some declared that its simplicity was misleading; others argued that it made a simple idea seem overly complex. But most disciples of CRM conceded that IDIC was a handy template for designing practical customer relationship management programs.

Interact was considered the least controversial of the four components. Perhaps that's why many customer-centric organizations are only beginning to embrace and address the various challenges of interaction management.

A well-conceived interaction strategy enables the organization to view each individual customer's behavior over time and to act on noticeable changes swiftly, at the moment when a meaningful response by the organization is likely to have the most impact. As customer relationships become more complex, interaction management becomes a more difficult task. In addition to outbound channels such as email, direct mail and catalogs, organizations must coordinate inbound, outbound and event- and behavior-based communications. This means tracking and responding to customers across all touch points, including traditional brick and mortar stores, call centers, and the Web. Above, all, the organization must be capable of providing a consistent face across each communication channel.

Far-sighted customer-centric organizations now track customer behavior across multiple sources, recognizing opportunities and engaging individual customers in real time. These organizations invest in technologies enabling the kind of highly personalized customer interactions that create fresh sales opportunities and ensure loyalty over time. Offers can be uniquely constructed based upon a customer's total history, not broader demographic data.

## **The four pillars of Insight Transformation**

### **1. Relevancy**

How do we use customer intelligence in our dialogue with the customer so products, services, messages, and offers are presented in such a way that is truly relevant to the customer? This means going beyond looking at the last transaction or information from constrained data fields. Take for example a customer service rep from a catalog company who made notations about a customer's purchase for their daughter's 12th birthday the previous year. This year's call in the same time period allowed the support and cross-sale initiatives to be highly relevant to the customer.

### **2. Context**

How does our view of the customer intelligence change when we learn more about why the customer has exhibited previous behaviors and what their true underlying needs are today? Take our same example and think about how differently the rep's conversation is based on knowing the customer is gift shopping instead of personally shopping. The context of a repeat birthday shopper should also set a trigger for future contacts.

### **3. Timing**

How do we connect customer intelligence with the critical aspect of timing to benefit from reaching customers in the right window of opportunity, creating an appropriate sense of urgency, making contact at the right point in the decision-making process, or factoring in the seasonality and cycles of customer needs? Besides the obvious timing of the birthday purchase we've established for our example, we can also factor in the daughter's age and the season of each purchase to make specific recommendations for the customer.

### **4. Emotive Factors**

How do we enhance our customer intelligence to understand and benefit from the underlying emotive factors that lead to what the data would determine are irrational or unanticipated decisions? Knowing the importance of a birthday purchase for a close family member is valuable insight. Through the rep's dialogue with the customer, it may also be possible to capture additional emotive factors such as how comfortable the customer is making purchases for someone in this age group. The interaction is different once it is known that this is a stressful purchase where the parent depends on the helpful guidance of the rep. Customer insight often exists in true one-on-one relationships, such as those that observant sales people, advisors, and small business owners have with their customers, because the information is typically received a dialogue that provides relevancy, context, timing and some indication of the emotive factors. In our high-volume, high-tech environments, we must make a more significant effort to understand and apply these four components to the knowledge we gain. CRM must go beyond the minimal personalization of direct marketing letters that insert a piece of knowledge or are dependent on some basic data-driven segmentation. [4]

## **Other approaches**

The Four Pillars of CRM Excellence are approaches to segmenting and then manage customers either directly, through channel partners or with loyalty programs:

- Customer segmentation: Understanding customer value, loyalty and needs
- Direct marketing/CRM: Setting up targeted one-to-one strategies
- Channel-based CRM: Managing customers through channel partners
- Loyalty programs: Developing effective customer loyalty programs

### **Factors for an Effective Customer Relationship Management**

Managing relationship with customers is not a static process. For different business ventures, the ramifications, dimensions and vertices of customer relationship management are different. As the importance of managing relationship with customers is increasing at a whooping rate, both business owners and academicians are now more interested into the various strata of the CRM potential. More efficient and advanced CRM software packages are now added to the IT platform of business ventures.

Customer relationship management aims at formulating a strategic approach for the development of customer centric business approach. Understanding the demands of customers, value addition to the customer service and creation of a loyal customer base are the three important pillars of customer relationship management. To have the best customer relationship, enterprises need to allocate resource to enhance customer value, introduce reward/point system to motivate employees for a better customer service, track and analyse information related to your customers and adding customer expectations to the operational base.

Adopting a set of ideal CRM practices enables the enterprise to automate sales force, lead generation, customer interaction and surveys. Along with it, there is also a possibility to install call centre and help desk CRM software for a better customer service. All leading software manufacturers are specialising in producing CRM software packages. But the enterprise needs to pay due importance to factors like needs and nature of your business, the budget and customization capacity of the software package.

### **CONCLUSION**

Whatever approach is chosen the most important is to understand CRM as a strategy. In some enterprises there is CRM approach limited only for a software solution, instead of applying customer-centric management and using all the CRM tools. It would be a great mistake to adopt the approach that Customer Relationship Management as a technology rather than a management issue. But CRM is fundamentally a business philosophy that places the customer at the heart of all organizational activity, while the technology component is no more than a supporting tool. By refocusing on the business rather than technology drivers, organizations improve their chances of meeting their real customer management needs.

### **BIBLIOGRAPHY**

- [1] FREELAND, J.G. The Ultimate CRM handbook, Strategies and Concepts for Building Enduring Customer Loyalty and Profitability. McGraw-Hill, 2003 ISBN 0-07-140935-1
- [2] GREENBERG, P. CRM at the Speed of Light, Fourth Edition: Social CRM 2.0 Strategies, Tools, and Techniques for Engaging Your Customer. McGraw-Hill Osborne Media, 2009 ISBN: 978-0071590457
- [3] LEHTINEN, J.R. Aktivní CRM – Řízení vztahů se zákazníky Grada Publishing, Praha 2007. ISBN 978-80-247-1814-9
- [4] LENSKOLD, J. Marketing ROI: The Path to Campaign, Customer, and Corporate Profitability. McGraw-Hill; 1 edition 2003. ISBN 978-0071413633
- [5] PEPPERS, D., ROGERS, M. Managing Customer Relationships: A Strategic Framework Wiley; 1 edition, 2004. ISBN 978-0471485902
- [6] RUST, R., ZEITHAML, V., LEMON K. Driving Customer Equity: How Customer Lifetime Value is Reshaping Corporate Strategy, Free Press, 2000, ISBN: 978-0684864662
- [7] STORBACKA, K., LECHTINEN, J.R. Řízení vztahů se zákazníky (Customer Relationship Management). 1. Vyd. Praha: Grada Publishing, 2002. ISBN 80-7169-813X

Ing. Kamila Tišlerová  
Univerzita Jana Evangelisty Purkyně  
Hoření 23  
Ústí nad Labem  
Kamila.tislerova@ujep.cz

# **KNOWLEDGE CONTINUITY AND KNOWLEDGE MANAGEMENT**

**Hana Urbancová**

## **ANNOTATION**

“Particular” people are those who have knowledge and when they leave an organization the knowledge leaves with them and this means loss of critical knowledge. It is very important to know very early on which employees and which knowledge leave. The management of organization must ensure knowledge continuity by knowledge sharing, so that this knowledge can be transferred to others. If knowledge is not shared (e.g. person-to-person), it is lost when its incumbent leaves the organization and it has to be re-created the hard way. Because the power of all organizations is in its knowledge, the organization mustn't lose these people or their knowledge.

## **KEY WORDS**

knowledge, tacit knowledge, explicit knowledge, knowledge management, knowledge continuity, skill, experience

## **INTRODUCTION**

Employees and generally human resources are indispensable components for organizations. The competitive advantage of organizations lays mainly in the way their employees use their knowledge, experience and skills. All employees have knowledge independently of the kind of jobs they do. Today the intangible assets are in the capital of knowledge and are the most important and the most valuable things for organizations.

Knowledge capital and effective knowledge management are today the biggest competitive advantage for organizations. Knowledge management can contribute to a higher quality of processes generally. It can contribute especially in processes which work with knowledge and it can contribute to improving management.

To use knowledge capital effectively it is very important that there is continuous (continual) information transfer, especially inside the organization. Every employee must have the necessary knowledge, experience and skills needed for their work when the previous incumbent leaves the organization. Retaining as much knowledge continuity as possible ensures the minimum of amount change. This can help address human resources problems (for example letter of resignation, death of employee).

## **AIM AND METHODOLOGY**

The objective of this article is to identify knowledge continuity and knowledge management as a new management function in organizations. First, there are interpreted keywords in the report and then knowledge continuity is explained on the basis of research and knowledge management about it. The report is written on the basis of knowledge, deduction and analysis of the relevant documents.

## **RESULTS**

### **Document based research**

Tacit knowledge (as opposed to formal or explicit knowledge) is knowledge that is difficult to transfer to another person by means of writing it down or verbalizing it. With tacit knowledge, people are often not aware of the knowledge they possess or how it can be valuable to others. Effective transfer of tacit knowledge generally requires extensive personal contact and trust.



Tacit knowledge is not easily shared. Tacit knowledge consists often of habits and culture that is not recognized by people. In the field of knowledge management, the concept of tacit knowledge refers to a knowledge which is only known by an individual and that is difficult to communicate to the rest of an organization. Knowledge that is easy to communicate is called explicit knowledge. The process of transforming tacit knowledge into explicit knowledge is known as codification or articulation (Beazley, 2003; Bureš 2007; Mládková, 2003; Nonaka and Takeuchi, 1995).

Without adequate knowledge continuity from former to new employees there is a drain of intellectual capital and this squanders the knowledge asset (Beazley et al, 2003; Eucker, 2007). Knowledge continuity management is an offshoot of the field of knowledge management. Where knowledge management concerns the capturing and sharing of know-how valuable to colleagues performing similar jobs throughout a company, knowledge continuity management focuses on passing the critical knowledge from existing employees to their replacements (Beazley et al, 2003; Field, 2003). As Field (2003), Stam (2009) and Beazley et al (2003) say, knowledge continuity is based on the communication among people in organizations. Employees must understand what it is they know, what others need to know, and what information needs to be shared in organizations. An effective knowledge continuity management program is a complex undertaking, involving a mixture of technical, organizational, and management steps, and requiring a major commitment from the top.

Effective management of the knowledge asset in any organization requires the integration of two related but different processes that combine synergy and seamlessly create a megaprocess. According to Beazley (2003) it means:

- Knowledge transfer within the same employee generation (i.e., among current employees),
- Knowledge transfer between employee generations (i.e. from current employees to future employees).

### **Expectations of knowledge continuity**

When every employee in the organization has the right knowledge at the right time and in the right place, the organization will work effectively. Today's knowledge continuity management is recognised as a new management function.

The keeping of knowledge continuity will be part of five managerial functions in the 21st century, i.e., planning, organising, directing, coordination, knowledge continuity and controlling. The concept of knowledge continuity has historically arisen on the base of development forces, for example with these which are below the article. Ignoring the existence of knowledge continuity (in today knowledge economy) could have as a consequence, a crisis involving knowledge discontinuity, a knowledge vacuum, a knowledge crisis (because critical knowledge went with the person who left the organization) and this could lead to other negative effects.

As has already been noted the reassessment of knowledge as the key economic factor in production and knowledge continuity as an essential component of knowledge preservation, was built on ten stages in organizations at the end of the twentieth century:

1. *The emergence of the Information Age and the knowledge economy.*  
Today organizations know their employees and their knowledge are assets for them.
2. *The shift from mechanic organizations to organic ones.*  
Change of organization structure is frequent today.

3. *Data and information proliferation and overload, replacing the need for information processing with the challenge of knowledge processing and creation.*  
The organization and their employees can not work without the correct information and knowledge.
4. *High employee turnover and brief job tenure due to downsizing and job hopping, which results in huge organizational knowledge gaps.*  
Management must motivate their employees to work and to share information and knowledge.
5. *Impending baby-boomer retirements, which threaten to bring about potentially devastating knowledge losses.*  
The senior employees retire and their knowledge leaves the organization with them. It is important that these people share their experience and knowledge.
6. *Knowledge turnover caused by greater use of a contingent workforce in all its forms, which depletes organizational knowledge.*
7. *The drive for innovation and the emphasis on organizational learning, which requires knowledge of the past and quick access to existing resources.*  
The management of an organization should supervise organizational learning.
8. *A commitment to higher quality and to continuous improvement, which requires knowledge continuity if it is to be achieved.*  
The commitment to higher quality should ensure effective knowledge transfer in the organization.
9. *The development of sophisticated computer technology that enables the attainment and transfer of operational knowledge.*  
Today ICT is very important for every organization in the world. ICT supports knowledge transfer and knowledge sharing in organizations and also in external relations.
10. *The highly competitive global marketplace, which rewards quick responses, agile moves, and deft maneuvering, all built on operational knowledge continuity.*  
If the organization ensures their operational knowledge continuity, it will get the competitive advantage before its competitors.

It is obvious that if the organization successfully uses knowledge management it is possible to identify the following signs:

- Every knowledge potential of the organization is used optimally and the best knowledge is available at all times and everywhere.
- Knowledge market works optimally in organizations. Key knowledge is successfully evaluated in the form of processes, structures, projects and patents.
- Knowledge is successfully used for the development of the innovative products, services and processes.
- Individual findings, successful and non-successful, are turned into knowledge and are available for every employee who needs this knowledge.
- Working learning systems based on the best practice in the organization are implemented.

- All risks associated with key knowledge is to be found in advance.
- Organizational strategy is in accordance with the policy of knowledge management.

Knowledge continuity is very important for organizations. The reason is that continuity management increases the commitment of new employees, lowers their stress, and raises their morale. It is very important that employees who leave organizations transfer and share their knowledge and experience before going.

### **Discussion**

When employees leave, they take vital knowledge with them. Without a process in place to capture that knowledge and transfer it to their successors, it is lost forever. As a result, for those who follow them in the job it takes longer for them to get up to speed and important discoveries and insights disappear, and the company's ability to act quickly and intelligently is crippled. Organizations need to have effective methods for transferring employee know-how. That's where the concept of knowledge continuity management comes into play.

While knowledge continuity is an old concept in its basic form, it is a new concept in its fullest meaning: as a function of management. The requirement of continuity management can be found in a confluence of forces that have altered the management environment over the past five years, driving organizations to seek new business models and scrap old ideas about the nature and value of knowledge. Ten powerful forces converging at the end of the twentieth century created the "perfect storm" that rendered the Industrial Age concept of management incomplete and ineffective, pushing for a re-examination of its meaning and adding knowledge continuity to its basic functions.

### **CONCLUSION**

Despite Knowledge Management having risen up as scientific matter during the 90's, its development and role began to intensify very quickly. Nowadays it is the one of the modern trends, which is interesting for organizations. Knowledge management is a mixing of strategies and ways to support creation and the effective use of knowledge assets. The aim is to have or put the required knowledge, where it is needed. If successfully achieved, people can acquire and consequently use the knowledge in order to create a competitive edge in the organization. It is important to keep competitiveness in the case of the knowledge incumbent leaving the organization, in order to ensure knowledge continuity management.

Effective management of knowledge assets in organizations involves the integration of two processes – the transfer of knowledge between employees in the organization and the transfer of knowledge between the employee leaving and his/her successor. While knowledge management concerns the former, the knowledge continuity management concerns the latter.

The article is part of the grant Czech University of Live Science named "Information and knowledge support of strategic management" (MSM 6046070904) and the article has been written for the maintenance Internal Grant Agency (IGA) Czech University of Live Science in Prague, registration number 200911140003.

### **BIBLIOGRAPHY**

- [1] BEAZLEY, H. et al. Knowledge continuity: The New Management Function. *Journal of organizational excellence*. Summer 2003.
- [2] EUCKER, T. *Understanding the impact of tacit knowledge loss*. Knowledge Management Review, April 2007.
- [3] FIELD, A. *When Employees Leave the Company, How Can You Make Sure That Their Expertise Doesn't?* Harvard Management Communication Letter, April 2003.

- [4] MLÁDKOVÁ, L. *Management znalostí v praxi*. Professional Publishing, 2004, ISBN 80-86419-51-7.
- [5] NONAKA, I., TAKEUCHI, H. *The Knowledge Creating Company* Oxford University Press. 1995.
- [6] STAM, CH. *Knowledge and the Ageing Employee: A Research Agenda*. INHOLLAND University of Applied Sciences, Haarlem, The Netherlands, 2009

**Contact:**

Ing. Hana Urbancova  
Department of Management  
Faculty of Economics and Management  
Czech University of Life Sciences Prague  
Kamycka 129  
165 21 Prague 6 – Suchdol  
urbancova@pef.czu.cz

# **THE INFLUENCE OF DIGITAL TECHNOLOGY ON CREATIVE INDUSTRIES: AN ANALYSIS BASED ON VALUE CHAIN**

**Jianpeng Zhang**

## **ANNOTATION**

The great influence of technology on economy development has been manifested by the three times technological revolutions from 18 century to 20 century. They transformed the agriculture society into industrial society. In the past decades, the digital technology and ICTs brought the people into the creative age. The combination of creativity and economy formed into a new economy model, that is, creative economy. The digital technology and internet is extensively used to creative industries, e.g. Cartoon, Movie, Music, TV, etc. In this paper, we analyzed influence of digital technology on creative industries based on the value chain of creative industries, which includes four basic stages: creation, production, distribution and retail & consumption.

## **KEY WORDS**

Creative economy; creative industries; digital technology; value chain

## **INTRODUCTION**

The creative economy is playing a more and more important role in the economy growth of the world economy as an emerging economy model in the past decades. The creative economy has the potential to generate income and jobs while promoting social inclusion, cultural diversity and human development. Although there are a lot of definitions on the creative economy, there is no disagreement that creative industries lay at the centre of creative economy (Florida, 2002; UN, 2008). According to the Creative Economy Report from UN (2008), the creative industries are among the most dynamic emerging sectors in world trade. The creative industries account for 3.4 per cent of total world trade, with exports reaching \$424.4 billion in 2005 and an average annual growth of 8.7 per cent during 2000-2005. Furthermore, the creative industries are an important bridge to the wider economy. Creative businesses may make regions more attractive businesses in other sectors. (DCMS, 2007)

Generally speaking, the creative economy has a bigger proportion of GDP and employment in developed countries than developing countries. For example, the U.S. “core” copyright industries accounted for an estimated 6% of the U.S. gross domestic product (\$626.6 billion); the “total” copyright industries is higher accounting for an estimated 12% of the U.S. GDP (\$1.25 trillion) in 2002 (WIPO, 2004). In developing countries, Asian countries, led by China, have experienced rapid growth in creative capacities and have benefited from greater competitiveness of these creative goods and services in world markets over the last decade. By contrast, in other areas of the developing world, the creative economy has not been able to realize its full potential and the poorest countries remain marginal players in world markets for creative goods and services. According the report by UNCTAD (2008), there are only seven countries in Africa have established performance industries and only two have an established recording industry. Most of the rest are embryonic, and in 30 percent of all countries in sub-Saharan Africa, there is little evidence of a music industry.

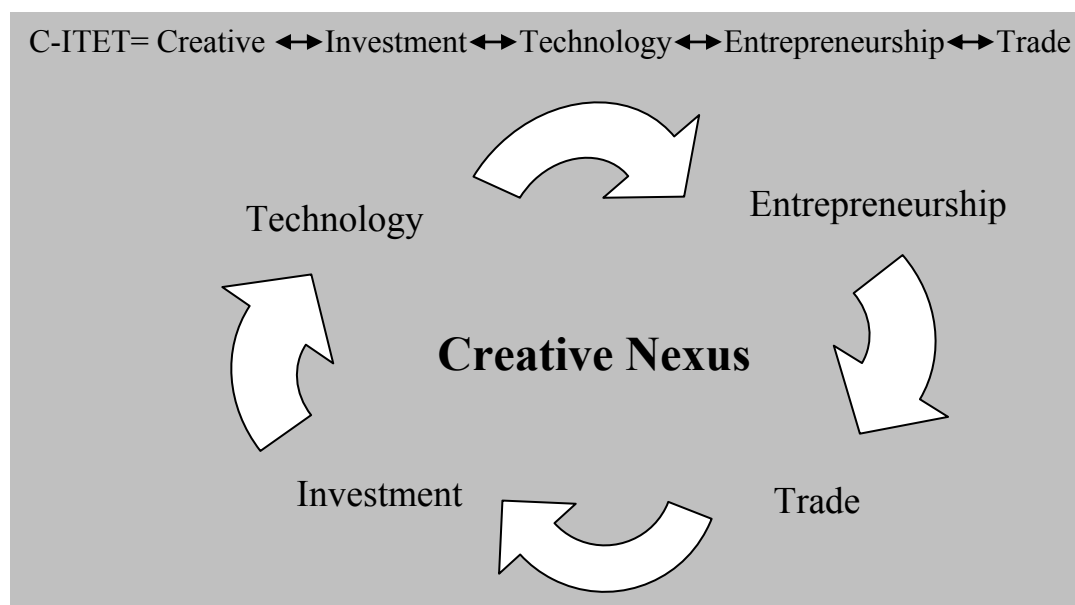
Obviously, the development of creative economy has great benefit to the economy growth in developing countries and probably assists them to leapfrog into new high-growth creative

sectors. However, what are the major drivers of the creative economy? What is the influence of digital technology on creative industries? How to deal with the new situations? These questions will be discussed and analyzed in the following parts.

### AIM AND METHODOGY

Although there are many factors which are of importance to the creative industries' development, such as investment, entrepreneurship, tourism, without a doubt the technology is one of the of the essence parts. Figure1 shows main factors in a creative nexus, which is The C-ITET model formed by UNCTAD.

Fig.1 The creative nexus: The C-ITET model



Source:UNCTAD (Dos Santos, 2007).

The great influence of technology on economy development has been manifested by the three times technological revolutions from 18 century to 20 century, which transformed agriculture society into industrial society. With the rapidly developing of ICTs and digital technology, the peoples' lifestyles and productions have been changed profoundly. Ten years ago, Bill Gates forecasted that everything will be digitalized with the developing of hardware and software (1999). In the meanwhile, there were many scholars and books predicted the influence of digital technology on the society, such as *The Third Wave* wrote by Alvin Toffler; *Being Digital* wrote by Negroponte.

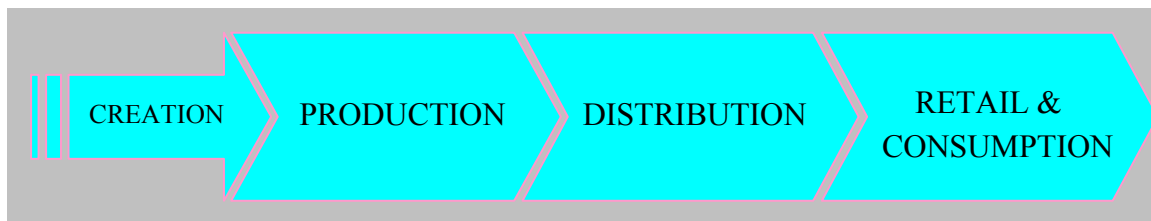
Creative Industries, which were permeated and influenced by Information and digital technology, were known as “the second media age” (M. Poster, 1995). The influence of digital technology on creative includes many facets. Here we listed some important impacts (Simei, Sheng, 2009):

- Information technology (IT) overturned the traditional culture industries. A case in point, MP3 attacked the traditional record industry. It is very easy to copy and disseminate the music though Internet after it is digitalized by 0 and 1 permutation.
- IT created the new culture industries. E.g. the output value of electronic (and online) game has surpassed the movie industry.
- IT is supported for the diversity demand of audience and marketing segmentation.
- IT developed two-way interactive feature.

- IT make the information disseminate more freely.
- IT changed the unitary information pattern in traditional culture industries.
- IT formed the virtual space and virtual society.

Specifically, digital and internet technology has crucial influence on the whole production chain of creative goods and services from creation, production to distribution and consumption, e.g., from Computer Aided Design to on-line shopping, etc. Creative Industries' value chains can be different widely in terms of degrees of complexity. Generally, the chain of the film industry is often quoted as being among the most complex because it includes a multitude of interdependent stages and skills drawn from various subsectors of creative industries. But as Figure 1.1 shows that there are four different stages in a generic creative-industries value chain: Creation, Production, distribution and Retail & Consumption. In this paper, we firstly analyzed influence of digital technology on creative industries based on the basic value chain of creative industries. And then, the competitive strategies of creative industries were suggested

Fig.2: Creative-industry value chain



Source: Creative Economy Report 2008, UN

## RESULTS

### The Influence of Digital Technology on Creation

Creation/conception means the development of an idea or concept takes place. Digital technology has two impacts on the creation/conception process. On the one hand, the manifestation of the new ideas heavily depends on the technology. Especially in design industry, cartoon industry, advertisement, etc. The every step of the designer's ideas needs to take advantage of the digital technology to realize their ideas. One picture of building or one new style garment, nowadays they all need computer aided design to make it more beautiful and perfect.

On the other hand, digital technology has brought about lots of new digital products, such as video-on-demand, music, podcasting, streaming and the provision of the television services via cable, satellite and Internet. These new digital products have widened people's horizons and enriched people's life, which are changing the people's way of thinking. Therefore, more new ideas and conception will be formed in shorter time.

### The Influence of Digital Technology on Production

Production/reproduction is the stage at which an idea or concept is developed further and then packaged. There are two facets for the influence of digital technology on creative production.

Firstly, digital technology increases the function and efficiency of industry design and aids production. Meanwhile, it improves the appearance and shape of product which makes it more beautiful. Take the film industry as an example. The advent of digital movie can be seen as a revolution in film industry. From then on, the film image and voice was no longer recorded, stored and played by photographic film. The traditional copy technology of film often damages the quality of colour and sound to some extent and the film just can be copied about 30 times. In

comparison, the copy of film made by digital is totally same as the original whatever colour or sound can be copied unlimited times.

Digital technology is more and more applied for film-making and playing. The top 10 films in Hollywood history all made use of digital technology and virtual space design. Titanic, the box office is more than \$1.8 billion, have 500 Computer graphics. In 1995, Disney produced the first computer designed movie - Toy Story cooperated with Pixar (a computer design company). In a world, high technology is the most important infrastructure for creative industry.

Secondly, digital technology changed the model of creative production. In the era of digital technology, the boundary of producer, seller and consumer is becoming more and vaguer. There is a vast of examples that the companies can be success because of the co-production with consumer. Thus open-source software (GNU/Linux), peer-produced software (Wikipedia), distributed computing projects (SETI@Home) etc are all the business counterpart of the interactive websites created by consumers cited in the demand section. Technology, especially data-mining, searching and browsing tools, have allowed firms to better consider and integrate ever more remote decision information at lower costs. Co-production has been integrated the business model of innovative firms.

#### The Influence of Digital Technology on Distribution

There are both positive and negative influences of digital technology on distribution and marketing. On the one hand, the digital technology changed the mode of distribution, which embodies on the more marketing channel and the globalisation of creative goods. The fifth Harry Potter, copyrighted by J.K. Rowling, was sold 6.8 million books in the first round in America. The 630 chain shops sold 286 thousand in one hour. Amazon.com, who is one of the most famous online bookstores, sold more than 15 million books all over the world. After that, the company's share price was stronger. Harry Porter formed a very successful culture creative industry chain, which includes a series of products from book, movie, to game, etc.

The online distribution of digitized goods increases the cost advantage that hit producers have over content with more limited appeal, leading to a significant concentration of success on even fewer best-selling titles. Indeed, current evidence suggests that a small number of products still dominate the online market in revenue terms. The online DVD retailer Netflix has 55,000 titles, yet the top 50 titles account for 30 per cent of all rentals. Similarly, 2.7 per cent of Amazon.com's inventory accounts for 75 per cent of its revenues (A Elberse, etc, 2006). This phenomenon is called "long-tail" – the decentralization of distribution – allowing smaller actors to compete with dominant players, bypassing physical distribution infrastructures to satisfy demand for an 'infinite variety' of creative offerings. At the tail end, there are a growing number of titles that rarely, if ever, sell; March 2006 data for the 1.1 million songs on Rhapsody reveals a 22 per cent no-play rate with another 19 per cent receiving only one or two plays.

In additional, some new forms of information dissemination are emerging. Micro-blogging is one of emerging online dissemination tools, such as Twitter, Sina micro-blogging and Tcent Taotao. It is an application of SNS (Social Networking Services) but the speed of dissemination is faster than SNS. According case test, information was disseminated to 6267 node after it was released 1 minute and 7 seconds on the Twitter, which has the possibility transmitting to more nodes (CNNIC, 2009). Micro-blogging has become an important media platform, its influence is beyond the traditional media in some significant events.



On the other hand, digitization opens up possibilities for freecopying, file-sharing and downloading that are hard to police, and is challenging business models reliant on copyright. The Gowers Review (2006) and the Competition and IP Working Group concluded that piracy was threatening many creative industries. The most common legal offence among young aged 10-25 in the UK is internet piracy – up to 80% of music downloads are unpaid for. Total losses to the film industry in 2005 are estimated at £719 million on industry box office and video sales of £3.5 billion; in 2006, almost a third of the population had obtained or watched some form of pirated film material (DCMS, 2007).

Piracy is a huge challenge in many countries whatever developed or developing countries, and the argument is that countries where piracy is rampant may forego opportunities for growth and development on several levels, both tangible and intangible, since it destabilizes the local creative industries and undermines the efforts of creative entrepreneurs and businesses. Inadequate enforcement of copyright limits incentives to develop creative products, especially for small and medium-sized enterprises (UN, 2008).

#### The Influence of Digital Technology on Retail & Consumption

Digitalisation changed the way of consumption and life of people in all of aspects. More and more digital products are becoming one part of people's life, such as digital video, MP3, laptop, etc. Internet has also become the necessary part of people's life. Shopping online, making friends online, listening music online, watching movie online, etc, more and more activities is being processed online.

According to statistic from CNNIC, the netizen amount reaches to 338 million and the blog users is 181 million by the end of June, 2009 in China. The number of netizen is the biggest in the world. Meanwhile, the scale of shopping online, mainly including C2C and B2C, was predicted to 220¥ million in 2009, doubled with 2008.

### CONCLUSION

The influence of digital technology on creative industries was analyzed in this paper according the basic value chain of creative industries. The influence was analyzed by the different stages of value chain, separately. However, the stages can't be separated clearly in many cases, such as creation and production stage, distribution and consumption. Therefore, these influences should be taken as a whole to consider.

Furthermore, the influence of digitalisation not only increased the efficiency and quality of creative products and creative services, provided convenience for distribution and consumption; but also brought some negative effect, for example, piracy, internet addiction, internet crime, etc. In a world, digital technology changed the competitive environment of creative industries and creative enterprises from all round. For adapting to the new situation, the creative enterprises must be take corresponding measures and strategies, such as cross-media business strategy, business intelligence and closer partnerships with a wide variety of sectors along the value chain. These questions should be researched in the future.

Last but not least, the influence between digital technology and creative industries are interactive. Although we just analyzed the influence digital technology on creative industries, the development of creative industries also will bring about more demand on digital technology.

## BIBLIOGRAPHY

- [1] A. Elberse and F. Oberholzer Gee. (2006). Superstars and Underdogs: An Examination of the Long Tail Phenomenon in Video Sales. Harvard Business School Working Paper Series, No. 07-015, 2006.
- [2] CNNIC, (2009). <http://research.cnnic.cn/html/1257743578d1514.html>
- [3] Creative Economy Report. (2008). The challenge of Assessing the Creative Economy towards Informed Policy-making. United Nations.
- [4] Dos Santos, E. (2006). Keynotes address on Technology and Creativity: A Perfect Match, at 10th China Beijing International High-Tech Expo-CHITEC, Beijing.
- [5] Florida, R. (2002). The Rise of the Creative Class. New York: Basic Books.
- [6] Howkins, John (2001). The Creative Economy: How People Make Money from Ideas. London, Penguin.
- [7] Mark Poster, (1995), The Second Media Age. Polity press. ISBN: 978-0-7456-1396-3
- [8] Stephen E. Siwek, (2004). The Economic Contribution of Copyright-Based Industries in USA: The 2004 Report. World Intellectual Property Organization.
- [9] The Gowers Review of Intellectual Property, HM Treasury 2006. Accessed at [www.hm-treasury.gov.uk/media/583/91/pbr06\\_gowers\\_report\\_755.pdf](http://www.hm-treasury.gov.uk/media/583/91/pbr06_gowers_report_755.pdf)
- [10] The Work Foundation. (2007). Staying ahead: the economic performance of the UK's creative industries. London: DCMS.
- [11] Simei.Sh, (2009). [www.creativeindustries.gov.uk](http://www.creativeindustries.gov.uk), 2009 1

### **Jianpeng Zhang**

Tomas Bata University, the Faculty of Management and Economics  
Nam. T.G.Masaryka 5555  
Zlin, 76001  
[zlintbu@163.com](mailto:zlintbu@163.com)

Partner of the conference:



Masaryk University  
Faculty of Economics and Administration

## **New Economic Challenges**

### **2<sup>nd</sup> International PhD Students Conference**

Edited by: Mgr. Petr Červinek, Ing. Petr Musil, Ph.D.

Editorial Board: L. Bauer, L. Blažek, H. Hušková, E. Hýblová, M. Kvizda,  
R. Lukášová, J. Menšík (chairman), J. Nekuda,  
A. Slaný, J. Šedová, V. Žitek

Published by: Masaryk University, 2010

1<sup>st</sup> edition, 2010, number of copies 35

Printed by: Tribun EU, s.r.o. Gorkého 41, Brno 602 00

ISBN 978-80-210-5111-9