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CZECH ECONOMY: RECENT MACROECONOMIC DEVELOPMENT

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1. ECONOMIC GROWTH

In the first half of 2007, the GDP increased by 6.2 %, y/y, with growth slightly slowing down in Q2, to 6.0 %, y/y, down from 6.4 %, y/y, in Q1. As expected, the domestic demand kept the leading role, with only marginal impact of external trade. In Q2 2007, consumer demand rose by 6.5 %, y/y, which means a slight slowdown in comparison with 7.2 % in Q1, nevertheless still it represents the second highest value in previous three years. On the other hand, government expenditures declined by 1.6 %, y/y. Fixed capital investments increased by 4.2 %, y/y. This was a notable deceleration in comparison with the growth of 7.6 %, y/y, in 2006. In the area of domestic demand, consumer and investment demand were in a reasonable balance.

Exports of goods and services rose by 13.8 %, imports by 13.9 %, y/y. Foreign trade thus ceased to be the driver of GDP growth, but due to statistical reasons: improving terms of trade have perverse effect on national accounts data on foreign trade: they are underestimating the growth of exports, while overestimating the data for imports. Therefore, in current prices, the net exports rose by CZK 16.2 bill., y/y.

The Czech GDP growth continued to be roughly double than the growth in EU 27 (reported at 2.8 %, y/y) and the outpace is even higher in comparison with the eurozone (2.5 %, y/y). The catching-up process to developed market economies thus continues.

The biggest contributor to GDP growth in the Q2 was manufacturing (accounting for 28 % of GDP) with growth of value added by almost 10 %, y/y. Industry reported very good results for the eight months of 2007: the growth of output reached 9.9 %, y/y, with the growth of manufacturing amounting to 10.9 %, y/y. Industry was driven predominantly by a good result of the electronics with the growth of 18.9 %, y/y, solid growth of the automotive industry (12.8 %, y/y) accompanied by rapid growth in rubber and plastics (23.5 %, y/y) and a very good result of general machinery (20.4 %, y/y). On the other hand, output of metal industry stagnated. Industry has been

pulled by both foreign and domestic demand. Favourable foreign demand was behind growth of the export sales (15.2 %, y/y), which was strongly above total increase in sales (11.1 %, y/y).

Industry continues to hire new employees – January to August, the employment rose by 2.3 %, y/y. In particular, electronics, rubber and plastics are the main drivers of rising employment. Nevertheless, further growth of employment will probably encounter a barrier of shortage of qualified labour force, as indicated by signals from some regions and big companies. The shortage of skilled labour creates pressure on wages: in the second quarter of 2007, growth of real wages in manufacturing (8.4 %, y/y) surpassed the growth of productivity (7.0 %, y/y). If this process should continue, it would undercut the competitiveness of the Czech manufacturing exports.

For the first eight months, construction output rose by 8.9 %, y/y, with notable fluctuations in the course of that period. Construction registered extremely high growth at the beginning of 2007, with the output increasing by 25 %, y/y, January to April. However, this extremely strong construction activity was driven by favourable weather conditions and low bases for comparison. In the forthcoming months a strong slowdown appeared, caused partly by the fact that the full-year space for construction works is limited and above-standard part of this space was exhausted in the course of first four months. In addition, lack of capacities has emerged, both for technical and personal reasons. Lack of qualified workers pushes up the wages, with wage inflationary pressures in construction emerging, too. Prices of construction works belong to the most rapidly growing prices in the Czech economy, with year over year increase amounting to 3.8 % in September.

The developments in building construction and engineering strongly differed: building rose by 17.3 %, y/y, January to August, while engineering declined by 5.6 %, y/y. The decline in engineering has been connected with problems in preparing and financing of engineering projects. In housing construction,

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the growth of finished flats in Q2 was record-high, exceeding 30 %, y/y. In the forthcoming years, mid-term sustainable trajectory of housing market is estimated around 5 %. The development of mortgage market strongly correlates with housing boom. The volume of credits on housing amounted to CZK 550 bill. at the end of August, rising by 35 %. y/y.

Consumer demand has accelerated as of the beginning of the year, with no significant fluctuations during the first eight months. Retail sales rose by 8.6 %, y/y, January to August 2007. Rapid growth of incomes, record-low unemployment, still relatively low inflation, credit boom, optimistic expectations of households concentrated on housing market – these continue to be factors behind strong figures on retail sales.

Housing equipment (16.7, y/y), textiles and footwear (16.4 %, y/y) and cars (13.1 %, y/y) were the main drivers of retail sales. Purchases of housing equipment have been aligned with boom in housing (note that in Q2 2007 the growth of finished flats was record high). The increase in sales of housing equipment accounted for more than one quarter of total increase in retail sales (in volume terms). In addition, the rapid growth of housing out of centres of big cities has been supporting the cars sales.

Strong investments in housing and other consumer goods have had some adverse effect on demand for foods: food sales rose by 4.2 %, y/y, for the first eight months, i.e. slightly below last year dynamics and notably below overall growth of retail sales.

2. FOREIGN TRADE AND EXCHANGE RATE

January to August 2007, the exports increased by 16.6 %, y/y, the imports rose by 14.9 %, y/y. The favourable trend of higher growth of exports in comparison with the imports led to significant year over year improvement of trade balance. The trade surplus amounted to CZK 55.1 bill., which was roughly double than in the same period last year.

The key volume items continue to be machinery on the “credit side” and fuel and chemistry on the “debit” one. Machinery exports rose by above average 18.6 %, y/y, producing a surplus of CZK 186 bill., for the first seven months. Similar to previous year,

cars accounted for approximately two thirds of the machinery surplus (CZK 125 bill.), with year on year increase of CZK 10 bill. Mild winter and strong USD stood behind the decline in deficit with fuel. The deficit with oil declined to CZK 58 bill. (by CZK 3.5 bill. less, y/y), deficit with gas fell to CZK 28 bill., down from 37 bill., last year. On the other hand, the deficit with chemistry increased by CZK 8.7 bill., y/y, to CZK 60 bill., and was thus higher than the deficit with fuel.

The improvement in trade balance was exclusively attributable to the favourable developments in terms of trade, which improved by 3.4 percentage points. The export prices rose by 2.5 %, in the first seven months, driven in particular by higher export prices of semi-manufactured goods. Contrary to export prices, the import prices decreased by 0.9 %, y/y, due to cheaper fuel and machinery.

In the third quarter of 2007, the Czech currency started to appreciate again; both towards EUR and USD. The Czech crown appreciated from 28.3 CZK/EUR to 28.5 in July 2007 to 27.6 CZK/EUR, in September and from 20.6 CZK/USD to 19.9 CZK/USD at the same time. This trend of appreciation of the Czech currency has been continuing also in the first half of October. Due to this favourable development of the exchange rate to USD, the import prices of fuels continued to decline, y/y, even under record high oil and gas prices.

3. INFLATION AND MONETARY POLICY

In the second and third quarter of 2007, the inflation in the Czech economy started to grow, in the first place due to strong consumer demand. The average inflation rate was still at 2 %, in September. The year over inflation amounted to 2.8 % in September, with prices of goods rising by 2.7 %, and prices of services by 2.9 %. The year over year CPI was driven in particular by food and housing prices, which account for 41 % of the consumer basket. Food prices rose by 3.2 %, y/y, housing prices increased by 3.7 %, y/y. After almost two years of decline of food prices in 2005 and 2006, the food prices started to grow, from the second quarter of 2007. This trend will continue not only in the rest of 2007, but also in 2008, due to situation on the world markets and due to competition of food industry and chemical

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industry for some agricultural products (as a consequence of emerging production of the bio fuel in the Czech Republic).

As indicated above, the appreciated exchange rate was able to attenuate (at least partially) the inflationary pressures. It applies at the first place for consumer prices of electronics and for petrol prices. Therefore, the prices of transport even declined, by 0.1 %, y/y.

Producer prices continued to accelerate in the course of 2007. The year on year PPI amounted to 4.0 %, in September 2007. Producer prices in manufacturing (3.3 %, y/y) were below the overall growth. Metal production continued to be the main factor of overall PPI growth (5.7 %, y/y), driven by expensive metals. The pass-through of expensive metals is visible on increasing import prices of semi-manufactured production, which rose by 4.2 %, y/y, in September. Producer prices of coke and refined oil products increased by 6.8 %, year over year. Prices of intermediate goods grew by 4.2 %, y/y, and prices of energies by 7.8 %, y/y. The year over year growth of PPI of final production (investment goods, consumer goods) was significantly lower: 1.9 % and 1.0 %, respectively.

Emerging demand inflationary pressures forced the Czech National Bank to increase basic interest rates three times during the first three quarters of 2007. 2W repo rate thus stood at 3.25 % at the end of September 2007, which was by 75 basis points higher than it had been a year before. By these rate increases, the CNB proved to be decided to

keep inflation at the targeted range. According to the fresh Situation Report on Economic and Monetary Developments, the risks of headline inflation forecast are on the upside; major risks and uncertainties represent impact of excise duties and VAT changes on inflation expectations, external developments and stronger CZK exchange rate.

Despite the rates increases, the basic interest rates in the Czech Republic are the lowest among all 27 EU countries: the difference between repo-rate and refi-rate of the ECB still at 75 basis points, the difference between 3M Pribor and 3M Euribor is at 130-140 basis points.

4. UNEMPLOYMENT

At the end of Q3 2007, the rate of unemployment was at 6.2 %, by one and half percentage point lower than a year before. The number of unemployed declined to 365 thousand, which has been a record low figure since November 1998. At the same time, the offer of vacancies reached a new record-high (137 thousand). As a consequence, the ratio between unemployment and vacancies declined to 2.7, a record-low level since June 1997.

Even under the unemployment rate above 6 %, there is a shortage of labour force in some segments, which starts to represent a barrier for future economic growth. At the same time, figures on vacancies indicate that it is relatively easy to find a job; however, it

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Table 1: Main Macroeconomic Indicators

		2002	2003	2004	2005	2006	06/07	07/07	08/07	2007F
GDP	%, y/y	1.9	3.6	4.6	6.5	6.4	-	-	-	5.8
Inflation	%, y/y	0.6	1.0	2.8	2.2	1.7	2.5	2.3	2.4	3.7
Inflation	%, m/m	-	-	-	-	-	0.3	0.4	0.3	-
Industrial prices	%, y/y	-0.7	0.9	7.7	-0.3	2.6	4.6	4.1	3.7	5.0
Industrial prices	%, m/m	-	-	-	-	-	0.7	0.2	-0.1	-
Unemployment rate*	%, eop.	9.8	10.3	9.5	8.9	7.7	6.3	6.4	6.4	6.1
Industrial production	%, real	1.9	5.5	9.6	6.7	9.7	6.6	11.5	5.5	10.5
Construction output	%, real	2.5	8.9	9.7	4.2	6.6	-4.5	-1.7	3.3	8.5
Retail sales	%, real	3.0	4.9	2.5	4.0	6.4	7.6	8.9	8.0	7.5
State budget	CZK bill.	-45.7	-109.1	-93.5	-56.4	-97.3	1.3	19.7	22.2	-85
Trade balance	CZK bill.	-70.8	-69.8	-26.4	38.6		12.6	3.0	6.9	75
FOREX reserves	USD bill.	23.7	27.0	28.4	29.5	31.3	31.2	31.8	32.2	32.5
PRIBOR 3M	% average	3.6	2.3	2.4	2.0	2.3	2.93	3.07	3.28	3.0
CZK/EUR	Average	30.81	31.84	31.9	29.78	28.34	28.54	28.33	27.86	27.9
CZK/USD	Average	32.74	26.32	25.7	23.95	22.61	21.27	20.64	20.45	20.6

Source: Czech National Bank, Czech Statistical Office, forecasts by Komerční banka

*Note: As of July 2004, the unemployment rate is published according to the new methodology

does not apply to all professions. The vacancies are concentrated to some professions (workers in construction, mechanics, assembly workers), while demand for some professions is very weak. Low administration staff and shop assistants have been in worst positions, with UV ratio amounting to 6–8.

Moreover, in professions, where the demand for labour is high, strong regional disparities occur. E.g., the overall number of vacancies and unemployed is roughly equal in the case of construction workers. However, the number of the respective vacancies strongly exceeds the number of unemployed in Prague and some other regions with strong construction activity. On the other hand, construction workers cannot find a job in districts with high unemployment. The same applies to non-qualified labour, with number of vacancies being almost three times higher than the number of unemployed, in Prague. On the other hand, 70–80 non-qualified workers fell upon one vacancy in districts with high unemployment. All these facts witness extremely low regional mobility in the CR.

The regional differentiation of professional and qualification mismatch on labour market has been the reason for high long term unemployment and represents an important challenge for the government policy. Due to rigidities of labour market and still generous social system, there is a contrast between more than 200 thousand of officially employed foreigners and more than 150 thousand of long-term unemployed.

5. OUTLOOK

For the second half of 2007, we expect that the rapid dynamics of the Czech economy will continue. For 2007, the GDP growth will be around 6 % and will continue to be driven by strong consumer demand and fixed capital investments. For 2008, we expect slight deceleration of GDP, along with the slowdown expected in eurozone (i.e. the biggest Czech trade partners), to around 5 %, or even slightly below.

As the developments of new orders indicate, also in the forthcoming months the Czech industry will be favourably influenced by still solid foreign demand as well as by continuing domestic demand. An adverse effect of strong EUR on the developments of foreign orders is

not expected before the end of the year. For 2007, we continue to expect the growth of industrial output between 10 and 11 %, i.e. , slightly above the last year growth.

Fundamental factors behind growth in construction are the same as in previous two years: continuing projects in infrastructure, activities of foreign investors, boom in housing. For the rest of the year we expect average growth path around 5–6 %. The full-year growth in construction is expected to range from 8 to 9 %.

The main factors of growth in retail trade, i.e. record low unemployment, rapid growth of wages, boom in housing, high propensity to spend, wide offer of credits will continue to act. Therefore, we do not expect notable weakening of consumer demand in the forthcoming months. The boom in housing will be peaking in the rest of the year pushing up the sales of housing equipment. The full-year growth of retail sales will be close to 8 %. At the same time, retail trade figures plus acceleration of inflation indicates that another raise of basic interest rates by 25 basis points until the end of 2007 is probable. The tightening of monetary policy will have some effect on consumer boom, but not before the beginning of 2008.

The exports will continue in double-digit growth, driven by the machinery exports, in particular by the automotive industry, electronics and general machinery. Fuel imports are expected to decline, year on year, due to weak USD, which more than compensates high world prices of oil and gas. The developments of the export and import prices will thus be favourable until the end of year, with terms of trade gradually improving. Therefore, the trade balance will also continue in year over year improvement; the full-year trade balance surplus is expected around CZK 75 bill.

The trade balance will have a favourable effect to the current account; nevertheless, the deterioration of the balance of incomes will be more rapid than the improvement of the trade balance. We expect the current account deficit to be around CZK 100 bill., in 2007. This will mean that the deficit of the current account will reach approximately 3 % of GDP, which is in tolerable limits.

However, in the longer time horizon, some risks for external balance persist. The growth of the deficit on the balance of incomes has been very rapid (expected at CZK 230 – 240

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bill. in 2007), with the shift from reinvestments to dividends. Further shift in the distribution of profits of foreign controlled companies to dividends payments would not only increase the pressures on financing the current account deficit, but would also limit the coverage of the current account deficit by non-debt financing. The risks will be more serious in the period of ERM II, with the monetary policy aimed to keep the exchange rate in tolerable limits.

The inflation in the Czech economy will accelerate in the last quarter of 2007, due to strong consumer demand and declining unemployment. We expect the year over year CPI to be around at 3.7 %, at the end of 2007. Average inflation will be around 2.5 %. Changes in VAT and regulated prices (rents, utilities) will push up the inflation up as from the beginning 2008. The year over CPI is expected to range from 4 to 5 % in the first quarter of 2008, i.e. above the targeted interval of the central bank. Even though the inflation driven by the change in indirect taxes and regulated prices is not the kind of inflation that the CNB is expected to react; the steps of CNB will depend on the scope and speed of second-round effects.

As for PPI, two key factors will play major role also in the rest of 2007: world prices of oil and metals. The main driver of PPI – metal

prices – will remain expensive due to high global demand driven in particular by strong economic activity in South-East Asia. In addition, some pass-through of expensive utilities into manufacturing industries must be expected, despite the attenuating effect of appreciating Czech currency. At the end of 2007, the year over year growth of producer prices will be at 5 %.

The newest data about inflation, wages and retail sales are indicating that the Czech National Bank will increase the basic interest rate until the end of the year; most probably by 25 basis points. This would lessen the gap between 3M EURIBOR and 3M PRIBOR below 100 basis points. A slight appreciation of the Czech currency is expected to continue: the average 2007 exchange rate is expected at 27.9 CZK/EUR and 20.6 CZK/USD.

Solid economic activity will continue to affect the unemployment positively in the autumn months, with the unemployment rate expected to decline to 5.7 %, in November. Regular autumn decline will be replaced by seasonal December increase due to finishing seasonal jobs and term contracts. At the end of 2007, we expect the unemployment rate at 6.1 %. The decline of the unemployment is expected to continue in 2008, however, there is a risk that this decline will already

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MILTON FRIEDMAN – A THEORY OF THE CONSUMPTION FUNCTION ¹⁾

Kamil Janáček

Milton Friedman was awarded the Nobel Prize in Economics in 1976, for his contributions to the analysis of consumption, to monetary history and theory, and for his analysis of complexity of stabilization policy. As Erik Lundberg stressed on that occasion, from the scientific point of view, one of the most important contributions of Milton Friedman was his new concept of consumption, based on the hypothesis of permanent income, not current income, as the decisive factor determining the final consumption.

Consumption Function is one of the innovations brought to economic theory by *The General Theory* of J. M. Keynes². Macroeconomic view of the relations between the main national income aggregates, introduced by Keynes, at the same time means – in relation to consumption – that the link between aggregate demand and aggregate consumption occupies a key position in his theory. In this respect, J.M. Keynes talks about the “basic psychological law” (1936, p. 96). His opinions can be summarized as follows:

1. consumption expenditures are a constant function of disposable income;
2. the marginal propensity to save is positive, but lower than one;
3. marginal propensity to save is lower than the average propensity (meaning that the average propensity to save declines with increasing income);
4. marginal propensity to save also declines with increasing income.

Later, this Keynes's statement was called the “hypothesis of absolute income”, as consumption is here determined by the absolute income level. The consumption function inspired many analytical and statistical studies, as its concept offered itself to econometric analysis. The numbers of empirical works about the consumption function grew almost geometrically in the

first decade after *The General Theory* was published. They all were marked by a relatively high coefficient of correlation, all explained the changes in consumption by variations of income. However, they were not able to bring any substantial contribution to the knowledge of facts about income and consumption.

The first prediction of aggregate components of the after-war U.S. national income showed that the consumption function is not a sufficient instrument for explaining and predicting consumer behaviour, in the light of new empirical data.

The work of Simon Kuznets (1946) about U.S. Gross Domestic Product since 1869, and that of R. Goldsmith (1955) about savings, showed that in the U.S., the aggregate savings rate was roughly stable since 1869, while the real income grew four times. That cooled the enthusiasm of Keynesians. On the other hand, the family budget studies were showing that the consumption/income ratio (C/Y) decreases as income grows, as presupposed by Keynes. Economic theory was striving to give an answer to these inconsistencies, by developing further the theory of consumption function, and by revising the postulates of consumer behaviour.

The first reaction to the inconsistencies in consumer behaviour not explainable by the consumption function was the so-called relative income hypothesis. This theoretical concept is connected with the names of D. Brady and R. Friedman, F. Modigliani and J. Duesenberry. The most complete and best known explanation is by Duesenberry (1948), (1949).

Duesenberry underlines two main aspects:

1. consumption behaviour of individuals is mutually dependent, rather than independent (psychological “demonstration effect” and “imitation effect”);
2. consumer behaviour is non-reversible in time (so-called “ratchet effect”).

So, people have a strong tendency to imitate the consumption of their neighbours,

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¹ Paper based on speech at colloquium “Friedman Semper Vivus”, held on October 4, 2007, and sponsored by Komerční banka.

² Keynes himself did not use the term “consumption function” – that was introduced by Alvin Hansen.

and at the same time they continuously strive to reach higher living standards. If, at the top of the cycle, they reach a certain level of consumption, they will try to keep it even as their income falls cyclically. In other words, people strive to keep the highest consumption level reached in their past.

Testing of the relative income hypothesis brought relatively good results. Especially the predictive results were good, achieved with consumption functions based on this hypothesis – compared with those based on the hypothesis of absolute income.

However, even the relative income hypothesis was unable to give a fully satisfactory explanation of consumer behaviour. The assumption that consumption and income move in the same direction was in conflict with the fact that sometimes, consumption grows when disposable incomes fall. Also, the assumption failed to be proved that the increase of consumption is proportional to the rise of incomes, no matter how big or small the income rise is. On the contrary, historical series of national accounts proved that the average dispersion of consumption in the course of the cycle is substantially smaller than the dispersion of income.

Milton Friedman reacted to all the inconsistencies of the relative income hypothesis in his book “A Theory of The Consumption Function” (1957), where he formulated a new concept to the consumption function, called the “permanent income hypothesis”.

Friedman strictly distinguishes between measured income (income of the current period) and the income which determinates consumer behaviour, which he calls the “permanent income”. Consumers adapt their spending to the average of past, present and expected incomes – not to their actual current income. Friedman (1957) writes that permanent income is the amount which the consumer unit could consume (or thinks to be able to consume) without any decrease in it wealth. People adapt their consumption to their long-term expected (permanent)

income, paying little attention to transitory fluctuations. (see table)

According to (1) permanent consumption is proportional to permanent income; the proportionality coefficient k depends on the interest rate i , the ratio w of wealth to the permanent income, and on other economic and demographic factors u (age, consumer preferences, etc.).

The equations (2) and (3) are definitions – income and consumption can be divided in two components, permanent and transitory. Permanent income in the given year is thus the product of two factors: wealth of the consumer unit, seen as the discounted present values of the stream of future expected incomes, and the rate r which discounts the expected incomes. The transitory and permanent parts of income and consumption are uncorrelated with one another (see 4).

An important, outstanding, and hard-to-beet quality of Friedman’s book lies in the volume of empirical material gathered, and in its use for testing the permanent income hypothesis. Chapter Four is devoted to analyses based on budget studies (i.e. to cross-section data), Chapter Five to data from the time series of national accounts. With the same thoroughness, Friedman analyzes (in Chapter Six) the relation between the relative income hypotheses and the permanent income hypothesis. The permanent income hypothesis clearly explains why the propensity to consume is substantially lower in data from cross-section studies than in analysis of aggregate time series. The same is true for analysis of different consumer groups (white and Afro-American families, farmers, doctors and other professional groups, etc.).

Analysis of the family budgets has proved that there have been no substantial structural changes in the behaviour of individual consumer units (i.e.households), over 70 years. During that time, the k coefficient (the ratio of permanent consumption to permanent income) was substantially higher (between 0.9 and 0.95)

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$C_p = k(i, w, u) Y_p$		(1)
$Y = Y_p + Y_{tr}$	$Y_{tr} = 0$	(2)
$C = C_p + C_{tr}$	$C_{tr} = 0$	(3)
$\rho(Y_{tr}Y_p) = \rho(C_{tr}C_p) = \rho(Y_{tr}C_{tr}) = 0$		(4)

for wage-earners than for entrepreneurs: for non-agricultural entrepreneurs, k was 0.8, for agricultural entrepreneurs 0.9. It was thus proved that uncertainty as to future incomes forces entrepreneurs to create larger reserves for unexpected crisis situations. It has also been shown that (as could be expected) k is higher in larger families, than in smaller ones.

At the aggregate level, the ratio of aggregate consumption to aggregate income (k^*) remained more or less constant in the U.S. over more than half a century, at the level of 0.88. The stability of k^* means that, either, the variables determining k , and the distribution of consumer units in individual groups were constant, or, their changes were offsetting in their effects. Milton Friedman mentions two contradictory trends:

1. the falling relative weight of farmer households in the U.S. population, leading to an increase of k^* , and
2. the decreasing size of households, leading to a decrease of k^* .

The scientific value of the book (and, even more, of the author) is accentuated by a systematic endeavour, rarely seen elsewhere, to look for data and analyses that could discredit the permanent income hypothesis. Very few economic theoreticians dare to make such a hard test of validity of their own theory.

“A Theory of the Consumption Function” is innovative also in the methodology used. Milton Friedman has made a substantial contribution to economics as a positive science – which characterized the Chicago School immediately after the World War II. In the essay “Methodology of Positive Economics”³, Friedman opposed the prevailing view (represented mainly by Lionel

³ See *Essays in Positive Economics* (1953).

⁴ That cannot be done in case of the so-called ideal types, like the *homo oeconomicus*.

Robbins), that the truth of a theory should primarily be tested on the correspondence between its *assumptions* and the *facts*. Friedman argues that even if one could get an empirical correlation between theoretical assumptions and facts⁴, it would be irrelevant for the usefulness of the theory. Only the correspondence of the *predictions* and *facts* can show whether a theory should be accepted or rejected. According to Friedman, results, not assumptions, should be the main focus of scientific activity in understanding the real world.

“A Theory of the Consumption Function” was a great contribution to economic theory; Friedman has proved that economics is a positive, empirical science. For all the above-mentioned reasons, one can say that this book was the best work of Milton Friedman, a work that has substantially influenced economic thinking of the second half of the 20th century.

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“A Theory of the Consumption Function” was a great contribution to economic theory; Friedman has proved that economics is a positive, empirical science.

FDI IN THE NEW EU MEMBER STATES: RECENT TRENDS

Eva Zamrazilová

The inflow of FDI has been the key factor of the transition and catching-up processes of new EU member states. This brief survey is aimed to give basic information about the inflow of foreign direct investments to Central and East European new EU member states concerning the differences in the volume of investments and its structure. A special attention is paid to the differences in profitability of FDI among individual countries and factors which contributed to them. Moreover, the life cycle of FDI is discussed as a major factor of development of profitability as well as the changes in distribution of profits to reinvestments and dividends.

GENERAL TENDENCIES

The inflow of FDI into the new Central and East EU member states accelerated in the previous three years with total inflow amounting to EUR 110 bill., in 2004–2006, which was higher inflow than in preceding five years. Regional distribution of the FDI inflow has been strongly attributable both to macroeconomic policies of individual countries and to the timing of the EU accession. FDI has been booming in Bulgaria and Romania in recent two years, inflows

reaching their historical peaks in 2006 as the EU membership was crucial anchor for stability. Nevertheless, the new investment opportunities in Bulgaria and Romania did not have a strong adverse impact on the investments to the eight countries that joined the EU in 2004. In 2006, the FDI declined only in three of eight countries (Czech Republic, Hungary and Estonia), where the peak in 2005 was to a large extent driven by one-time privatisation deals. Ups and downs in privatisation-related FDIs have been causing fluctuations and differences between individual countries and individual years.

As for the the stock per capita (see Figure 1), it is obvious that at the end of 2006, the leader was Estonia with FDI per capita amounting to EUR 9.2 thousands, followed by Hungary (EUR 6.2 thousands and the Czech Republic (EUR 5.7 thousands). On the other hand, Poland, Bulgaria and Romania were the countries that lagged behind, with final stock around EUR 2.0 thousands per capita. Similar picture applies for comparison based on stock of FDI in per cent of GDP (Figure 2). In this comparison, there is the only difference in position of Bulgaria with strongly above average stock of FDI reaching 62 % of GDP.

Table 1: Inflow of FDI, EUR bill.

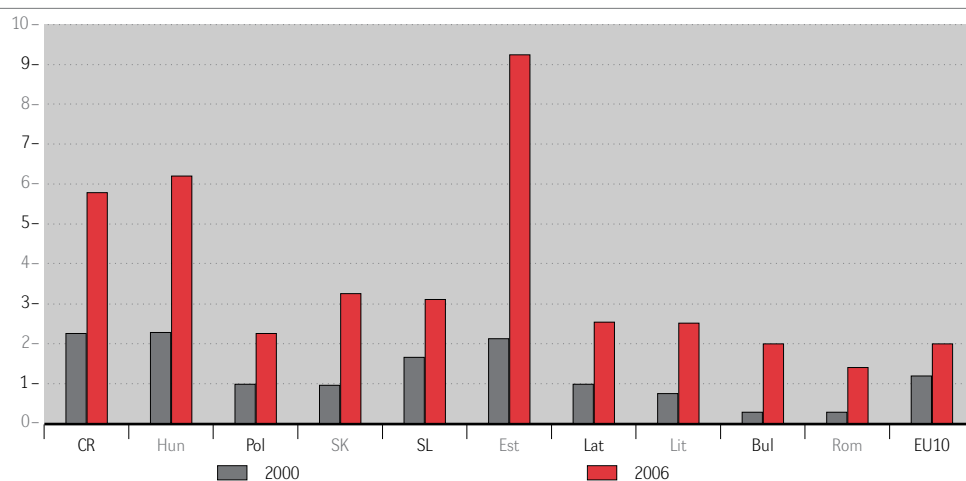
	1999	2000	2001	2002	2003	2004	2005	2006
Czech Republic	5.9	5.4	6.3	9.0	1.9	4.0	9.4	4.8
Hungary	3.1	3.0	4.4	3.2	1.9	3.6	6.1	4.9
Poland	6.8	10.3	6.4	4.4	4.1	10.3	7.7	11.1
Slovakia	0.4	2.1	1.8	4.4	1.9	2.4	1.7	3.3
Slovenia	0.1	0.1	0.4	1.7	0.3	0.7	0.4	0.3
Estonia	0.3	0.4	0.6	0.3	0.8	0.8	2.3	1.3
Latvia	0.3	0.4	0.1	0.3	0.3	0.5	0.6	1.3
Lithuania	0.5	0.4	0.5	0.8	0.2	0.6	0.8	1.4
Bulgaria	0.9	1.1	0.9	1.0	1.9	2.7	3.1	4.1
Romania	1.0	1.1	1.3	1.2	1.9	5.2	5.2	9.1
EU 10	19.3	24.5	22.7	26.2	15.1	30.9	37.4	41.5

Source: The Vienna Institute for International Economic Studies

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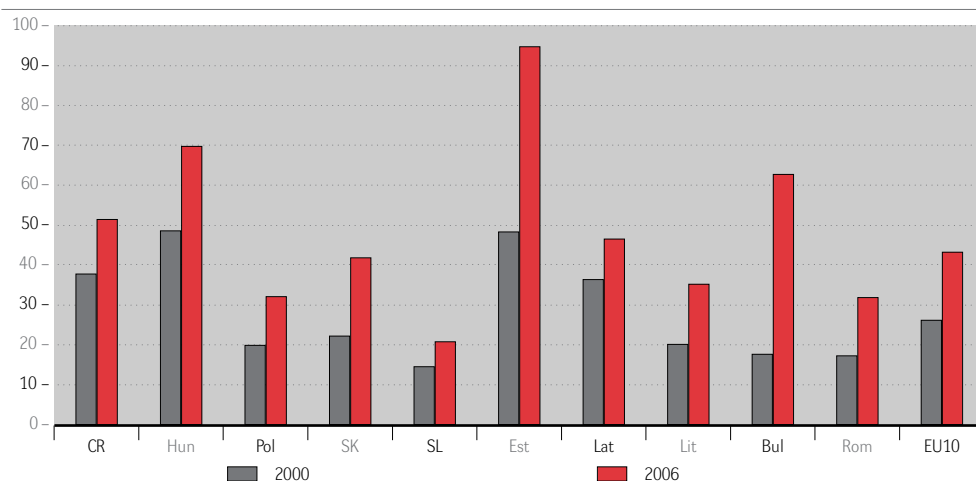
As for the the stock per capita, the leader was Estonia with stock of FDI per capita amounting to EUR 9.2 thousands at the end of 2006, followed by Hungary (EUR 6.2 thousands and the Czech Republic (EUR 5.7 thousands).

Figure 1: Stock of Inward FDI per capita, thousands EUR.



Source: The Vienna Institute for International Economic Studies

Figure 2: Stock of Inward FDI, in % of GDP



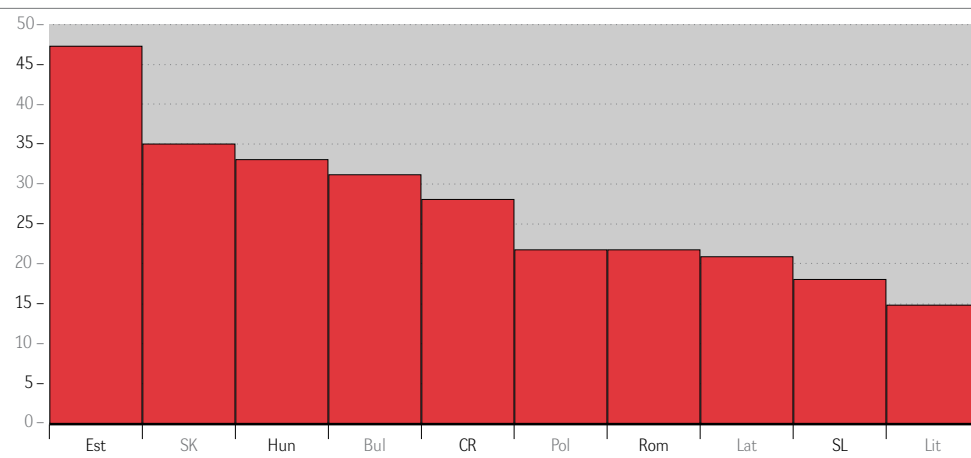
Source: The Vienna Institute for International Economic Studies

Table 2: FDI Structure at the End of 2005, in %

	CR	Hun	Pol	SK	SL	Est	Lat	Lit	Bul	Rom
Agriculture, forestry	0.2	0.4	0.5	0.4	0.0	0.5	1.5	0.7	0.6	0.5
Mining, quarrying	0.4	0.1	0.1	0.6	0.0	0.4	0.5	0.7	0.9	7.3
Manufacturing	38.1	41.4	36.6	40.5	43.7	13.3	12.8	39.6	12.8	37.3
Electricity, gas, water	5.7	4.2	3.4	9.1	4.5	2.2	11.1	12.5	0.2	4.2
Construction	1.2	0.9	1.8	0.8	0.3	1.2	1.6	1.2	23.4	0.8
Trade and repairs	9.8	11.7	18.4	12.2	14.0	7.8	13.9	11.0	3.8	15.0
Hotels, restaurants	0.7	0.8	0.5	0.6	0.4	0.3	0.9	0.9	10.3	0.2
Transport, communication	12.1	10.1	7.9	9.1	3.7	3.0	11.6	13.7	1.1	12.3
Financial intermediation	18.8	10.3	20.3	21.8	19.7	45.7	21.1	12.3	34.9	14.5
Real estate	12.3	17.9	10.0	4.1	12.9	15.2	17.4	6.4	9.6	7.7
Other	0.9	2.4	0.5	0.8	0.7	10.3	7.5	1.0	2.2	0.2

Source: The Vienna Institute for International Economic Studies

Figure 3: Transnacionality Index, 2004, in %



Source: World Investment Report 2007, UNCTAD, 2007

Basic information about the structure of FDI in the new EU member states can be found in Table 2. The new member states show similar features, with most important share of manufacturing, accounting for approximately one third of FDI stock on average. Latvia, Estonia and Bulgaria are rather exceptions with shares of manufacturing slightly above 10 %, while the shares of manufacturing amount to around 40 % in the rest of the countries. The second position belongs to financial intermediation with average share about 20 % – the shares in Estonia and Bulgaria are extremely high and in Hungaria and Lithuania rather low. Trade, transport and communication also concentrated an important part of FDI inflows. In most countries, the weight of manufacturing is

declining while activities such as financial intermediation and real estate and other business activities are on the rise. While FDI in manufacturing may be labelled as the efficiency-seeking investments, the FDI in services are mostly local-market oriented.

PENETRATION OF FOREIGN CONTROLLED COMPANIES

The importance of FDI in individual economies can be measured by the

¹ World Investment Report 2007. United Nations Conference on Trade and Development, United Nations, New York and Geneva, 2007.

Table 3: Profitability of FDI, in % of FDI Stock

	2000	2001	2002	2003	2004	2005	2006
Czech Republic	6.3	7.7	9.1	10.4	11.7	10.4	10.8
Hungary	8.9	8.4	9.7	8.3	9.6	8.9	8.4
Poland	2.1	1.7	1.7	4.0	12.1	9.9	10.0
Slovakia	0.9	1.6	2.1	17.7	18.0	16.5	14.0
Slovenia	3.1	-0.3	5.1	5.3	6.8	6.2	5.8
Estonia	7.9	9.7	10.4	10.0	9.3	8.0	8.6
Latvia	4.4	4.2	4.2	7.1	13.2	12.1	13.2
Lithuania	5.3	5.3	3.4	9.0	11.2	8.2	8.4
Bulgaria	4.8	5.3	6.7	10.0	9.0	6.8	4.9
Romania	1.1	1.5	2.8	8.2	13.9	10.8	10.9

Source: The Vienna Institute for International Economic Studies

In most countries, the weight of manufacturing is declining while activities such as financial intermediation and real estate and other business activities are on the rise. While FDI in manufacturing may be labelled as the efficiency-seeking investments, the FDI in services are mostly local-market oriented.

Transnacionality index, published by the UNCTAD in regular World Investment Reports¹. The Transnacionality index is constructed as the average of four shares: FDI inflows as a percentage of gross fixed capital investments (for the past three years), FDI stocks as a percentage of GDP, value added of foreign affiliates as a percentage of GDP and employment of foreign affiliates as a percentage of total employment. The so far latest values of these transnacionality indices are disposable for 2004 (in World Investment Report 2007).

As of the new CEE 10 member countries, Estonian economy has been the one with highest penetration of FDI, followed by Slovakia, Hungary and Bulgaria, which exceed the 30% bar. Czech Republic holds the fifth position, slightly below 30 %. In the broader framework of developed economies, these five countries belong to the first ten, out of 31 world's most developed countries. The countries with highest transnacionality index are Belgium and Luxembourg with levels of index above 60 %. The third place belongs to Estonia (47 %), followed by Ireland (46 %). In majority of the rest of EU-27 countries, the value of index ranges from 10–20 %.

PROFITABILITY OF FDI

The whole amount of FDI-related income of the foreign investor is booked as the outflow in the current account (on the balance of incomes). The relation of this income to the FDI stock can be interpreted as the profitability of foreign investments (see Table 3).

Slovakia has been the country with the highest return on FDI stock, with profitability of FDI between 14 and 18 % in the course of previous four years, followed by Latvia. The profitability around 10 % has been achieved in the Czech Republic and Poland, and the earnings slightly below 10 % have been reported by Hungary, Estonia and Lithuania. The lowest profitability seem to show the FDI in Bulgaria and Slovenia. The differences in profitability are partly connected with timing and structure of FDI inflow in individual countries. Nevertheless, the most important factor standing behind the differences in profitability has been – most probably – the differentiation in labour costs.

Figure 4 shows comparison between the profitability of FDI (average of 2004–2006) and unit labour costs (in % of EU-25 average in 2005) for eight countries. The two countries with highest profitability of FDI (Slovakia and Latvia) dispose with lowest labour costs – which were at 39 % and 25 % of EU-25 average in 2005. On the other hand, Slovenia reported lowest profitability of FDI as well as highest unit labour costs (77 % of EU 25 average). In the Czech Republic and Poland the profitability is above average and, at the same time, labour costs are below average of observed countries. The exceptions are to some extent Estonia and Lithuania, with rather low labour costs but also with low profitability.

In Slovakia, which reported highest profitability of FDI, two thirds of the FDI stock has been made by manufacturing (41 %) and financial activities (22 %). Out of Slovak manufacturing, high share of metal industry (25 %) contributed to high profitability. In

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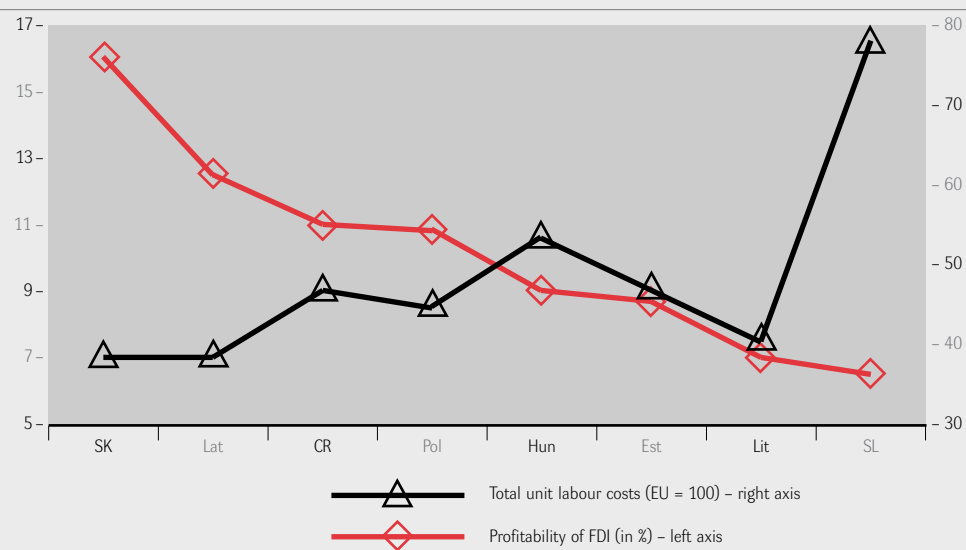
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Table 4: Profitability of FDI and Unit Labour Costs

	Profitability of FDI (in %) (2004–2006 average)	Total unit labour costs (EU = 100)
Slovakia	16,2	38
Latvia	12,8	38
Czech Republic	11,0	48
Poland	10,7	45
Hungary	9,0	52
Estonia	8,6	47
Lithuania	7,0	40
Slovenia	6,3	77

Source: Eurostat, The Vienna Institute for International Economic Studies

Figure 4: Profitability of FDI and Unit Labour Costs



Source: Eurostat, The Vienna Institute for International Economic Studies

Estonia, the share of FDI stock in manufacturing is very low, amounting to only 14 %, which may contribute to generally low profitability of FDI. In the case of Lithuania, structure of FDI probably plays an important role in low profitability, too: although manufacturing accounts for 40 % of FDI stock, one half of the FDI in manufacturing belongs to coke and refined oil products. This is industry with high volatility of input prices and thus of profits. On the contrary, cars and electronics account for only 1 % of overall Lithuanian FDI stock.

THE DISTRIBUTION OF PROFITS

The theory of life cycle² of FDI indicates that FDI goes through various life-cycle phases, within which various factors affecting both profit ratios and profit allocation between reinvested earnings and dividends paid abroad are at work. In the first phase after a FDI is realized, the foreign-controlled corporation will post a loss (the loss phase). In the second phase, the company's performance improves, it becomes competitive and its profits rise. Nevertheless, the successful development of the company is associated with further investment, as in this phase earnings can be fully reinvested. The length of the second phase depends on the size of the domestic market and the company's position on that market, on the stability of export markets, and on the possible alternatives of financing

the development of the company. The size of reinvested earnings and the share of dividends in direct investment income can be strongly affected by the degree to which the company is stabilised prior to privatisation.

In the third phase, the company attains "maturity" and its market share and profitability stabilises. In this phase, the parent company transfers most of the accumulated earnings as dividends. It is therefore reasonable to expect that reinvested earnings will fall sharply – both as a percentage of total earnings and in absolute terms – in favour of transferred dividends.

Longer time series on the developments and structure of foreign direct investment income indicate that, in the period 1990–2004, the investors from developed countries (which prevail in the new EU member states) reinvested 45 % of profits on average, with share oscillating between 40–50 % in individual years (see UNCTAD 2006)³. In 10 new Central and East European EU countries, on the whole, about 50 % of FDI-related earnings were reinvested, however, significant

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² J. C. Brada, V. Tomšík: Reinvested Earnings Bias, The "Five Percent" Rule and Interpretation of the Balance of Payments – With an Application to Transition Economies. William Davidson WP 543, 2003.

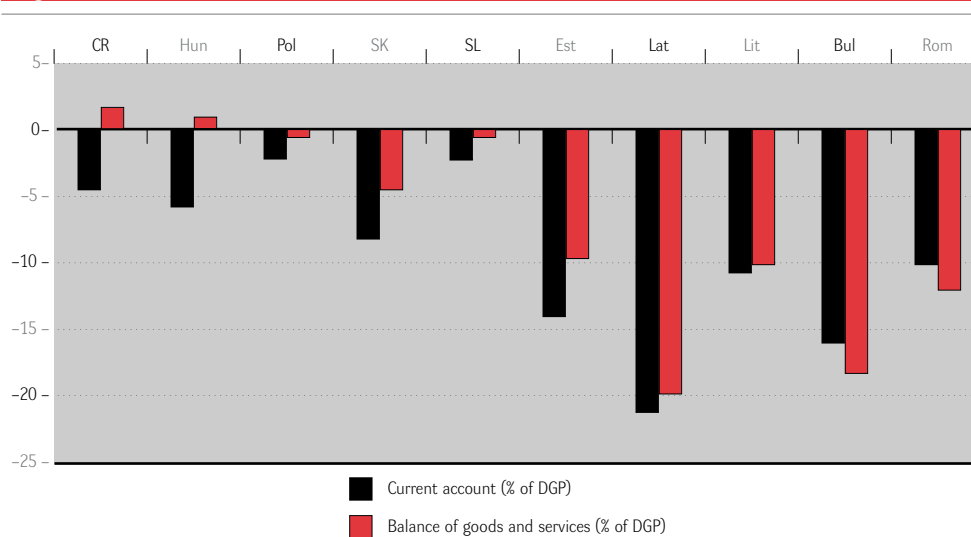
³ World Investment Report 2006. United Nations Conference on Trade and Development, United Nations, New York and Geneva, 2006.

Table 5: Share of Repatriated Profits, in % of FDI Income

	2000	2001	2002	2003	2004	2005	2006	Average 2000-2006
Czech Republic	29	29	38	49	52	51	54	43
Hungary	48	43	43	44	50	59	83	53
Poland	n.a.	n.a.	n.a.	n.a.	34	63	50	49
Slovakia	99	99	93	20	36	54	73	68
Slovenia	46	n.a.	33	26	27	36	100	45
Estonia	48	28	49	26	26	27	21	32
Latvia	36	64	72	55	41	44	26	48
Lithuania	27	41	42	45	37	57	23	39
Bulgaria	46	96	63	55	27	54	59	57
Romania	n.a.	n.a.	n.a.	28	30	51	42	38

Source: The Vienna Institute for International Economic Studies

Figure 5: Current Account and Balance with Goods and Services in 2006 (in % of GDP)



Source: ECFIN

In 10 new Central and East European EU countries, on the whole, about 50 % of FDI-related earnings were reinvested, however, significant differences appear between the countries.

General tendency from reinvestments to dividends is obvious in majority of Central European economies.

In Baltic states and South-East Europe, the repatriation rate is usually lower than in Central Europe.

The recent trends and external experience in distribution of profits of foreign controlled companies are important for the future of external balance in the Central and East European Economies.

differences appear between the countries (see Table 5).

General tendency from reinvestments to dividends is obvious in majority of Central European economies. 2006 was a year of especially high shares of income repatriation from Hungary, Slovakia and Slovenia. The fifty-fifty-share between repatriation and reinvestment was maintained in the Czech Republic and Poland. In Baltic states and South-East Europe, the repatriation rate is usually lower than in Central Europe.

The recent trends and external experience in distribution of profits of foreign controlled companies are important for the

future of external balance in the Central and East European economies. All these countries register current account deficit (Figure 5). There are visible differences in balance of trade and services between individual countries, which currently turned to the surplus in the Czech Republic and Hungary. However, these countries and also Estonia have started to suffer from high deficits on the balance of incomes, which is expected to be on the rise also in other countries.

The development will be strongly aligned with the stock of FDI in the economy and with the profitability of FDI. Further developments of the current account deficit

will be strongly affected by the balance of incomes. The pressures on external financing of the current account deficit will be dependent on the share of reinvestments which represent neutral item for the whole balance of payments. The future development will be crucially dependent on three major factors: developments of trade with goods and services, share of reinvestments and the inflow of FDI into basic capital. Further shift to dividends

represent risky factor for the current account deficit. The FDI into basic capital are not expected to reach the levels of the previous decade which will be further emphasized by the move of the investors from Central Europe further in the East-South direction (Croatia, Russia, etc.). Moreover, this territorial shift may be another cause of further increase of dividends payments to use them for financing in other countries.

The future development will be crucially dependent on three major factors: developments of trade with goods and services, share of reinvestments and the inflow of FDI into basic capital.

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