Primary submission: 21.03.2017 | Final acceptance: 26.07.2017

The Unintended Consequences of Accounting Harmonization in a Transition Country: A Case Study of Management Accounting of Private Czech Companies

David Procházka[1]

ABSTRACT The paper addresses the impact of adoption of International Financial Reporting Standards on the mutual relations between financial and management accounting of private Czech companies under foreign control. Being acquired by a parent company, a subsidiary loses its independence and faces institutional duality, as it must respond to the parent's directives and is simultaneously confronted with local pressures. Using data from a survey, the logistic regression model provides evidence that subsidiaries under foreign control steadily integrate IFRS-based principles into their management accounting subsystems. The study extends current research on the integration of management and financial accounting by identifying a special case from a transition country where management accounting of subsidiaries converges with financial accounting of parents. A radical change in the traditional organization of management accounting is the strategic response of subsidiaries to the constraints of the local regulatory framework for financial reporting and taxation. However, aligning subsidiary practices with the parent's goals is conditioned by the existence of a functioning compensation scheme of the subsidiary's management with reference to IFRS-based results.

KEY WORDS: IFRS adoption; Transition country; Private companies under foreign control; Parent-subsidiary links; Financial and management accounting

JEL Classification: M41

[1] Faculty of Finance and Accounting, University of Economics, Prague, Czech Republic

1. Introduction

Worldwide accounting harmonization through the adoption of International Financial Reporting standards (IFRS) is one of the most challenging events in corporate reporting over the last 15 years. The development and adoption of internationally accepted reporting standards reflect the demand of users of financial statements operating in globalized economies and financial markets. Using a common set of high-quality standards is believed to mitigate the information risk of foreign investors which positively affect the cost of capital and the liquidity of instruments issued by listed companies. Furthermore, comparable financial statements are expected to increase value relevance,

Correspondence concerning this article should be addressed to: **David Procházka**, University of Economics, Prague; W. Churchill Sq. 4; 130 67 Prague; Czech Republic. E-mail: prochazd@vse.cz

This work is licensed under a Creative Commons Attribution 4.0 International License.

المنارة للاستشارات

www.r

as well as the overall accounting quality of published financial data. Accounting research focuses on these expected benefits by examining the change in capital market characteristics of companies adopting IFRS (voluntarily, in the first phase, and mandatorily, since 2005 in the EU). Although the research is incomplete, empirical evidence provides solid arguments that the positive effects of accounting harmonization are not automatically achieved. Both the reporting incentives of adopters and the quality of a country's enforcement regime are essential preconditions allowing companies to share the benefits of harmonized financial reporting. Furthermore, Brüggemann, Hitz, & Sellhorn (2013) point out that IFRS adoption also has considerable unintended economic consequences (e.g., relating to taxation, regulation processes, etc.).

This study focuses on one stream of unintended outcomes of IFRS adoption. IFRS are primarily designed to meet the demand for information by capital market participants. Accounting research, therefore, deals predominantly with the impact of IFRS adoption on listed companies and their stakeholders. However, listed companies are usually large corporations conducting their international business through a chain of subsidiaries and other entities, and it is the parents who prepare consolidated financial statements of such groups. Consolidation is a complex process and requires extensive data inputs from subsidiaries which must provide the parent company with financial statements and other reports, in compliance with IFRS, enabling the parent company to consolidate the group's data appropriately. Many subsidiaries face severe difficulties in fulfilling their duty when complying with national GAAP as their statutory accounting regime, and when these national GAAP differ significantly from IFRS. This is a common situation, especially in emerging or transition countries, including those in Central and Eastern Europe. Despite increased costs and operational obstacles, the subsidiaries may obtain some benefits relating to the IFRS adoption by following the parent's directives.

Accounting has several dimensions; one of them is traditionally defined as the language of business. If there is considerable distance between the economic background of IFRS and the principles underlying local accounting standards, then IFRS can transmit reporting and business practices from developed to transitioning or emerging countries. Generally, the transfers of practices within parent-subsidiary links have a positive impact on the performance of subsidiaries (Birkinshaw & Hood, 1998; Delios & Beamish, 2001; Fang, Wade, Delios, & Beamish, 2007; Gaur, Delios, & Singh, 2007; Fang, Jiang, Makino, & Beamish, 2010). The transfers of knowledge, technology, and best practices help to overcome shortages in institutional environments and economic shortcomings existing in emerging and transition countries (Fey & Björkman, 2001; Luo, 2003). By aligning a subsidiary's practices with the parent, improved corporate governance boosts the subsidiary's performance. When these subsidiaries play an important role in the domestic economy, the parent-subsidiary links promote and accelerate economic progress in transition countries (Albu, Lupu, & Sandu, 2014).

On the other hand, the improvement of a subsidiary's performance is endangered by several external, as well as internal, risks. Being acquired by a parent, a subsidiary faces institutional duality (Kostova & Roth, 2002). A subsidiary loses its independence and should respond to the parent's directives aiming to increase performance and reach the goals of the entire multinational entity (MNE). Simultaneously, it is confronted with local pressures. As shown by Oliver (1991), divergent pressures lead to different strategic responses by entities which may range from passive acceptance (acquiescing) to active opposition or even manipulation. Adhering to agency theory, the parent needs to align its goals with the behavior of the subsidiary to avoid "ceremonial or symbolic adoption" of the group policies (Kostova & Roth, 2002). An efficient executive compensation scheme may mitigate this conflict of interests (Harris & Raviv, 1979; Holmstrom & Milgrom, 1991; Holmstrom & Milgrom, 1994). A study by Roth & O'Donnell (1996) provides empirical evidence that the design of a compensation strategy by a parent company is positively associated with the effectiveness of a (foreign) subsidiary. The implementation of a compensation strategy proposed by a foreign parent encourages the subsidiary's management to address the group's goals, resulting in the integration of a common global standard into local practices, even when dealing with local pressures and related decision tasks (Gooderham, Fenton-OCreevy, Croucher, & Brookes, 2015).

DOI: 10.5709/ce.1897-9254.255
المنارة للاستشارات
www.r

This paper investigates the role of IFRS as a business language through which the parent company from a developed country can regulate and influence the reporting structure of its subsidiary in a transition country. The purpose of this study is to assess the indirect impacts adopting IFRS have on the architecture of the management accounting system of subsidiaries under foreign control in a transition country, namely the Czech Republic. The paper extends the evidence of the unintended consequences of IFRS adoption by showing that IFRS principles are gradually incorporated into the management accounting of private companies (under control of foreign listed companies). The findings provide new insight into the integration of financial and management accounting stemming from adopting IFRS. The studies of Colwyn Jones & Luther (2005), Angelkort, Sandt, & Weißenberger (2008) Weißenberger & Angelkort (2011), which investigate only listed companies, are complemented by the specifics of a selected group of private companies. The Czech companies were selected for two reasons. Firstly, transition countries are underestimated, both in research on parent-subsidiary links (Yang, Mudambi, & Meyer, 2008) and in research on country specifics and the consequences of IFRS adoption (Albu & Albu, 2014). Secondly, the tension between local practices and global standards is significantly higher in transition countries (Alon, 2013; Albu, Albu, & Alexander, 2014), intensifying thus institutional duality. The Czech Republic is a small open economy with a decisive share of foreign investors owning domestic companies (Ernest, 2014), thereby, creating ideal conditions for assessing the existence and impact of institutional duality stemming from the adoption of global IFRS on local management accounting practices.

The paper is organized as follows. Following the Introduction, Chapter 2 describes the financial reporting framework in the Czech Republic. This chapter also completes a review of relevant literature by focusing on the impact of IFRS adoption on the convergence of the financial accounting system (FAS) and management accounting system (MAS), which serves as a basis for the formulation of the research hypotheses. Chapter 3 presents and discusses the empirical results from a survey among Czech subsidiaries under foreign control which have adopted IFRS as per the parent's directive. Chapter 4 summarizes the main findings, including their limitations.

2. Regulatory background and literature review

As Nobes (2010) notes, no inferences about the economic consequences of IFRS can be done without an analysis of the regulatory regime, in which real IFRS adopters operate. Therefore, this chapter outlines the provisions of Czech accounting law regarding the usage of IFRS by Czech companies.

Czech regulations rest on the accounting laws of the European Union which adopted the IFRS in 2002 effective 1 January 2005. Pursuant to Article 4 of Regulation (EC) 1606/2002, all companies, with securities admitted to trading on a regulated market of any member state, shall prepare their consolidated accounts in conformity with international accounting standards. Next, according to Article 5, member states may permit or require (a) the companies referred to in Article 4 to prepare their annual accounts, (b) companies other than those referred to in Article 4 to prepare their consolidated accounts, and/or their annual accounts, in conformity with the IFRS. Regarding the Czech Republic, the provisions of Regulation (EC) 1606/2002 were incorporated into the Accounting Act. The Czech regulation can be divided into two eras – until 2010 and since 2011. Until 2010, the Act addressed the IFRS in three articles:

- §23a, article 1 mandated listed companies to prepare their consolidated financial statements in compliance with IFRS (the transposition of Article 4 of the Regulation);
- §19, article 9 mandated listed companies to prepare their annual accounts (individual financial statements) in compliance with IFRS (based on the options presented in Article 5 of the Regulation);
- §23a, article 2 permitted non-listed (private) companies to prepare their consolidated financial statements in compliance with IFRS (based on the options presented in Article 5 of the Regulation).

The regulatory framework resulted in four scenarios of financial reporting regimes of Czech firms (Tab. 1). As far as individual (separate) financial statements are concerned, the situation until 2010 was clear-cut. The Accounting Act did not allow any option regarding statutory accounts. Public (listed) companies

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات www.r

Table 1. Financial reporting regimes: Scenarios until 2010

Scenario	Type of entity	Consolidated statements	Statutory individual accounts
A	Listed company	Mandatory IFRS	Mandatory IFRS
B	Private parent	Czech GAAP x IFRS	Mandatory Czech GAAP
C	Private subsidiary	Whatever GAAP	Mandatory Czech GAAP
D	xxx	xxx	Mandatory Czech GAAP

Source: Author's elaboration based on the respective provisions of the Accounting Act

were required to use IFRS in a compulsory fashion (Scenario A); private (unlisted) companies had to comply with Czech GAAP (Scenarios B-D).

- Scenario A: public (listed) companies → mandatory application of IFRS both in individual and consolidated statements;
- Scenario B: private (unlisted) parent companies → a choice between Czech GAAP and IFRS in consolidated statements, however Czech GAAP are compulsory in individual statements;
- Scenario C: private (unlisted) companies-subsidiaries → regardless which set of standards is used by a parent company, the subsidiary must use Czech GAAP in statutory individual statements;
- Scenario D: other private (unlisted) companies → mandatory Czech GAAP in annual accounts.

The Accounting Act (effective 1 January 2011) added one more option for the voluntary adoption of IFRS; certain unlisted companies may voluntarily decide to switch from Czech GAAP to IFRS in their statutory accounting. The amendment is applicable to companies under Scenario C,[1] i.e., for subsidiaries, which this study focuses on.

When constructing an accounting system to meet requirements and directives of the parent, a subsidiary's management needs to select an appropriate strategic approach to counterbalance all institutional pressures, subject to a cost-benefit constraint, the subsidiary is exposed to. Essentially, management can follow several strategies as outlined by the model of Oliver (1991):

1. To reject the parent's goals and to continue giving priority to its own goals. Consequently, Czech GAAP remain a leading system, preferred by subsidiary management. IFRS are then adopted only in a ceremonial way (Kostova & Roth, 2002).[2]
2. To incorporate the parent's goals into its own strategy by:
   a) addressing all internal and external pressures individually and designing separate information modules specifically to each purpose; i.e. operate local FAS and MAS based on Czech GAAP and the group's part of the FAS and MAS based on IFRS;[3]
   b) aligning its own statutory FAS with the internal reporting of the parent, i.e., by the voluntary adoption of IFRS, as e.g., evidenced by Guerreiro, Rodrigues, & Craig (2012) in the case of Portugal;
   c) aligning its own MAS with the internal reporting of the parent, i.e., by incorporating IFRS principles into local management accounting practices.

In general, private subsidiaries of foreign parent companies fall under the Scenario C. Such subsidiaries prepare their individual financial statements in compliance with Czech GAAP,[4] and, simultaneously, they are expected to provide the parent company with IFRS inputs for consolidation, as well as for the group's management purposes. As the number of differences between both systems is enormous,[5] the Czech accounting regulation, in combination with the economic environment, has created anecdotal conditions for institutional duality to emerge and for the existence of extreme solutions. From the strategies described above, variants 2A and 2B are not probable. Operating four accounting submodules (FAS and MAS both based on Czech GAAP and IFRS) in full has the highest explicit

المنارة للاستشارات www.r

costs, usually not balanced by sufficient benefits, therefore the solution is not economically rational. A voluntary replacement of Czech GAAP by IFRS in statutory FAS is not favored by companies because of tax compliance risks. Therefore, if subsidiaries do not want to be seen as reluctant to comply with the parent's directives (a negativist's Strategy 1), then the replacement of local practices in MAS, traditionally based on Czech GAAP, by global foreign standards represented by IFRS, is the only rational solution (Strategy 2C). Procházka (2017) documents that the ignorance of the parent's directives in the accounting area was quite common in the early stages of IFRS adoption. The approach of subsidiary managements changed later, once a new compensation scheme, based on IFRS results, was introduced by parent companies. This finding is consistent with Ozkan, Singer, & You (2012), who document a higher pay-performance sensitivity of managers of listed companies, once IFRS become reflected in executive compensation after mandatory IFRS adoption.

Specific empirical evidence of the economic consequences of IFRS adoption by the subsidiaries of parents reporting under IFRS regime is rare. Matonti & Iuliano (2012) analyzes the changes in accounting standards used for the preparation of separate financial statements of private Italian firms after the amendment of the regulatory regime in 2006. Some private firms had applied the option and voluntarily adopted the IFRS. Regarding the determinants of the decision, the association is identified for the dispersed ownership, foreign ownerships, and high leverage. Finally, having a parent company comply with IFRS also increases the likelihood of voluntary IFRS adoption by private Italian subsidiaries. Based on the institutional theory of Oliver (1991), Guerreiro et al. (2012) explain why companies with listed parents (implicitly consolidating in compliance with IFRS) are more likely to adopt IFRS voluntarily than companies with unlisted parents. Despite both studies examining the role of a parent's reporting regime on the decision of the subsidiary to adopt IFRS, the focus is placed only on the determinants of (non)opting for the voluntary adoption of IFRS in statutory separate financial statements of the subsidiary if this option is allowed by national accounting regulations. However, no study addresses the reaction of subsidiaries if they are obliged to report under national GAAP in their statutory accounts and simultaneously provide their parents with the IFRS figures for their reporting purposes. Little attention of accounting research concerning the specifics of IFRS adoption in parent-subsidiary links exist and this glaring gap in the current literature is what this paper attempts to resolve.

IFRS adoption has a direct impact on financial accounting, as well as indirect effects on the architecture of management accounting and its relation to the financial accounting subsystem. IFRS adoption also influences the mutual relations between financial and management accounting both explicitly (e.g., IFRS 7 and its risk management disclosures, or IFRS 8) and implicitly by accelerating the general development of these subsystems. Traditionally, accounting is organized as a two-mode system (Kaplan, 1984). The first separate module of financial accounting (FAS) serves to meet the information needs of external users by providing them with financial statements. The second separate module of management accounting (MAS), containing cost allocation, budgeting, etc., aims at supplying managers with information for operational, tactical, and strategic decisions. Economic changes in the last 20 years have triggered an international convergence of management accounting techniques (Granlund & Lukka, 1998; Ittner & Larcker, 2001). Supported by the progress in information and communication technology, the integration of FAS and MAS appears to be a logical solution to the increasing demand to provide high-quality requested information for all interested parties in a timely manner (Hemmer & Labro, 2008; Taipaleenmäki & Ikäheimo, 2013).

Finally, IFRS adoption shapes an optimal relation between both subsystems, especially in German-speaking countries and other countries with a Continental Europe accounting tradition. Since the IFRS are more investor-oriented when compared to local GAAP, which are hugely subordinated to taxation and other fiscal purposes in these countries, they also serve management purposes better. Colwyn Jones & Luther (2005) and Angelkort et al. (2008) assess the impact of IFRS on management accounting practices. Weißenberger & Angelkort (2011) find empirical evidence of the integration of FAS and MAS. The convergence is driven by changes in key financial indicators (Lantto & Sahlström, 2009) and internal performance measures (Wu & Zhang, 2009) induced by IFRS adoption. There

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات
www.m

is only limited evidence for the parent-subsidiary information flows in management accounting (Yazdifar, Zaman, Tsamenyi, & Askarany, 2008), but without any detailed insight into the role of IFRS adoption in the process of aligning a subsidiary's management accounting practices with the parent. Similar to the previous stream of the literature, the research mainly explores the stand-alone impact of IFRS adoption on management accounting of mandatory adopters. The association between IFRS adoption by a parent and the changes in the construction of management accounting of its subsidiaries is the second gap in the literature which this paper addresses.

The literature review and the analysis of the regulatory framework of Czech financial reporting reveal two important aspects. Firstly, rich empirical evidence shows that mandatory IFRS adoption speeds up the integration of financial and management accounting of listed companies. Secondly, inappropriate links between Czech financial reporting and taxation disqualifies any voluntary adoption of IFRS by subsidiaries of listed companies as evidenced in other countries. Taking into account the significant costs of operating several distinct submodules within the accounting system of a company, we build the assumption based on early evidence from the field (Procházka, 2014) that Czech subsidiaries attempt to implement certain IFRS-based practices into their own management accounting submodule. However, as the crucial role in the process depends on the incentives of a subsidiary's management, IFRS-based compensation is expected to be a decisive factor when determining the change. The paper's goal is, therefore, refined into the following hypotheses:

H1: As IFRS are not voluntarily applied in statutory accounts, the IFRS-based measures replace, to some extent, the management accounting practices traditionally based on local GAAP.

H2: The positive perception of the importance of IFRS in management accounting of Czech subsidiaries under foreign control is conditioned by the existence of an executive compensation scheme referring to IFRS results.

3. Research design

3.1. Data

Despite well-known shortcomings, the only feasible way how to collect relevant data is to disseminate a questionnaire survey among potential sample companies. By combining sources contained in Creditinfo and Amadeus databases, all active Czech companies (excluding public firms and micro and small entities) under control of the EU-15 listed companies were retrieved. A Czech private company is considered as a subsidiary under foreign control when foreign owners control at least 50% of subscribed capital. Although it is not an ideal indicator of foreign control, the criterion may serve as a good proxy for the identification of companies preparing two sets of financial statements – financial statements according to Czech GAAP for statutory filings and financial statements in compliance with IFRS by directive of the parent. Finally, only Czech companies established in 2000 and earlier were selected. The restriction was set to have respondents with at least a 5-year history prior to the potential IFRS adoption (estimated to be around the 2005 deadline).

After the selection, 613 companies were retrieved. A random sample of 200 entities was then generated. For each entity, a direct contact of a representative responsible for corporate reporting was sought from public resources. In total, 74 contacts were acquired, and the respondents were asked to participate in an internet survey with the data being collected in two phases. Firstly, "hard" financial and other quantitative data was filled-in by the respondents in an "off-line mode" without any assistance of the paper's author. Secondly, the qualitative part of the survey was completed in an interactive "on-line mode" with the author stand by and available to clarify any queries concerning the meaning of the questions.[6] Descriptive statistics of the sample are presented in Tab. 2.

The survey was comprised of 44 questions on various aspects of IFRS adoption. To address the paper's goal, only answers dealing with the impact of IFRS adoption on the architecture of MAS are presented. The results are shown in Tab. 3. Firstly, the respondents were asked to express their subjective view of the importance of IFRS-based figures (measures, tools) in their managerial decisions. The results (in Panel Q1), measured by a 5-point Likert scale, are relatively evenly distributed around the median, which is equal to 3 (the mean is almost the same: 2.97%). 24.2% percent of respondents perceive IFRS usage in management accounting as average, 27.3% view the extent of IFRS infiltration as relatively high and 30.3% as relatively low. As this question is subjective, it is complemented

المنارة للاستشارات www.r

Table 2. Descriptive statistics of the sample

	Employees	Assets	Equity	Revenue	Net income
Min.	10	9,364	4,909	15,038	-341,023
Median	459	2,301,337	672,200	3,558,276	113,517
Max.	5,964	42,271,575	19,488,797	79,763,856	2,260,595
Mean	846	5,365,562	2,429,271	7,010,156	270,462
St. deviation	1,189	8,641,395	4,006,626	13,947,300	488,207

Note: Assets, Equity, Revenue, and Net income in thousands CZK

Table 3. The extent of IFRS infiltration into management accounting

Panel Q1: The importance of IFRS in management accounting:
A subjective perception of the management

Attitude	Relative share
Very low	9.1%
Rather low	30.3%
Average	24.2%
Rather high	27.3%
Very high	9.1%

Panel Q2: The importance of IFRS in management accounting:
Areas of applicability

Area	% of companies
Key performance indicators	81.8%
Bonuses of lower level management	30.3%
Budgeting of cost centers	17.1%
Price calculations in contracts with customers	17.1%
Cost calculation and allocations of products	14.3%
Other usage	5.7%

Source: Author's processing of the survey results

by a question asking which areas of management accounting are affected by IFRS-based practices. Most companies (81.8%) admit that IFRS results serve as the starting point for the definition of key performance indicators (KPIs). In open comments, some of the respondents explain that the parent company defines the groups' financial goals using KPIs based on projected IFRS consolidated results. Consequently, these benchmarks delimit the plans of each subsidiary. The easiest way to manage the processes and to meet the plans defined by the parent company is to adopt them without any change and to transpose them into all tactical

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات
www.r

and operational plans of the subsidiary. This finding is consistent with the earlier studies of Lantto & Sahlström (2009) and Wu & Zhang (2009), who showed that mandatory IFRS adoption changes the traditional construction of performance measures and KPI's. Our results indicate that many parent companies (mandatory IFRS adopters) are capable of inducing their subsidiaries to implement such measures for their local management accounting purposes as well.

Regarding other areas, the IFRS-results quite often serves (30.3%) as the benchmark for calculating the variable part of bonuses of middle- and low-level management to ensure their compatibility with KPI's through the whole chain of management. Surprisingly, some subsidiaries also implement IFRS in other management accounting practices, such as budgeting and cost or price calculations. Some respondents, once again, explained in open comments, that the original methods and tools used remained unchanged, only the inputs were replaced. Statutory Czech GAAP figures were substituted by IFRS figures, which are regularly reported to the parent. This survey documents a specific pattern of the import of global practices. Subsidiaries (from transition countries) acquired by a parent from developed countries retain their traditional management accounting tools (investment planning, budgeting, cost allocation, price calculation, etc.), but their application is improved by using accounting data of higher quality ("imported" IFRS instead of local GAAP). This result extends the findings of Popesko, Novák, Papadaki, & Hrabec (2015) and H1 is validated by the outcomes of the survey by sample firms.

3.2. Model

To uncover any potential cross-sectional heterogeneity in the pattern, how the IFRS influence the architecture of MAS, the following regression model has been developed:

$$Importance = \beta_0 + \beta_1 Bonus + \beta_2 Frequency + \beta_3 Method + \\ + \beta_4 Industry + \beta_5 Size + \beta_6 Leverage + \beta_7 Profitability + \varepsilon$$

The dependent variable *Importance* captures the extent of integration of the IFRS into management accounting practices of sample companies. The questions presented in Tab. 3 are used as a proxy measuring the extent of integration. The regression model is run twice. Firstly, the dependent variable *Perception* is subjective by nature (the personal perception of the importance of IFRS for managerial decisions – Panel Q1, later denoted as Model A). Secondly, the dependent variable Areas objectivizes the subjective perception by referring to the total number of management accounting areas in which IFRS are applied in a significant manner (underlying data in Panel Q2, later labelled as Model B). The combination of the subjective view and objective evidence is expected to produce a more robust conclusion about the research question.

Regarding the independent variables, *Bonus* is of the utmost interest; investigating whether the compensation scheme can align a subsidiary's goals with the group's objectives. We expect that IFRS-based compensation will be positively associated with the extent of IFRS usage in MAS. As with literature (Mejzlík, 2006; Procházka, 2011), the *Frequency* of IFRS reporting within the group as well as the *Method* used for the conversion of local GAAP to IFRS are included in the model. With increasing frequency of IFRS reporting by subsidiary (e.g., on a monthly basis as compared to an annual basis), the likelihood of abandoning practices based on Czech GAAP rises. Similarly, a complex conversion method resting on the implementation of accounting software enabling the recording of all transactions twice (both in compliance with local GAAP and IFRS) shall boost the IFRS in internal decision tasks compared to a simple conversion method utilizing Excel-like solutions (Mejzlík, 2006).

Finally, *Industry*, *Size*, *Leverage* and *Profitability* are included as control variables eliminating any variation among companies because of differences in their business model, reporting incentives, financial position and performance. *Industry* is coded as a binary variable (0 for manufacturing and production companies, 1 for service providers). *Size* is measured as a natural logarithm of sales. The ratio between debt and equity is used as a measure of *Leverage* (indebtedness). *Profitability* is defined as a sales margin (i.e., profit after taxation divided by total sales).

Because of the restricted sample size, a logistic regression model[7] using maximum penalized likelihood estimators, as suggested by Firth (1993), is applied. The procedure reduces the bias occurring in designs with (nearly) separated data in small samples (Heinze,

www.r

Table 4. Correlation matrix

	P	B	F	M	I	Size	Lev	Profit	A
Perception		0.620*	0.263	0.534*	-0.219	0.176	-0.221	0.085	0.585*
Bonus			0.241	0.458*	0.000	0.086	-0.272	0.114	0.593*
Frequency				0.300	-0.167	0.198	-0.074	-0.107	0.389**
Method					-0.300	0.420**	-0.204	0.102	0.143
Industry						-0.311	-0.047	0.149	-0.167
Size							0.080	-0.112	0.149
Leverage								-0.611*	-0.074
Profitability									0.008

Note: Significance levels * 1%; ** 5%

2006). The bias reduction results in a second-order unbiased estimator with a smaller variance than the standard maximum likelihood estimator (Kosmidis & Firth, 2009). In particular, a penalized regression model of Heinze & Ploner (2004) is run.

3.3. Results

Tab. 4 presents the matrix of Spearman's correlation coefficients. Regarding the first variant of the dependent variable, *Perception*, a strong correlation is found with the independent variables *Bonus* (0.620) and *Method* (0.534). Similarly, the second variant of the dependent variable, *Areas*, is significantly correlated with the same independent variables (the values of the correlation coefficients are 0.593 and 0.389 respectively). Finally, the correlation reveals a relatively tight association between both dependent variables (the correlation coefficient of 0.585 is significant at the 1% level), indicating that the subjective perception of the importance of IFRS in management accounting of Czech subsidiaries corresponds to the actual extent of their usage in various management accounting tools.

Logistic regression results are presented in Tab. 5. In Model A, *Bonus* is the only statistically significant explanatory variable (at 5%). The empirical evidence confirms the hypothesis that a positive assessment of the importance of IFRS in internal decision tasks is conditioned by the existence of IFRS-based compensation of the subsidiary's top management. This finding has an important practical implication. The alignment of the group's goals with the subsidiary's objectives through the appropriate construction of a bonus scheme increases the awareness of the importance of a parent's decision tools (IFRS in this case) on the side of the subsidiary management. Other factors do not change the subsidiary's management (subjective) perception of the importance of IFRS as they are not found to be relevant. Therefore, a IFRS-based bonus plan is a necessary condition, having the power to change the mindset of the subsidiary's management. The introduction of a IFRS-based compensation scheme seems to be the only way to create sufficient incentives for subsidiaries to adopt IFRS, following the parent's directive, in a serious, and not just ceremonial, way. The survey results are consistent with the findings of Procházka (2017), though based on a different methodology (case studies and interviews).

Model B provides additional insight into the issue. By changing the dependent variable (from a subjective perception to an objective measure), more explanatory variables are detected as being statistically significant. Once again, the variable *Bonus* plays a significant role (1% level of significance), which corresponds both to the results of Model A and the strong correlation between both variants of the dependent variable identified in Tab. 4. However, *Frequency* of IFRS reporting within the group and the conversion *Method* between

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات www.r

Table 5. Penalized logistic regression

	Model A: Dependent variable "Perception"			Model B: Dependent variable "Areas"		
	Estimate	**Std. Error**	**P-value**	**Estimate**	**Std. Error**	**P-value**
(Intercept)	-0.079	4.907	0.986	4.716	8.329	0.586
Bonus	2.225	1.113	0.017**	7.169	3.450	0.000*
Frequency	0.420	1.223	0.716	4.521	2.610	0.042**
Method	1.177	1.063	0.230	-4.707	2.646	0.033**
Industry	-0.840	1.022	0.385	-3.375	2.120	0.072***
Size	-0.122	0.347	0.712	-0.363	0.575	0.535
Leverage	-0.009	0.036	0.722	-0.063	0.054	0.231
Profitability	2.273	7.206	0.743	-19.730	16.980	0.352

Note: Calculation in R using the package "logistf"; significance levels: * 1%; ** 5%; *** 10%

Czech GAAP and IFRS are also found statistical (at the 5% level). A higher frequency of IFRS reporting increases the probability that IFRS are incorporated into local management accounting. The empirical evidence is in line with an intuitive expectation. If IFRS-based reports are prepared and submitted to the parent company on a frequent basis, then the subsidiary disposes of a comprehensive database of financial data according to IFRS, which may be easily employed in both regular and ad hoc decision tasks relating to local purposes.

The regression results suggest that the implementation of sophisticated ERP systems, which enable all transaction to be booked twice in compliance with Czech GAAP and IFRS simultaneously, decreases the likelihood that IFRS will be used in management accounting, compared to the situation, where a company uses a spreadsheet-based solution to process conversions. The sign of coefficient of the *Method* is, therefore, somehow surprising and contradictory to expectations. The explanation of this paradox could be twofold. Firstly, ERP systems were acquired to deal with issues other than the conversion of financial statements, and subsidiaries are not aware of, or are not interested in, the full exploiting of all available data. Secondly, the decision to implement a complex ERP is often made by the parent company (and its costs are borne by the parent company as well). The subsidiaries may then lack enough incentives to utilize the database available for internal purposes. Both possibilities are consistent with the findings of Procházka (2016). The study emphasizes that subsidiaries do not have full discretion in decisions concerning the appropriate conversion method which discourages them from fully utilizing an unwanted solution.

A weak form of association (at the 10% level) is identified for the *Industry* variable. If a subsidiary operates in manufacturing, mining, or another production industry, there is a higher probability of employing IFRS-based figures in management accounting. Unlike firms providing services, manufacturing companies suffer from the inappropriate guidance of Czech GAAP on tangibles and intangible assets (Procházka, 2016) which form a sizeable amount of the total assets of these production industries. The imperfections in Czech financial reporting standards induce companies to make substantial adjustments in management accounting (Král, 2006). As an alternative to these adjustments, the companies seem to have shifted from traditional Czech GAAP figures to IFRS figures while retaining the traditional construction of management accounting tools (Popesko et al., 2015).

Finally, company-specific economic factors (size, leverage, profitability) are not identified by the re-

DOI: 10.5709/ce.1897-9254.255
المنارة للاستشارات www.r

gression model as relevant.[8] This irrelevance suggests that the IFRS are perceived as a useful tool in internal decision-making and the attitude seems to be a general issue for Czech subsidiaries under foreign control regardless of the economic characteristics of the subsidiaries. The IFRS, as a set of global financial reporting standards, have infiltrated management accounting. This integration of financial and management accounting as identified by previous research (Taipaleenmäki & Ikäheimo, 2013) has been modified in specific ways by private Czech companies. The convergence is not between the FAS and MAS of a Czech entity, but between the MAS of a subsidiary and the FAS/MAS of its parent. This unintended consequence of accounting harmonization aligns a subsidiary's practice with its parent's goals. As a practical benefit for external users, a higher applicability of IFRS in internal decision tasks increases the awareness of the importance of IFRS for consolidation purposes as well and may, thus, enhance the overall quality and decision-usefulness of consolidated financial statements prepared by the parent. However, this awareness on the side of management of local subsidiaries is conditioned by the design of executive compensation based on IFRS.

One aspect of the results of regression models shall be highlighted. The distinct structure of statistically significant independent variables in both models indicates that factors driving the *awareness* of IFRS importance (Model A) and the actual extent of IFRS *usage* (Model B) differ. To be aware of the IFRS importance, it is sufficient, for the parent company to decide on the compensation of a subsidiary's management according to IFRS-based measures and results. However, the next step – the decision by the subsidiary's management to incorporate the IFRS-based tools in its own management practices and to what extent – is determined by other internal factors, especially those relating to the complexity and frequency of reporting within the group, as well as by such factors determining the quality of national financial reporting standards. This open issue shall be investigated in future research.

4. Conclusion

The paper focuses on the specifics of IFRS adoption by Czech private companies. In particular, the reaction of Czech subsidiaries to their parents' directives to adopt IFRS for group reporting purposes is investigated, with an emphasis on the impact of IFRS adoption on management accounting of the subsidiaries. Based on a survey among 33 respondents responsible for financial reporting, the study identifies a substantial change in the architecture of management accounting after the forced IFRS adoption. Subsidiaries steadily integrate the IFRS-based principles into their management accounting subsystems. A radical change in the traditional organization of management accounting is the strategic response by subsidiaries related to the constraints of the local regulatory framework for financial reporting and taxation, precluding an efficient voluntarily adoption of IFRS in statutory accounts. However, the change in mindset hinges upon a change in the remuneration system of top management; the parent company shall relate the variable component of a subsidiary's management compensation to IFRS-based results.

A specific case of the integration of financial and management accounting revealed how this contributes to current research in several ways. Firstly, the transformation of the internal compensation scheme induced by an external shock (e.g., ownership changes, adoption of new accounting standards) can be a vital driver of the reconstruction of traditional, old-fashioned management accounting techniques, as documented by Popesko et al. (2015). Secondly, the general evidence of Hemmer & Labro (2008) and Taipaleenmäki & Ikäheimo (2013) is extended by showing that FAS and MAS can integrate on higher levels than the levels of data recording and processing. The integration of FAS and MAS on the output level is not motivated by cost reduction, as it is in the case of the data recording and processing levels, but by the effort to utilize exhaustively available data across various decision tasks. Thirdly, an increasing awareness of the importance of IFRS for management accounting by local management helps in aligning subsidiary practices with the parent's goals by providing the parents with high-quality data. Consequently, subsidiaries can better benefit from knowledge transfers within the group. By applying global standards, the effectiveness of subsidiaries improves, thus contributing to the economic progress of a transition economy. However, this conjecture requires separate confirmation by future research.

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات
www.m

Regarding the restrictions of the results, research in this field will always struggle with the lack of publicly available data. Interviews or questionnaire surveys are common solutions, though subject to self-selection bias and probable sample restrictions. A small sample is also the primary limitation of the paper's conclusions. However, due to the design of the survey (a combination of offline and online mode), the underlying data is of higher quality than a standard "big-bulk" questionnaire survey that does not control for the qualification of respondents. The paper's findings may be useful when deliberating changes in the regulatory regime by policy makers, and when assessing the readiness of a business environment for the broader application of the option to adopt IFRS on a voluntary basis. In particular, the relation of financial reporting and taxation appears to be the main limiting factor.

References

Albu, C. N., Albu, N., & Alexander, D. (2014). When Global Accounting Standards Meet the Local Context: Insights from an Emerging Economy. *Critical Perspectives on Accounting*, *25*(6), 489–510.

Albu, N., & Albu, C. N. (2014). IFRS Application in Central and South-Eastern European Countries. *Accounting & Management Information Systems*, *13*(2), 182–197.

Albu, N., Lupu, I., & Sandu, R. (2014). Multinationals as Vectors of Corporate Governance Improvement in Emerging Economies in Eastern Europe: A Case Study. In S. Boubaker & D. K. Nguyen (Eds.), *Corporate Governance in Emerging Markets* (pp. 331–349). Berlin: Springer.

Alon, A. (2013). Complexity and Dual Institutionality: The Case of IFRS Adoption in Russia. *Corporate Governance: An International Review*, *21*(1), 42–57. https://doi.org/10.1111/j.1467-8683.2012.00927.x

Angelkort, H., Sandt, J., & Weißenberger, B. E. (2008). Controllership under IFRS: Some Critical Observations from a German-speaking Country (Working Paper No. 1). Justus-Liebig-Universität Giessen. Retrieved from http://geb.uni-giessen.de/geb/volltexte/2008/5397/pdf/ApapIMC_2008_01.pdf

Birkinshaw, J., & Hood, N. (1998). Multinational Subsidiary Evolution: Capability and Charter Change in Foreign-Owned Subsidiary Companies. *Academy of Management Review*, *23*(4), 773–795. https://doi.org/10.5465/AMR.1998.1255638

Brüggemann, U., Hitz, J.-M., & Sellhorn, T. (2013). Intended and Unintended Consequences of Mandatory IFRS Adoption: A Review of Extant Evidence and Suggestions for Future Research. *European Accounting Review*, *22*(1), 1–37. https://doi.org/10.1080/09638180.2012.718487

Colwyn Jones, T., & Luther, R. (2005). Anticipating the Impact of IFRS on the Management of German Manufacturing Companies: Some Observations from a British Perspective. *Accounting in Europe*, *2*(1), 165–193. https://doi.org/10.1080/09638180500379160

Daske, H., Hail, L., Leuz, C., & Verdi, R. (2013). Adopting a Label: Heterogeneity in the Economic Consequences around IAS/IFRS Adoptions. *Journal of Accounting Research*, *51*(3), 495–547. https://doi.org/10.1111/1475-679X.12005

Delios, A., & Beamish, P. W. (2001). Survival and Profitability: The Roles of Experience and Intangible Assets in Foreign Subsidiary Performance. *Academy of Management Journal*, *44*(5), 1028–1038. https://doi.org/10.2307/3069446

Ernest, J. (2014). Český průmysl je „náš" jen z poloviny [Only Half of the Czech Industry Is "Ours"]. *Statistika&My [Statistics&We]*, *4*(10), 18–19.

Fang, Y., Jiang, G.-L. F., Makino, S., & Beamish, P. W. (2010). Multinational Firm Knowledge, Use of Expatriates, and Foreign Subsidiary Performance. *Journal of Management Studies*, *47*(1), 27–54. https://doi.org/10.1111/j.1467-6486.2009.00850.x

Fang, Y., Wade, M., Delios, A., & Beamish, P. W. (2007). International Diversification, Subsidiary Performance, and the Mobility of Knowledge Resources. *Strategic Management Journal*, *28*(10), 1053–1064. https://doi.org/10.1002/smj.619

Fey, C. F., & Björkman, I. (2001). The Effect of Human Resource Management Practices on MNC Subsidiary Performance in Russia. *Journal of International Business Studies*, *32*(1), 59–75. https://doi.org/10.1057/palgrave.jibs.8490938

Firth, D. (1993). Bias Reduction of Maximum Likelihood Estimates. *Biometrika*, *80*(1), 27–38. https://doi.org/10.1093/biomet/80.1.27

Gaur, A. S., Delios, A., & Singh, K. (2007). Institutional Environments, Staffing Strategies, and Subsidiary

المنارة للاستشارات
www.r

Performance. *Journal of Management*, *33*(4), 611–636. https://doi.org/10.1177/0149206307302551

Gooderham, P., Fenton-OCreevy, M., Croucher, R., & Brookes, M. (2015). A Multilevel Analysis of the Use of Individual Pay-for-Performance Systems. *Journal of Management*, *Forthcoming*. https://doi.org/10.1177/0149206315610634

Granlund, M., & Lukka, K. (1998). It's a Small World of Management Accounting Practices. *Journal of Management Accounting Research*, *10*(1), 153–179.

Guerreiro, M. S., Rodrigues, L. L., & Craig, R. (2012). Voluntary Adoption of International Financial Reporting Standards by Large Unlisted Companies in Portugal – Institutional Logics and Strategic Responses. *Accounting, Organizations and Society*, *37*(7), 482–499. https://doi.org/10.1016/j.aos.2012.05.003

Harris, M., & Raviv, A. (1979). Optimal Incentive Contracts with Imperfect Information. *Journal of Economic Theory*, *20*(2), 231–259.

Heinze, G. (2006). A Comparative Investigation of Methods for Logistic Regression with Separated or Nearly Separated Data. *Statistics in Medicine*, *25*(24), 4216–4226. https://doi.org/10.1002/sim.2687

Heinze, G., & Ploner, M. (2004). A SAS Macro, S-PLUS Library and R Package to Perform Logistic Regression without Convergence Problems. *Medical University of Vienna, Vienna*. Retrieved from http://www.meduniwien.ac.at/user/georg.heinze/techreps/tr2_2004.pdf

Hemmer, T., & Labro, E. (2008). On the Optimal Relation between the Properties of Managerial and Financial Reporting Systems. *Journal of Accounting Research*, *46*(5), 1209–1240. https://doi.org/10.1111/j.1475-679X.2008.00303.x

Holmstrom, B., & Milgrom, P. (1991). Multitask Principal-Agent Analyses: Incentive Contracts, Asset Ownership, and Job Design. *Journal of Law, Economics, & Organization*, *7*, 24–52.

Holmstrom, B., & Milgrom, P. (1994). The Firm as an Incentive System. *The American Economic Review*, *84*(4), 972–991.

Ittner, C. D., & Larcker, D. F. (2001). Assessing Empirical Research in Managerial Accounting: A Value-Based Management Perspective. *Journal of Accounting and Economics*, *32*(1–3), 349–410. https://doi.org/10.1016/S0165-4101(01)00026-X

Kaplan, R. S. (1984). The Evolution of Management Accounting. *The Accounting Review*, *59*(3), 390–418.

Kosmidis, I., & Firth, D. (2009). Bias Reduction in Exponential Family Nonlinear Models. *Biometrika*, *96*(4), 793–804. https://doi.org/10.1093/biomet/asp055

Kostova, T., & Roth, K. (2002). Adoption of an Organizational Practice by Subsidiaries of Multinational Corporations: Institutional and Relational Effects. *Academy of Management Journal*, *45*(1), 215–233. https://doi.org/10.2307/3069293

Král, B. (2006). Manažerské účetnictví: vývoj ve světle změn podnikatelského prostředí a manažerských potřeb [Managerial Accounting: Developments in the light of changes in the business environment and managerial needs]. *Politická ekonomie [Political Economy]*, *54*(1), 108–123. https://doi.org/10.18267/j.polek.549

Lantto, A.-M., & Sahlström, P. (2009). Impact of International Financial Reporting Standard Adoption on Key Financial Ratios. *Accounting & Finance*, *49*(2), 341–361. https://doi.org/10.1111/j.1467-629X.2008.00283.x

Luo, Y. (2003). Market-seeking MNEs in an Emerging Market: How Parent Subsidiary Links Shape Overseas Success. *Journal of International Business Studies*, *34*(3), 290–309. https://doi.org/10.1057/palgrave.jibs.8400027

Matonti, G., & Iuliano, G. (2012). Voluntary Adoption of IFRS by Italian Private Firms: A Study of the Determinants. *Eurasian Business Review*, *2*(2), 43–70. https://doi.org/10.14208/BF03353812

Mejzlík, L. (2006). Možnosti a rizika technologického řešení převodu českých účetních závěrek do IFRS [Possibilities and risks of the technological solution of the transfer of Czech financial statements into IFRS]. *Český finanční a účetní časopis [Czech Financial and Accounting Magazine]*, *1*(1), 84–98.

Nobes, C. (2010). On Researching into the Use of IFRS by Private Entities in Europe. *Accounting in Europe*, *7*(2), 213–226. https://doi.org/10.1080/17449480.2010.511889

Oliver, C. (1991). Strategic Responses to Institutional Processes. *Academy of Management Review*, *16*(1), 145–179. https://doi.org/10.5465/AMR.1991.4279002

This work is licensed under a Creative Commons Attribution 4.0 International License.
المنارة للاستشارات
www.m

Ozkan, N., Singer, Z., & You, H. (2012). Mandatory IFRS Adoption and the Contractual Usefulness of Accounting Information in Executive Compensation: IFRS and Contractual Usefulness of Accounting Information. *Journal of Accounting Research, 50*(4), 1077–1107. https://doi.org/10.1111/j.1475-679X.2012.00453.x

Popesko, B., Novák, P., Papadaki, Š., & Hrabec, D. (2015). Are the Traditional Budgets Still Prevalent: The Survey of the Czech Firms Budgeting Practices. *Transformation in Business & Economics, 14*(3C), 373–388.

Procházka, D. (2011). Benefits and Costs of Preparing IFRS Statements by Non-Listed Companies: Evidence from the Czech Republic. *Proceedings of the International Conference Accounting and Management Information Systems, 6*(1), 211–228.

Procházka, D. (2014). Implementace IFRS a její vliv na vzájemné postavení finančního a manažerského účetnictví. *Český finanční a účetní časopis, 9*(1), 50–60.

Procházka, D. (2016). Vynucené přijetí IFRS českými nekótovanými podniky: hodnocení přínosů a nákladů [Forced adoption of IFRS by Czech non-listed enterprises: benefit and cost evaluation]. *Acta Oeconomica Pragensia, 2016*(2), 46–62. https://doi.org/10.18267/j.aop.528

Procházka, D. (2017). The Specifics of Forced IFRS Adoption by Czech Private Companies: A pilot field study. *European Financial Systems 2017*, 199–206.

PwC. (2013). *Kapesní průvodce IFRS a rozdíly proti českému účetnictví 2012 [IFRS Pocket Guide and Differences against Czech Accounting 2012]*. Praha: PricewaterhouseCoopers Audit. Retrieved from http://www.pwc.com/cz/cs/ucetnictvi/ifrs-publikace/ifrs-pocket-guide-cz-gaap-rozdily-2013.pdf

Roth, K., & O'Donnell, S. (1996). Foreign Subsidiary Compensation Strategy: An Agency Theory Perspective. *Academy of Management Journal, 39*(3), 678–703. https://doi.org/10.2307/256659

Taipaleenmäki, J., & Ikäheimo, S. (2013). On the Convergence of Management Accounting and Financial Accounting – The Role of Information Technology in Accounting Change. *International Journal of Accounting Information Systems, 14*(4), 321–348. https://doi.org/10.1016/j.accinf.2013.09.003

Weißenberger, B. E., & Angelkort, H. (2011). Integration of Financial and Management Accounting Systems: The Mediating Influence of a Consistent Financial Language on Controllership Effectiveness. *Management Accounting Research, 22*(3), 160–180. https://doi.org/10.1016/j.mar.2011.03.003

Wu, J. S., & Zhang, I. X. (2009). The Voluntary Adoption of Internationally Recognized Accounting Standards and Firm Internal Performance Evaluation. *The Accounting Review, 84*(4), 1281–1309. https://doi.org/10.2308/accr.2009.84.4.1281

Yang, Q., Mudambi, R., & Meyer, K. E. (2008). Conventional and Reverse Knowledge Flows in Multinational Corporations. *Journal of Management, 34*(5), 882–902. https://doi.org/10.1177/0149206308321546

Yazdifar, H., Zaman, M., Tsamenyi, M., & Askarany, D. (2008). Management Accounting Change in a Subsidiary Organisation. *Critical Perspectives on Accounting, 19*(3), 404–430. https://doi.org/10.1016/j.cpa.2006.08.004

Endnotes

[1] *However, the option is rarely used due to high tax compliance costs.*

[2] *Daske, Hail, Leuz, & Verdi (2013) identify a similar pattern of "just-a-label-adoption" in case of mandatory IFRS adopters as well.*

[3] *This solution has the highest explicit costs, usually not balanced by sufficient benefits, therefore it is not economically rational.*

[4] *Until the end of 2010 as no other option was available, since 2011 due to tax restrictions.*

[5] *The study of PwC (2013) lists the differences on 82 pages.*

[6] *This design was chosen to mitigate any risk of misrepresentation or misunderstanding of the questions by the respondents. This kind of the risk is usually present in questionnaire-like surveys and it is one of the main disadvantages of surveys compared to interviews.*

[7] *Regarding the dependent variables, they are transformed to binomial responses in the following way. Perception: all values equal and over the median*

المنارة للاستشارات www.r

(i.e. Average, Rather high, and High) are coded 1, otherwise 0. Similarly, if the number of areas is equal or over the median, then the value is coded 1.

[8] *The regression was also run for alternative measures of size, leverage, and profitability. All combinations produce comparable (i.e., statistically insignificant) results.*

Acknowledgments

The paper is supported by the Czech Science Foundation under the research project "Economic Impacts of the IFRS Adoption in Selected Transition Countries" (No. 15-01280S); the support is gratefully acknowledged.

This work is licensed under a Creative Commons Attribution 4.0 International License.

المنارة للاستشارات

www.r

DOI: 10.5709/ce.1897-9254.255

المنارة للاستشارات
www.m

Reproduced with permission of copyright owner. Further reproduction prohibited without permission.

المنارة للاستشارات

www.r