Masarykova Universita Brno – Ekonomicko-správní fakulta

Habilitační práce

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Transformace českého finančního a kapitálového trhu na přelomu tisíciletí

Studie finančního prostředí
České republiky

Brno březen 2012

Obsah

Část 1: Komentář k publikovaným pracím

1.1. Shrnutí a ucelený komentář k předkládaným pracem

Soubor níže uvedených prací tvoří celkem čtyři články: tři články byly publikovány v recenzovaných zahraničních časopisech a jeden článek byl vydán v recenzovaném zahraničním časopise a následně v monografii zahraničního nakladatelství Routledge. Poslední recenzovaný příspěvek vyšel v monografii, jež byla jedním z výstupů výzkumného záměru Fakulty sociálních věd Univerzity Karlovy v roce 2004.

1 Jindrichovska, I. 2001. The Relationship between Accounting Numbers and Returns: Some Empirical Evidence from the Emerging Market of the Czech Republic. *European Accounting Review* 10(1), pp. 107–131 [Impakt faktor 1,47].

2 Jindrichovska, I., McLeay, S. 2005.Accounting for Good News and Accounting for Bad News: Some Empirical Evidence from the Czech Republic. *European Accounting Review* 14(2), pp. 1–21 [Impakt faktor 1,471] (podíl autora 90 %).

3 Sucher, P., Jindrichovska I. 2004. Implementing IFRS: A Case Study of the Czech Republic. *Accounting in Europe*. 1, pp. 109–141. (Podíl autora 66 %)

4 Jindrichovska, I. 2004. Response of Regulatory Bodies to Financial Crises: Role of Auditors and International Comparison. In Kotábová, V., Prážová, I., Schneider, O. (eds.) *Rozvoj české společnosti v Evropské unii.* 2 díl. Prague: MatfyzPress, s. 193–198.

V devadesátých letech 20. století docházelo k postupné transformaci české ekonomiky z plánované ekonomiky na ekonomiku tržní. Finanční sektor hrál v této transformaci významnou roli. Finanční sektor je úzce navázán na kapitálový trh, který následně reflektuje a ovlivňuje na finanční situaci firem. Předkládaná habilitační práce se v prvních dvou článcích zabývá vazbou českého kapitálového trhu na trh společností. Následující dvě práce se věnují institucionálním zázemím trhů a jejich regulaci a analyzuje, jak vnímají české firmy změny účetních standardů po jejich harmonizaci v roce 2005. Studie pojednávají o institucionálních úpravách účetnictví a o měnících se pravomocech finančních autorit v ČR na přelomu tisíciletí.

První dvě studie obsažené v habilitační práci se zabývají vztahem účetních výsledků a akciových výnosů na českém kapitálovém trhu. Zkoumají dvě podoby tohoto vztahu: způsob, jakým jsou účetní data reflektována kapitálovým trhem, resp. analýzou toho, jak trh předvídá účetní výsledky firem, a dále dopadem „dobrých zpráv" – tržních výnosů a „špatných zpráv" – tržních ztrát na účetnictví firem. Tyto články se zabývají těsností vztahu mezi tržními a účetními výnosy a jeho bližšími charakteristikami – „včasností" a konzervatizmem v podmínkách České republiky na přelomu

tisíciletí. O tom, že toto téma je stále velice aktuální svědčí mimo jiné množství ohlasů na tyto práce i v nedávné době. K výzkumu byl v obou případech použit rozsáhlý vzorek českých společností, které byly na přelomu tisíciletí obchodovány na českém kapitálovém trhu – Pražské burze cenných papírů. Práce statisticky testuje tzv. „earnings response coefficient" – koeficient reakce ceny akcie na změnu účetních výnosů. Na českém trhu byl identifikován statistický významný vztah, potvrzující souvislost tržních výnosů a účetních výsledků firem. Práce byla zajímavým doplňkem studií v daném oboru, protože používala stejnou metodiku jako ve vyspělých kapitálových trzích na datech z čerstvě se transformující ekonomiky. Výsledky byly publikovány v časopise *European Accounting Review* v roce 2001.

V následné studii z roku 2005 se testy soustředily na těsnost tohoto vztahu a na to, zda je možné pozorovat odlišnou reakci kapitálového trhu v případě účetní ztráty než v případě účetního zisku. Smyslem testu bylo zjistit, zda můžeme pozorovat odlišnou, resp. odlišně silnou reakci ceny na oznámení účetní ztráty než v případě očekávaného zisku. Studie doplňovala široké portfolio prací napsaných na podobné téma v jiných evropských zemích a rovněž v zemích s transformující se ekonomikou a byla rovněž publikována v časopise *European Accounting Review* v roce 2005. Spoluautorem práce byl prof. S. McLeay z University of Bangor, UK.

Obě výše uvedené práce jsou rovněž citovány ve Web of Science, stejně jako přípravné studie a working papery, které jim předcházely.

Zájem o vztah mezi účetními výnosy a výsledky na kapitálových trzích vedl k podrobnějšímu studiu účetních standardů a jejich změn a k tomu, jak jsou tyto změny vnímány vykazujícími společnostmi a samotnými kapitálovými trhy. Na počátku nového tisíciletí docházelo na celosvětové úrovni ke sjednocování účetních standardů. Hlavní motivací tohoto postupu byl výklad účetních dat kapitálovými trhy. Na světových burzách bylo obchodováno stále více společností ze zahraničních trhů a bylo třeba zpřístupnit informace o investičních příležitostech zahraničním investorům. Vedla se rovněž diskuse, jestli se firmy mají přiklonit spíše k evropským standardům nebo ke standardům americkým. Navazující dva články promítají obraz této problematiky do České republiky a pojednávají o institucionálních úpravách účetnictví, které byly zaváděny do roku 2005, a o pravomocech finančních autorit na konci minulého a na počátku nového tisíciletí.

V květnu roku 2004 přistoupilo deset nových zemí k Evropské unii (jednalo se o Českou republiku, Estonsko, Kypr, Lotyšsko, Litvu, Maďarsko, Maltu, Polsko, Slovinsko a Slovensko). V okamžiku přistoupení se přistoupilo také na mnoho nových evropských regulací, které vyvolaly dramatické změny v oblasti práva, místních pravidel a způsobů prosazování těchto pravidel. Jednou z významných změn je změna finančního výkaznictví u společností, které jsou simultánně obchodované na zahraničních burzách. Tyto společnosti jsou od roku 2005 povinny připravovat

finanční výkazy podle mezinárodních pravidel finančního výkaznictví (International Financial Reporting Standards – IFRS).

V tomto období totiž probíhala harmonizace účetních standardů v celé Evropě, a proto se jako vhodné téma k zamyšlení nabízela studie o zavádění účetních mezinárodních standardů v ČR.

Třetí článek zkoumá úpravy účetnictví v ČR po vstupu do Evropské unie v roce 2005 a zabývá se požadavky vymahatelnosti a adekvátností úprav finančních a účetních standardů v kontextu právě probíhajících účetních a regulačních změn v České republice. Tento výzkum, materializovaný v publikaci se spoluautorkou P. Sucher z Royal Holloway s názvem „Implementing IFRS: A Case Study of the Czech Republic" byl v roce 2004 publikován v mezinárodním recenzovaném časopise s názvem *Accounting in Europe*. Tento výzkum měl kvalitativní charakter. Použitá metoda se opírá o semi-strukturované interview, pomocí kterého jsou zkoumány odlišnosti a charakteristické rysy zavádění účetních standardů na vzorku českých firem. Výzkum byl doplněn o širší pohled: (1) jak vnímají zavádění mezinárodních standardů průmyslové firmy, (2) jak jej vnímají reprezentanti finančního trhu, tj. banky, (3) jak jej vnímá český kapitálový trh reprezentovaný brokery a (4) jaký má tato změna dopad na účetní profesi, tj. profesionální účetní firmy. Výsledkem této průřezové studie byla charakteristika zavádění jednotných účetních standardů v České republice.

Počátek nového tisíciletí byl rovněž obdobím velkých finančních a účetních skandálů po celém světě. Finanční skandály prorůstaly z průmyslových firem do firem účetních a finančních Poslední studie se zabývá porovnáním reakcí regulačních institucí v ČR a USA na velké finanční skandály. Článek porovnává reakce institucionálního zázemí v obou zemích na velké skandály a formy regulace, jež byly realizovány. Srovnání probíhá pomocí porovnání dvou případových studií podniků Enron v USA a české Investiční a Poštovní Banky.

1.2. Nejdůležitější vědecké poznatky článku „The Relationship between Accounting Numbers and Returns: Some Empirical Evidence from the Emerging Market of the Czech Republic“ [Vztah mezi účetními výsledky a tržními výnosy: empirické důkazy z transformujícího se trhu v České republice]

Irena Jindřichovská

Generally, stock prices reflect future expectations of earnings, whereas accounting data reflect past performance. This paper attempts to discover the relationship between accounting data and market price returns of the companies listed on the Prague Stock Exchange (PSE). The Prague Stock Exchange was established in 1993 and provides an opportunity to make a comparison between a newly established market and the findings of studies of established markets.

There has been a wealth of publications and accounting research studies on developed markets. Generally, accounting attributes are thought to be relevant because they tend to be contemporaneously statistically associated with stock prices. Some studies have suggested, and empirically tested, that stock prices lead earnings (e.g. Collins, Kothari, Rayburn, 1987; Kothari, 1992, Kothar, Sloan, 1992; Kothari, Zimmerman, 1995). This study tests the existence of such a relationship in the Czech capital market, relying partially on the methodology proposed by Kothari and Sloan (1992) and Kothari (1992).

This paper investigates, whether there is a statistically significant permanent relationship between returns and accounting data on the Czech market. The study was conducted using accounting earnings and stock prices during the period of 1993-1998. The empirical evidence here suggests that a similar relation exists on the emerging Czech market. The relation is statistically significant for measurement windows of one year and longer. The increase in the mean response coefficient, reported later in this study, suggests that one-leading-year returns are as important as contemporaneous returns in terms of their sensitivity to annual earnings changes. However, one cannot infer with a degree of confidence that the Czech capital market views earnings changes to be largely permanent, which would be consistent with the time series properties of annual earnings.

Část 1.2 Shrnutí v češtině

V obecné rovině odrážejí ceny akcií očekávání budoucích podnikových výnosů. Účetní data na druhou stranu odrážejí minulé výsledky. Tento článek se zabývá vztahem mezi účetními výsledky a výnosem cen akcií českých společností obchodovaných na Burze cenných papírů v Praze (PSE). Pražská burza byla znovu otevřena v roce 1993 a nabízí se tedy příležitost srovnat výsledky mladých trhů a trhů již rozvinutých.

O rozvinutých trzích byla již na toto téma napsána celá řada výzkumných studií. Účetní charakteristiky jsou z hlediska časového významně statisticky spjaty s cenami akcií, a proto jsou pro tvorbu ceny relevantní. V předchozích studiích především na americkém a britském trhu byla

empiricky testována hypotéza, že ceny akcií předbíhají účetní výsledky (např. Collins, Kothari and Rayburn, 1987; Kothari 1992, Kothari and Sloan, 1992; Kothari and Zimmerman, 1995). Studie testuje existenci podobného vztahu na českém kapitálovém trhu a částečně se opírá o metodologii autorů Kothariho a Sloana (1992) a Kothariho (1992).

Tento článek zkoumá, jestli existuje v českých podmínkách statisticky významný a trvalý vztah mezi výnosy kapitálového trhu a účetními daty. Ve studii byl použit vzorek účetních výnosů a cen akcií z období let 1993 až 1998. Empirické výsledky ukazují, že na transformujícím se trhu existují podobné vztahy jako na trzích vyspělých. Vztah je statisticky významný při intervalu měření jednoho roku a delším. Nárůst střední hodnoty koeficientu reakce výnosů (mean response coefficient), který popisujeme v této studii, dokresluje, že jeden rok staré (loňské) výnosy jsou co do citlivosti změn ročních účetních výnosů stejně významné jako současné výnosy. Nelze však s velkým stupněm spolehlivosti říci, že český kapitálový trh považuje změny účetních výnosů za trvalé, což by bylo v souladu s vlastnostmi časových řad ročních výnosů.

Na efektivních a vyspělých kapitálových trzích odrážejí ceny akcií změny očekávání budoucích hotovostních toků. Ve srovnání s tím mají účetní data jen omezenou schopnost tato očekávání zachytit. Autoři Kothari a Sloan (1992) uvádějí, že podstatou tohoto problému je objektivita, verifikovatelnost a další účetní konvence, na kterých jsou založené obecně přijaté účetní principy (GAAP). Tyto principy vlastně omezují schopnost účetních výnosů odrážet tržní revize změny očekávání budoucích cash flow. Změny cen akcií odrážejí mnohem širší informační množinu, tzn., že koeficienty reakce ceny na účetní výnosy budou podhodnocené.

V českých podmínkách byl tento vztah rovněž testován a výzkum potvrdil existenci statisticky významného vztahu mezi cenami účetních výnosů za pomoci několika modelových specifikací. Statistická významnost vztahu není příliš silná, přestože je porovnatelná s výsledky v jiných zemích. Důvodem je nejspíše nízká likvidita na českém kapitálovém trhu a jeho nevyspělost.

1.3. Nejdůležitější vědecké poznatky článku „Accounting for Good News and Accounting for Bad News: Some Empirical Evidence from the Czech Republic“ [Účetnictví Dobrých zpráv a účetnictví Špatných zpráv: empirické důkazy z České republiky]

Irena Jindřichovská (90 %), Stuart McLeay (10 %)

This paper is motivated by the links that continue to be forged between security pricing and accounting, building on recent findings that firms tend to be asymmetrically conservative in the timeliness of earnings recognition. The evidence is that firms in the European Union tend to recognise unrealised losses more quickly in their earnings than unrealised gains (Giner and Rees, 2001; Raonic, McLeay and Asimakopoulos, 2004), and there is evidence of even greater accounting conservatism in the US (Basu, 1997; Ball, Kothari and Robin, 2000; Givoly and Hayn, 2001). This article investigates whether the Czech market exhibits conformity with the behaviour that has been documented elsewhere by examining the earnings/returns relationship, focusing to begin with on the impact of losses on earnings response coefficients and then considering the asymmetric timeliness of income recognition in the Czech market.

The findings indicate that the Czech market is similar to more developed markets, at least in one respect: There is statistically significant evidence of different market effects of profits and losses, in that profits are more persistent than losses. However, contrary to the findings in more developed markets, there is no statistically significant evidence of earnings conservatism in the Czech market. These results are most probably due to the continuing influence of restrictive tax regulations that mitigate any tendency towards conservatism, as well as the transitional nature of the economy. A further reason is likely to be that the regulatory environment in the Czech Republic is close to the kind of stakeholder corporatism that is described by Ball *et al.* (2000), who show that conservatism tends to be less pronounced in such regimes where there are fewer managerial incentives to bias current earnings. In conclusion, if changes in market prices signal good news and bad news about future risky outcomes, there is no evidence of asymmetry in the Czech market in accounting for such risks.

Část 1.3 Shrnutí v češtině

Intenzivní snaha poslední doby o vytvoření standardních kapitálových trhů a zavedení správného finančního výkaznictví v tranzitivních ekonomikách by měla vést k vytvoření lepšího informačního prostředí pro investory a umožnit jim získat lepší přehled o podnikovém hospodaření, řízení a výsledcích. Zodpovědnost podnikového managementu vůči investorům je tak posilována (Sucher, Jindrichovska, 2004).

Vztah mezi podnikovými výsledky a výnosy kapitálového trhu byl zkoumán na mnoha tranzitivních trzích např. v Polsku (Jermakowicz, Gornik –Tomaszewski, 1998) a v České republice (Jindrichovska,

2001), a do jisté míry také v Maďarsku (Chun, 2000). Tento výzkum se soustředil na konzervativismus s použitím různých specifikací modelu testujícího vztah mezi účetními a tržními výnosy, narozdíl od konzervatismu v účetnictví a různé dopady účetních ztrát a zisků na výsledky cen akcií na kapitálovém trhu.

Tento článek se zabývá vztahem mezi vývojem cen akcií a účetními výnosy společností a opírá se o nedávná zjištění, že firmy jsou asymetricky konzervativní co do včasnosti vykazování účetních výnosů. Tento konzervatizmus vyplývá ze zjištění, že firmy v Evropské unii zveřejňují nerealizované (očekávané) ztráty „rychleji“ než nerealizované (očekávané) zisky (viz např. Giner, Rees, 2001; Raonic, McLeay, Asimakopoulos, 2004). Studie ze Spojených států poukazují na ještě větší účetní konzervatizmus (Basu, 1997; Ball, Kothari, Robin, 2000; Givoly, Hayn, 2001). Tento článek zkoumá, jestli český trh vykazuje stejné chování, jaké bylo dokumentováno na jiných trzích. Studie zkoumá vztah mezi účetními zisky a cenovými výnosy. Nejprve se soustředí na dopad účetních ztrát na koeficient reakce výnosů (earnings response coefficients) a poté se soustředí na časovou asymetrii patrnou ve zveřejňování výnosů na českém trhu.

Zjištění ukazují, že český trh je v jedné věci podobný vyspělým kapitálovým trhům: existuje statisticky významný důkaz rozdílného tržního dopadu u zisků a ztrát, kde zisky jsou považovány za trvalejší než ztráty. Na rozdíl od zjištění z oblasti vyspělých kapitálových trhů není na českém trhu statisticky významný důkaz o konzervatizmu výnosů. Tyto výsledky jsou tedy nejspíše důsledkem pokračujícího vlivu restriktivních daňových předpisů, které snižují tendenci ke konzervatizmu, jakož i jiných ekonomických charakteristik transformující se ekonomiky. Dalším důvodem je pravděpodobně to, že regulační prostředí v České republice je blíže vlastnickému korporatismu zájmových skupin přítomných v podniku než zájmům akcionářů. Tento rozdíl. jak popsal Ball et al. (2000) ukázal, že konzervatizmus je významnější v režimech, kde je menší motivace manažerů ke zkreslování účetních výsledků běžného období. Jestliže změna tržní ceny signalizuje „dobrou zprávu” resp. „špatnou zprávu” o budoucích nejistých výsledcích, v České republice zatím důkaz takovéto asymetrie neexistuje a konzervatizmus není na tomto trhu statisticky významný.

Informačně efektivní trh znamená, že všechny relevantní informace se zobrazí v cenách okamžitě, a to včetně očekávání budoucích zisků a ztrát plynoucích z rizikového podnikání firem. Konzervativizmus v účetnictví plyne z jeho regulace a požadavku, aby se očekávané ztráty již zahrnuly do výsledků, zatímco očekávané zisky jsou zahrnuty teprve poté, co jsou realizovány. Podle Basu (1997) je výsledkem to, že špatné zprávy (ztráty) se odrazí v účetnictví rychleji (výrazněji) než očekávané účetní zisky. Nepříznivá informace se zobrazí na kapitálovém trhu úplně, zatímco příznivá informace jen částečně. Proto bylo zjištěno, že dopad očekávaných účetních ztrát je na kapitálovém trhu výraznější než u účetních zisků (Hayn, 1995).

1.4 Nejdůležitější vědecké poznatky článku „Implementing IFRS: A Case Study of the Czech Republic“ [Zavádění Mezinárodních standardů finančního výkaznictví: Případová studie České republiky]

Patricia Sucher (33 %), Irena Jindřichovská (66 %)

This empirical paper presents a study of the implementation process for international financial reporting standards (IFRS) in one of the accession countries, the Czech Republic. Based upon a review of the legislation, institutional framework and context, and drawing upon recent interviews with Czech companies required to prepare IFRS accounts, auditors and institutional players in the Czech Republic, the paper highlights some of the key issues that are arising with the move to the implementation of IFRS for listed group companies and other enterprises in the Czech Republic.

The paper considers the issues that arise when implementing new accounting regulations, some of which are not new and have been well covered in the literature, but others of which are particular to the implementation of IFRS. The method of implementation, the scope of IFRS, particular issues with local accounting practice and IFRS, the issue of enforcement of compliance with IFRS and its relationship with audit, the link between IFRS and taxation and the provision of education and training are all considered. There is also a review of the state of preparedness of local group listed entities with respect to the implementation of IFRS.

There are many potentially rich areas for accounting research where the work could also inform about the practice of IFRS accounting. The paper provides a contribution by highlighting how one country has moved to implement the requirement for group listed enterprises in order to prepare IFRS accounts and the issues that then arise for legislators, preparers and users.

Část 1.4 Shrnutí v češtině

Tato empirická studie zkoumá proces zavádění mezinárodních standardů finančního výkaznictví (international financial reporting standards - IFRS) v České republice. Česká republika v období tohoto výzkumu právě přistupuje k EU. Práce se opírá o studium legislativy, institucionálního rámce a aktuálního kontextu a dále o rozhovory se zástupci českých společností, které již mají povinnost připravovat podnikové účty podle IFRS, s auditory a se zástupci účetních institucí v České republice. Studie vysvětluje a analyzuje klíčové problémy, které vyvstávají při přechodu na IFRS u skupiny společností kotovaných na burze nebo na mimoburzovním trhu.

Článek rozebírá otázky vznikající při zavádění nové účetní regulace. Některým z nich se již věnovala dřívější literatura. Zavádění mezinárodních standardů IFRS má však i svá specifika, a to metodu zavádění, způsob a rozsah standardů IFRS, konkrétní otázky spojené s tradicí české účetní praxe, otázky vymahatelnosti sankcí při nedodržování standardů IFRS a dále vztah k auditu, vazbu mezi

IFRS a daněmi a systém vzdělávání a kvalifikace profesionálních účetních. Zkoumá také stav připravenosti českých kotovaných společností na zavádění IFRS.

V tomto výzkumu účetnictví je potenciálně mnoho oblastí, které by mohly informovat a ovlivňovat účetní praxi ve vztahu k IFRS. Mezi přínosy článku patří, že ukazuje, jak se jedna země vypořádává se zaváděním IFRS u skupiny kotovaných společností. Článek otevírá také další otázky v oblasti právní, v oblasti práce regulačních institucí a konečných uživatelů těchto účetních standardů.

V květnu 2004 se k Evropské unii připojilo 10 nových států. Jednu z velkých změn, která stojí před těmito státy, je zavedení mezinárodních standardů (IFRS) u podniků, které jsou obchodovány na několika burzách. Během posledních 14 let tyto země zavedly do svých právních systémů mnoho změn (Bailey, 1995; Bailey, Alexander, 2001; Schroeder, 1999; Sucher Zelenka, 1998).

Studie uvádí přehled relevantní literatury z oblasti mezinárodní harmonizace účetnictví a zkoumá, jaký dopad může mít zavedení IFRS na v transitivní ekonomiky. V článku je podle jednotlivých relevantních témat analyzován legislativní a institucionální přístup k zavádění IFRS v České republice. Analýza je podpořena a rozhovory interview s regulátory, auditory a dalšími institucionálními aktéry. Ve studii je ukázáno v jaké fázi se momentálně nachází příprava regulací finančního výkaznictví podle mezinárodních pravidel IFRS a ukazuje stav připravenosti k zavedení IFRS ve vybraném vzorku podniků. Ukázány jsou rovněž problémy a prospekty očekávaného přechodu k implementaci mezinárodních standardů ve společnostech obchodovaných na zahraničních burzách a na české burze.

1.5 Nejdůležitější vědecké poznatky článku „Response of Regulatory Bodies to Financial Crises: Role of Auditors and International Comparison“ [Odpověď regulačních orgánů na finanční skandály: role auditora a mezinárodní srovnání]

Irena Jindřichovská

In the light of recent crises capital markets are re-evaluating value relevance of financial information for price formation on the stock market. In this paper we investigate this issue through a comparison of recent developments in the US market as compared to the Czech market.

The paper identifies specific and significant contrasts between the US and Czech economies and draws conclusions on regulatory structures in developing as compared to advanced economies.

In this paper we seek to utilise some of the work of Ball et al. (2003) to review the interaction between accounting standards, preparer incentives and economic income in the Czech Republic and the USA. In particular we focus on the regulatory and market reactions to particular financial crises: Enron in the USA and Investicni a Postovni Banka in the Czech Republic. (Jindrichovska et al, 2004)

Část 1.5 Shrnutí v češtině

Ve světle finančních krizí poslední doby přehodnocují kapitálové trhy relevantnost finančních informací pro tvorbu cen akcií. V tomto článku se uvedenou otázkou zabýváme prostřednictvím porovnání nedávného vývoje ve Spojených státech a v České republice.

Článek identifikuje specifické a významné rozdíly ve způsobu regulace finančního trhu ve Spojených státech a v České republice a porovnává regulační orgány v rozvinutých a rozvíjejících se ekonomikách .

Studie vychází z prací Balla et al. (2003) a zabývá se interakcemi mezi účetními standardy, motivací regulačních orgánů a ekonomickým příjmem na akcii v České republice a v USA. Zaměřujeme se konkrétně na reakce regulačních orgánů na určité finanční krize: případ Enron ve Spojených státech a na případ Investiční a Poštovní Banky v ČR.

Reakce regulačních orgánů a reakce trhu v České republice (krize IPB) kontrastuje ostře s reakcemi na krizi v USA (bankrot společnosti Enron). V České republice nedošlo ke změně pravidel finančního reportingu nebo pravidel auditu a k zostření jejich vymahatelnosti, mimo změn, které byly vyvolány přístupem České republiky k Evropské unii. Auditorská firma v českém případě nezkolabovala a nebyla zrušena. Naopak dále se rozrostla a absorbovala lokální pobočku firmy Artur Andersen, která zkolabovala po kolapsu firmy Enron v USA.

Podle anglosaské tradice bychom mohli říci, že neprůhlednost je velké negativum, ale na druhou stranu je třeba připustit, že očekávání kvalitního finančního reportingu a jeho ověření a vynucení

auditem nebylo v České Republice nikdy tak velké, jako je tomu v USA. Investoři měli k dispozici jiný způsob jak se dostat k informacím, které pro své investiční rozhodování potřebovali. Proto můžeme také říci, že pohyby cen na finančním trhu nebyly nezbytně motivovány změnami v ekonomických výnosech firem. To následně implikuje, že český finanční trh není efektivní podle hypotézy polosilné efektivnosti kapitálového trhu.

To může být důsledkem konkrétního institucionálního zázemí v České republice, které odráží určité spletité cirkulární vztahy viz Ball et al. (2003). Jestliže jsou v ekonomice propletené ekonomické a vlastnické vztahy mezi společnostmi není zpravidla možno standardně vynutit dodržování standardů finančního výkaznictví (Sucher, Kosmala-MacKullich, 2004) potom musí investoři použít jiné způsoby, jak se k potřebným informacím v jednotlivých podnicích dostat. Odpověď na finanční krizi kolem IPB je toho dobrým příkladem. V tisku se objevilo mnoho článků, ale na rozdíl od případu Enron nenastaly žádné okamžité regulatorní kroky – zřejmě z důvodů popsaných výše. Je pravděpodobné, že odpověď byla spíše neformální a orientovaná na podnikové insidery.

Tento příklad ukazuje konflikt mezi tradičním, ale v České republice stale novým přístupem a Anglo-Saským přístupem, který se snaží zejména zvýšit hodnotu podniku pro akcionáře a novým kontinentálním přístupem se širším záběrem koncentrovaným na stakeholdery. Chování banky bylo v souladu s existujícími pravidly a právními předpisy, ale bylo také v souladu s dobrou správou společnosti?

Abstrakt:

Tato habilitační práce se zabývá charakterem finančního a kapitálového trhu v ČR v období transformace na přelomu tisíciletí. Zabývá se vztahem trhu k účetnictví, současným stupněm harmonizace účetnictví a vymahatelností sankcí v porovnání s vyspělým kapitálovým trhem v USA. V prvních dvou článcích je použita metoda kvantitativní analýzy dat z českého kapitálového trhu a účetních dat. V dalších dvou článcích se metodologie opírá o semi-strukturované interview a o průzkum norem a regulací trhu dokreslený případovou studií.

Podíl autorů je u prvního a čtvrtého článku IJ = 100 %, u druhého článku IJ = 90 % a SML = 10 % a u třetího článku PS = 33 % a IJ = 66 %.

Habilitační práce reflektuje vývoj vědeckého poznání a přispívá k poznání finančního prostředí v České republice v období transformace na přelomu tisíciletí. V první části je největší důraz kladen na charakteristiku českého finančního odvětví, zejména studium vztahu kapitálových zisků a účetních výnosů podniků. Další část se zabývá připraveností českých podniků k implementaci mezinárodních standardů IFRS a vymahatelností sankcí v souvislosti s finančními skandály na českém finančním trhu.

Část 2

The Relationship between Accounting Numbers and Returns: Some Empirical Evidence from the Emerging Market of the Czech Republic

[Vztah mezi účetními výsledky a tržními výnosy: empirické důkazy z transformujícího se trhu v České republice]

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European Accounting Review 10(1), 2001, 107-131.

The Relationship between Accounting Numbers and Returns: Some Empirical Evidence from the Emerging Market of the Czech Republic

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Generally, stock prices reflect future expectations of earnings, whereas accounting data reflect past performance. This paper attempts to discover the relationship between accounting data and market price returns of the companies listed on the Prague Stock Exchange (PSE). The Prague Stock Exchange was established in 1993 and provides an opportunity to make a comparison between a newly established market and the findings of studies of established markets.

There has been a wealth of publications and accounting research studies on developed markets. Generally, accounting attributes are thought to be relevant because they tend to be contemporaneously statistically associated with stock prices. Some studies have suggested, and empirically tested, that stock prices lead earnings (eg Collins, Kothari and Rayburn, 1987; Kothari 1992, Kothari and Sloan, 1992; Kothari and Zimmerman, 1995). This study tests the existence of such a relationship in the Czech capital market, relying partially on the methodology proposed by Kothari and Sloan (1992) and Kothari (1992).

This paper investigates, whether there is a statistically significant permanent relationship between returns and accounting data on the Czech market. The study was conducted using accounting earnings and stock prices during the period of 1993-1998. The empirical evidence here suggests that a similar relation exists on the emerging Czech market. The relation is statistically significant for measurement windows of one year and longer. The increase in the mean response coefficient, reported later in this study, suggests that one-leading-year returns are as important as contemporaneous returns in terms of their sensitivity to annual earnings changes. However, one cannot infer with a degree of confidence that the Czech capital market views earnings changes to be largely permanent, which would be consistent with the time series properties of annual earnings.

Key words: Earnings response coefficients, emerging markets, Czech capital market, pooled regression

1. Introduction

There exist a number of studies on privatisation and corporate governance in the 1990s in the Czech Republic. However, there has been little previous research, which describes and analyses the relation between accounting data and market prices on the Central European emerging markets in general. This paper attempts to fill this gap by looking at the association, both contemporaneous and lagged, between accounting data and security returns. It is the first study on the Czech capital market describing the relationship between earnings and market returns.

The results of this paper tend to corroborate existing empirical evidence, albeit not strongly, that the bias in earnings response coefficient estimates is reduced as the earnings and return measurement window is increased. The relation was tested using models relating levels of earnings and prices deflated by beginning prices. This specification was tested also in its cumulative form – summing earnings across the whole estimation period. Furthermore, two alternative model specifications were tested: a model exploring earnings changes and a model using earnings as a deflator. To allow for the possible influence of firm specific characteristics, estimation of pooled data was performed throughout the analysis with (1) common intercepts, (2) fixed effects, and (3) random effects. Out of the two alternative model specifications, the second model (using earnings as a deflator) was not statistically significant.

In an efficient and mature market, price changes reflect revision of the capital market's expectation of future cash flows. In comparison, accounting earnings have only a limited ability in this respect. Kothari and Sloan (1992) state that the primary reason for this is that objectivity, verifiability and other conventions that underlie GAAP limit the ability of accounting earnings to contemporaneously reflect the market's revision of future net cash flow expectations. The change in prices is a response to a much wider set of information, so that the response coefficient may be downward biased.

The rest of the paper is organised as follows: section 1 is the introduction, section 2 provides background to conditions on the Czech capital market, and section 3 reviews the relevant literature on both emerging and developed capital markets. The methodology and model specifications are discussed in section 4, and section 5 provides a description of the data. Results and implications are discussed in section 6. The paper's findings are summarised in section 7.

2. Background

Characteristics of the Czech capital market

The Czech Voucher Privatisation started in 1992 when privatisation 'vouchers' were distributed to the public.[1] At the same time, company shares were administratively created, based on the book information of privatised enterprises. The distribution algorithm assigning shares to privatisation vouchers was executed by the so called 'RM-System', which is a computer system matching supply and demand of these administratively-created shares.[2] After distribution the shares began to be traded on the RM-System, which now resembles an over-the-counter market. Early in 1993, approximately six months after the establishment of the RM-System, the Prague Stock Exchange (PSE) began trading again after a break spanning over half a century. Its major purpose at that time was to provide a market for shares which had been distributed to the public through the voucher scheme. Most shares were, and still are, traded on both the RM-System and the Prague Stock Exchange. Even though the matching systems are a little different in each case, they provide basically the same services and compete on the same market. The major difference is that shares that are listed on the main market of the Prague Stock Exchange have to release accounting information in accordance with PSE rules and conditions (Patton and Zelenka, 1997).

Initially, the capital market and related infrastructure were *not* relied upon to provide

reliable market values, and even less were they considered a source of funds for industry. Generally, the market was supposed to be a matching system with no human contribution crossing the bids and offers and fulfilling no other functions. Unfortunately, mistakes and omissions occurred, including the lack of strict and enforceable rules and regulations, and this has complicated the situation. Additionally, a lack of transparency has caused the exit of many foreign investors in the last two or three years.

The Prague Stock Exchange is a relatively illiquid marketplace compared to markets in the U.S. and in Western Europe. One reason for low liquidity is that there are too many shares in very small companies which would never have been listed under normal circumstances, ie if no voucher privatisation had taken place (Filacek et al., 1998; Sommer, 1996, 1997a and 1997b). During the privatisation process, 1670 companies were listed on the stock exchange. However, since late 1996, when a substantial administrative reform of the capital market was initiated, about 80% of these companies have been de-listed, due to poor liquidity and poor reporting standards.

Recently, the need for a strong regulatory and supervisory environment was recognised, and securities regulation has been strengthened, including the introduction of more effective laws and regulations for investment funds and trusts. A Securities Commission was also established in early 1998. However, according to the IMF (1999), market oversight needs to be tightened further, and the Securities Commission should be de-linked from the Ministry of Finance and given powers to promulgate regulations of its own. In addition, these efforts need to be supplemented by the upgrading of accounting and auditing standards to international norms, including the requirement of mark-to-market accounting, so that accounting methodologies do not provide distorted incentives, allow circumvention of regulations or help avoid full disclosure.[3] Recent studies of the Czech capital market have focused on both market efficiency (eg Filacek et al., 1998) and the institutional environment (eg Svejnar, 1995; and Mejstrik, 1997).

3. Review of the literature on emerging and developed markets

The literature provides several explanations of how capital markets view earnings changes and magnitudes of the estimated earnings response coefficients. This short survey of the relevant literature starts with several recent articles dealing with the emerging market of the Czech Republic.

The association between accounting data and market prices in the Czech setting has been analysed by Sommer (1996), who tested for an association between the stock's riskiness as represented by beta and various financial ratios. He found that the relationship between the earnings-to-price ratio and the beta coefficient was significant at the one per cent level. His sample consisted of twenty companies with the largest capitalisation and covered the period September 1994 to December 1995. Beta coefficients were estimated as the slope of the characteristic line between each share and the representative PX-50 market index.

The weak-form efficiency of the Czech capital market for the period 1995-97 was tested by Filacek et al. (1998) using the PX-50 market index. They came to the conclusion that in this period the Czech market did not satisfy the weak form of the efficiency hypothesis.

Sommer (1997a, 1997b) has presented the results of an empirical study measuring risk on the Czech capital market from September 1994 to the end of 1995 by standard econometric methods. His results show that there is quite a strong relationship between risk and liquidity of the stock of a company taken in isolation. He also shows a weak relationship between company beta and industry beta. Interestingly, there seems to be no relationship between a company's fundamentals and its beta coefficient. The study's findings lead to some interesting conclusions about the degree of efficiency of the Czech emerging capital market and its possible future development.

A number of important papers analyse the association between market returns and

company earnings in developed markets. The studies, which are discussed below, focus on several different aspects of the nature of the relationship between returns (prices) and earnings.

a) Length of the response window

One approach in assessing the relation between accounting income and stock return is to regress a measure of return on accounting income. A key decision concerns the period of returns and income which is to be examined. The commonly estimated univariate returns / earnings regression models generally have the form

$$UR_{it} = a + bUX_{it} + e_{it},$$

where UR_{it} is unexpected return, UX_{it} represents unexpected earnings, and e_{it} is a random disturbance term assumed to be normally distributed with a zero mean and variance σ^2.

Research on the contemporaneous association of returns and earnings (earnings response coefficients, ERC) was initiated by Ball and Brown (1968), who examined the relation between accounting income and price data. They concluded that accounting income is a major source of price relative information, but that the market anticipates it mainly in the period prior to its release. *'The value of information conveyed by the income number at the time of its release constitutes on average only 20 per cent of the value of all information coming to the market during that month*.' (Ball and Brown, 1968:176)

It has been noted by Easton et al. (1992) that the explanatory power of models employing a short interval (short measurement window) is rather low as measured by R^2. In their study they extended the interval over which earnings are determined. They hypothesise that measurement errors in (aggregated) earnings are thus reduced. The empirical findings support this hypothesis. Similar results showing that the association between earnings and returns is stronger as the aggregation interval is lengthened, were presented by Kothari and Sloan (1992) and Dechow (1994). Studies by Collins, Kothari and Rayburn (1987) and Kothari and Zimmerman (1995) suggest that earnings lag returns in up

to three years.

Donnelly and Walker (1995) investigate the extent to which share prices anticipate future earnings changes by estimating earnings response coefficients (ERCs) on a sample of 179 UK companies during the period 1972-1990. The authors found that the extent to which prices anticipate earnings in the UK was less than that reported by Kothari and Sloan for US companies. The reason may be differences in the informational environment or differences between UK and US GAAP.

b) Intertemporal and cross-sectional variations of ERCs and different model specifications.

A number of studies analyse the specification of regression models of earnings response coefficients. Kothari and Zimmerman (1995) compare the price, differenced-price and return models. Based on (1) the extent to which the estimated slopes and intercepts approximate their predicted values and (2) the mis-specification (heteroscedasticity) indicated by White's (1980) statistics, they suggest that price models are less biased; return models, however, have fewer econometric problems. Similarly, Christie (1987) concludes that, while return and price models are economically equivalent, return models are econometrically less problematic. Estimates of earnings response coefficients are more biased when the return model is used as against the price and differenced-price models (eg Kothari and Zimmerman, 1995; Ohlson, 1991; Easton and Harris, 1991).

A number of studies concentrate on cross-sectional and intertemporal variations of earnings response coefficients: Kormendi and Lipe (1987); Collins and Kothari (1989); Easton and Zmijewski (1989). In their study, Collins and Kothari (1989) relax the assumption of their earnings response coefficient should be treated as cross-sectional and a temporal constant, and study the causes of variation. The cross-sectional variation is related to earnings persistence and the firm's systematic risk and size – proxies for a broad information environment. The sensitivity of the earnings response coefficients was also

tested by reversed regression models, estimating the returns response coefficients (RRCs). The authors, however, advise a cautious approach to inferring the earnings process from the inverse of the estimated RRC. The aspect of earnings persistence was recognised and addressed in several other studies, eg Basu (1997), Donnelly and Walker (1995), Kormendi and Lipe (1987), Kothari and Sloan (1992).

In his paper Kothari (1992) focused on three ERC models 1) a model specified in levels, 2) a model specified in changes and 3) a model using the previous year's earnings as the deflator. The main theoretical conclusions from the point of view of their explanatory power are that, because prices reflect information about future earnings:

1) "compared with the change specification, the levels specification yields higher explanatory power and generates a less biased earnings response coefficient estimate.
2) the levels specification yields a biased earnings response coefficient when prices contain information about more than one period ahead earnings changes.
3) if an accurate proxy for the market's unexpected earnings is used, the earnings response coefficient estimate is unbiased and the explanatory power is greater than when using the levels and change specifications.
4) using beginning-of-the-year price as the deflator compared to the previous year's earnings yields a less biased coefficient estimate.
5) the explanatory power of a typically estimated price-earnings regression is expected to be low, perhaps only about 15-20 per cent." (Kothari, 1992:175)

The literature on earnings response coefficients and the informational content of stock prices and returns has undergone major development in the last thirty years. Recent studies are frequently concerned with information asymmetry, timeliness and conservatism. Although most of the studies were performed on sets of U.S. and U.K. data, similar studies of other markets exist in which the results of papers written on U.S. or U.K. counterparts are compared (eg Booth et al., 1997, and Martikainen et al., 1997).

4. Methodology and model specifications

a) Length of the response window

This paper investigates whether returns measured over one to four leading periods contain information about a change in annual earnings. Concentrating on the length of response window, it should be determined whether enlarging the response window increases the coefficient while decreasing its variability. This should be especially true in the case of cumulative estimates, where earnings are summed over the period. The following part of this paper is concerned with different model specifications of the earnings-price relation in order to test the strengths of this relation. Three different models are tested and the results are compared with model 1.

The classical assumption is that a stock's value depends on the stream of cash flow the company is expected to generate on the investor's behalf. In the spirit of this analysis, total stock return (dividend and capital gain) over the period *reflects the market's revision of its expectations* about future earnings. In an efficient market, prices will align themselves with developments as they take place, which means to say that they move in concert with the current market expectations of future corporate earnings. It is chiefly the revision of these expectations, which may be triggered by unanticipated elements, changes in the underlying economy, earnings surprise or other economy-wide or firm-specific factors that are reflected in stock returns, or in the terminology of this paper, price relatives.

Kothari and Sloan (1992) surmise that stock returns over a period reflect the market's revision of its expectations of future earnings. Accounting earnings over the same period cannot reflect such revised expectations: returns therefore anticipate earnings changes. Accordingly, Kothari and Sloan (1992) postulate, and support by empirical evidence, that returns are expected to lead earnings changes. In other words, price changes are expected to have a predictive power in relation to future earnings changes. This, however, does not imply that price changes represent a *perfect* forecast of future earnings changes; see Kothari and Sloan (1992:147).

Collins and Kothari (1989) find that unexpected earnings from the year (*t*+1) correlate with returns from year *t*. The implication is that the market obtains alternative information in year *t,* which is a substitute for some 'news' of earnings in year (*t*+1). This may be explained by the conservative nature of accounting, which recognises events but considers them only after verification. Kothari and Sloan (1992) include leading-period returns in their regressions and, based on their estimated earnings response coefficients, suggest that the market, on average, views earnings changes as largely permanent.

This study examines the degree of association between price relatives (one plus buy-and-hold return), with and without dividend inclusion, and the earnings-to-price ratio (accounting earnings yield). Following the methodology suggested by Kothari and Sloan (1992), the degree of association between the price relatives and earnings-to-price ratio (earnings yield) is tested, using the panel regression method (time series – cross-section analysis). [4]

First the model using contemporaneous earnings and prices is employed:

$$\frac{P_t}{P_{t-\tau}} = \alpha + \beta \frac{X_t}{X_{t-\tau}} + \varepsilon_t \qquad (1)$$

The dependent variable on the left-hand side $P_t/P_{t-\tau}$ is the price relative, or one plus buy-and-hold return, (a) *inclusive of dividends* [5] and (b) *exclusive of dividends* over the period from the end of $t-\tau$ to the end of *t*. [6]

On the right-hand side, the fraction $X_t / P_{t-\tau}$ represents the earnings-to-price ratio (earnings yield). The numerator consists of accounting earnings per share before extraordinary items for firm *i* for the period *t.* Earnings are divided by the stock price at the beginning of the period $t-\tau$ (which is the same as the price at the end of the previous period). The slope coefficient β represents the earnings response coefficient.

The implications of a positive dividend pay-out policy are that the estimated coefficient in the case of a dividend inclusive model will be biased upwards, according to the order of the firm's dividend yield. This bias arises because of the asymmetric effect of

dividends on dependent and independent variables.[7]

This approach is applied in this paper to yearly as well as quarterly estimating windows. After completing contemporaneous estimates, the estimation interval is lengthened and the new coefficients are estimated over a longer measurement interval. It has been observed in the literature that the relation is more pronounced as the lag increases.

In the next step the independent variable is modified, and earnings are summed for (t-τ) periods. This measure should reduce the proportion of unexpected earnings variation, as shown by Easton et al. (1992), Kothari and Sloan (1992) and others.

The equation (1) then changes to:

$$\frac{P_t}{P_{t-\tau}} = \alpha + \beta \frac{X_{t-\tau,t}}{P_{t-\tau}} + \varepsilon_t \qquad (2)$$

In the numerator on the right-hand side of equation (2), earnings are summed over (t-τ) periods.

In the case of both model (1) and (2), however, there is a constraint that the sample size reduces as the price earnings measurement window increases due to the short time series of yearly. Both regression models were repeated using quarterly data; but in emerging capital markets a reference period of less than a year may not be long enough to bring out the responses between variables. Conversely, in an emerging market the environment changes rapidly, so that it may be quite different from one observation to another, if the interval between observations is too long.

b) Alternative model specifications

In order to explore the nature of the relationship between prices and earnings in this emerging market two other different model specifications have been tested in the similar fashion using one- to four-year estimation window.

The model testing the relation between earnings changes and price changes

deflated by price at the beginning of the testing period is expressed as:

$$\frac{\Delta P_t}{P_{t-\tau}} = \alpha + \beta \frac{\Delta X_t}{P_{t-\tau}} + \varepsilon_t \qquad (3)$$

Price change is regressed on earnings change deflated by the price at the beginning of the previous period. It would be expected that the resulting coefficient would be smaller than in the level specification, ie it would be biased towards zero. [8]

Another specification tests the relation running this regression when earnings were deflated by the preceding years' earnings.

$$\frac{P_t}{P_{t-\tau}} = \alpha + \beta \frac{X_t}{X_{t-\tau}} + \varepsilon_t \qquad (4)$$

A problem arises with this type of regression, when company earnings are negative. If earnings were negative in the denominator, the absolute value of earnings was used as in Kothari (1992). It is expected that earnings deflated model is more biased than price deflated.

These two alternative models have also been tested using pooled regression with three different estimation methods, and their results were compared.

5. Description of the data

Data obtained from a sample of 63 Czech publicly traded industrial companies for the period 1993-98 is used in this study. The accounting data have been taken from the database of the Washington-based research firm PlanEcon, whose data are often used by brokerage firms and other companies in the Czech Republic's financial industry. The security prices are downloaded from Datastream. For cross-sectional time series analysis, the econometric package EViews (previously TSP) as developed by Quantitative Micro Software in Irvine (California), is used.

Sample and descriptive estimates

The choice of representative companies was driven by the availability of corporate data and security prices. In 1993 only 33 of the companies from the sample were listed on the Prague Stock Exchange and in 1994 only 38, so that the time series for the remaining 25 companies is shorter by one year (four quarters) and for 5 companies by 2 years. In 1998 only 60 companies published their earnings. In three cases, therefore, the time series is shorter by the final year. More details of the number of observations for each year and each estimation window are included in Table 1 in the Appendix.

In addition to the yearly estimates, the relationship between accounting data and market price returns using quarterly data was measured. Prices were available from the end of 1993 for 33 companies, from the first quarter of 1994 for 38 companies and from the first quarter of 1995 for 63 companies. The following earnings numbers were available: 61 for the end of 1993, 63 from the first quarter of 1994 and only 58 for 1998. Details of the number of observations for each quarterly window are included in Table 2 in the Appendix.

In this sample, there is a sizable subset of utilities (22 in total). The rest of the sample represents a selection of companies from various industries: pulp and paper (1), trade (2), machinery (7), glass and ceramics (4), transport (2), construction (4), chemicals (6), electronics (3), mining (4), food processing (5), and metallurgy (3). More detailed analysis distinguishing between the industries was not attempted, because the resulting sample would be too small and the conclusions would not be valid or at best tenuous.

Descriptive statistics for earnings yields and price relatives computed from yearly data, from the end of 1993 until the end of 1998, and reported for measurement intervals ranging from one to four years are summarised in Table 1 at the end of the paper.

The first and second Panels of Table 1 contain descriptive statistics for earnings yield. In the first Panel, both the mean values and medians increase with time; however, variability measured by standard deviation is much higher than in the Kothari and Sloan (1992) study. In Panel 2 non-cumulative earnings yield show an almost steady, modestly

increasing mean over the years. The median, on the other hand, fell by about 20 per cent in value between 1 and 4 year lags. Unlike in Panel 1 the standard deviation decreases with the smaller number of observations. In Kothari and Sloan (1992), mean as well as median earnings yields increase monotonically with τ.

Panel 3 of Table 1 contains descriptive statistics about price relatives, including dividends. Variability increases with the measurement interval (τ). After annualising, a decreasing yearly return is apparent. The annualised return is fairly steady in Kothari and Sloan (1992) at the level of 16.8-17% p.a. In the Czech case, the value varies between 3.3% and -3.1% with increasing τ (see Panel 3, last column). When dividends are disregarded (Panel 4, last column), the annualised mean is positive only in the case of the one-year window, otherwise the annualised mean is negative, falling to -4.8 per cent in the four-year window. This shows that returns were declining on the Czech market during the period 1993-98. Another indicator of falling returns and declining prices is the median value of price relatives, which is less than one and decreasing for price relatives in both dividend-inclusive and dividend-exclusive cases. This decline may partly be due to problems created by illiquidity on the Czech stock market (PSE), weak corporate governance, lack of transparency and other infrastructural shortcomings.

The mean price relative (in Panel 4, second column) decreases with the measurement window interval. It ranges from just under +1.9% in the shortest measurement interval containing no lags to almost -17.9% over the four-year period. The median price relative reported in the fourth column of the last panel decreases with the measurement interval. This indicates that most share prices were falling during the period of measurement.

6. Regression results and implications

a) Length of the response window

Yearly models

Pooled regressions constrain the earnings response coefficient to a cross-sectional constant, so that the explanatory power of the model could be expected to be rather low (Teets and Wasley, 1996). This is particularly true in the case of contemporaneous estimates. As the response window lengthens, the explanatory power of the model, measured by R^2, improves. Similar conclusions were found in Collins and Kothari (1989), Easton et al. (1992), and Kothari and Sloan (1992), among others. To take into consideration the possible influence of firm specific characteristics the model was tested in three estimation forms: the pooled regression with common intercept, with fixed effects, and with random effects.[9] Subsequently, the results were compared – see Table 2 at the end of the paper.

Results of the *pooled* univariate model (1) are reported in Table 2. All coefficients are significant at the one per cent level, except of the case of four-year estimation window with fixed effect specification. The ERC coefficients are similar using all three methods. The explanatory power measured by adjusted R^2 is increasing as the window increases.

The earnings response coefficient measured using the pooled least squares with common intercepts increases from 0.56 for the contemporaneous regression to 1.13, when one-year-leading returns are included, to 1.79 when returns over two-leading-years are included and to 3.61 for the four-year estimation window. All three estimation methods give similar results. The results in this section suggest that estimates of the earnings response coefficient increase with the inclusion of leading-period returns in accordance with the hypothesis tested. Amongst the estimation methods the model which uses random effects in each window has the highest explanatory power. The coefficients are larger if dividends are taken into consideration.

Cumulative models

When earnings are aggregated and earnings measurement window increased the variation of results should be smaller. In the Table 2 results were significant for each estimation window. The results of cumulative model (2) are in Table 3 at the end of the paper.

In Table 3 the prices are regressed on aggregated earnings. All ERC coefficients are significant and growing as the estimation window increases, however there are apparent differences between individual estimation methods. In the case of contemporaneous estimates the explanatory power is very low (the same as in Table 2). The estimated coefficients using fixed effects are larger than the other two methods for windows longer than one year. The model with random effects has the biggest explanatory power as measured by adjusted R^2. Generally the models with fixed and random effect have bigger explanatory power than the first model with common intercepts. As in the previous table the coefficients are larger if dividends are taken into consideration. The level of significance of individual coefficients is higher than in the previous model, which implies that the variability of estimates is lower.

Quarterly models

After completion of the annual estimates, the quarterly results were assessed. Pooled data was used again in estimating the common slope coefficient according to equation (1). [10]

The first Panel of Table 4 (see Table 4 at the end of the paper) contains estimates for non-cumulative models. Results of pooled regression suggest that there is a highly significant relationship between returns and accounting results on a quarterly contemporaneous basis the highest value of the coefficient being 1.49 in the case of estimation with common intercept. The pattern of these quarterly coefficients, however, is rather puzzling. For two quarters the coefficient drops to 0.17, while for the three-quarters

window it rises to 0.40. All estimates are significant at the one per cent level. The only model, which is not statistically significant is ERC estimate for two quarters using the fixed effects estimator. The coefficient R^2 is very low for two- and three-quarter estimation windows.

The results of cumulative models are in Panel 2. All results are significant at the one per cent level and follow similar pattern as in Panel 1. The highest R^2 is again in one-quarter window. The coefficient of determination is rather low for two- and three-quarter estimation windows, but it is slightly higher than in non-cumulative model, which is in accordance with previous literature.

These findings could lead to the conclusion that the relation holds in the longer run, more than one year, but not in the short run. Prices do not lead accounting data in the short run – up to one year. The reasons for this may be *inter alia* that the Czech quarterly results are not fully reliable and so they may not be entirely value relevant. [11]

b) Alternative model specifications

In order to capture fully the relationship between accounting earnings and returns on the Czech market, other model specifications were tested: a model using earnings changes rather than levels (the 'difference model'):

$$(P_t - P_{t-\tau})/P_{t-\tau} = \alpha + \beta (X_t - X_{t-\tau})/P_{t-\tau} + \varepsilon_t; \qquad (3)$$

and a model using different deflator - past earnings (the 'earnings deflator model'):

$$P_t/P_{t-\tau} = \alpha + \beta X_t / X_{t-\tau} + \varepsilon_t; \qquad (4)$$

The descriptive statistics of additional variables in these models for estimation period ranging form one- to four-year estimation window, are shown in Table 5 at the end of this paper.

Panel 1 of Table 5 contains the characteristics of earnings yield measured in changes, and Panel 2 provides characteristics for earnings deflated by earnings at the

beginning of the testing period. The values are generally rather low and the standard deviations are very large. The median value of earnings yield measured in changes is basically equal to zero. In the case of the second specification, which uses the previous year's earnings as a deflator, the median value is bellow one for all measurement windows periods and the mean value is higher than one only in one-year window. [12]

The third and fourth panels of Table 5 enclose price relatives in their change specification including and excluding dividends respectively. The differences between the characteristics in Panels 3 and 4 are negligible. Therefore it can be seen that there is no substantial difference whether dividend yield is taken into consideration or not. This is consistent with prior research (eg Collins and Kothari, 1989). Judging from the median rather than the mean values, price relatives measured in changes are slightly negative in all measurement intervals. This indicates that prices were falling during the sample period.[13] But again, the standard deviations are rather large which casts some doubts upon the reliability of the estimates.

The results of pooled regression for model specification in changes are reported in Table 6 at the end of the paper.

The estimates in Panel 1 include dividends while estimates in Panel 2 they do not. For one-year estimation window this model is not significant using any estimator. It is significant for two and three-year estimation window in regression with common intercept and random effects. Generally, the coefficient is biased towards zero, which is in accordance with previous literature. The explanatory power of this specification is generally low. The coefficients differ slightly with different estimation methods, but during the first three periods they follow the usual rising pattern. The negative coefficient for a four-year window is puzzling and statistically insignificant in spite of relatively high adjusted R^2 in the model with random effects estimator.

The last model that has been tested is the specification, which uses previous

earnings as a deflator instead of prices. Results of this test are in Table 7 at the end of the paper.

The ERC coefficients in this model are insignificant apart from one case: the three-year measurement interval using regression with fixed effects. The results in both panels of Table 7 show that the intercept coefficient is equal to one in the first three windows and it is highly significant, whereas the slope coefficient is practically always equal to zero and not statistically significant. The coefficient of determination is basically equal to zero in the first two intervals, which implies that the behaviour of the Czech capital market cannot be adequately explained by this model specification.

7. Conclusions and implications for future research

This study has investigated the nature of the relationship between accounting earnings and returns on the Czech market. It has been conducted using a data sample covering the years 1993-1998.

The results of pooled regression models in levels suggest that:

a) for a short estimation window of up to three-quarters, there is a statistically significant relationship between earnings-to-price ratios and price relatives. However, the coefficients do not behave as expected; the relation is not monotonic.[14]
b) if lagged variables and a longer response window of one year or more are employed, however, it can be seen that the postulated relationship holds and that it is significant at the 1% confidence level.

Alternative model specifications of earnings response coefficients were tested in the second part of this study. The results of pooled regressions suggest that:

c) the model using specification in changes was biased towards zero and not statistically significant in the one and four-year windows.
d) the model using past earnings as a deflator of current earnings, was not statistically significant.

A number of provisos need to be added. During the period under review (1993-98), prices on the Prague stock exchange were mostly falling. This trend may have influenced the earnings / return relation, which has been central to this analysis. Such a trend is unlikely to persist and, when a similar analysis is repeated later one can expect to find that more pronounced and stable results obtain.

Secondly, the analysis has been performed on a relatively short time series, and due to that the sample size decreased as the lag between observed price response coefficients increased. Note that, in the case of a 4-year interval, there are only 71 observations, so that no definitive conclusions can be drawn from it.

A fruitful direction for further research would include replicating similar models on a longer time series to see whether these results continue to hold for the Czech capital market. It could be also tested whether different relation exists for loss-making and profit-making firms. It would also be appropriate to examine whether incorporation of other financial statement data in addition to accounting earnings would enhance the explanatory power of the model.

Notes

[1] Privatisation 'vouchers' represented the artificial one-purpose money that could be exchanged only for shares; these vouchers were not tradable.

[2] This was a one-off mechanism for distribution of shares in the Voucher Privatisation in the early 1990s. More details on the actual distribution mechanics used in the privatisation can be found in (Hingorani et al., 1997). Now, the RM-System works like an over-the–counter market with real money and real shares.

[3] See, for example, IMF, Czech Republic – 1999, Article IV Consultation Mission Concluding Statement, April 16, 1999, International Monetary Fund.

[4] Firms-specific analysis was also performed, but due to the limited number of observations of earnings and prices for each company and resulting limited explanatory power of models the details were not included in this paper.

[5] Dividends and dividend yields are adjusted for stock splits. Generally, dividends tend to be small and irregular, and few companies in the Czech Republic pay them, the major reason for this appearing to be double taxation of dividends. This question requires more in-depth research, and it is not central to this analysis.

[6] For contemporaneous estimates τ=1.

[7] According to Kothari and Sloan (1992), earnings in the $X_t/P_{t-\tau}$ variable reflect earnings on the firm's initial equity investment and on the increase in investments over time through earnings retention. But X_t does not reflect earnings on past dividend payments. The return variable $P_t/P_{t-\tau}$, on the other hand, assumes dividends are reinvested.

[8] According to Kothari and Zimmerman (1995), Christie (1987) and Donnelly and Walker (1995), models in levels and models in changes have the same economic interpretation. However, the return models have fewer econometric problems.

[9] Both fixed effects and random effects models are used to consider the possible influence of firm specific characteristics. Fixed effect model treats intercepts as fixed separately for each individual firm. Random effect model assumes that intercepts of the individual firms are different but they can be treated as drawings from some underlying distribution. These drawings are assumed to be independent from X_{it}. The fixed effect model is conditional upon the values for α_i. It considers the

distribution of Y_{it} given α_i where α_is can be estimated. It can be used if the individuals in the sample are of one kind, and cannot be viewed as a random draw from some underlying population. The random effect approach allows one to make inference with respect to the population characteristics. However, if the X_{it} and α_i are correlated, the random effect model, ignoring this correlation, leads to inconsistent estimators. (see Verbeek, 2000: 318-9)

[10] Table 4 contains results of non-cumulative and cumulative quarterly models which include dividends. The results excluding dividends are not presented because there were no apparent differences due to a very short estimation period involved.

[11] Although the Czech companies listed on the Prague Stock Exchange are obliged to publish the quarterly accounting results this data is not audited, therefore it may not form price relevant information.

[12] The earnings pattern is that in later years there were more losses in the sample. For example, there were two loss-making companies out of 63 in 1994, five out of 63 in 1995, nine out of 63 in 1996, ten out of 63 in 1997 and seven out of 60 in 1998. In 1993 there were ten loss-making companies out of 63, but this is immaterial to this analysis because, where the deflator in the fourth model is negative its absolute value has been used (see Kothari 1992). (Note: There are no specific tests in this study about loss-making versus profit-making companies.)

[13] The price decline, however, is more visible in Table 1 Panels 3 and 4, where the price relatives are computed in levels.

[14] The model was also estimated as firm specific but due to the limited number of observations detailed analysis was not included in this paper. In the case of firm-specific estimates, the differences are much smaller but the general pattern of non-monotonicity remains the same.

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Appendix Table 1

Number of observations in yearly models. The table provides a breakdown of number of observations for each measurement window ranging form one to four years.

year	No of X_t	No of P_t	Number of firm-years τ=1	τ=2	τ=3	τ=4
1993	61	33	33	33	33	33
1994	63	38	38	38	38	38
1995	63	63	63	63	60	
1996	63	63	63	60		
1997	63	63	60			
1998	60	63				
Total			257	194	131	71

[a] X_t is annual earnings per share before extraordinary items for year *t.*
[b] P_t is a share price at the end of year *t.*
[c] τ is a length of the measurement period ranging from one to four years.

Number of estimations in each interval is determined as a minimum number of observations of either prices or earnings in the estimated models.

(1) Pooled model $P_t/P_{t-\tau} = \alpha + \beta X_t/P_{t-\tau} + \varepsilon_t$

(2) Cumulative model $P_t/P_{t-\tau} = \alpha + \beta X_{t-\tau,t}/P_{t-\tau} + \varepsilon_t$

(3) Difference model $(P_t-P_{t-1})/P_{t-1} = \alpha + \beta (X_t-X_{t-1})/P_{t-1} + \varepsilon_t$

(4) Earnings deflator model $P_t/P_{t-1} = \alpha + \beta X_t/X_{t-1} + \varepsilon_t$

This more detailed explanation starts with the longest four-year window:

For the four-year estimation window there were only 33 prices available (end of the year 1993); hence there are only 33 observations comparing the earnings from 1997 with the final prices of 1993 and 38 observations comparing earnings from 1998 and prices from 1994. In total there are 71 estimates for the four-year estimation window.

For the three-year window there are 33 prices available for the year 1993, 38 prices for the year 1994, and 63 prices for the year 1995. However, in this estimation window, the prices from 1995 are compared with earnings of 1998 and there are only 60 observations of earnings at the end of 1998. Altogether there are 131 observations for the three-year window.

In case of a two-year window the limitation is similar. Firstly the observations are limited by availability of prices for 1993 and 1994 and in the final year 1998 the limiting factor is earnings. Altogether there are 194 observations for the two-year window.

In case of one-year window there are 258 observations. The limitations are the same as above.

The same number of observations indicated in this table is used in measuring the earnings response coefficient in all yearly pooled models. The results are summarised in tables 2, 3, 6 and 7.

Appendix Table 2

Number of observations in quarterly models. This table provides a breakdown of number of observations for each measurement window ranging form one to three quarters.

Quarter	No of X_t	No of P_t	Number of firm-quarters $\tau = 1$	$\tau = 2$	$\tau = 3$
1993:4	63	33	33	33	33
1994:1	63	38	38	38	38
1994:2	63	38	38	38	38
1994:3	63	38	38	38	38
1994:4	63	38	38	38	38
1995:1	63	63	63	63	63
1995:2	63	63	63	63	63
1995:3	63	63	63	63	63
1995:4	63	63	63	63	63
1996:1	63	63	63	63	63
1996:2	63	63	63	63	63
1996:3	63	63	63	63	63
1996:4	63	63	63	63	63
1997:1	63	63	63	63	63
1997:2	63	63	63	63	58
1997:3	63	63	63	58	58
1997:4	63	63	58	58	58
1998:1	58	63	58	58	58
1998:2	58	63	58	58	
1998:3	58	63	58		
1998:4	58	63			
Total			1110	1047	984

[a] X_t is quarterly earnings per share before extraordinary items for year *t.*
[b] P_t is a share price at the end of quarter *t.*
[c] τ is a length of the measurement period ranging from one to three quarters.

Number of estimations in each interval is determined as a minimum number of observations of either prices or earnings in the estimated model.

1) Quarterly pooled model $P_t/P_{t-\tau} = \alpha + \beta X_t/P_{t-\tau} + \varepsilon_t$

(2) Cumulative model $P_t/P_{t-\tau} = \alpha + \beta X_{t-\tau,t}/P_{t-\tau} + \varepsilon_t$

More detailed explanation starts with the longest three-quarter window:

There are 984 firm quarters on three-quarter window models. Limiting factors are initially number of observations of prices in 1993:4 when only 33 prices were available. In all four quarters of 1994 there were only 38 prices available. In all four quarters of 1998 there were earnings for only 58 companies available. For the rest of the quarters there were 63 observations available.

In two-quarter window models there are 1047 observations available. The limitations are at first number of prices in 1993:4 and in all four quarters of 1994 where only 38 prices were available. In 1998 there were earnings for only 58 companies available. Otherwise 63 observations were available.

In one-quarter model there are 1110 observations available. The limitations are the same as above.

This number of observations is used in measuring the earnings response coefficient in the quarterly pooled models. The results are summarised in table 4.

Table 1

Descriptive statistics for earnings yield cumulative ($X_{t-\tau,t}/P_{t-\tau}$), and non-cumulative ($X_t/P_{t-\tau}$) and price relative ($P_t/P_{t-\tau}$). Variables have been measured over the period of one up to four years using data over the period 1993-1998. Sample sizes vary from 257 to 71 firm-years. Price relatives distinguish between whether dividends are taken into consideration (Panel 3), and excluded from observations (Panel 4). [e]

Panel 1

Earnings yield cumulative [a]

Period length	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1 year (no lag)	0.030	0.309	0.050	-3.765	1.150	257
2 years	0.058	0.485	0.095	-4.164	2.531	194
3 years	0.128	0.544	0.149	-2.461	3.464	131
4 years	0.193	0.670	0.179	-2.461	3.491	71

Panel 2

Earnings yield non-cumulative [b]

Period length	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1 year (no lag)	0.030	0.309	0.050	-3.765	1.150	257
2 years	0.034	0.253	0.045	-1.864	1.382	194
3 years	0.048	0.194	0.048	-1.058	0.933	131
4 years	0.049	0.104	0.032	-0.229	0.477	71

Panel 3

Price relatives including dividend yield [c]

Period length	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	an. mean
1 year (no lag)	1.033	0.697	0.919	0.172	8.827	257	1.033
2 years	0.990	0.862	0.841	0.076	9.723	194	0.995
3 years	1.001	0.958	0.809	0.110	7.521	131	1.000
4 years	0.883	1.074	0.514	0.064	6.862	71	0.969

Panel 4

Price relatives excluding dividend yield [d]

Period length	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	an. mean
1 year (no lag)	1.019	0.684	0.905	0.172	8.581	257	1.019
2 years	0.961	0.819	0.814	0.076	9.061	194	0.980
3 years	0.957	0.909	0.762	0.110	7.009	131	0.986
4 years	0.821	1.009	0.482	0.063	6.394	71	0.952

[a] Earnings yield ($X_{t-\tau,t}/P_{t-\tau}$) annual earnings per share before extraordinary items over the years $t - \tau$ to t divided by the price at the beginning of the return measurement interval.

[b] Earnings yield ($X_t/P_{t-\tau}$) annual earnings per share before extraordinary items for year t divided by the price at the beginning of the return measurement interval.

[c] Price relative ($P_t/P_{t-\tau}$) one plus buy and hold return inclusive (and exclusive respectively) of dividends over the years $t - \tau$ to t.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

[d] Annualized price relative is calculated as the geometric mean annual price relative for the particular measurement interval.

[e] Details about number of observations for each estimation window are in Table 1 in the Appendix.

Table 2

Estimated parameters of pooled regression of price relatives on earnings deflated by price. Earnings measurement interval is one year and price relatives are for contemporaneous one year and for periods that also include leading years. Sample sizes vary from 257 to 71 firm-years. Variables have been measured using pooled regression with three different estimation methods over the period of one up to four years using data over the period 1993-1998.

$$P_t/P_{t-\tau} = \alpha + \beta X_t/P_{t-\tau} + \varepsilon_t \quad ^{a,b,c}$$

Yearly models (estimates include dividends)												
period length	$\tau = 1$			$\tau = 2$			$\tau = 3$			$\tau = 4$		
estimation method [d]	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*
intercept[e]	1.017		1.017	0.939		0.939	0.921		0.922	0.710		0.710
	(24.082)		*(27.638)*	*(16.322)*		*(16.214)*	*(11.412)*		*(10.492)*	*(5.282)*		*(4.918)*
ERC	0.562	0.557	0.563	1.133	1.113	1.133	1.788	1.607	1.764	3.609	3.485	3.600
	(4.106)	*(3.081)*	*(4.272)*	*(4.991)*	*(3.613)*	*(4.983)*	*(4.382)*	*(2.520)*	*(4.241)*	*(3.056)*	*(1.359)*	*(2.927)*
adj R2	0.058	-0.041	-0.092	0.110	0.056	0.119	0.122	0.127	0.316	0.108	0.240	0.390
N	257	257	257	194	194	194	131	131	131	71	71	71
Yearly models (estimates exclude dividends)												
intercept	1.004		1.004	0.925		0.925	0.885		0.886	0.666		0.666
	(24.195)		*(27.591)*	*(16.510)*		*(16.199)*	*(11.475)*		*(10.392)*	*(5.237)*		*(4.832)*
ERC	0.540	0.539	0.540	1.073	1.053	1.073	1.628	1.441	1.598	3.237	3.171	3.231
	(4.012)	*(3.039)*	*(4.157)*	*(4.849)*	*(3.523)*	*(4.828)*	*(4.177)*	*(2.398)*	*(4.019)*	*(2.897)*	*(1.329)*	*(2.767)*
adj R2	0.055	-0.043	-0.087	0.104	0.057	0.130	0.112	0.140	0.340	0.097	0.255	0.416
N	257	257	257	194	194	194	131	131	131	71	71	71

[a] Earnings yield ($X_t/P_{t-\tau}$) annual earnings per share before extraordinary items for year t divided by the price at the beginning of the return measurement interval.

[b] Price relative ($P_t/P_{t-\tau}$) one plus buy and hold return inclusive (exclusive respectively) of dividends over the years $t - \tau$ to t.

[c] Details about number of observations for each estimation window are in Table 1 in the Appendix.

[d] The three estimation methods are pooled regression with (1) common intercept (*CI*), (2) fixed effects (*FE*) and (3) random effects (*RE*).

[e] t - values are in parentheses.

Details about number of observations for each estimation window are in Table 1 in the Appendix.
All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 3

Estimated parameters of pooled regression of price relatives on earnings deflated by price. Earnings measurement interval ranges from one to four years and price relatives are for contemporaneous one year and for periods that also include leading years. Sample sizes vary from 257 to 71 firm-years. Variables have been measured using pooled regression with three different estimation methods over the period of one up to four years using data over the period 1993-1998.

$$P_t/P_{t-\tau} = \alpha + \beta X_{t-\tau,t}/P_{t-\tau} + \varepsilon_t \quad ^{a,b,c}$$

Yearly cumulative models (estimates include dividends)												
period length	$\tau = 1$			$\tau = 2$			$\tau = 3$			$\tau = 4$		
estimation method [d]	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*
intercept[e]	1.017		1.017	0.932		0.928	0.878		0.855	0.588		0.525
	(24.082)		*(27.638)*	*(16.652)*		*(15.175)*	*(11.803)*		*(9.531)*	*(5.998)*		*(4.305)*
ERC	0.562	0.557	0.563	0.733	1.403	0.788	0.930	1.620	1.091	1.294	1.905	1.565
	(4.106)	*(3.081)*	*(4.272)*	*(6.058)*	*(6.635)*	*(6.208)*	*(6.830)*	*(7.292)*	*(7.533)*	*(8.328)*	*(9.978)*	*(10.512)*
adj R2	0.058	-0.041	-0.092	0.155	0.223	0.269	0.258	0.462	0.593	0.498	0.809	0.879
N	257	257	257	194	194	194	131	131	131	71	71	71
Yearly cumulative models (estimates exclude dividends)												
intercept	1.004		1.004	0.919		0.915	0.845		0.822	0.550		0.489
	(24.195)		*(27.591)*	*(16.832)*		*(15.204)*	*(11.806)*		*(9.414)*	*(5.831)*		*(4.144)*
ERC	0.540	0.539	0.540	0.697	1.337	0.754	0.849	1.492	1.011	1.187	1.763	1.453
	(4.012)	*(3.039)*	*(4.157)*	*(5.904)*	*(6.491)*	*(6.071)*	*(6.482)*	*(7.048)*	*(7.254)*	*(7.932)*	*(9.817)*	*(10.264)*
adj R2	0.055	-0.043	-0.087	0.149	0.219	0.273	0.238	0.458	0.599	0.473	0.808	0.881
N	257	257	257	194	194	194	131	131	131	71	71	71

[a] Earnings yield ($X_{t-\tau,t}/P_{t-\tau}$) is earnings per share before extraordinary items are summed over the relevant measurement interval ($t-\tau$) and then divided by the price at the beginning of the return measurement interval.

[b] Price relative ($P_t/P_{t-\tau}$) is one plus buy-and-hold return inclusive (exclusive respectively) of dividends over the interval $t - \tau$ to t.

[c] Further details about number of observations for each estimation window are in Table 1 in the Appendix.

[d] The three estimation methods are: pooled regression with (1) common intercept (*CI*), (2) fixed effects (*FE*) and (3) random effects (*RE*).

[e] t - values are in parentheses.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 4

Estimated parameters of pooled regression of price relatives on earnings deflated by price. Earnings measurement interval in Panel 1 is one quarter, and in Panel 2 ranges from one to three quarters. Price relatives are for contemporaneous one quarter and for periods that also include leading quarter. Sample sizes vary from 1110 to 984 firm-quarters. Variables have been measured using pooled regression with three different estimation methods over the period of one up to three quarters using data over the period 1993-1998.

$$P_t/P_{t-\tau} = \alpha_t + \beta_t X_t/P_{t-\tau} + \varepsilon_t \quad \text{and}$$

$$P_t/P_{t-\tau} = \alpha + \beta X_{t-\tau,t}/P_{t-\tau} + \varepsilon_t \quad ^{a,b,c,d}$$

Panel 1 **Quarterly models (estimates include dividends)**									
period length	$\tau = 1$			$\tau = 2$			$\tau = 3$		
estimation method [e]	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*
intercept [f]	1.004		1.003	0.998		0.998	1.003		1.003
	(63.660)		*(122.637)*	*(73.210)*		*(63.260)*	*(54.001)*		*(40.501)*
ERC	1.489	1.505	1.459	0.169	0.066	0.144	0.399	0.267	0.342
	(40.780)	*(37.592)*	*(45.998)*	*(4.273)*	*(1.579)*	*(3.618)*	*(6.478)*	*(4.179)*	*(5.535)*
adj R2	0.601	0.583	0.527	0.016	0.059	0.061	0.040	0.100	0.123
N	1110	1110	1110	1047	1047	1047	984	984	984
Panel 2 **Quarterly cumulative models (estimates include dividends)**									
intercept	1.004		1.003	0.998		0.998	1.001		1.001
	(63.660)		*(122.637)*	*(76.043)*		*(64.017)*	*(55.939)*		*(40.129)*
ERC	1.489	1.505	1.459	0.307	0.254	0.293	0.397	0.352	0.379
	(40.780)	*(37.592)*	*(45.998)*	*(10.120)*	*(7.426)*	*(9.438)*	*(10.991)*	*(8.262)*	*(9.858)*
adj R2	*0.601*	*0.583*	*0.527*	*0.089*	*0.107*	*0.125*	*0.109*	*0.146*	*0.178*
N	1110	1110	1110	1047	1047	1047	984	984	984

[a] Earnings yield ($X_t/P_{t-\tau}$) annual earnings per share before extraordinary items for year t divided by the price at the beginning of the return measurement interval.

[b] Earnings yield ($X_{t-\tau,t}/P_{t-\tau}$) earnings per share before extraordinary items are summed over the relevant measurement interval ($t-\tau$) and then divided by the price at the beginning of the return measurement interval.

[c] Price relative ($P_t/P_{t-\tau}$) is one plus buy-and-hold return inclusive of dividends over the interval $t - \tau$ to t.

[d] Further details about number of observations for each estimation window are in Table 2 in the Appendix.

[e] The three estimation methods are: pooled regression with (1) common intercept (*CI*), (2) fixed effects (*FE*) and (3) random effects (*RE*).

[f] t - values are in parentheses.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 5

Descriptive statistics for two alternative models.
Descriptive statistics for earnings change deflated by the price at the beginning of the measurement period $((X_t-X_{t-\tau})/P_{t-\tau})$, and earnings deflated by the earnings at the beginning of the measurement period $(X_t/X_{t-\tau})$ are in Panel 1 and 2 respectively. Panel 3 contains descriptive statistics for price change including dividends $((P_t - P_{t-\tau})C_t/P_{t-\tau})$ deflated by the price at the beginning of the period. Panel 4 contains descriptive statistics for price change excluding dividends $((P_t - P_{t-\tau})/P_{t-\tau})$ deflated by the price at the beginning of the period. All variables have been measured over the period of one year using data over the period 1993-1998. Sample sizes vary from 257 to 71 firm-years. [e]

Panel 1

Earnings difference variable $((X_t-X_{t-\tau})/P_{t-\tau})$ [a]

period length	MEAN	STDEV	MEDIAN	MIN	MAX	N
1 year (no lag)	0.013	0.455	-0.001	-3.767	5.423	257
2 years	-0.016	0.265	-0.004	-2.032	1.051	194
3 years	-0.027	0.178	-0.019	-1.063	1.050	131
4 years	-0.032	0.107	-0.028	-0.346	0.355	71

Panel 2

Earnings deflated by previous year earnings $(X_t/X_{t-\tau})$ [b]

period length	MEAN	STDEV	MEDIAN	MIN	MAX	N
1 year (no lag)	1.550	12.750	0.886	-62.051	163.305	257
2 years	-0.340	8.831	0.834	-90.173	25.668	194
3 years	0.669	5.220	0.731	-39.384	36.246	131
4 years	0.657	9.223	0.457	-50.566	56.875	71

Panel 3

Price difference relatives including dividend yield $((P_t-P_{t-\tau})*C_t/P_{t-\tau})$ [c]

period length	MEAN	STDEV	MEDIAN	MIN	MAX	N
1 year (no lag)	0.018	0.698	-0.096	-0.864	7.798	257
2 years	-0.039	0.860	-0.193	-0.948	8.650	195
3 years	-0.045	0.957	-0.260	-0.920	6.448	131
4 years	-0.192	1.073	-0.553	-0.986	5.789	71

Panel 4

Price difference relatives excluding dividend yield $((P_t-P_{t-\tau})/P_{t-\tau})$ [d]

1 year (no lag)	0.019	0.684	-0.095	-0.828	7.581	257
2 years	-0.039	0.819	-0.186	-0.924	8.061	194
3 years	-0.043	0.909	-0.238	-0.890	6.009	131
4 years	-0.179	1.009	-0.518	-0.937	5.394	71

[a] Earnings change deflated by the beginning of the year price $((X_t-X_{t-\tau})/P_{t-\tau})$. Annual earnings per share are before extraordinary items for year t and $t-\tau$ respectively. The difference is deflated by the price at the beginning of the measurement period.

[b] Earnings deflated by previous year earnings $(X_t/X_{t-\tau})$. Annual earnings per share before extraordinary items for year t divided by the absolute value of the annual earnings per share at the beginning of estimation period. Annual earnings per share are before extraordinary items for year t and $t-1$ respectively.

[c] Price change inclusive of dividends divided by the price at the beginning of the measurement interval $((P_t - P_{t-\tau})C_t/P_{t-})$. Where C_t is one plus current yield $(D_t/P_{t-\tau})$ i.e. dividend paid in year t divided by price at the beginning of the year t.

[d] Price change exclusive of dividends divided by the price at the beginning of the measurement interval $((P_t - P_{t-\tau})/P_{t-\tau})$.

[e] Details about number of observations for these yearly pooled models are in Table 1 in the Appendix. All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 6

Difference model: Estimated parameters of pooled regression of price relatives on earnings deflated by price. Both, prices and earnings are measured in first differences and deflated by price at the beginning of the estimation period. Earnings measurement interval is one year and price relatives are for contemporaneous one year and for periods that also include leading years. Sample sizes vary from 257 to 71 firm-years. Variables have been measured using pooled regression with three different estimation methods over the period of one up to four years using data over the period 1993-1998.

$$(P_t - P_{t-\tau})/P_{t-\tau} = \alpha + \beta\,(X_t - X_{t-\tau})/P_{t-\tau} + \varepsilon_t^{a,b,c}$$

Difference models (estimates include dividends)												
period length	$\tau = 1$			$\tau = 2$			$\tau = 3$			$\tau = 4$		
estimation method [d]	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*
intercept[e]	0.020		0.020	-0.024		-0.024	0.015		0.014	-0.196		-0.212
	(0.470)		*(0.519)*	*(-0.400)*		*(-0.400)*	*(0.187)*		*(0.157)*	*(-1.429)*		*(-1.410)*
ERC	0.059	0.067	0.057	0.645	0.489	0.645	1.597	1.404	1.562	-0.137	-2.621	-0.598
	(0.684)	*(0.726)*	*(0.648)*	*(2.793)*	*(1.913)*	*(2.794)*	*(3.015)*	*(1.942)*	*(2.950)*	*(-0.109)*	*(-1.435)*	*(-0.475)*
adj R2	-0.002	-0.089	-0.113	0.034	-0.010	0.032	0.058	0.096	0.298	-0.015	0.238	0.395
N	257	257	257	194	194	194	131	131	131	71	71	71
Difference models (estimates exclude dividends)												
intercept	0.021		0.021	-0.025		-0.025	0.014		0.013	-0.179		-0.195
	(0.497)		*(0.548)*	*(-0.431)*		*(-0.428)*	*(0.182)*		*(0.145)*	*(-1.387)*		*(-1.372)*
ERC	0.056	0.065	0.054	0.595	0.442	0.593	1.502	1.271	1.453	-0.046	-2.388	-0.518
	(0.659)	*(0.710)*	*(0.623)*	*(2.702)*	*(1.816)*	*(2.694)*	*(2.981)*	*(1.868)*	*(2.894)*	*(-0.039)*	*(-1.411)*	*(-0.438)*
adj R2	-0.002	-0.089	-0.112	0.031	-0.007	0.042	0.057	0.113	0.323	-0.015	0.260	0.421
N	257	257	257	194	194	194	131	131	131	71	71	71

[a] Earnings yield ($(X_t - X_{t-\tau})/P_{t-\tau}$) first difference of earnings per share before extraordinary items divided by the price at the beginning of the return measurement interval.

[b] Price relative ($(P_t - P_{t-\tau})/P_{t-\tau}$) is change of the share price inclusive (exclusive respectively) of dividends over the interval $t - \tau$ to t divided by the price at the beginning of the return measurement interval.

[c] Further details about number of observations for each estimation window are in Table 1 in the Appendix.

[d] The three estimation methods are: pooled regression with (1) common intercept (*CI*), (2) fixed effects (*FE*) and (3) random effects (*RE*).

[e] t - values are in parentheses.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 7

Earnings deflator model: Estimated parameters of pooled regression of price relatives on earnings deflated by earnings at the beginning of the measurement period. Earnings measurement interval is one year and price relatives are for contemporaneous one year and for periods that also include leading years. Sample sizes vary from 257 to 71 firm-years. Variables have been measured using pooled regression with three different estimation methods over the period of one up to four years using data over the period 1993-1998.

$$P_t/P_{t-\tau} = \alpha + \beta X_t / X_{t-\tau} + \varepsilon_t^{a,b,c,}$$

Earnings deflator models (estimates include dividends)												
period length	$\tau = 1$			$\tau = 2$			$\tau = 3$			$\tau = 4$		
estimation method[d]	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*	*CI*	*FE*	*RE*
intercept[e]	1.037		1.037	0.996		0.983	1.010		1.009	0.872		0.872
	(23.941)		*(26.992)*	*(15.874)*		*(15.878)*	*(12.057)*		*(10.869)*	*(6.551)*		*(5.954)*
ERC	0.000	0.000	0.000	-0.001	0.000	0.001	0.000	-0.004	-0.001	0.006	0.066	0.006
	(0.739)	*(-0.022)*	*(0.921)*	*(-0.132)*	*(0.088)*	*(0.881)*	*(-0.069)*	*(-0.799)*	*(-0.283)*	*(0.406)*	*(0.507)*	*(0.391)*
adj R2	-0.002	-0.092	-0.142	-0.005	-0.039	0.038	-0.008	0.056	0.260	-0.012	0.201	0.374
N	257	257	257	194	194	194	131	131	131	71	71	71
Earnings deflator models (estimates exclude dividends)												
intercept	1.023		1.023	0.967		0.968	0.965		0.885	0.808		0.807
	(24.074)		*(27.069)*	*(16.194)*		*(15.931)*	*(12.139)*		*(17.311)*	*(6.460)*		*(5.830)*
ERC	0.000	0.000	0.000	-0.001	0.000	0.001	0.000	-0.007	-0.004	0.007	0.068	0.007
	(0.736)	*(-0.021)*	*(0.913)*	*(-0.117)*	*(0.093)*	*(0.878)*	*(-0.110)*	*(-2.631)*	*(-1.665)*	*(0.505)*	*(0.556)*	*(0.482)*
adj R2	-0.002	-0.092	-0.137	-0.005	-0.032	0.053	-0.008	0.126	0.256	-0.011	0.221	0.398
N	257	257	257	194	194	194	131	131	131	71	71	71

[a] Earnings yield ($X_t/X_{t-\tau}$) is earnings per share before extraordinary items divided by the earnings at the beginning of the return measurement interval. If earnings in denominator is negative the absolute value is used.

[b] Price relative ($P_t/P_{t-\tau}$) one plus buy and hold return inclusive (exclusive respectively) of dividends over the years $t - \tau$ to t.

[c] Further details about number of observations for each estimation window are in Table 1 in the Appendix.

[d] The three estimation methods are: pooled regression with (1) common intercept (*CI*), (2) fixed effects (*FE*) and (3) random effects (*RE*).

[e] t - values are in parentheses.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Část 3

Accounting for Good News and Accounting for Bad News: Some Empirical Evidence from the Czech Republic

[Účetnictví „Dobrých zpráv“ a účetnictví „Špatných zpráv“: Empirické důkazy z České republiky]

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European Accounting Review 14(2), 2005, 1-21.

Accounting for Good News and Accounting for Bad News: Some Empirical Evidence from the Czech Republic

ABSTRACT

This paper is motivated by the links that continue to be forged between security pricing and accounting, building on recent findings that firms tend to be asymmetrically conservative in the timeliness of earnings recognition. The evidence is that firms in the European Union tend to recognise unrealised losses more quickly in their earnings than unrealised gains (Giner and Rees, 2001; Raonic, McLeay and Asimakopoulos, 2004), and there is evidence of even greater accounting conservatism in the US (Basu, 1997; Ball, Kothari and Robin, 2000; Givoly and Hayn, 2001). This article investigates whether the Czech market exhibits conformity with the behaviour that has been documented elsewhere by examining the earnings/returns relationship, focusing to begin with on the impact of losses on earnings response coefficients and then considering the asymmetric timeliness of income recognition in the Czech market.

The findings indicate that the Czech market is similar to more developed markets, at least in one respect: There is statistically significant evidence of different market effects of profits and losses, in that profits are more persistent than losses. However, contrary to the findings in more developed markets, there is no statistically significant evidence of earnings conservatism in the Czech market. These results are most probably due to the continuing influence of restrictive tax regulations that mitigate any tendency towards conservatism, as well as the transitional nature of the economy. A further reason is likely to be that the regulatory environment in the Czech Republic is close to the kind of stakeholder corporatism that is described by Ball *et al.* (2000), who show that conservatism tends to be less pronounced in such regimes where there are fewer managerial incentives to bias current earnings. In conclusion, if changes in market prices signal good news and bad news about future risky outcomes, there is no evidence of asymmetry in the Czech market in accounting for such risks.

Keywords: asymmetry, conservatism, impact of losses, emerging markets, Czech capital market.

1. INTRODUCTION AND MOTIVATION

In developed markets, the impact of capital market regulations and growing risk aversion is ever more traceable in accounting through the effect of increased conservatism of corporate earnings (Givoly and Hayn, 2001). Since there has been relatively little research on the link between accounting and the stock market in Central Europe, this paper looks at the current situation regarding the accountability of listed Czech corporations in order to investigate this issue in the context of an economy in transition.

The recent intensive move to develop standard stock markets and to introduce proper financial reporting standards in transitional economies should create more constructive and more informative environment for investors and allow them to gain greater insight into corporate operations and results. Furthermore the accountability of corporate management to investment public is reinforced. (Sucher and Jindrichovska, forthcoming).

The informationally efficient market implies that all relevant information is immediately captured by prices, including expectations concerning future losses and future profits that are anticipated from the risky ventures in which firms are engaged. Conservatism in accounting for a firm's activities arises from the regulatory requirement that anticipated losses should be incorporated in current earnings, whereas anticipated gains must be recorded only when realised. Following Basu (1997), conservatism thus results in earnings reflecting bad news more quickly than good news, as unfavourable information is more likely to be reflected fully in current earnings than favourable information. It has also been recognised that the effect of accounting losses differs in the earnings/returns relationship from that of profits, with losses being less persistent than profits (Hayn, 1995), which is consistent with pervasive conservatism.[1] Indeed, conservative accounting has been shown to be an important feature of developed markets (Pope and Walker, 1999; Ball, Kothari and Robin, 2000; Givoly and

Hayn, 2001; Giner and Rees, 2001; Raonic, McLeay and Asimakopoulos, 2004)

The relation between accounting earnings and returns has been examined in a number of markets that are under transformation, including Poland (Jermakowicz and Gornik–Tomaszewski, 1998) and the Czech Republic (Jindrichovska, 2001), and to some extent Hungary (Chun, 2000). This research has concentrated however on different specifications of the earnings/returns model, rather than accounting conservatism and the different effects of accounting losses and profits. The present paper enhances the previous understanding of the earnings/returns relationship by exploring the nature of the impact of negative accounting earnings on earnings response coefficients in the Czech market, together with the different effects of good and bad news.[2]

Given the long tradition of central planning, Czech accounting was not influenced by the capital market until recently, but only by state regulations. Currently, Czech accounting is very closely linked to tax rules (Holeckova, 1996). These are restrictive, detailed and specific, and still do not allow companies to make material discretionary provisions nor to depart from inflexible depreciation rules in spite of some recent changes in accounting law (Act on Accounting, 2001). Given this institutional context, the present paper examines whether the market effect of earnings differs in the Czech market between loss-making and profit-making firms, as previously shown in developed markets, and whether or not there is any evidence of asymmetric timeliness.

The rest of this paper is organised as follows: The paper begins with background information on the accounting system and capital market of the Czech Republic and then summarises the prior literature on the impact of losses and the timeliness of earnings. After explaining the research methodology, a description of the sample and data is provided, together with the empirical findings and conclusions.

2. CZECH ACCOUNTING AND ITS CAPITAL MARKET CONTEXT

Since the early 1990s, there have been many changes in accounting practices in the transforming economy of the Czech Republic (e.g. Schroll, 1995; Seal *et al.*, 1995; Sucher *et al.*, 1996, Zarova, 2001). There were similar developments in other East European countries as they attempted to harmonize and conform to international accounting standards and practices (e.g. Garrod and McLeay, 1996; Jermakowicz and Rinke, 1996; Craner *et al.*, 2000; Daniel *et al.*, 2001).

The new framework for financial accounting in the Czech Republic comprises three major legislative instruments: the Commercial Code, the Act on Accounting and the Charts of Accounts. The Commercial Code and the Act on Accounting were passed in 1991. Whilst the Commercial Code provides the general background to the operation of businesses in the country, the Act on Accounting broadly follows the European Union's Fourth Directive (Seal *et al.*, 1995) and specifies which companies must prepare an audited annual report to be filed with the Chamber of Commerce. Following on from this legislation, details concerning charts of accounts and the format for year-end financial statements, and guidance on notes on consolidated accounts have been issued by the Ministry of Finance.[3]

In spite of the legal changes that have occurred, Czech accounting is still very closely linked to taxation rules (Seal *et al.*, 1996). The first tax law was passed in 1992, and further amendments allowed some discretion but to a very limited extent. There is therefore little scope for conservatism in financial reporting, given the limitations on provisioning, depreciation, and deferred taxation. Moreover, enterprises are likely to be penalized if they overprovision and reduce the tax base (Holeckova, 1996; Zarova, 2001). Hence, Czech corporations chose to follow tax rules even though it is not absolutely obligatory according to current Czech accounting legislature. This reflects the overall tax orientation of many Czech

companies, rather than orientation to investors that can be seen in other economies.

The Securities Act was passed in 1992, and it relates to issuers of publicly traded securities and their duty to provide information to market participants. All companies traded on the Prague Stock Exchange have to publish summary accounting statements in the Business Bulletin (Sucher and Zelenka, 1998) using internationally accepted accounting principles. Although reporting on the basis of International Accounting Standards (IAS) is not compulsory as yet, companies with securities listed on the Prague Stock exchange have to provide IAS reports to the stock exchange.[4] Differences between Czech Accounting Standards (CAS) and IAS are expected to diminish in the future as more IAS standards are incorporated into Czech Accounting Standards (Zarova, 2001; Sucher and Alexander, 2001).

The stock market has developed rapidly. After the major political change in 1989, state property was privatised using a voucher method. This method enabled rapid privatisation of a large volume of assets despite the lack of domestic capital (Lastovicka *et al.*, 1994). The Czech capital market was re-established in 1993 following the first wave of voucher privatisation, and after a 50 year break. At the outset, about one thousand Czech companies were listed on the market.[5] The results of this rapid transformation were questioned later (Filer and Hanousek, 1999; Desai, 1995), as the privatisation process and the subsequent listing of shares brought about problems of market rigidity, high agency costs due to the behaviour of investment funds and protective strategies by commercial banks (Desai, 1995). Trading on the market suffered from illiquidity and low volume. The decision to list as many companies as possible took precedence over the usual listing requirements, and the stock market lacked transparency to begin with (Claessens, 1997; Filer and Hanousek, 1999; and Hanousek and Nemecek, 2001).[6]

In 1996, significant administrative and legal changes were introduced into the infrastructure

of the Czech capital market. A change of listing rules at the Prague stock exchange required greater disclosure, and, in an attempt to address some of the problems, illiquid shares and companies ignoring the reporting requirements were delisted (around 1300 in 1997). This has had a major impact on the disclosure and reporting behaviour of Czech corporations (Patton and Zelenka, 1997). Furthermore, the establishment of the independent Securities Commission in April 1998 was followed by the amendment of the Law on investment funds in June 1998. One of the most important contributions of the Securities Commission since then has been to improve transparency in the Czech capital market, with the aim of maintaining the interest of international investors.[7]

3. LITERATURE REVIEW

A standard approach in assessing the relation between accounting income and stock return is to regress a measure of return on accounting income and estimate the earnings response coefficient, or ERC (see Kothari and Sloan, 1992). The commonly estimated earnings/returns regression model[8] has been expanded by introducing additional factors to explain abnormal returns (Ou and Penman, 1989), and cross sectional and intertemporal variations of earnings response coefficients have also been examined (Collins and Kothari, 1989; Donnelly and Walker, 1995). An extensive account of this empirical research is given in Kothari (2001), with particular reference to valuation, market efficiency and the political processes underlying regulation.

3.1 The influence of losses on earnings response coefficients

Previous research on the association of earnings and returns has found that earnings explain

only a small fraction of the total variation in returns. To understand this phenomenon, it has been suggested that earnings contain transitory components that are either value irrelevant or have only a small valuation impact. As Hayn (1995) shows, this is particularly the case for losses, which are not expected to perpetuate given that shareholders have a liquidation option, and the informativeness of losses with respect to future cash flows of the firm is limited. As a result, if profit and loss observations are pooled in samples when estimating the information content of earnings, this leads to a downward bias in the estimated earnings response coefficient and earnings/returns association. In this context, Hayn (1995) shows that reported losses are less strongly associated with returns than profits and are thus perceived as temporary by investors. In addition to the extent that there is variation in the incidence of losses across firms and over time, such variation will affect the cross sectional and intertemporal variation in the measured earnings response coefficients.[9]

A further suggestion concerning the low association between earnings and returns is that different specifications of the earnings variable (levels versus changes, deflation by price versus earnings, etc.) also have an effect on the measured earnings response coefficient (Kothari, 1992). More fundamental, however, is the notion that earnings do not reflect the underlying economic events in a timely manner, and therefore are not synchronised with stock price movements. This reasoning has given rise to a stream of research on the timeliness of earnings, which is discussed below.

3.2 Timeliness and conservatism

Asymmetry of earnings timelines was investigated for the first time by Basu (1997), and to a certain extent it follows from the previous recognition of the different behaviour of losses by Hayn (1995). Basu changed the perspective and adopted a Beaver *et al.* (1980) ‘reverse

regression' with earnings as the dependent variable. Notably, the OLS standard errors and test statistics are better specified when the leading variable is specified as independent and the lagging variable as dependent. In the regression of annual earnings on concurrent annual returns, the slope coefficient reflects the sensitivity of earnings to contemporaneous unexpected returns where positive and negative returns are assumed to reflect good and bad news respectively.[10] Basu demonstrates for the US market that the response to good news is greater, more persistent and less timely than the response to bad news. Good news is less timely because company accountants require more verifiable information before they recognise it. The fact that good news is more persistent than bad news is reflected in subsequent earnings, which materialises as a positive intercept in the earnings/returns regression. Basu (1997) finds that earnings are 4.5 times more sensitive to negative returns than to positive returns over the period 1963-1990. Givoly and Hayn (2000) report results that are consistent with a trend of increased conservatism in the US over this period and into the 1990s, and Raonic, McLeay and Asimakopoulos (2004) show this trend to be present throughout the European Union as well. Holthausen and Watts (2001) point out that accounting conservatism existed prior to formal standard settings in the US and increased after the establishment of FASB in 1973 to the point where virtually all of the association between earnings and stock prices is driven by bad news.

Ball *et al.* (2000) have identified international differences, suggesting a high degree of conservatism in US accounting. They propose that differences in the demand for income information from one institutional context to another will cause the properties of earnings to vary internationally. Their results show that accounting income in regulatory regimes with a shareholder orientation is significantly more timely than in those with a stakeholder orientation, which is due to the quicker incorporation of economic losses that characterises conservative accounting. Information asymmetry is resolved in stakeholder regimes through

institutional features other than timely and conservative financial statements, notably by closer relations between management and other major stakeholders.

4. METHODOLOGY

This study considers timeliness and conservatism in the Czech Republic. First, we assess the effect of losses on the earnings/returns relationship, using two different specifications of the regression

$$R_t = \alpha + \beta X_t / P_{t-1} + \varepsilon_t \qquad [1]$$

where:

R_t is the return over a 12-month period commencing at the end of fiscal year t-1 including dividends,

X_t is the earnings variable specified either as earnings per share (EPS) for the year t or the change in EPS in that year,

ε_t is a normally distributed error term with zero mean and constant variance.

Following Hayn (1995: 134), if losses have a dampening effect on the slope coefficient β that measures informational content, the following relation between the regression parameters of the subgroups should hold: ERC $(R^2)_{\text{losses}}$ < ERC $(R^2)_{\text{whole sample}}$ < ERC $(R^2)_{\text{profits}}$

The reverse regression capturing the relationship between earnings and returns can be expressed as:

$$EY_t = \alpha + \beta R_t + u_t, \qquad [2]$$

where

EY_t is the earnings yield, X_t / P_{t-1}

R_t is market return over period *t* including dividends,

β is the return response coefficient (RRC), the indicator of timeliness, and

u_t is a regression error assumed to be normally distributed with zero mean and constant variance.

Model [2] describes the relationship between the earnings yield, $EY_t=E_t/P_{t-1}$, and the market return, $R_t=(P_t+D_t-P_{t-1})/P_{t-1}$ over the same period. Earnings are less timely if value changes that are recognized by the market in the present period are not incorporated in the accounting computations until some time in the future.[11]

As discussed above, accounting conservatism anticipates losses more quickly than gains, so that stock prices reflect bad news in the form of contemporaneous market losses earlier than good news in the form of market gains. By introducing a dummy variable, *D*, which has a value of one if return R_t is negative and zero otherwise, the estimation of earnings yield, may be expressed as:

$$EY_t = \alpha_1 + \alpha_2 D_t + ß_1 R_t + \beta_2 R_t D_t + u_t . \qquad [3]$$

The coefficient β_1 captures responsiveness of earnings to contemporaneous good news (i.e. positive market returns) whereas the total of β_1 and β_2 can be interpreted as responsiveness to bad news (i.e. negative market returns). Conservative accounting implies that β_2 is a positive coefficient. The relative explanatory power of this regression in periods of bad news and good news is assessed by the ratio of R^2 in the bad news sub-sample to the R^2 in the good news sub-sample. This ratio is expected to be greater than one under conservative reporting[12].

Basically, timeliness and persistence are different ways of viewing the same phenomenon. Basu summarises this as follows: ’More timeliness means that more current value relevant news is recognized contemporaneously in earnings, leaving less current value relevant news

to be recognized in future earnings. More persistence means that less current value relevant news is reported in current earnings, and more of it will be reported in future earnings.' (Basu, 1997, 19). Similarly, we expect losses to be less persistent than profits, since the recognition of bad news is predicted to be more timely than it is in the case of good news. We hypothesize that the slope coefficient and R^2 from a regression of annual earnings on annual unexpected returns are higher for negative unexpected returns than for positive unexpected returns.

5. SAMPLE DATA

The sample consists of yearly accounting data and stock prices for 63 industrial companies listed at the Prague Stock Exchange over the period from 1993 to 1999. The data was provided by Cekia Ltd., an information agency of the Prague Stock Exchange that is now independent and assembles data for market research in the Czech Republic. Share prices were obtained from DataStream.[13] Observations are grouped by fiscal year-end, which is identical to calendar year in the Czech Republic. All accounting variables are measured per share and deflated by the opening stock price, which controls for heteroscedasticity (Christie, 1987). The observed data for each firm-year are the current year's earnings per share, current and previous fiscal year-end stock price and current dividend per share. The econometric software used in this study is E-Views 3.

Table 1 "Earnings and returns in the Czech Republic: descriptive statistics" (see Table 1 at the end of the paper) provides an overview of the data used in this study. Panels 1 and 2 show the distribution of earnings yield and earnings changes, and Panel 3 the corresponding returns. Of the 317 earnings yield observations, 44 are negative, and the average is +3.0%. Earnings yield is negatively skewed across the whole period, similar to the data in other

studies. Earnings changes were measured as the differences in yearly earnings divided by price at the beginning of the year, and Panel 2 shows that half (157 out of 317) are negative, with an average of –1.0%. This compares with an average return of +0.7%, as shown in Panel 3, although 175 returns out of 317 (55%) are negative.

Table 2A "Negative earnings yields, corresponding changes and returns" gives a similar analysis for negative earnings, and table 2B "Positive earnings yields, corresponding changes and returns" for positive earnings (both tables are at the end of the paper). The average negative earning yield is –43.1%, with a higher variance than for the sample as a whole. Earnings changes show a similar pattern to earnings yield when losses are reported, with an average fall of –32.1% and relatively high variance. Returns corresponding to negative earnings yields are mainly negative (32 out of 44), and the average is –18.5%.

There are considerably more positive than negative earnings yields, and Table 2B shows that the mean positive earning yield is +10.4%. The variance of positive earnings yield is much smaller than that of the negative yields. Average earnings changes are all positive except for 1996, with an average value overall of +4.1%. About one half of the corresponding returns are negative (143 out of 273), the average return corresponding to a positive earnings yield being +3.8%.

A summary of the data can be obtained by cross-tabulating positive and negative earnings yield with positive and negative returns.

The first quadrant (Q1) of Figure 1 "Cross tabulation of earnings and returns" (see Figure 1 at the end of this paper) shows that 41.0 per cent of all observations are positive earnings contemporaneous with positive return. In Q2, positive earnings and negative return account for 45.1 per cent of observations. From a naïve viewpoint, the market appears to be more

sceptical in its expectations than the accountants are in determining the year's earnings. In the third quadrant, 10.1 per cent are negative returns that are contemporaneous with negative earnings yield, leaving a frequency of just 3.8 per cent when earnings are negative and returns are positive.[14]

6. EMPIRICAL FINDINGS

6.1. The impact of losses

As noted earlier, the first part of this study concentrates on the impact of losses on the earnings/returns relationship. The model is estimated in levels and in changes of the earnings variable using yearly data, first for the pooled sample. Subsequently, the sample is divided into profit-making and loss-making sub-groups and regression [1] is estimated for each sub-group, again using both the earnings levels and earnings changes specifications. The response coefficient should be biased downwards for the pooled sample by comparison with the separate regression of positive earnings. As mentioned earlier, the following relation between the regression parameters of the subgroups should hold: $\text{ERC}(R^2)_{\text{losses}} < \text{ERC}(R^2)_{\text{whole sample}} < \text{ERC}(R^2)_{\text{profits}}$. The results for the Czech data are summarised in Table 3 "The impact of losses on the earnings/returns relationship" (see Table 3 at the end of this paper).

In levels, the slope coefficient is 0.219 and statistically significant at the 5 per cent level. The intercept is positive but insignificant and adjR^2 is 0.015. A low coefficient of determination such as this indicates poor specification of this regression model, as often found in the previous literature on the earnings/returns relationship. The expectation is that the specification improves after separation of positive and negative earnings.

When the model is re-estimated on the loss-making sub-sample, the slope coefficient is –0.341 and the intercept coefficient –0.332, both 5 per cent significant. Negative coefficients

are not in line with results on other markets. However, it can be seen that this model has the highest explanatory power, with AdjR^2 of 12.1 per cent.[15] When the model is again re-estimated, this time on the sub-sample of positive earnings, the slope coefficient is 0.855 and significant, and AdjR^2 is 0.078, which is higher than for the whole sample but lower than for the loss sub-sample.[16]

Overall, the results show that the estimation improves as expected after the separation of profit and losses. This is also the case for earnings changes, where estimates of slope and intercepts are insignificant in the whole sample and in the case of profits, but significant for losses. Again, the coefficients have negative values (β=-0.199), which is not in accordance with previous research in more developed markets, and the coefficient of determination is still the largest in the case of the loss-making sub-sample.

6.2. Asymmetric timeliness

Two models were estimated, the first being the reversed earnings/returns regression [2] that evaluates timeliness, and the second the model of asymmetry and conservatism specified in equation [3] above. The results are summarised in Table 4 "Timeliness and conservatism in the Czech Republic" at the end of this paper.

Model [2] is estimated for the whole sample, and the slope coefficient (0.084) is positive and 5 percent significant, indicating a degree of timeliness in Czech reporting. In Model [3], however, there is no direct evidence of conservatism in the sample as a whole as all coefficients are statistically insignificant.[17] A graphical representation of the relationship between earnings and returns in the 'bad news' and 'good news' sub-samples is provided in Figure 2 "Bad news vs good news on the Czech market" (see Figure 2 at the end of this paper).

The relationship between market returns and accounting earnings that is shown in Figure 2 for the Czech market depicts all observations in the sample, with separate regression lines for good news and bad news sub-samples (i.e. the last two estimates in Table 4 at the end of this paper). Neither of the regression models have statistically significant coefficients at conventional levels. We could thus conclude that there is no different effect of bad news and good news in the Czech market and there is no evidence of conservatism.

Finally, the sample was partitioned into the positive and negative earnings sub-samples that were used earlier when evidence was found of the different effect of profits and losses on earnings response coefficients. We estimated the timeliness [2] and conservatism [3] models again for these sub-samples, and the results of these tests are summarised in Table 5 "Timeliness and conservatism in profit- and loss-making sub-samples" at the end of this paper.

The results for the model of timeliness [2] show that both slope coefficients and intercepts are statistically significant and positive in the positive earnings yield sub-sample (β_1=0.095) whereas they are negative and significant in the negative earnings yield sub-sample (β_1=-0.414). The slope coefficient β_1 is significant and positive when earnings yield is positive, but negative (and less significant) when earnings yield is negative, the latter not being in accordance with expectations. The results for the model of conservatism [3] show that the timeliness coefficient β_1 is significant and negative when earnings yield is negative (β_1=-0.617) but significant and positive when earnings yield is positive (β_1=0.158). However, the conservatism coefficient β_2 is not significant in either case. Both models show that, contrary to the situation in more developed markets, good news appears to be more timely than bad news, and there is no evidence of conservatism on the Czech market.[18]

7. CONCLUSION

This study extends the literature on timeliness and conservatism by further investigation of the relationship between accounting earnings and returns on the emerging market of the Czech Republic. We examine the market effect of profit-making and loss-making on returns and consider the asymmetric timeliness of earnings recognition of bad news and good news. The results reported in this study are based on a sample of current earnings and contemporaneous market returns for the period from 1993 to 1999.

Our findings point to differences in the earnings response coefficients of profit making and loss making firms that are similar to results reported in more developed markets, suggesting that profits are more persistent than losses in the Czech market as elsewhere. However, we find no evidence of conservatism in earnings recognition, in the sense that the recognition of bad news in earnings is not more timely than the recognition of good news, as has been shown to be the case in more developed markets. Indeed, a more detailed analysis of the sub-sample of firm years in which profits were reported led to similar inferences, and the results therefore are not due to the kind of inconsistent behaviour of negative earnings yields that would distort the whole picture. In fact, there is some evidence that good news in the Czech market is recognised more quickly than bad news.

These findings are most likely due to economic transition and regulatory conditions that limit market influences on accounting behaviour, and therefore the general tendency to conservatism in more developed markets is not yet apparent. Czech accounting rules have been relatively inflexible during the period examined, and also firmly linked to fiscal requirements, and therefore this has not permitted significant discretion. A further reason is likely to be that the regulatory environment in the Czech Republic is close to the kind of stakeholder corporatism that is described by Ball *et al.* (2000), who show that conservatism

tends to be less pronounced in such regimes where there are fewer managerial incentives to bias current earnings.

In conclusion, if changes in market prices signal good news and bad news about future risky outcomes, there is little evidence of asymmetry in the Czech market in accounting for such risks. It would be interesting to explore whether accounting conservatism becomes a more significant feature over time on the Czech market, following the separation of accounting rules and regulations from tax rules, and the progressive internationalisation of accounting standards and financial market integration that are now taking place, particularly in Europe.

NOTES

[1] Conservatism in accounting as described by Basu (1997) is partially explained by the risk adverse behaviour of corporate accountants. The speed with which bad news is recognized in earnings differs from the speed of good news recognition. As previously recognized by Hayn (1995), the slope of the earnings response regression changes with negative earnings which is consistent with the transitory nature of corporate losses.

[2] Timeliness reflects the strength of the link between earnings and returns, as the speedy recognition of the bad news that is appreciated by the market implies cautiousness on the part of corporate accountants. Greater conservatism implies risk aversion and risk-responsible accountability.

[3] The greatest change in Czech accounting took place in 1991 when the new Act on Accounting came into effect. Since then there have been several frequent amendments (1994, 1997, 2000, 2001 and 2002) as well as by-laws that address issues of detail, but no further fundamental changes. A new Act on Accounting comes into effect in 2004. This research does not make ex-post adjustments with regard to these legislative changes.

[4] At this time, the situation is not entirely uniform. Companies that are listed have to prepare IAS accounts and submit them to the Securities Commission. Other companies are not obliged to do so, although all companies have been obliged to report according to Czech standards. This does not have an impact on the dataset used in the present study.

[5] Subsequently, about 700 new companies were listed following the second wave of voucher privatisation in 1995.

[6] The efficiency of the Czech capital market has been empirically tested (e.g. Sommer, 1996; Filacek at al., 1998). Such studies have concentrated on different aspects of market efficiency and are not congruent. However, the results mostly imply that the market is not efficient, with low turnover and a lack of transparency. Although this may have an impact on the results of our study, since we use only end-of-the-year data, low turnover will not affect the results.

[7] Administrative changes positively affect data availability, but not the results. Indeed, it is worth

noting that such changes did not stem the outflow of international capital investment (Fact Book Prague Stock Exchange 2002, pp 32-41).

[8] The univariate model has the form $R_t = \alpha + \beta X_t / P_{t-1} + \varepsilon_t$, where R_t is the return over a one-year period, X_t is the earnings per share (EPS) for the year t, ε_t is a normally distributed error term with zero mean and constant variance.

[9] In a previous study on the Czech market (Jindrichovska, 2001), the models did not distinguish between profits and losses.

[10] Note that asymmetry in the timeliness of incorporating economic events in reported earnings may be measured in different ways, not only the incremental response to bad news relative to good news but also the relative sensitivity of earnings to bad and good news and the relative explanatory power of negative and positive return regressions.

[11] To improve the explanatory power of this model to explain more of the earnings variance, the introduction of lagged returns on the RHS of the model would be necessary.

[12] The ratio $(\beta_1 + \beta_2)/\beta_1$ is also considered as a measure of the relative sensitivity of earnings to bad news compared with their sensitivity to good news (Givoly and Hayn, 2000). This ratio is expected to be greater than one under conservative reporting, but its magnitude should be interpreted with care given that zero is the expected value of β_1 when accounts are not timely.

[13] This sample represents data on all industrial companies that were available simultaneously in both databases on the Czech market.

[14] During testing, we also excluded these 12 observations from our sample, but the impact was not material.

[15] This result is not in line with other markets. During the period under investigation, negative returns in the market were far more frequent than negative earnings yields (175 *vs.* 44) – see Tables 1 and 2. Therefore, much of the bad news (negative returns) corresponds contemporaneously with reported profits rather than reported losses. This causes a negative sign on the slope coefficient.

[16] We control for influential values of the observed variables by weighting out of the regression those observations with high Cook statistics (>2.25 for this sample). As a result, 5 unduly influential observations (3 loss makers and 2 profit makers) were omitted from the regression. The ERCs remain consistent with the full data, increasing from 0.219 (t=2.43) to 0.380 (t=3.46) overall, from -0.341 (t=-2.63) to -0.334 (t=-1.84), in the case of losses, and from 0.855 (t=4.89) to 0.997 (t=3.21) in the case of profits, with a change in significance level only in the case of losses, where the degree of confidence decreases from 95 to 90 per cent, i.e. still 10% significant. Note however that the coefficient of determination is still the largest in the case of the loss-making sub-sample.

[17] Controlling again for observations that have a significant influence on the estimation (see Note 16 above), the timeliness coefficient β_2 in Model [2] of 0.084 (t=2.43) for the full data is relatively unchanged at 0.081 (t=3.14) when unduly influential observations are weighted out. The estimations from Model [3] are also robust in this respect, with the conservatism measure β_2 remaining insignificant: β_2 is 0.045 (t=0.37) for the full data and 0.051 (t=0.53) for the reduced data.

[18] We also excluded all negative earnings yield observations from the sample and tested the timeliness model [2] separately on the sample of positive earnings yield (totalling 173 observations) partitioned into good and bad news. The estimated slope coefficients are positive and statistically significant in both cases. However, the coefficient of determination shows that the model is now less well specified.

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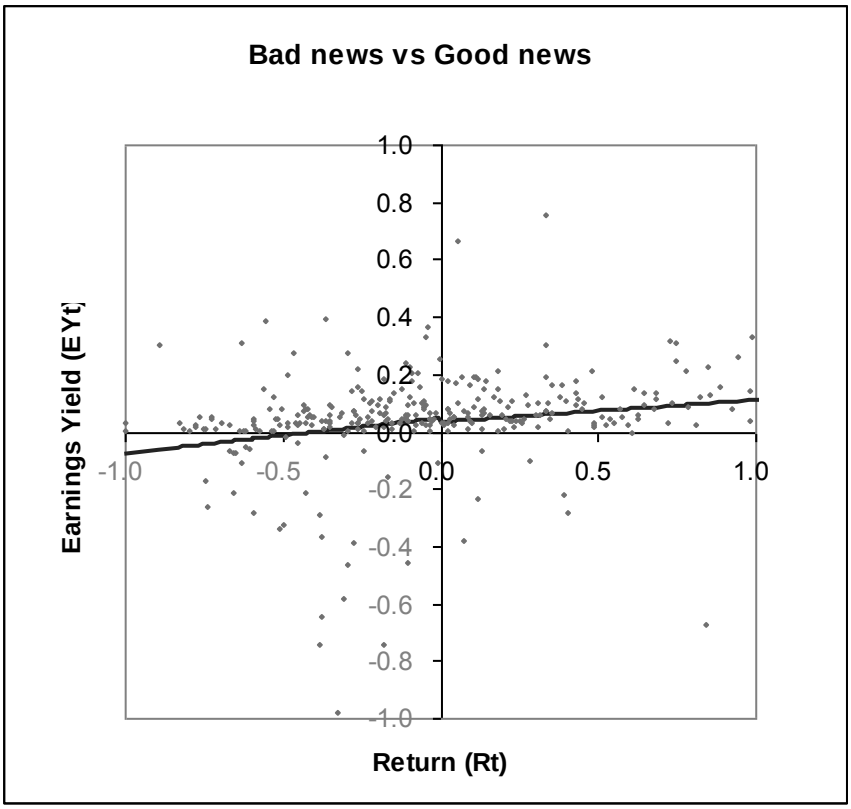
Figure 1 Frequencies of observations in quadrants

Q2		EY_t	***Q1***
			Total
	143	**130**	273
	45.11%	*41.01%*	
R_t			
	32	**12**	44
	10.09%	*3.79%*	
Q3 Total	175	142	***Q4***

Figure 2 Bad news versus good news on the Czech market



Regression equation for good news is $EY_t = 0.031 + 0.076R_t$.

Regression equation for bad news is $EY_t = 0.044 + 0.121R_t$.

Table 1 Earnings and returns in the Czech Republic: descriptive statistics

Descriptive statistics for earnings yield (E_t/P_{t-1}), earnings change ($(E_t - E_{t-1})/P_{t-1}$) and returns ($(P_t - P_{t-1} + D_t)/P_{t-1}$). Variables have been measured over a one-year period using data over the period 1993-1999. Sample sizes vary from 33 to 63 firm-years. [a,b,c]

Panel 1
Earnings yield: $EY_t = E_t/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	Negative earnings	% of neg. earnings
1994	0.086	0.081	0.058	-0.065	0.330	33	1	3
1995	0.031	0.235	0.059	-1.232	0.315	38	4	11
1996	0.022	0.203	0.051	-1.156	0.396	63	9	14
1997	0.016	0.180	0.034	-0.659	0.757	62	10	16
1998	0.057	0.191	0.046	-0.739	0.662	61	7	11
1999	-0.007	0.608	0.093	-3.018	1.858	60	13	22
1993-9	0.030	0.314	0.052	-3.018	1.858	317	44	14

Panel 2
Earnings change measure: $DEY_t = (E_t - E_{t-1})/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	Negative change measures	% of neg. change measures
1994	0.016	0.096	-0.000	-0.155	0.392	33	17	52
1995	-0.032	0.190	0.004	-1.036	0.226	38	15	39
1996	-0.043	0.209	-0.017	-1.248	0.591	63	45	71
1997	0.017	0.198	0.001	-0.372	0.848	62	30	48
1998	0.050	0.228	0.005	-0.411	1.051	61	24	39
1999	-0.063	0.633	0.008	-3.122	1.682	60	26	43
1993-9	-0.010	0.328	0.000	-3.122	1.682	317	157	50

Panel 3
Return: $R_t = (P_t - P_{t-1} + D_t)/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	Bad news	% of bad news
1994	0.226	0.583	0.225	-0.798	1.388	33	11	33
1995	-0.120	0.366	-0.176	-0.658	0.725	38	25	66
1996	0.247	0.590	0.251	-1.000	1.584	63	22	35
1997	-0.136	0.331	-0.108	-0.712	1.519	62	45	73
1998	-0.249	0.390	-0.349	-0.828	1.126	61	47	77
1999	0.125	0.522	0.113	-1.000	2.077	60	25	42
1993-9	0.007	0.507	-0.057	-1.000	2.077	317	175	55

[a] Earnings yield (E_t/P_{t-1}) is annual earnings per share for year *t* divided by the price at the beginning of that year.

[b] Earnings change($(E_t - E_{t-1})/P_{t-1}$) is the difference in earnings per share between years *t* and *t-1* divided by share price at the beginning of year *t*.

[c] Return ($(P_t - P_{t-1} + D_t)/P_{t-1}$) is return over year *t* measured as difference in prices at the end and beginning of year *t* including dividends paid in year *t* divided by price at the beginning of year *t*.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 2A Negative earnings and corresponding earnings changes and returns: descriptive statistics

Descriptive statistics for earnings yield (E_t/P_{t-1}), earnings change ($(E_t-E_{t-1})/P_{t-1}$) and returns ($(P_t-P_{t-1}+D_t)/P_{t-1}$). Variables have been measured over a one- year period using data over the period 1993-1999. [a,b,c]

Panel 1
(Negative) Earnings yield: $EY_t=E_t/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1994	-0.065	NA	-0.065	-0.065	-0.065	1
1995	-0.425	0.561	-0.225	-1.232	-0.016	4
1996	-0.322	0.354	-0.174	-1.156	-0.007	9
1997	-0.261	0.226	-0.247	-0.659	-0.011	10
1998	-0.299	0.280	-0.213	-0.739	-0.056	7
1999	-0.739	0.806	-0.389	-3.018	-0.065	13
1993-9	-0.431	0.541	-0.272	-3.018	-0.007	44

Panel 2
Corresponding earnings change measures: $DEY_t=(E_t-E_{t-1})/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1994	-0.060	N/A	-0.060	-0.060	-0.060	1
1995	-0.402	0.460	-0.264	-1.036	-0.042	4
1996	-0.225	0.499	-0.233	-1.248	0.591	9
1997	-0.128	0.161	-0.142	-0.372	0.152	10
1998	-0.103	0.152	-0.049	-0.352	0.105	7
1999	-0.648	0.954	-0.403	-3.122	0.328	13
1993-9	-0.321	0.614	-0.191	-3.122	0.591	44

Panel 3
Corresponding return: $R_t=(P_t-P_{t-1}+D_t)/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	No of bad news
1994	-0.669	N/A	-0.669	-0.669	-0.669	1	1
1995	-0.227	0.411	-0.211	-0.658	0.174	4	2
1996	-0.160	0.419	-0.247	-0.743	0.605	9	7
1997	-0.219	0.639	-0.383	-0.655	1.519	10	9
1998	-0.544	0.146	-0.605	-0.737	-0.376	7	7
1999	0.068	0.469	0.115	-0.597	0.838	13	6
1993-9	-0.185	0.491	-0.316	-0.743	1.519	44	32

[a] Earnings yield (E_t/P_{t-1}) is annual earnings per share for year *t* divided by the price at the beginning of that year.

[b] Earnings change ($(E_t-E_{t-1})/P_{t-1}$) is the difference in earnings per share between years *t* and *t-1* divided by share price at the beginning of year *t*.

[c] Return ($(P_t-P_{t-1}+D_t)/P_{t-1}$) is return over year *t* measured as difference in prices at the end and beginning of year *t* including dividends paid in year *t* divided by price at the beginning of year *t*.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 2B Positive earnings and corresponding earnings changes and returns: descriptive statistics

Descriptive statistics for earnings yield (E_t/P_{t-1}), earnings change ($(E_t-E_{t-1})/P_{t-1}$) and returns ($(P_t-P_{t-1}+D_t)/P_{t-1}$). Variables have been measured over a one-year period using data over the period 1993-1999. [a,b,c]

Panel 1
(Positive) Earnings yield: $EY_t=E_t/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1994	0.090	0.078	0.074	0.001	0.330	32
1995	0.085	0.071	0.062	0.003	0.315	34
1996	0.080	0.077	0.059	0.001	0.396	54
1997	0.070	0.109	0.043	0.001	0.757	52
1998	0.103	0.117	0.061	0.005	0.662	54
1999	0.195	0.334	0.115	0.001	1.858	47
1993-9	0.104	0.168	0.064	0.001	1.858	273

Panel 2
Corresponding earnings change measures: $DEY_t=(E_t-E_{t-1})/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT
1994	0.018	0.097	0.001	-0.155	0.392	32
1995	0.012	0.051	0.008	-0.093	0.226	34
1996	-0.013	0.082	-0.015	-0.237	0.338	54
1997	0.045	0.193	0.003	-0.221	0.848	52
1998	0.070	0.230	0.010	-0.411	1.051	54
1999	0.099	0.391	0.015	-0.658	1.682	47
1993-9	0.041	0.217	0.003	-0.658	1.682	273

Panel 3
Corresponding return: $R_t=(P_t-P_{t-1}+D_t)/P_{t-1}$

Year	MEAN	STDEV	MEDIAN	MIN	MAX	COUNT	no of bad news
1994	0.254	0.569	0.268	-0.798	1.388	32	10
1995	-0.108	0.365	-0.176	-0.636	0.725	34	23
1996	0.315	0.590	0.318	-1.000	1.584	54	15
1997	-0.120	0.239	-0.085	-0.712	0.405	52	36
1998	-0.211	0.396	-0.238	-0.828	1.126	54	40
1999	0.141	0.539	0.110	-1.000	2.077	47	19
1993-9	0.038	0.504	-0.036	-1.000	2.077	273	143

[a] Earnings yield (E_t/P_{t-1}) is annual earnings per share for year *t* divided by the price at the beginning of that year.

[b] Earnings change ($(E_t-E_{t-1})/P_{t-1}$) is the difference in earnings per share between years *t* and *t-1* divided by share price at the beginning of year *t*.

[c] Return ($(P_t-P_{t-1}+D_t)/P_{t-1}$) is return over year *t* measured as difference in prices at the end and beginning of year *t* including dividends paid in year *t* divided by price at the beginning of year *t*.

All earnings per share numbers, dividends and prices are adjusted for stock splits.

Table 3 Impact of losses on earnings–return relationship

Estimated parameters of a pooled regression of annual returns on earnings yield for the same period deflated by price. Sample sizes vary from 44 to 317 firm-years. Variables have been measured over a period of one-year using data for 63 companies over the period 1993-1999. The estimated regression model is $R_t = \alpha + \beta X_t / P_{t-1} + \varepsilon_t$ [a]

Specification	*Levels*			*Changes*			
Sample	α	ß	*AdjR²*	α	ß	*adjR²*	*N*
Whole sample	0.001	0.219	0.015	0.008	0.049	-0.002	317
t-statistic	*(0.024)*	*(2.428)**		*(0.270)*	*(0.561)*		
Loss cases	-0.332	-0.341	0.121	-0.249	-0.199	0.040	44
t-statistic	*(-3.724)**	*(-2.628)**		*(-3.031)**	*(-1.665)*$^{+}$		
Profit cases	-0.051	0.855	0.078	0.033	0.141	0.000	273
t-statistic	*(-1.467)*	*(4.887)**		*(1.055)*	*(1.002)*		

t-statistics are in parenthesis: **)* the coefficient is statistically significant at the 5 per cent level; $^{+}$*)* statistically significant at the 10 per cent level.

[a] In the model, R_t is the annual return of fiscal year *t*, X_t is the earnings per share variable in year *t* (specified either in levels or changes), P_{t-1} is the share price at the end of year *t-1*, ε_t is the error term, α is the intercept, and β is the earnings response coefficient (ERC).

Table 4 Timeliness and conservatism: good news versus bad news

Estimated parameters of a pooled regression of one-year earnings yield on annual returns of the same period. Sample sizes vary from 142 to 317 firm-years. Variables have been measured over the period of one-year using data for 63 companies over the period 1993-1999.

The timeliness model has the following specification: $EY_t = \alpha + \beta R_t + u_t$.[a]
The conservatism model is specified as follows: $EY_t = \alpha_1 + \alpha_2 D_t + ß_1 R_t + \beta_2 R_t D_t + u_t$.[b]

	α_1	α_2	$ß_1$	$ß_2$	$AdjR^2$	R^2	N
			Timeliness - whole sample				
coefficient	0.029		0.084		0.015	0.018	317
t-statistic	*(1.670)*$^+$		*(2.428)**				
			Conservatism - whole sample				
coefficient	0.031	0.013	0.076	0.045	0.090	0.019	317
t-statistic	*(0.780)*	*(0.219)*	*(1.141)*	*(0.370)*			
			Timeliness - good news only				
coefficient	0.031		0.076		-0.001	0.006	142
t-statistic	*(0.624)*		*(0.915)*				
			Timeliness - bad news only				
coefficient	0.044		0.121		0.009	0.015	175
t-statistic	*(1.384)*		*(1.608)*				

t-statistics are in parenthesis: **)* the coefficient is statistically significant at the 5 per cent level; $^+$*)* statistically significant at the 10 per cent level.

[a] The variables in the timeliness model are defined as follows: EY_t is earnings yield for year *t* (specified either in levels or changes), R_t is the annual return of fiscal year *t*, α is the intercept and β is the return response coefficient measuring timeliness, and u_t is the error term.

[b] The conservatism model has the following variables:is specified as follows: EY_t is earnings yield for year *t* (specified either in levels or changes), R_t is the annual return of fiscal year *t*, D_t is dummy variable which has value of 1 in case of negative returns and zero otherwise, and u_t is the error term. α_1 is the intercept α_2 is the marginal change in the intercept of negative return cases. β_1 is the return response coefficient measuring timeliness of good news earnings and β_2 is the marginal change of bad news earnings timeliness measuring conservatism.

Table 5 Timeliness and conservatism in profit and loss making sub-samples

Estimated parameters of a pooled regression of one-year earnings yield on annual returns of the same period. Sample sizes vary from 44 for loss making firms to 273 for profit making observations. Variables have been measured over the period of one-year using data for 63 companies over the period 1993-1999.

The timeliness model has the following specification: $EY_t = \alpha + \beta R_t + u_t$.[a]

The conservatism model is specified as follows: $EY_t = \alpha_1 + \alpha_2 D_t + ß_1 R_t + \beta_2 R_t D_t + u_t$.[b]

specification	α_1	α_2	$ß_1$	$ß_2$	adjR^2	R^2	N
			Timeliness - profit making firms				
coefficient	0.101		0.095		0.078	0.081	273
t-statistic	*(10.281)**		*(4.887)**				
			Timeliness - loss making firms				
coefficient	-0.508		-0.414		0.121	0.141	44
t-statistic	*(-6.208)**		*(-2.628)**				
			Conservatism - profit making firms				
coefficient	0.062	0.037	0.158	-0.094	0.086	0.096	273
t-statistic	*(2.939)**	*(1.179)*	*(4.403)**	*(-1.406)*			
			Conservatism - loss making firms				
coefficient	-0.373	-0.154	-0.617	0.190	0.086	0.149	44
t-statistic	*(-1.606)*$^+$	*(-0.474)*	*(-1.658)**	*(0.313)*			
			Timeliness - profits on good news sample				
Coefficient	0.062		0.158		0.070	0.077	130
t-statistic	*(2.181)**		*(3.264)**				
			Timeliness - profits on bad news sample				
Coefficient	0.099		0.064		0.027	0.034	143
t-statistic	*(8.529)**		*(2.226)**				

t-statistics are in parenthesis: **)* the coefficient is statistically significant at the 5 per cent level; *+)* statistically significant at the 10 per cent level.

[a] In the timeliness model the variables are as follows: EY_t is earnings yield for year *t* (specified either in levels or changes), R_t is the annual return of fiscal year *t*, α is the intercept and β is the return response coefficient measuring timeliness, and u_t is the error term.

[b] In the conservatism model the variables are as follows: EY_t is earnings yield for year *t* (specified either in levels or changes), R_t is the annual return of fiscal year *t*, D_t is dummy variable which has value of 1 in case of negative returns and zero otherwise, and u_t is the error term. α_1 is the intercept α_2 is the marginal change in the intercept of negative return cases. β_1 is the return response coefficient measuring timeliness of good news earnings and β_2 is the marginal change of bad news earnings timeliness measuring conservatism.

Část 4

Implementing IFRS: A Case Study of the Czech Republic

[Zavádění Mezinárodních standardů finančního výkaznictví: Případová studie České republiky]

Patricia Sucher & Irena Jindrichovska

Accounting in Europe, 1. 2004, 109-141.

ABSTRACT

IMPLEMENTING IFRS: A CASE STUDY OF THE CZECH REPUBLIC

This empirical paper presents a study of the implementation process for international financial reporting standards (IFRS) in one of the accession countries, the Czech Republic. Based upon a review of the legislation, institutional framework and context, and drawing upon recent interviews with Czech companies required to prepare IFRS accounts, auditors and institutional players in the Czech Republic, the paper highlights some of the key issues that are arising with the move to the implementation of IFRS for listed group companies and other enterprises in the Czech Republic.

The paper considers the issues that arise when implementing new accounting regulations, some of which are not new and have been well covered in the literature, but others of which are particular to the implementation of IFRS. The method of implementation, the scope of IFRS, particular issues with local accounting practice and IFRS, the issue of enforcement of compliance with IFRS and its relationship with audit, the link between IFRS and taxation and the provision of education and training are all considered. There is also a review of the state of preparedness of local group listed entities with respect to the implementation of IFRS.

There are many potentially rich areas for accounting research where the work could also inform the practice of IFRS accounting. The paper provides a contribution by highlighting how one country has moved to implement the requirement for group listed enterprises to prepare IFRS accounts and the issues that then arise for legislators, preparers and users.

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Introduction

In May 2004, ten new countries (the accession countries)[1] will join the European Union (EU). As they join the EU they will accede to many of the EU regulations, which could and will involve many dramatic changes to their national laws, local regulation and, eventually, local practices. One of the major changes for accession countries will involve the need for group-listed companies to prepare financial statements according to international financial reporting standards (IFRS). Over the last fourteen years, the transitional economies that comprise eight of the accession countries have had to implement a multitude of changes to their legislation, which have been well documented (Bailey, 1995; Bailey and Alexander, 2001; Schroeder, 1999; and Sucher and Zelenka, 1998 writing on transitional economies). In many ways this latest change is but one more which has constituted a revolution in financial reporting for many transitional economies. However, unlike the changes in national legislation towards the 4th and 7th Directives, the moves by the transitional countries are happening at the same time as many other countries make a similar change – not least those already within the EU. Therefore any research on what has happened/is happening in transitional economies could also illuminate the issues that are likely to arise in other economies as they move to implement the June 2000 EU communication, *The EU's Financial Reporting Strategy: The Way Forward* (EU 2000).

In this paper, following a review of some of the relevant literature on international accounting harmonisation and how appropriate IFRS might be for transitional economies, the key general and specific themes and issues that might arise when implementing IFRS within a transitional economy are considered. Then, using these themes and issues as a structure for analysis, the authors analyse the legislative and institutional approach to implementing IFRS within the Czech Republic. This analysis is supported by interview work with prospective preparers, auditors and other institutional representatives. The authors highlight the current situation in the Czech Republic concerning the enabling legislation for companies to prepare IFRS and the state of preparedness amongst the relevant enterprises. In the fourth and final section, the problems and prospects of the move to implement IFRS for group-listed enterprises in the Czech Republic are delineated.

Literature review

There are various strands in the literature on international accounting harmonisation which cover such areas as, the degrees of harmonisation (Tay and Parker, 1990; Emenyonu and Gray, 1996; Murphy, 2000), whether international accounting harmonisation is appropriate (Hove, 1986; Cairns, 1997: Flowers, 1997) and the degree of compliance with IFRS[2] (Cairns, 2001; Street and Gray, 2001). Of most relevance to this paper on the implementation of IFRS would seem to be the research on the

appropriateness of IFRS for developing or transitional economies, the practical implications of implementing IFRS within a country located in the continental tradition of accounting and research on the changes to national accounting in transitional economies.

In his 1998 study, based on a review of the literature on accounting and developing countries, Nobes noted various points about the appropriateness of IAS for developing countries. He suggested that given the likely users of most enterprise financial statements in developing countries were the tax authorities and owners and lenders to private enterprises, adopting IAS in developing countries, where IAS are stated to be investor oriented (IASB, 2003; F9), may not be appropriate. In particular many of the later IAS (IAS 22-38) might not be relevant for presenting accounting information for taxation purposes. Nobes also suggested that, given the lack of a developed accountancy profession to interpret and apply the more judgemental aspects of IFRS, (either as auditors or accountants) there could also be issues of the reliability of accounting information. Though he provides examples, he does not make explicit that this could be a particular issue for any accounting information based to a large extent on market data such as fair value (Nobes, 1998a). It is unlikely that the Czech Republic would be classified as a developing economy of any of the criteria suggested by Nobes (e.g. number of public companies; number of public companies deflated by (put into context of) the size of the economy), but some of the issues Nobes raises may still be relevant given the short time in which an accounting profession has developed. Further research on transitional economies has indicated structural issues with a lack of active stock markets, and corruption, which may affect the reliability of IFRS financial statements and estimations of fair values (EBRD, 2000; Sucher and Bychkova, 2001).

The historical differences in accounting thought, context, ethos and practice between a number of countries that may affect the *de facto* preparation of IFRS financial statements have been analysed in the work of Nobes (1983). Nobes distinguishes two broad traditions, the European and the Anglo-Saxon. The difficulties of moving from one to the other, or seeking some harmonisation among the different traditions, are well illustrated by the relative failure of the European 4th Directive to achieve great similarity of thought and practice. In particular, the concept of 'true and fair' which may be identified with the Anglo-Saxon tradition [3] has been applied as an override or as a complimentary part of the accounting depending on the accounting tradition within the country. See for example Alexander (1993, 1996) and Ordelheide (1990, 1993, 1996), which demonstrate how local traditions exercise a strong influence over the implementation of true and fair.

There has been surprisingly little academic empirical research on what has happened when IFRS are implemented within a country, though there are recent World Bank reports on the subject (ROSC,

2001[4];ROSC, 2002a, ROSC, 2002b; ROSC, 2002c; ROSC, 2002d; ROSC, 2003a; ROSC, 2003b). The objectives of the World Bank reports

> 'are to assess the comparability of national accounting and auditing standards with International Accounting Standards (IAS) and International Standards on Auditing (ISA), respectively; and the degree to which corporate entities comply with established accounting and auditing standards in the country'.[5]

In the reports it is suggested that there may be issues regarding the availability of current translations of the IFRS which affect how able enterprises are to prepare IFRS financial statements (ROSC, 2002d and ROSC, 2003b). In Bulgaria, Croatia and Romania, the requirement to prepare IFRS financial statements has been extended beyond listed enterprises to all other enterprises. The World Bank queries whether it is appropriate for small and medium sized non-listed enterprises to prepare IFRS financial statements as it may be an 'undue burden' for such enterprises (ROSC, 2002a).

The World Bank studies have also highlighted the lack of mechanisms for enforcement of compliance either with national accounting standards (ROSC, 2002d) or IFRS, where they have already been implemented (ROSC, 2002a). This is reflected in the World Bank reviews of samples of published financial statements where they note non-compliance in various areas. The same studies also comment on the need for substantial education and training in IFRS to prepare for the move to IFRS in the countries studied (e.g. in ROSC, 2003a; ROSC, 2003b). These observations are supported in the research of Sucher and Alexander, (2002).

On the basis of a review of the IFRS accounts and interviews in Russia and the Czech Republic with large companies implementing IFRS and their auditors, Sucher and Alexander (2002) suggested that there were particular issues that arose when companies implemented IFRS. The companies they researched were preparing IFRS financial statements voluntarily. The impetus for this was usually the requirement to obtain funding from overseas investors. In their study, the authors highlighted the lack of accountants trained and fully familiar with IFRS and the degrees of non-compliance with IFRS, particularly in the area of group accounts and substance over form. There was also some evidence that in cases where companies were preparing IFRS accounts, the auditors were substantially involved in preparing the accounts to such an extent that there might be issues concerning the infringement of auditor independence (Sucher and Alexander, 2002). Concerns were also raised about the complexity of certain IFRS and the difficulties of estimating and applying fair values in company accounts (Sucher and Alexander, 2002).

Other research has studied the way in which national accounting systems have changed towards IFRS. Much of this has been descriptive and has recounted the degree to which national accounting regulations have approximated to IFRS (an example is Jermakowicz and Rinke, 1996 or the IFAD[6]

reports of 2000 and 2001). This research has not indicated the nature of any issues that might arise in implementing IFRS nationally or for individual enterprises, though one might suppose that in any areas where there are substantial differences between local financial reporting and IFRS, there may be more problems in preparing IFRS financial statements as the information may not be available e.g. segmental reporting in IAS 14.[7]

The changes in financial reporting in the transitional economies of Central Europe since 1989 have been the focus of a variety of research. It has been suggested that, even with the changes towards substance over form and a focus on investors in financial reporting, the emphasis on compiling proper accounting records and on adhering to tax regulations rather than fairly presenting financial statements has continued, despite contrary requirements in the legislation (Bailey, 1995; Sucher, *et al*., 1996). Large differences between local financial reporting practices as they have developed since 1991, with an orientation to tax reporting and form, and the IFRS emphasis on investor oriented financial reporting may also affect the degree of compliance with IFRS in locally prepared IFRS financial statements.

Other writers have used organisational change theory to reflect on the levels of change in financial reporting and establish the coherence and depth of the change (Seal et al, 1995). Their suggestions were that the changes in financial reporting were generally coherent, and had achieved a 'second order' depth through 'colonisation.' With colonisation, 'a small group " on the back of an environmental disturbance, create lasting and fundamental change in both the visible and invisible elements in an organisation."' (Seal *et al*, 1995: 662). However, much change has been state sponsored, rather than spontaneous, and the Ministry of Finance has continued to play a key role (Seal *et al*., 1995). This may therefore indicate that change may be very slow.

Garrod and McLeay (1996) also highlighted how governments have adapted the previous state controlled accounting systems to meet the envisaged demands of new users as well as state demands for tax collection and dealt with the general issues of conflicting objectives for financial reporting. They comment on the problems of establishing the right balance between state and professional involvement in the regulation of accounting and the difficulties that have arisen in valuation of assets, in the absence of fully functioning markets, and the scope of financial statements (Garrod and McLeay, 1996).

In much of the previous research there has been an emphasis on the *de jure* situation with accounting change in Central Europe, and less focus on the *de facto* situation which might be quite different (as suggested by Bailey, 1995). There is a need for further research on the actual operation of financial

reporting within enterprises to ensure that any implementation process pays due regard to the *de facto* situation rather than merely the *de jure* situation.

There has also been a tendency in the academic research to study individual countries as comprising enterprises all with similar financial reporting objectives. However, within a country there are different groups of enterprises with different reporting objectives depending on their size, funding and ownership structure. Indeed, some authors have suggested that, within the classification literature, there may be different 'types' of accounting systems in operation in any one country (Nobes, 1998b). This could be taken further to suggest that there are different groups of professional auditors and accountants trained under different reporting systems (e.g. some auditors trained under an international system of exams in accounting; some under a local examination system). Any research on the changes to national accounting should reflect this diversity of needs and resources.

The Big Four audit firms have played a large role in the move to IFRS around the world, as they are often the auditors of IFRS statements and they have the large resources needed to maintain appropriate knowledge and expertise in IFRS. There has been relatively little research on their role in transitional economies (though Seal, *et al.*, (1995), and Sucher and Alexander, (2002) are exceptions and some concerns about their roles are raised in some of the World Bank Reports). Some consideration needs to be given to their role in the move to IFRS within the transitional economies.

Following from the review above, we focus our study of the implementation of IFRS in the Czech Republic as follows. The literature suggests that there may be contextual factors which affect the appropriateness and effectiveness of the implementation of IFRS in a transitional economy such as the Czech Republic. These factors may be divided into the position of the Ministry of Finance in initiating and implementing reform; the role of the particular users of financial statements, and the relationship between financial reporting and taxation which in turn may relate to the national tradition in accounting (Anglo Saxon vs European). Then it is suggested that there are specific factors which may affect the effectiveness of and the ability to implement IFRS: differences between local and IFRS accounting standards, particular issues with individual IFRS and the reliability and availability of market data for fair values, and the approach to enforcing compliance, with particular regard to the role of auditors. There may also be additional factors concerning how the IFRS are translated and the extent of education and training in IFRS. Obviously some of the specific factors are interrelated with the contextual factors, but they are separated here for ease of discussion. Practically, it would also be useful to ascertain how prepared group-listed enterprises in the Czech Republic are for the transition to IFRS.

In the next section we outline how we have approached our analysis of the situation in the Czech Republic.

Approach to analysis

Having identified the general and specific issues that may arise with the transition to IFRS in a transitional economy, we used this as a structure to inform our review of the legislative and institutional developments in the Czech Republic. As we were also keen to identify how enterprises, auditors and other professionals were interpreting these developments and experiencing the changes in accounting, we undertook interviews in September and December, 2003, to try and identify what was happening as well as to support out analysis of the legislation. Tables of those interviewed are noted below:

Table one: Companies interviewed

Company	Activity	Individual(s)
A	Import/Export	Director
B	Property rental	Financial Director
C	Wine production	Economic director
D	Hotels	Economic director and Auditor
E	Construction	Financial controller
F	Bakery	Economic director
G	Printer	Economic director
H	Construction	Financial controller
I	Manufacturer and distributor	Financial controller

Table two: Other interviewees

Organisation	Individuals	
International accounting firm (Big Four)	Manager	J
International accounting firm (outside Big Four)	Manager	K
Union of Accountants	President	L
Union of Accountants	Head of Accounting methodology	M

Previous research on the use of IFRS in the Czech Republic has focused on the state of IFRS implementation with the 'blue chip' companies (Sucher and Alexander, 2002). In the company interviews for this research we sought to obtain information about the state of preparedness and general issues that might arise with the smaller listed enterprises that would have to prepare IFRS financial statements after 2005. Therefore the RM system population of companies was used as a basis for selecting a suitable sample of companies for interview.[8] The companies were identified from

the RM system on two different dates, 4th August 2003 and 29th September 2003.[9] A sample of companies was selected that met the following criteria:

- They were not a financial institution;
- They were not majority owned by overseas investors; and
- Their registered office was in Prague[10]

This led to a sample of 19 companies that covered a diverse range of activities from hotels, to construction to the manufacture of food. From this sample of 19 companies, four companies stated that they were not doing anything about IFRS, there was nothing to discuss and they would await the regulation from the Ministry of Finance. Six companies declined to be interviewed for a variety of other reasons. For example, one company was facing an imminent privatisation, another had de-listed from the RM system and another was undergoing an audit. This left nine companies who were willing to be interviewed in either early September or December 2003. Given the small sample, though it was a cross-section of Czech companies, we cannot infer that they are representative of all Czech companies. However the interviewee comments do provide indications of some of the issues with the transition to IFRS in the Czech Republic.

The interviews were semi-structured in format, with open-ended questions to prompt discussion. A note of the questions used in the company interviews in is in appendix one. There were two interviewers present at each interview, one of whom was a native Czech speaker and fluent in English. The majority of the interviews were conducted in Czech with English interpretation where necessary. Detailed notes were taken during the interview by both interviewers. These notes were written up very soon after each interview. In one company, the auditor, a sole practitioner, was interviewed with the financial director, as they would be working closely together on the move to IFRS. After initial introductions, the auditor discussed most of the issues, as they were better informed about IFRS than the director.

We now outline the role of the stock exchange and the situation with overall funding for enterprises, the development of the institutional framework for financial reporting and the process that has been followed in developing the necessary legislation for implementing IFRS. We then consider the relationship between financial reporting, taxation and the tax inspectorate, and other users of published financial reports. Subsequently, we discuss the role of the true and fair requirement as an indication of the influence of the Anglo-Saxon versus European tradition approach to financial reporting in the Czech Republic, and its implications for IFRS. We then study particular issues with IFRS and how enforcement is likely to operate. We also comment on the local professions and education and training. Finally we discuss the state of preparedness for the implementation of IFRS

amongst the smaller listed group enterprises. Where appropriate, we include comments from the interviewees.

The Stock Exchange and overall Enterprise funding

With the Velvet revolution of 1989, the Czech Republic (then Czechoslovakia) commenced the process of transition from a command economy to a market economy. Though the initial impetus for foreign direct investment slowed down as investors became concerned about the security, accountability and transparency of their investments after 1995, by the end of 2002 the Czech Republic had the highest amount of foreign direct investment per capita in European transitional economies (EBRD, 2003:65).

Since 2000, companies listed on the main market of the Prague Stock Exchange (PSE) have had to produce consolidated financial statements in accordance with IFRS as well as legal entity statements in accord with Czech accounting standards.[11] At the end of 2002, there were 70 companies listed on the PSE with a market capitalisation of U$15.8 billion. 237 companies were listed on the RM-system, with a market capitalisation of U$12.3 billion. Together these represented about 37% of the GDP for 2002 (ROSC, 2003b). This represents one of the highest market capitalisation:GDP ratios in any of the accession countries in Central Europe[12]. However, there has not been a single initial public offering of equity since the Prague Stock Exchange was re-established, though there have been some issues of bonds. Most investors only trade in six 'blue chip' shares (Patria, 2001). Instead, large listed enterprises have obtained funding from overseas (e.g. CEZ) or from local banks.

The development of the mid-term and long-term financing provided by the Czech capital market is summarized in Table three. In relation to bank loans, capital market financing represents just a fraction, though it has increased over time.

Table three: Total Market capitalisation of corporate bonds at the Prague Stock Exchange

Mil CZK

	1998	**1999**	**2000**	**2001**	**2002**	**2003**
Market capitalisation of bonds	198,107	231,116	280,075	319,400	372,500	483,800
No of issues	98	95	93	82	72	77
As compared to total bank credits	22.08%	26.57%	32.33%	32.1%	36.6%	48.3%

Source: Prague Stock Exchange Annual report 2000, Fact Book Prague Stock Exchange, 2002 p49 and monthly statistics Prague Stock Exchange, 2003, p 6, CNB statistics wdb.cnb.cz/cnb/contrib710_prezentace.STAT_DATA_ARAD, and author's calculation

This would seem to indicate, generally, that there is not a large pool of equity investors providing finance to enterprises.

Implementation of IFRS requirements into local legislation

A key focus of all legislative change has been to ensure that it conforms to the *acquis communautaire* for accession countries to the European Union (EU) i.e. that the Czech Republic fulfils the requirements to become a member of the EU. In the Monitoring report on the status of the Czech Republic's progress towards harmonising with EU legislation, issued by the European Commission in late 2003, it was stated that,

'The Czech Republic's commitments in the field of accounting have been met and it will be in a position to implement the acquis in this field from the date of accession.' (Commission, 2003:22)

In other words, the legislation and regulations in accounting in the Czech Republic conform to the EU directives and regulations. How has this process been undertaken? The table below summarises the developments since 1991.

Table Four: Developments in Financial Reporting Regulation in the Czech Republic

Date	Aim	Developments
Act on Accounting 1991	New Act appropriate to new economic conditions and oriented to EU directives	Based on IVth Directive; True and Fair introduced. Substantial penalties for non-compliance with tax law. Limited penalties for non-compliance with accounting law.
Followed by detailed regulations		Czech companies still continued to prepare financial statements, which were more oriented to the requirements of the tax office as they were often the main user of financial reports (Sucher et al 1996; Holeckova, 1996).
Accounting Act Amendment 2001	Increase harmonisation with EU directives and with IFRS in preparation for accession to EU	More detail about true and fair and it seems to have been given the status of an 'override' (article 7.2). However, a reference to the need for accounts also to be correct (article 8.1) may seem to contradict the override. In addition, finance leases were still not to be capitalised in the financial statements of the lessee enterprise (Act, 2001)[13].
		The concept of the 'fair value' of certain assets was introduced, including the situation where companies were reorganised (article 27), to bring Czech accounting more into line with IFRS[14]. A provision for "supranational companies" to prepare a consolidated financial statement in accordance with international recognized accounting standards was also introduced (article 23.6). If such a company produces such financial statements, it will not have to provide group accounts according to Czech accounting standards. A substantial increase in fines for non-compliance with the Act on Accounting was also

		enacted (article 37).
November 2002 to apply from 1.1.2003, Seven general, accounting decrees covering different sectors of the economy (e.g. entrepreneurs and insurance companies (Decrees 500/2002 and 501/2002).		'The substance of these decrees is expressly stated by law and involves charts of accounts and accounting procedures, the arrangement and content of financial statement items, the scope of information to be publicly disclosed and procedures for preparing a consolidated financial statement' (Ernst and Young, 2001:1).
New amended Act on Accounting, December 2003 (Act, 2003)	Increase further harmonisation with EU directives and regulation 1606/2002 on IFRS	'Czech companies trading securities on a stock exchange in an EU member state would be obliged to prepare accounts in accordance with IAS. IAS will also be compulsory for the purposes of their consolidated statements. This provision will become effective for periods starting after 30 April 2004.'[15] The option for other companies to apply IAS for their consolidated accounts would remain.[16] The seven decrees noted above (the 'implementing or operational directives') have also been modified. In particular, the decree for entrepreneurs (legal entities) has now been modified to state that legal entities that are not obliged to use double entry bookkeeping[17], are not obliged to use fair values for certain assets and liabilities as per article 27 of the Act on Accounting. In other words, for smaller legal entities, there is no need to use fair values.

In this way, the Czech Republic is providing the legislative framework to ensure that group listed companies prepare IFRS compliant financial statements by 1 January 2005, that other group companies may be permitted to do so, and there is some move to preparing legal entity financial statements which may follow IFRS, to some extent, in such areas as fair value. However, there is still the issue of exactly to what extent the Czech regulations would incorporate IFRS requirements into the financial reporting requirements for unlisted Czech companies, whether they are groups or individual entities. In the next section the findings from our analysis of the implementation of IFRS in the Czech Republic are structured as laid out in the summary at the end of the literature review above.

Findings

Drafting the legislation

The amendments to the Accounting Act, 1991 and subsequent proposals have been drafted within the Ministry of Finance. An advisory body, the Finance Commission for Issues of Regulation and Future Development of Accountancy and Audit, was set up in September 2000 to advise the Ministry of Finance on the move to IFRS. It had 22 members, drawn from most organisations involved or interested in accounting and audit, and met about four times a year. However, there still seemed to be concerns that the process for drafting such amendments within the Ministry of Finance was a little opaque (ROSC, 2003b). In particular, as accounting regulation is taken forward by the Ministry of Finance, which also regulates and collects taxes, there might be concern that the Ministry of Finance would not take account of the views of all prospective users of financial statements. The opacity and slowness of the processes for drafting regulations within the Ministry of Finance was also a concern for some of the other interviewees e.g. at December 2003, the Czech accounting standards for implementation in 2004, had not yet been published.

This inability to prepare new decrees may arise from the slow process of drafting all new regulations within the Ministry of Finance and the large debate about whether all aspects of IFRS were appropriate for all entities. There was a large concern about how smaller legal entities would be able to prepare IFRS compliant accounts, the costs, and whether it was appropriate given that their users were mainly the tax inspectorate and local fund providers. The latter debate was referred to in our interviews at the Union of Accountants, but it was difficult to see how extensive was the debate. However, as we will see, this debate was not just relevant to the smaller legal stand-alone entities, but also various group companies which were part of our survey and were listed on the RM system.

It has been suggested locally that the accounting profession could provide support for interpreting financial reporting, by issuing accounting regulations. As one interviewee stated,

'It's written in the law that Ministry of Finance can give powers to prepare accounting standards to someone else, (based on the) French model. That's why we composed this National Board and we wanted to be the one setting national accounting standards, but the Ministry of Finance did not let us.' (interviewee L)

This national accounting board was set up in 1995. It was supposed to represent public opinion on accounting issues and provided advice to the Minister of Finance. It had representatives from Chamber of Auditors, Association of Accountants, Chamber of Tax advisors and Prague School of Economics. In 2001, an authorized Czech translation of the International Accounting Standards at 31.12.2000 was produced. This was co-ordinated through the Ministry of Finance working with the

National Board. In late 2003, a new Czech translation of the IFRS was expected, but there was concern in interviews that the changes in IFRS would mean that this translation would already be out-of-date[18].

In summary, the implementation of the requirement to prepare IFRS and its ramifications for other Czech enterprise financial reporting, has been dealt with within the Ministry of Finance which has seemed disinclined to share the power to develop and implement the changes with other organisations. This may also follow from the influential position of the tax inspectorate in the Ministry of Finance as a key user of financial reports.

Users of financial reports

One of the issues that must be addressed in any research on developments in financial reporting, assuming that the developments should be influenced by user demands, is who the users are and their needs (Nobes, 1998a). It is difficult to obtain information on user needs for financial reports in the Czech Republic, though previous research has already queried whether there is a large pool of investors in the Czech Republic requiring financial statements under Czech GAAP or IFRS (Sucher and Alexander, 2002). We asked the preparers in interviews about their experience with users of their statements.

The main theme in the interviews, though this issue was addressed in various ways, was that it was the regulators who required the financial statements. The interviewees stressed that the financial statements they currently produced were for the regulators such as the Stock Exchange though sometimes the banks expressed an interest in the accounts if the company had bank loans. It was stressed that shareholders very rarely showed an interest in the financial statements. As one interviewee stated,

'Unfortunately when we published our annual report, no one came and picked it up. We had to prepare annual reports for the RM system, the Prague Stock Exchange and two others. It was a little bit frustrating that no one was keen to know.' (Interviewee B)

None of the interviewees anticipated using IFRS accounts for internal management accounting information. Two interviewees were at the stage of considering setting up integrated computer systems that would provide the IFRS information as well as other desired financial information. However, they were concerned about the expense and were working closely with their auditors (in both cases one of the Big Four firms) to look at what was possible.

Relationship between financial reporting and taxation

In the interviews, taxation was much more of a concern for many interviewees, and how the move to IFRS would affect the calculation of company tax.

In all countries the calculation of taxable income begins with the profit calculated according to financial reporting rules. However, the number and type of adjustments needed to move from accounting income to taxable income then varies greatly. Germany is an example of a country where a large number of companies have no adjustments, and an *Einheitsbilanz* is prepared for both financial reporting and tax purposes. In other countries, such as the United States, there can be many adjustments, and tax accounting is seen as a separate field of expertise from financial reporting (Lamb *et al.*, 1998). In between are most other countries where various types and numbers of adjustments are made between accounting and taxable income e.g. for timing and particular types of expenses. In the Czech Republic, financial reporting has traditionally been heavily influenced by taxation requirements, but this has been at the level of the individual legal entity. Consolidated statements are not directly relevant for tax.

If IFRS were imposed for the financial reporting of individual tax-paying entities, this would change financial reported income in a number of ways. For example, unrealized gains on investments and long-term contracts would be treated as income. There would be much less scope to include deductions for provisions in financial reported income (IAS 37). On the other hand marking to market (IAS 39) might increase financial reported income. Then the issue would be how the tax authorities would deal with the calculation of taxable income from financial reporting income.

A move to IFRS amongst individual companies in the Czech Republic could have a substantial impact on taxable income unless:

a) There are a large number of adjustments made between IFRS income and taxable income or;

b) The accounting for taxation is completely separated from that for financial reporting.

Currently[19] there is a European Union funded project where PWC and ACCA are working together to analyse the impact of an investor oriented accounting system on the determination of the tax base in the Czech Republic.

In the interviews with Czech companies listed on the RM system, unprompted, three of the interviewees expressed some concern about how the move to IFRS would affect the calculation of taxation. They presumed that profits under IFRS would be higher than under Czech accounting standards, and also possibly more subjective and were concerned how the Czech tax authorities would

deal with this. One interviewee was particularly concerned that, with the move to percentage completion method under IAS 11, compared to the completed contract method under Czech accounting, Czech tax authorities would use IFRS accounts rather than Czech accounts as a basis for the tax computation. Certainly, the Income Tax Law does make many references to the Act on Accounting whenever there are issues with more complex aspects of accounting such as treatment of financial instruments. Individuals at one of the professional bodies, *Union of Accountants,* felt that though financial reporting for those companies affected would be according to IFRS, corporate taxes would be calculated based on specific Czech regulations. However, the detail of this is still not clear.

It is also difficult to predict what is likely to happen with the relationship between the tax authorities and IFRS. The Advisory Commission to the Ministry of Finance seems to have spent quite a lot of time reviewing the relationship between IFRS and income tax[20]. It is possible that the delay in implementing new regulations on accounting for stand-alone entities has arisen because of the interaction with taxation. One interviewee commented that one of the proposed amendments to the Act on Accounting was to extend the requirement for IFRS statements to standalone subsidiaries. However, this had been rejected by the parliament[21].

It is also important to understand the power of the tax inspectorate in the Czech Republic. It has already been noted that company preparers discussed their importance for the companies. Two of the other interviewees commented that the Tax inspectorate rather then the department for accounting methodology was the stronger power within the Ministry of Finance. One interviewee evidenced this by reference to the key role played by the tax inspectorate in imposing penalties for non-compliance with accounting regulations[22]. The tax inspectorate was also often more interested in ensuring the formal aspects of financial reporting had been complied with (e.g. at proper bookkeeping) rather than whether the financial statements showed a true and fair view under s.7 of the Act on Accounting. (Interviewee J) This interaction between s.7 and the tax inspectorate is discussed below.

Role of True and Fair

The status of true and fair in Czech legislation could be emblematic of the extent to which Czech accounting has embraced an approach to accounting which is more focused on 'substance over form' than one where legal form is more important in deciding such issues as control (e.g. of subsidiaries) which might be seen to be indicative of the 'European tradition.' Though this is a crude distinction, it gives some indication of the differences between traditions in financial reporting which might affect how successfully IFRS are implemented[23]. The issue of true and fair and how it related to other aspects of the accounting regulation was discussed with the other interviewees.

There seemed to be two different views of true and fair. On the one hand, true and fair was seen as an override, as suggested by the Act (2001), though constrained in certain ways. On the other hand, true and fair was interpreted as 'conformity with other accounting regulations'. Interviewees at the international firms espoused the first view. The second view was suggested by the other interviewees.

In the first view there seemed to be a belief that true and fair was now an override in the act, that could be used to deal with any inconsistencies, or lack of clarity in parts of the accounting legislation, though not necessarily to deal with issues of substance over form. As the Act, (2001) specifically stated that finance leases could not be capitalised, this was not an area where local financial reporting could differ from the Act's requirement, even with the true and fair override.

As one interviewee commented, with the changes, the balance between the True and Fair requirement and the rules issued by the Ministry of Finance was now

'A little better because of paragraph 7, the True and Fair override. Now you can diverge [from the rules]' (Interviewee K).

This interviewee then commented that it was not possible to use the override with the leasing requirements, but highlighted other areas of accounting, which were confusing in the regulations, and therefore the use of the override seemed appropriate. An example was the treatment of exchange gains on the hedging of debtors.

The other interviewee at an international firm thought that it was very dangerous to state that the True and Fair requirement was an override, as financial reporting was very closely tied to the tax legislation e.g. it would not be applied to leasing. However, though it was not used often in practice it might be used 'in cases where Czech law is not prescriptive and there are grey areas.' (Interviewee J)

One of the interviewees at the Union of Accountants suggested that 'the Ministry of Finance was against using paragraph 7. Instead, the problem of any conflicts [in the regulations] is discussed between the different professional bodies and the Ministry of Finance. The differences [between regulations, Acts and the Commercial Code] arise because the Ministry of Finance is not speedy enough in applying new regulations.' (Interviewee L)

It is probable, since the calculation of taxable income is still very intertwined with local financial reporting, and given the emphasis amongst preparers on the importance of taxation for financial reporting, that True and Fair does not really have the status of an override in practice, amongst most

preparers. However, this would have to be tested in a Czech court of law, before any final judgement could be made. It would seem that the larger international firms which have expertise in applying a 'true and fair' approach elsewhere are treating it as a 'limited override' to deal with areas of accounting which are not clear.

There are also issues concerning how an override could be interpreted locally as there is little guidance in the Act (2001) or any accounting regulations about such matters as qualities of financial statements, or definitions of the elements of financial statements i.e. there is no conceptual framework similar to the IASB framework. The principles of going concern (section 7.3) and materiality (section 19.5b) were included in the Act (2001). The provisions regarding materiality stated that enterprises should include in their financial statements any facts 'of their consequences have a significant (material) effect on the view of the accounting unit's financial position.' (Section 19.5b) This would seem to reflect some view of users in general, but this must be balanced against the comments above about taxation and true and fair.

In summary, it would seem that true and fair, as an override, will only have a limited effect on the financial reporting of Czech companies, and that taxation will be a greater influence. The intertwining of financial reporting with taxation will complicate the use of IFRS for individual Czech legal entities. Other complications may arise from specific differences between local Czech accounting regulations and IFRS.

Differences between local and IFRS financial reporting

The various differences between local Czech accounting and IFRS have been documented elsewhere (IFAD, 2000; IFAD, 2001; ROSC, 2003b). These differences may affect the capacity of local companies to prepare IFRS financial statements (for example with such areas as revenue recognition and definitions of subsidiaries). Therefore a summary of some of the key differences between Czech financial reporting regulations and IFRS extant at April 2002, relevant to this research, is shown in Table five.

Table Five: Some of the Key differences between Czech and IFRS accounting

Topics	Czech accounting	IFRS
True and Fair override	If exceptionally the given accounting method hides reality, an enterprise must adopt an alternative method and proceed in such a way that a true and fair view is provided	In very rare cases override the standards where essential to give true and fair view
Historical cost	Historical cost, except for certain assets and liabilities	Historical cost, but intangible assets, PPE and investment property must be revalued. Derivatives, certain agricultural assets and most securities must be revalued.
Substance over form	Mostly legal form over substance e.g. all leases are regarded as operating leases and are not capitalized in lessee balance sheet.	Accounting records must reflect the economic substance of transactions despite their legal form. E.g. Finance leases are capitalized in balance sheet of lessee.
Construction contracts	% of completion method is not allowed. Accounting follows contractual agreements. In most cases completed contract method is used.	% of completion method is used.
Definition of subsidiary	Power to exercise dominant influence and full control over entity's operations, by virtue of holding more than 50% of the ordinary shares or based on a contract or Articles of Association. Consolidated financial statements seen as 'secondary' compared to stand alone financial statements in practice.	Based on voting control or power to exercise influence.
Property, Plant and Equipment (PPE)	Use historical cost (in certain cases replacement cost). Revaluations allowed only if acquired as part of acquisition of a business or investment. Spare parts not part of PPE.	Use historical cost or revalued amounts. Frequent revaluations of entire classes of assets required.
Impairment	Only general requirement to reflect possible impairment. No detailed guidance on measurement.	If impairment is indicated, write down assets to higher of net selling price and value in use based on discounted cash flows
Financial assets - measurement	Similar to IAS. Held for trading securities are limited	Depends on classification of investment – if held to

	to those traded on stock exchanges.	maturity or originated by entity then carry at amortised cost, otherwise at fair value.
Revenue recognition	No separate guidance	Recognise revenue if meets specific criteria
Provisions – general	Record provisions relating to present obligations from past events if probable outflow of future resources. Also legal provisions permitted for future repairs and maintenance on property, plant and equipment.	Record provisions relating to present obligations from past events if probable outflow of resources can be reliably estimated.
Segmental information	No specific requirement. All companies must provide a split of revenue between domestic and export sales and between main ordinary activities	Report extensive information on primary and secondary segments based on risks, returns and internal reporting structure

Adapted from *IAS, US GAAP and CZ GAAP*, PWC, April 2002.

In the interviews with preparers, leasing, and the need to capitalise leases, was seen as a problem for preparing IFRS accounts. However, on further discussion it was agreed that this was less problematic once the basic numbers and values had been derived and a spreadsheet could be developed.

The auditors raised the issue of IAS 36, and impairment, as a problem when dealing with enterprises preparing IFRS statements. One auditor commented that the,

'Drive for impairment comes from the auditors. The auditor asks the company to perform the appraisal [he]…had never seen a company do it of its own volition.' (Interviewee K)

Issues with particular IFRS

The treatment of financial derivatives and provisions under IAS 39 and IAS 37, respectively, and the issue of impairment under IAS 36 are all aspects of financial reporting which are likely to cause problems for accountants in transitional economies, just as, given their complexity, they are likely to cause problems for accountants in many companies (e.g. Paterson, 2001 discussing the situation in the UK). There are however, other specific issues with transitional economies, which have been identified already (Sucher and Alexander, 2002; ROSC 2002a; ROSC 2002b). These may broadly be organised into three key aspects; interpretation of fair value, use of estimates and the preparation of group accounts.

Fair value is a concept included in several IFRS (Sucher and Alexander, 2002; ROSC, 2002b), though guidance on its application does vary between IFRS (Nobes, 2001). The definition used throughout the IFRS is,

"The amount for which an asset could be exchanged between knowledgeable, willing parties in an arm's length transaction" (IAS 16: IASB, 2003).

In IAS 16, Property, plant and equipment, it is stated that "fair value of land and buildings is usually its market value" (IAS 16:para 30) and that "the fair value of items of plant and equipment is usually their market value determined by appraisal." (IAS 16:para 31). However, in many transitional economies there are no deep markets for many of the fixed assets so described.

Other research has indicated that the use of fair values can be an excuse for manipulation of financial accounts (Xiang, 1998), where supposed "arms length" transactions are enacted between related parties. This could also be an issue in the Czech Republic, given the corporate governance issues of the mid 1990s.

With the implementation of 'fair value' into the Act (2001), there has now been further experience of using fair values in the Czech Republic. In our interviews we asked about the use of fair values. The difficulties that were noted revolved around obtaining market values and the cost of using external valuers.

In one company where they were already preparing IFRS statements, the interviewee's comments about the inability to estimate fair values for equity investment was at variance with the statement on valuation in the IFRS statements[24]. The interviewee commented that the auditor had been happy with the published version, even though it did not reflect the actual problems of fair valuation in the company. The amounts involved were not material to the consolidated balance sheet.

Six of the companies made reference to using 'court appointed appraisers' to assess fair values for property in particular, but not exclusively. The perception seemed to be that though costly, if necessary, each company could (or was already doing so) use a court appointed appraiser to estimate fair values.

One of the auditors raised the issue of the conflict between the Commercial Code and Act on Accounting requirements regarding when fair values were required in company re-organisations. He also stated that it was unclear whether any losses on revaluation in such circumstances would be allowable for taxation. (i.e. there were conflicts and confusion between different laws). The other

auditor commented that there was a problem with fair values as Czech markets were not so developed, particularly with the PSE, and one had to 'engage a reputable valuer, speak to the appraiser and say why we want them to do the fair value.' (Interviewee M)

Another interviewee commented that two different expert appraisers could provide different opinions about a fair value and that it was therefore not objective. In particular in the Czech Republic, there was a lack of stability (in the stock market) and prices could fluctuate wildly. These issues with fair values could affect the reliability of financial statements prepared under Czech accounting of IFRS, where fair values are used.

Many IFRS are built around the use of estimates in valuing assets and liabilities for inclusion in the balance sheet, and therefore what constitutes income and expenditure in the financial statements. This is the case in particular with IAS 11, Construction Contracts. This was an issue for two of the preparers interviewed, working in construction companies, who were already preparing IFRS statements. Obtaining the management information necessary to estimate the stage of completion of contracts for IAS 11, construction contracts, was considered a particular problem. Applying IAS 11 meant a large increase in the amount of information that needed to be generated internally on such issues as 'contract variations' and there was not enough guidance in IAS 11 about what should be done[25]. One firm had turned to its auditors for detailed guidance.

Previous research has commented on the problems concerning consolidated accounts. There has not been a long tradition of preparing group accounts in the transitional economies. Deciding which companies are controlled, under IAS 27, and therefore need to be consolidated is particularly problematic for auditors of large companies. Recent interviews with audit partners indicated that clients did not see why such companies needed to be consolidated, or were not keen to provide the information (Sucher and Alexander, 2002). It was often difficult to identify which companies should be consolidated in the group financial accounts.

"In this part of the world there have evolved very circular complex ownership structures. Groups are often not organised on straight divisional lines. Which means that ensuring all related parties in the group (are accounted for) is a problem. A mix of taxation and a lack of transparency as to who exercises control makes for complex group structures." (Sucher and Alexander, 2002:52)

Enforcement

Any enforcement of compliance with IFRS in the Czech Republic is likely to build upon the system for enforcement already in place. There is a requirement to file audited financial statements with the Trade Registry. However, as has been noted in previous research and reports (Sucher and Zelenka,

1998; ROSC, 2003b) though this is a requirement in many cases it is not observed. In those financial statements, which were filed, some substantial non-compliance with Czech regulations was also observed (ROSC, 2003b).

The current enforcement of compliance with financial reporting standards, noted in the Act, 2001[26], was dealt with by the tax inspectorate. There was some concern about this amongst the interviewees, as different tax offices were not consistent in their treatment

'So tax inspectorate imposing penalties on companies not doing accounting according to standard. Some companies took tax inspectorate to court. Now have decisions by court that [on the one hand] can enforce and [on the other hand] cannot enforce it. No precedence here. District Courts for Ceske Budejovice and Brno decided differently [on the same accounting issue]' (Interviewee L)

Therefore under the current Czech taxation system, regional courts interpret the tax law in different ways in different parts of the country. As noted by the deputy finance minister Yvona Legerska,

'In one region you can be fined for accounting mistakes while in another you can't.' (Carey, 2003)

However, there is also the issue that case law is very rarely used. Therefore a decision could be made by one regional tax office, but this would not be binding or relied upon. If a decision was changed, it could then be retroactively applied. This has caused much uncertainty for companies operating in the Czech Republic (Carey, 2003).

In the Act, 2003, it is now stated that penalties will be levied on accounting units, which are obliged to prepare IFRS financial reports, and do not do so[27] and these penalties should be collected by the Tax Inspectorate. The penalties for non-compliance with financial reporting regulations had been increased to a maximum of 6% of balance sheet gross assets. There seems to be no requirement to monitor actual compliance with IFRS[28]

The Czech Securities Commission also reviews the financial statements of listed companies for completeness and obvious errors. On its website it carries all the latest publications from the Centre for European Securities Regulation (CESR) which suggest how IFRS compliance should be enforced. On the website, there is a comment that,

'The Commission, together with the Ministry of Finance and the Czech National Bank, is creating conditions for the performance of supervisory activities over the so-called consolidated financial groups.'[29]

However, it is not yet clear what these conditions might be. The Commission has certainly not had the technical resources to enforce accounting standards until now (ROSC, 2003a). It is unclear how

this is likely to improve in the short-term. Therefore a large burden of the enforcement of compliance with IFRS will fall on the auditors.

Role of the audit firms

In the Czech Republic, the audit market is divided into the Big Four international audit firms, audit firms affiliated to the smaller international networks of audit firms, medium sized local Czech audit firms and local sole practitioners. The larger, listed Czech enterprises and international companies are usually audited by the Big Four audit firms. The smaller Czech enterprises are audited by the smaller Czech audit firms and sole practitioners. However, many of the smaller Czech enterprises may still be listed entities on the RM system, and therefore subject to the requirement to prepare IFRS statements from 2005.

Concerns have been raised in previous and forthcoming research about the ability and capacity of smaller Czech audit firms to be independent of their clients (Sucher and Zelenka, 1998; Sucher and Kosmala MacLullich, forthcoming). In particular, local auditors focused to a greater degree on auditing financial statements to ensure that the statements are correct for the tax computations rather than establishing their truth and fairness as required by the Act on Accounting (Sucher and Kosmala MacLullich, forthcoming). This may seem appropriate when the main user of published financial statements is the tax inspectorate.

Whilst it has been suggested that only the international Big Four audit firms may have the ability to be truly independent of their clients in transitional economies (Xiang,1998) there is research that indicates that sometimes these firms themselves may have problems in maintaining their independence, which might affect compliance with IFRS. For example there is evidence that in some cases, with IFRS reporting, the Big Four firms both prepare[30] and audit the IFRS accounts (Sucher and Alexander, 2002). However the degree to which this is the case does seem to vary between firms. It could be argued that, in the first few years of the enterprise's transition to IFRS, it might be necessary for the audit firm to work closely with the client in preparing the IFRS statements (ROSC, 2003a). However, it is therefore important to ensure that there are suitable controls in place to ensure the proper separation of the preparation and audit of the financial statements. Previous research in the Czech Republic has indicated that this might not always be the case. Partly this might be because,

'Assistance in preparation and audit of IAS financial statements can be quite time consuming (especially the deferred tax calculations and presentation) and therefore it can be more economic to have one team both preparing and auditing the IAS financial statements.' (Sucher and Alexander, 2002)

On the other hand one could be rather more cynical and suggest that a large amount of income can be derived from advising on IFRS accounting and therefore, as commented on by an interviewee who had worked in one of the Big Four firms,

'Some financial managers and accountants [in enterprises] do not know what is going on [with IFRS]. They are only the passive receivers. In [X audit firm], there are templates that transform Czech accounting to IAS. The knowledge is kept in the audit company. It is big business [for the audit firm]. You can train companies to do the supporting sheets but the final bit is done by the audit firm.' (interviewee J).

The relationship with auditors and the preparation of IFRS was discussed with the company interviewees. Six of the companies were audited by individual or smaller Czech audit firms. Two were audited by Big Four audit firms, and a third by a Czech audit firm, which was part of an international network. As many of the interviewees had not made any preparations at all for the transition to IFRS, there was little issue of auditor involvement. In those cases where the interviewees had made some preparation for IFRS the situations varied. In one case, the interviewee had been on IFRS courses, had undertaken a test run with the 2002 financial statements, would work with their auditors on IFRS financial statements for 2003, and would 'go live' on their own for 2004.

One company was already preparing IFRS financial statements and had done so since 2002. Initially, their auditors, one of the Big Four firms, had provided a lot of support and schedules to prepare the IFRS accounts. The company had found it particularly helpful to have support in the setting up of the necessary management information systems as the main issue they had had in preparing IFRS financial statements was the lack of necessary management information, particularly for contract work and leases. The company had changed auditor between two of the Big Four audit firms. The interviewee drew an unfavourable comparison between the full support offered by the previous Big Four firm, where the firm had provided full support with IFRS, with the current Big Four audit firm, where the interviewee had been told that it was up to the enterprise to prepare the IFRS statements, and not for the auditor.

Local professions, education and training

Since 1989, the local professions have grown and developed. There are three main organisations, the Union of Accountants, the Chamber of Auditors and the Chamber of Tax Advisors. Here we will focus on the first two organisations, which are very active in accounting.

The Union of Accountants (Union) is a professional organisation of accountants where membership is voluntary. At the end of 2002, it had about 4,900 members (ROSC, 2003b). It co-operates with the Ministry of Finance in drafting legislation through its membership of the National Council, and its membership of the advisory body on accounting and audit. It publishes a monthly magazine, *Ucetnictvi,* which includes practical articles concerning the application of IFRS. It also organises training courses on IFRS for local accountants.

All registered auditors and audit firms must be members of the Chamber of Auditors. At 31st December 2003, there were 1,239 registered auditors.[31] There is a committee within the Chamber of Auditors, which deals with IFRS, and submits comments on IFRS exposure drafts to the IASB. The Chamber of Auditors also provides training courses on IFRS for its auditors.

Aside from the training courses on IFRS provided by the Union and the Chamber of Auditors, courses are provided by the Prague School of Economics. Some of the larger accountancy firms also provide courses on IFRS. As an example, Ernst and Young operates an IFRS Academy, in collaboration with the department of financial accounting at the Prague School of Economics, which provides training in both the theory and practice of various IFRS[32].

The Association of Certified Accountants (ACCA) is also active in the Czech Republic. Many of the largest international accountancy firm's train their accounting staff under the ACCA qualification, studied and examined in English, which covers IFRS. Currently there are 500 members of the ACCA and 1,000 ACCA students in the Czech Republic.[33]

Amongst those companies interviewed, five of the interviewees had undertaken no training yet in IFRS. Three of those interviewees who had undertaken no training so far did not seem to anticipate undertaking any future training. The others had already arranged future training programmes with either the *Union of Accountants* or the Prague School of Economics.

One interviewee had been to a course where there had been a general overview of IFRS. All the other three interviewees had undertaken training courses on IFRS with Big Four audit firms as well as with other providers such as the *Union of Accountants.* These interviewees contributed most to the discussion on issues and concerns with the transition to IFRS.

The interviewees commented that the most helpful training was that which addressed the overall principles of IFRS and provided detailed practical examples, with associated workbooks. How to establish an appropriate management information system to produce the necessary information for the IFRS statements was also of concern.

Several interviewees commented that they obtained most of their information from the internet, and there was little information on the internet in the Czech Republic about the move to IFRS. A few interviewees also subscribed to *Ucetnictvi*, which they found helpful. However, not all interviewees were members of the *Union* and therefore they did not receive the journal. Those interviewees who seemed to have a greater knowledge of IFRS, commented that they would very much like to be able to access a web-site which carried information on IFRS and which provided support for any queries they might have.

In summary, there would seem to be a large pool of courses available on IFRS from commercial courses run by the large accountancy firms to complete accountancy qualifications, which include education in IFRS. However, some of the qualifications, such as the ACCA training, might be regarded as expensive for local Czechs. The provision of the new ACCA Diploma in IFRS may help training in IFRS for some accountants, but it is only offered in English, and is therefore likely to have a market only amongst the larger accountancy firms and listed enterprises. A review of the professional bookshops in Prague also indicated that there were several books available, which provided detailed guidance on how to prepare IFRS financial statements. However, in the small sample of companies listed on the RM system that we interviewed, only four out of nine of the interviewees had been on training courses, and some did not yet anticipate going on any such courses. This reflected their overall preparedness for implementation of IFRS for the company.

State of preparedness for implementing IFRS

In the majority of the companies interviewed, the interviewees stated that they would generally wait until they had a detailed regulation from the Ministry of Finance on IFRS before they took any action over preparing IFRS accounts. There were three exceptions to this; one company, which was the largest in its sector, another company that was a subsidiary of an overseas[34] company and a third company, which was already preparing IFRS accounts with a view to encouraging future foreign investment. These latter three companies were already testing out aspects of IFRS accounts, or had already prepared IFRS accounts. They were the companies, which were also audited by international audit firms.

Though, given the many changes in accounting and tax legislation, the 'wait and see' attitude could be understood, it could be inferred that, taken with the general responses when we were setting up the interviews[35], many smaller Czech listed companies have not yet taken any action over preparing IFRS accounts.

Conclusions

In this paper, as the Czech Republic prepares for its accession to the EU, we have studied how the requirement to prepare IFRS for group listed entities, and the general move to bring Czech accounting more into line with IFRS has been implemented. Following from a review of the relevant literature, we structured our study to consider the role of the Ministry of Finance; the influence of likely user needs on the move to IFRS, in particular the influence of the tax inspectorate, and the place of true and fair, as an indicator of the accounting tradition. Given the recent history, as the literature suggests, we noted how the locus of the implementation process has remained in the Ministry of Finance, which has seemed disinclined to share its regulatory power. This has possibly slowed down the implementation process and must cast doubt on whether the changes in financial reporting will benefit a wider group of users outside the tax inspectorate.

Currently, individual legal entities will not have to prepare IFRS financial statements, but will follow Czech accounting. How this will interface with the requirement for listed group companies, which may own such entities, to prepare IFRS statements is unclear. Though Czech accounting is moving closer to IFRS in such areas as fair values, it still differs in certain material respects from IFRS (see examples in table five). In might be that it will be left to the individual group to ensure it obtains the necessary information in areas such as segmental information.

There are also issues concerning how 'grey areas' of accounting, which are either confusing in the Act (2003) and its decrees, or are not covered, may be interpreted within the requirement to prepare accounts which are True and Fair. In the absence of a conceptual framework to support True and Fair, the interests of the tax inspectorate and an emphasis on form over substance may prevail.

There are different groups of entities in the Czech Republic at different stages of development with the implementation of IFRS. As noted in previous research, there is a small group of large listed Czech companies, usually funded by some level of overseas finance, which have already commenced preparing IFRS financial statements, and there is previous research that has studied their progress (Sucher and Alexander, 2002)[36]. These companies are audited and serviced (e.g. with IFRS up-dates) by the international audit firms (predominately the Big Four) where professional staff usually speak English and have been trained in international accountancy qualifications. The situation is probably similar for the Czech subsidiaries of overseas companies.[37]

Then there is a group of large Czech enterprises listed on the RM system, which have to apply IFRS after 30 April 2004, and are not yet prepared to any extent, for the change. These firms were usually audited by local Czech audit firms. In discussion about the accounting challenge faced by the accession countries, the head of the IASB has commented that, 'some companies could be rough and ready in their application of the IASB's rules in 2005 because of the scale of the changes.'(Parker, 2004) In the Czech Republic it is possible that there are other considerations. Since the 'Velvet' revolution of 1989, there have been many changes to accounting and tax legislation. In a time of constant change, it might be considered advisable to 'wait and see'. Of the group of firms listed on the RM system, those, which were audited by the international audit firms, were better prepared than other firms. It is likely that this situation may be found in many other accession countries.

There do seem to be a large number of training courses available on IFRS, of many different types and from many different sources, which could help with the training process, in the short term, though we were not able to assess the quality of these programmes. It would be particularly useful to have some central database of all the programmes available (maybe on a web-site) with up to date information of what is happening with IFRS implementation, and case studies of companies that have already implemented IFRS in different business sectors.

With those companies that were already testing out the preparation of IFRS accounts, the need for much more detailed management information to support the preparation of IFRS statements was emphasised. This aspect of the transition to IFRS may have been underestimated in some of the training. There was also a concern about the cost of moving to using fair value for more valuations of assets and liabilities and the reliability of the fair values derived. As fair values are used more within IFRS, the role of the valuation profession will become more important. It would be interesting to research how valuers in the Czech Republic derive fair values for assets and liabilities where there are no market prices.

Yet, there is also a more fundamental issue. Though one would have to undertake research with the users of the accounts, with the majority of interviewees, though these were listed companies, there was little concept of a large body of investors interested in information about the company. In the three companies where they had progressed with training on IFRS they were very specific reasons related to outside investors (current or potential), which seemed to have led the interviewees to be more pro-active. It must be debateable whether it is to benefit of the individual company, or the country (given the necessary costs of training and conversion) for all the companies listed on the RM system to move to IFRS.

Though the majority of Czech preparers and auditors may not yet be ready to implement IFRS properly, as the main users of Czech financial statements are the tax inspectorate, and the main basis for the tax calculations are the individual Czech financial statements, this may not be such a problem. However, the linkage between the preparation of IFRS statements at individual level and the preparation of accounts for the calculation of taxation due needs to be clarified. This is not just an issue for the Czech Republic but also for most members of the EU. In a recent report, reviewing the move to IFRS in many countries and its impact on taxable income, it has been suggested that there should be separate systems of tax and financial reporting such that taxation is not 'polluted' by financial reporting (Nobes, 2004). Though this has cost implications, it may be the most effective approach to ensuring that the different objectives for taxation and financial reporting systems are met.

The audit firms are likely to continue to play a key role in enforcing the detail of compliance with the IFRS. Concerns have been raised concerning compliance with IFRS in audited financial statements of Czech companies (ROSC, 2003b and Sucher and Alexander, 2002). There have also been some high profile cases of audit firms (local and international) signing off Czech financial statements, which has subsequently been shown to be materially misstated. No audit firm has been sued or disciplined[38] for any infringements of audit regulations, which may cast doubt on how effective will be the mechanisms for monitoring audit quality and how effective auditors will be in enforcing compliance with IFRS. It will be necessary to set up some independent regulator, maybe attached to the Securities Commission, to enforce compliance on a pro-active, risk assessed basis (CESR, 2002).

There are various limitations to our research. The implementation of IFRS into Czech legislation and practice is in a state of flux, and we have looked at the situation at one point in time, at the end of 2003. Though we have tried to capture some of the detail of the implementation process, and the forces at work, it is still not possible to identify all that is likely to happen, though we can speculate. Our comments on what users may want from financial reporting in the Czech Republic is, necessarily, anecdotal in the absence of a full scale survey of user needs, and substantially influenced by the views of the preparers. In addition, we did not interview a large number of enterprises listed on the RM system, though the overall responses from those we contacted, as well as those we interviewed, can probably provide a reasonable picture of the situation with preparers at the end of 2003. We have also used a structure in approaching our analysis, based on previous research in the area, which may have sacrificed depth for breadth of the topic. However, this paper provides a pointer to areas for the research that could be developed in greater depth and are likely to be of concern in other accession countries.

Appendix one – Illustrative questions for companies

Personal background of interviewee
Post; education; age; position

Company
Ownership; Products; key issues? Who are the auditors?

In preparing financial accounts for your company, what audience do you have in mind and why?
Where is your chief source of funding?

IFRS
Are you already preparing IFRS?

Why do you think that IFRS are being implemented?

How much do you know about IFRS? Can you give examples of areas that cause you concern?

How will you plan the implementation?

What issues do you see in implementing IFRS for your company?

Where could training usefully be focused?

Have you been on any courses – which?

Have you access to the Czech translation of the IFRS?

A key term in IFRS is "fair value" . Could you, as far as possible, explain to us what it means to you?

To what extent will you be using IFRS accounts for management information?

Who will be using your IFRS accounts? Do you get any Qs from investors?

If you are not sure about the treatment under IFRS, how will you deal with it/who will you ask?

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NOTES

[1] *Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Slovenia and Slovakia*
[2] Though international financial reporting standards (IFRS) were named international accounting standards (IAS) before 2002, we will use IFRS as a phrase to encapsulate previous and current IAS, unless they are so named in a paper.
[3] Though see Alexander and Archer, 2000 for a discussion of the 'myth' of Anglo Saxon accounting.
[4] ROSC stands for Report on the Observation of Standards and Codes. The reports are prepared by the World Bank, in collaboration with representatives of local organisations such as professional bodies. They focus on such aspects as accounting and audit. The ROSC reviews for accounting and audit can be downloaded at http://www.worldbank.org/ifa/rosc_aa.html
[5] http://www.worldbank.org/ifa/rosc_aa.html; accessed 5th January 2004
[6] IFAD stands for International Forum for Accountancy Development. The reports it produced can be accessed at www.ifad.net
[7] IAS stands for International Accounting Standard.
[8] The RM-System was originally a one-off mechanism for distribution of shares in the Voucher Privatisation in the early 1990s. During the privatisation company shares were administratively created, based on the book information of privatised enterprises. The distribution algorithm assigning shares to privatisation vouchers was matching supply and demand of these administratively created shares. After distribution the shares began to be traded on the RM-System, which now resembles an over-the-counter market. (Jindrichovska, 2001) RM-system has a bit less strict regulations and the population of RM system are mostly mid-size companies in comparison to the Prague Stock Exchange. Most shares were, and still are, traded on both the RM-System and the Prague Stock Exchange, even though some companies have delisted from the PSE as a reaction to introduction of stricter reporting regulations.
[9] http://www.rmsystem.cz
[10] This was for the convenience of the researchers.
[11] The World Bank Report on the Czech Republic suggests that companies listed on the PSE must prepare up to four sets of audited financial statements – legal entity accounts and consolidated accounts under IFRS and Czech accounting standards – which seems somewhat onerous (ROSC, 2003b).
[12] Equivalent figures for other Central European accession countries in 2002 are as follows: Poland, 14.3%; Hungary, 17.4%; Estonia, 33.6%; Latvia, 8%; and Lithuania, 9.5% (EBRD, 2003).
[13] The Czech leasing association is very active in the Czech Republic. The following is stated on its web site, in its annual report, 2002, 'The Leasing Association wants to take part in preparing and amendments of the national accounting standards on accounting for leases. It will strive for adoption of amendments on insurance acceptable for non-banking financial products. Furthermore, it will strive for enforcement of non-applicability of the Law
No 321/2001 on financial leasing, and for maintaining the current regime of leasing and other non-banking financial products as it is in accordance with the Income Tax Law and with the VAT Law.'
http://infos.eunet.cz/leasoc/rocenka/2002/3.htm. Author's translation.
[14] According to an academic involved in the translation of the term 'fair value' into Czech legislation, there was a substantial debate about how the term should be translated. There were three possible translations. *Adekvatni realna hodnota* and *primerena hodnota*, both of which might equate to 'adequate value' and *realna hodnota*, which equates to 'real value' and is the term used in the Czech translation of the IFRS. The Amendment used the term '*realna hodnota*'
[15] www.pwc.com/cz tax and legal alert, issue 22 30 September 2003, p1; Articles 19(9), 23a and 37b
[16] Act, 2003 (article 23a(2)).
[17] These are the very small entities
[18] A separate issue which could be considered here is which version of the IFRS has superior status, the English or Czech version? It could be that there is an error in the translation of the IFRS from English into Czech, which leads to the preparation of Czech IFRS financial statements, which would differ, materially from the English version of the IFRS financial statements. Is it possible to state that both the Czech and English IFRS statements comply with IFRS?
[19] January 2004
[20] Discussion with member of the Commission
[21] Interviewee L
[22] see section on enforcement below
[23] Though an issue here could also be how the IASB regards True and Fair. Indications are that true and fair is not regarded, fully, as an override in the UK sense of True and Fair, but more as the American 'Fairly State' i.e. it is emphasised that the application of IFRS is presumed to achieve fair presentation. The revised IAS 1

requires departure from an IFRS in the 'very rare circumstances where compliance would be misleading (except where not permitted by the relevant regulatory framework) circumscribed by the financial reporting standards.' (IAS Plus, update January 2004, p3, available at www.iasplus.com).

[24] Which commented that models that had been used to estimate fair value

[25] Under Czech accounting, the completed contract method of accounting for contracts was used (see table 4), and less information was necessary. Here we are presented with what might be called a 'cultural difference' between how the equivalent UK and Czech accountants might approach the subject of accounting for contracts. In the Czech Republic, there is an expectation that there will be full guidance in the law or accounting standard concerning the detail of the management information necessary. However such guidance would not be expected in the UK.

[26] Article 37

[27] Article 37(1c) and 37 (2b)

[28] Which would seem to be practical, given the likely problems of ensuring that tax inspectors are trained in IFRS, in the short term. A representative at the *Union of Accountants* confirmed that it was currently unclear how the Tax Inspectorate will check the IFRS accounts.

[29] *An outline of the capital market in the Czech Republic*, p26, accessed http://www.sec.cz, 28th January 2004

[30] Usually this consists of taking the client's trial balance and then converting it to IFRS and presenting all the disclosure notes.

[31] Source, Chamber of Auditors

[32] Source, Ernst and Young documentation.

[33] Source, ACCA in Prague, January 2004.

[34] This sample was not supposed to include subsidiaries of overseas companies. It had not been clear from the information held on the RM system that this company was a subsidiary of an overseas company.

[35] See 'approach to analysis' section above

[36] Though this research is now slightly out of date, as it was based on a review of the 1999 IFRS financial statements, which were prepared by enterprises listed on the PSE before it became obligatory to prepare IFRS financial statements.

[37] Though this is not an area we investigated, except for the one interview with a subsidiary of an overseas company.

[38] Though one firm was fined, in 2003, in relation to its audit of a leading Czech bank in 1998-1999. (Lesenarova, 2003)

Část 5

Response of regulatory bodies to financial crises: role of auditors and international comparison

[Odpověd' regulačních orgánů na finanční skandály: role auditora a mezinárodní srovnání]

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In *Rozvoj české společnosti v Evropské unii* 2 dil.,
ed. V. Kotabova, I. Prazova & O. Schneider. Prague:
MatfyzPress. 2004. 193-198.

Response of regulatory bodies to financial crises: role of auditors and international comparison

(Odpověd' regulačních orgánů na finanční skandály: role auditora a mezinárodní srovnání)

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In the light of recent crises capital markets are re-evaluating value relevance of financial information for price formation on the stock market. In this paper we investigate this issue through a comparison of recent developments in the US market as compared to Czech market.
The paper identifies specific and significant contrasts between the US and Czech economies and draws conclusions on regulatory structures in developing as compared to advanced economies.

Keywords: Capital Markets, enforcement, regulation

1. Introduction

In this paper we seek to utilise some of the work of Ball et al. (2003) to review the interaction between accounting standards, preparer incentives and economic income in the Czech Republic and the USA. In particular we focus on the regulatory and market reactions to particular financial crises: Enron in the USA and Investicni a Postovni Banka in the Czech Republic. (Jindrichovska et al, 2004)

2. Investicni a Postovni Banka (IPB)

IPB was established in 1990 as a then new Czechoslovak bank and it rapidly gained market share. The bank management had two strategies from its origin – a strategy of business development and a strategy of ownership by its own management. The first strategy led to success in retail banking. At the same time, however, the credit expansion in the risky environment of a transforming economy and the conflict of interest within IPB led to a crisis. The bank acted at the same time as a creditor as well as an owner (through its subsidiaries) of a vast industrial empire.

In 1996 the IPB had problems as an increasing proportion of bad debts in its portfolio began to appear. IPB was under the pressure of capital inadequacy and it faced a potential

insolvency problem. The bank itself did not perceive any problems as it felt it had sufficient deposits from individuals. It was alleged in the press (PBJ, 2000a) that Coopers & Lybrand, their auditors, were requesting additional provisions to cover bad debts for the 1996 year-end. The bank sacked Coopers & Lybrand and bought in Ernst and Young who carried out a fresh audit for the 1996 year-end. The subsequent accounts for IPB for 1996 showed the bank earning a profit. KPMG were also asked to tender for the same audit, but according to one of its partners, "in the time that we were given, we refused to do it", (PBJ, 2001). Though the new auditor in 1997 approved the 1996 annual report, it required the bank to increase its share capital by 11 bill. CZK. Also, one of the extraordinary audits for the year 1997 showed that the value of the bank was negative. IPB managed to hide these problems and postpone the day when they would become apparent. However it was clear that the majority of these problems started already in 1996. (Kudrna et al., 2002)

The Czech state sold its minority share in IPB to Nomura in 1998, hoping to have found a strategic partner who would help to improve the capital adequacy situation of IPB by injecting 6 bill CZK. Initially, Nomura's entry was perceived as a positive signal and the bank's deposits increased. Nomura, however, did not act as a strategic partner. Instead, it concentrated on selling off significant stakes in Czech industrial companies held in portfolios of investment funds owned and managed by IPB.

The situation of the bank did not improve and it gradually started loosing credibility. IPB got into even more dramatic problems in February 2000 when many creditors started withdrawing short-term deposits. CNB had to impose forced administration. The situation was finally resolved by selling IPB to CSOB (Ceskoslovenska Obchodni Banka). (CNB, 2000c).

2.1 Circular ownership

In general, investment funds that were established by banks during the voucher privatization could not include banks in their portfolio to prevent circular ownership. The way around it was to establish an investment management company as a "go between". Then the fund could own the bank, which became its "grandmother". This was formally legal.

Incestuous ownership was particularly well developed in the IPB Group. The bank management officially owned negligible percentage of the bank shares, but through a chain of informal structures, relationships and option agreements it governed a substantial stake of the bank. And gradually it became an owner *de facto* (beneficial owner) even if there were different owners *de iure* (nominal owners). 'There was evident management effort to rule the bank through subsidiaries and other firms mutually owned by bank. The management made

various steps (1) to manage the ownership stakes and (2) to prevent entry of strong strategic investor.' (Kudrna et al., 2002; 29)

The Czechoslovak voucher privatization was a big opportunity to increase management's influence. IPB was privatized in the first wave of voucher privatization and various investment privatization funds gained 43% of its shares. Out of this 20% was directly owned by PIAS (Prvni investicni akciova spolecnost) controlled and managed by IPB management. Part of the remaining 23% was controlled either by direct agreement with other investment funds or by the purchase of shares by friendly companies. Furthermore, the position of the management was strengthened by a gradual reduction in the state share of ownership. The state minority stake was finally sold to a Japanese investor, who acted in concert with IPB management. Another example of cross ownership stemmed from the fact that, the bank acted as both creditor and owner of many industrial companies. This led to significant conflicts of interest. The original justification for this behavior was that the bank wanted to facilitate the reform of Czech industry and merge companies together to establish viable groups in different sectors.

3. Reaction of regulatory bodies (CNB and the Chamber of Auditors)

Bank supervision incorporates substantial regulatory measures over the banking sector. However, these measures are largely connected with administrative hearings conducted through the courts of law. When the central bank wants to try a bank or its shareholders the CNB has to present sufficiently conclusive proofs. On the other hand, the Bank Supervision department has rather limited possibilities to react in a situation where the bank management systematically distorts the information about economic results and its auditor signs such distorted reports. (CNB, 2000c) During its final days the IPB obstructed the control procedure. This did not allow the CNB to identify early and conclusively the real state of the bank. Furthermore, the CNB had to act very cautiously to avoid damage to IPB, as any decision could lead to irrevocable changes on the inter-bank market. Moreover, with regard to the position of IPB, the bank's failure would lead not only to instability in the banking sector but it would also impact on the economy as a whole.

A Parliamentary Committee criticised the slow reaction of CNB to internal developments in IPB disregarding the fact that IPB continually misinformed the CNB by providing information that did not provide a true and fair view on its financial position. CNB held the opinion that IPB had failed to fulfil its reporting obligations and that it was the fault of IPB representatives who were responsible for deferring any effective solution. Even the

auditors did not signal the true situation of the bank. For this reason the CNB started legal proceedings against IPB management. To cope with a problem of such size and complexity was not within CNB capabilities, as it also concerned many industrial companies through inter-connected ownership. The CNB therefore asked the state for support. (CNB, 2000b)

After the collapse of IPB, the Chamber of Auditors also investigated the role of the auditors in their audit of IPB. 'It took them almost three years…and finally..the Czech Chamber's investigation resulted in a $25,000 fine for Ernst and Young, which has since replaced its management and drawn closer to the international auditing firm.' (PBJ, 2003)

4. The Enron scandal

In October 2001, Enron revealed that there were some problems with the figures it had reported in its financial statements. Over the next few months these problems unravelled to reveal one of the largest cases of financial misreporting for some years. By July 2002, when the USA had enacted new laws to deal with the perceived inadequacies of the preparation and enforcement of financial reports, Enron's auditors, Arthur Andersen had also imploded. Though it is difficult to know as yet the full extent to which the auditors of Enron up to 2001 had misled the investing public the damage that was caused to the reputation of Arthur Andersen, though admissions that they had 'shredded documents' amongst other issues, led to their demise as an international audit firm. (Michaels, 2002)

Public opinion polls in the USA showed rising concern about the quality of financial information. In March 2002 a third of respondents thought the problem was confined to a few isolated cases. By June, at least two thirds of them thought most companies might hide shadow operations. However corporate ethics hardly figures in the mid term elections yet. The American Enterprise Institute argued there had been no break in the overall pattern of attitudes to business as a whole, although the numbers are showing a decline in confidence but no backlash against business as such. The bubble is deflating rather than bursting. The scandals at Enron, WorldCom and the rest may simply be too recent to have had their full effect. (The Economist, July 6, 2002)

Most of the misbehaviour seems to be related in some way to the huge incentives Wall Street provided in the past decade for reporting rising earnings quarter after quarter, or rather, earnings that exceeded ever rising expectations. The half dozen firms, which responded to this incentive "improving" their accounting results, cannot be the only ones. The likelihood is that many more will emerge.

5. The US regulatory response

The US regulatory response to the Enron crisis[1] was to enact the *Sarbanes Oxley* (SBA) legislation in July 2002. The SBA provided for the setting up of a Public Company Accounting Oversight Board (board). All accounting firms that prepare audit reports for issuers in the USA are to register with this board. The board also has responsibility for establishing rules on auditor independence and any other standards relating to audit work, inspections of all audit firms and conducting investigations and disciplinary proceedings where appropriate against accounting firms (Hermsen et al., 2002). There are also requirements concerning listed company audit committees, the provision of non-audit services by auditors (detailed prohibitions on the provision by auditors of particular services such as valuation services and financial systems design), declarations by directors and executive officers and expanded information in the filing form for companies (the form 20F). For example, the chief executive officer and chief financial officer must certify that the form 20-F is materially accurate and complete and, amongst other aspects, that the information in the report 'fairly presents, in all material respects, the financial conditions and results of the operations of the issuer' (Hermsen et al., 2002:111). There are also increased penalties for accounting irregularities and financial fraud. As stated, 'the legislation...creates a new oversight board for the accounting industry, until now a largely self-regulated profession.' After a 'succession of scandals from Enron to WorldCom Accountants now face a tougher regime. Maximum jail time for executives who commit fraud is quadrupled to 20 years and a new crime of securities fraud will have a maximum sentence of 25 years.' (Guardian Newspapers, 2002). Over the last 18 months, these parts of the SBA have come into force.

The crises with Enron, and subsequently WorldCom, in the USA led to a market response, with a decline in share prices and the demise of Arthur Andersen, and a regulatory response, the SBA. These were all on a much larger scale than the responses in the Czech Republic.

6. Monitoring and sanctions in the Czech Republic

Currently, monitoring of financial statements is carried out by three organisations: the Czech Trade registry, the Czech Securities Commission and the Czech National Bank.

There is a requirement to file audited financial statements with the Czech Trade Registry. However, as has been noted in previous research and reports (Sucher and

[1] And the issues that arose with financial reporting at WorldCom, where it was revealed that worthless WorldCom had "improved" its financial results by 3.9 billion dollars through misrepresenting revenue and assets (Economist, 2002, p.45).

Zelenka, 1998; ROSC, 2003) though this is a requirement in many cases it is not observed. In those financial statements, which were filed, some substantial non-compliance with Czech regulations has also been observed (ROSC, 2003).

The current enforcement of compliance with financial reporting standards, noted in the Accounting Act, 2001 article 37, was dealt with by the tax inspectorate. In the Act, 2003, it is now stated that penalties will be levied on accounting units, which are obliged to prepare IFRS financial reports, and do not do so,[2] and the Tax Inspectorate should collect these penalties. The penalties for non-compliance with financial reporting regulations had been increased to a maximum of 6% of balance sheet gross assets.

The Czech Securities Commission also reviews the financial statements of listed companies for completeness and obvious errors. On its website it carries all the latest publications from the Centre for European Securities Regulation (CESR) which suggest how IFRS compliance should be enforced. On the website, there is a comment that,

> 'The Commission, together with the Ministry of Finance and the Czech National Bank, is creating conditions for the performance of supervisory activities over the so-called consolidated financial groups.'

As noted in the FEE survey referred to above, 'The Czech National Bank enforces the rules for banks and provides a specific review of certain bank operations in addition to the common mechanism applied in the case of other enterprises' (FEE, 2001). However, it is not yet clear what these conditions (referred to on the website above) might be. The Commission has certainly not had the technical resources to enforce accounting standards until now (ROSC, 2003). Therefore a large burden of the enforcement of compliance falls on the auditors.

7. Conclusion and directions for further research

The regulatory and market responses to the crisis with IPB contrast sharply with those to the crisis in the USA with Enron. In the Czech Republic, there has been no major overhaul of either the financial reporting or audit enforcement regime, except in so far as it related to the conditions for joining the European Union. The audit firm concerned has not collapsed and disappeared. Indeed, ironically, it has continued to grow and has locally absorbed the audit firm, Arthur Andersen that did collapse following the Enron crisis in the USA. One could argue that this is a 'bad thing', however, on the other hand, it could indicate that expectations for high quality financial reporting and enforcement through audit, were

[2] article 37(1c) and 37 (2b)

never that high in the Czech Republic, compared to the USA, and investors had other means to assess the worth (or lack of it) of enterprises. The lack of a properly functioning legal system, capable of interpreting and enforcing the law is particularly important here.

In the Czech Republic, this latter presumption has particular problems. As our research on the movement in share prices and the reaction of accounting income to changes in economic income indicate, there are some odd findings which may indicate that movements in share prices may not reflect those that would arise in a semi-strong efficient stock market.

This in part might flow from the particular institutional context in the Czech Republic – which reflects some of the circularity in the arguments of Ball et al., (2003). Where there may be extensive cross holdings of companies, and it is perceived that enforcement of compliance with financial reporting standards does not work (Sucher and Kosmala MacLullich, forthcoming) then investors may use alternative, informal, insider information to establish what is actually happening with particular enterprises. The response to the crisis over IPB is an example of this. There was ample coverage in the local business press of developments at IPB, yet, unlike with Enron, there was no immediate regulatory response for reasons outlined above. It is likely that responses were informal and insider oriented.

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Odpověď regulačních orgánů na finanční skandály: role auditora a mezinárodní srovnání

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Ve světle finančních krizí poslední doby přehodnocují kapitálové trhy relevantnost finančních informací pro tvorbu cen na burzách. V tomto článku se zabýváme uvedenou otázkou prostřednictnvím porovnání nedávného vývoje ve Spojených státech a v České republice. Článek identifikuje specifické rozdíly mezi způsobem regulace ve Spojených státech a v České republice a srovnává přístup finančních autorit k finančním skandálům v rozvynutých ekonomikách a v rozvíjející se České republice.

Klíčová slova: kapitálové trhy, prosazování pravidel, regulace

Shrnutí a závěr

Odpovědi trhu a reguačních orgánů na krizi v české IPB jsou v ostrém kontrastu s reakcemi na krizi Enronu v USA. V České republice nedošlo k žádné zásadní změně finančního reportingu nebo auditorských postupů mimo těch, které se týkají přistoupení země k Evropské unii. Auditorské firmy, kterých se český skandál týkal nezbankrotovaly a nezmizely. Naopak rostly a lokálně absorbovaly auditorskou firmu Arthur Andersen, která zbankrotovala po krizi Enronu v USA. Pokud je cílem České republiky vysoká kvalita reportingu je to rozhodně nepříznivý vývoj. Ale na druhou stranu se v České republice nikdy neočekávalo, že audit a finanční reporting budou pro investory tak důležité.

V Čechách a jiných podobných ekonomikách používají investoři jiné prostředky a jiné cesty k informacím, které jim dovolí ohodnotit hodnotu firem. To je při porovnání se Spojenými státy v naprostém kontrastu. Nedostatky ve správně fungujícím právním systému, který je schopen interpretovat a posilovat právo je zde velmi významný.

Fungující právní a institucionální systém, který by garantoval, že akcionáři dostanou všechny potřebné informace, je v České republice zvláště závažným problémem. Jak náš výzkum pohybu cen akcií a reakce účetních zisků naznačil, můžeme narazit na některé zvláštnosti, které ukazují, že pohyb cen akcií nemusí nutně odrážet to, co bychom očekávali podle hypotézy středně-efektivního kapitálového trhu.

Tento jev nejspíše vyplývá z konkrétního institucionálního kontextu v České republice, který umožňuje existenci kruhového vlastnictví podle definice Balla et al. (2003). Zdá se, že v ekonomikách, kde jsou četné křížové vlastnické vazby mezi společnosti nelze jednoduše prosazovat dodržování pravidel finančního vykazování (Sucher and Kosmala MacLullich, forthcoming) investoři potom používají alternativní neformální vnitřní informace, aby si udělali obrázek o tom, co se s konkrétní společností děje. Odpověď na krizi IPB je toho příkladem. V tisku byly tyto události hojně konmentovány, avšak na rozdíl od případu Enron, nedošlo k okamžité regulatorní odezvě. Je pravděpodobné, že odpovědi byly neformální a orientované dovnitř společnosti.