SPECIFICS OF IFRS ADOPTION BY CENTRAL AND EASTERN EUROPEAN COUNTRIES: EVIDENCE FROM RESEARCH

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Abstract

The paper reviews recent literature on the specifics of adoption of International Financial Reporting Standards (IFRS) by the new EU members from the Central and Eastern Europe. Despite being members of the EU or OECD, the transition to a standard developed economy has not yet finished. The first part of the paper presents macroeconomic statistics and capital market data, which underline a unique economic structure of the region (relative unimportance of capital markets for raising capital, strong dependence on foreign direct investments) combined with the lacks in institutional environment. Under such conditions, the economic consequences of IFRS adoption can be unpredictable and adverse. The second part of the paper analyses the reflection of specifics of the IFRS adoption in the CEE region in research studies covered by the Thomson Reuters' Web of Science database. The analysis reveals (a) cross-country disproportion in the research coverage of the area; (b) relatively low coverage of the IFRS research focusing on these transition countries in top journals.

Keywords: IFRS adoption, Central and Eastern Europe, Listed companies, Private companies

JEL classification: M41

1. INTRODUCTION

Despite the Czech Republic, Estonia, Hungary, Poland, Slovakia, and Slovenia are members of the Organisation for Economic Co-operation and Development (OECD), all new EU members from the Central and Eastern Europe continue to be considered as emerging, or transition economies. A communistic history with command economy has still an impact on the quality of institutions; the lacks in an institutional environment undermines the strength of economic development. The quality of financial reporting suffers from these deficiencies as well. Under such conditions, the economic consequences of IFRS adoption can be unpredictable and adverse, reminding the findings of recent research about the uneven distribution of the cost and benefits of the IFRS adoption even in developed countries (Christensen *et al.*, 2007; Daske *et al.*, 2008; Daske *et al.*, 2013).

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Currently, the IASB evidences 140 countries adopting the IFRS in some extent. The research on IFRS adoption can be divided into two phases – before and after the worldwide spread of the IFRS. The harmonisation effort was finished formally by the issuance of the Regulation (EC) 1606/2002 on International Accounting Standards and IOSCO Resolution on IAS from the same year. Since 2005, the IFRS are widely used by listed companies in the capital markets as well as by other entities either mandatorily or voluntarily. In the pre-2005 era, the research focused mainly on the determinants of voluntary IFRS adoption and its outcomes. Dumontier and Raffournier (1998), Murphy (1999) and Ashbaugh (2001) focus on adopting firms' characteristics and conclude that the voluntary adoption of the IFRS is self-motivated by firms in order to decrease bonding costs, to increase the international audience and to meet the informational demands by international investors. El-Gazzar *et al.* (1999) underline the role of geographic membership in certain trade blocks as a factor promoting the voluntary adoption. All these studies confirm that a supply of financial statements under internationally accepted standards is of an endogenous nature, however not applicable for all companies. As Cuijpers and Buijink (2005) point out the majority of EU listed companies did not opt for voluntary adoption of non-local GAAP standards. Their inference on expected negative net benefits stemming from a potential transition to non-local GAAP is also supported by Christensen (2012).

A great boom of research has arisen since the mandatory adoption of IFRS. To review all cardinal studies is impossible. The basic framework for the assessment of the economic consequences of mandatory IFRS adoption is outlined by Ball (2006). Soderstrom and Sun (2007) review pioneer studies in the field; Bruggemann *et al.* (2013) review mainly the studies addressing the EU experience; De George *et al.* (2016) attempt at a complex overview of the IFRS adoption literature published in TOP 5 accounting journals. There are also several papers focusing on the outcomes of voluntary IFRS adoption by private (unlisted) companies (e.g., Francis *et al.*, 2008; Nobes, 2010; Bassemir, 2011; Matonti and Iuliano, 2012; André *et al.*, 2012; D. Yang, 2014). Regardless mandatory or voluntary adoption, empirical evidence reveals that both country- and company-specific prerequisites must be met to benefit from internationally harmonized financial reporting. The reporting incentives of companies and the functioning enforcement regime are crucial factors of the success. In fact, the accounting quality is a function of the institutional framework (Ball *et al.*, 2000; Ball *et al.*, 2003) and it cannot be imported from the outside just by a change of accounting standards (Leuz *et al.*, 2003). Finally, neither developed countries with the strong protection of investors were immune to the changeover to IFRS. Callao and Jarne (2010) and Ahmed *et al.* (2013) identify an increased opportunistic earnings management even in countries with a strong enforcement, presumably because the regulators were not sufficiently prepared for the changes.

Legal, cultural, and social environments significantly influence the economic institutions such as capital market, ownership structures, dividend policy, protection of creditors and investors, as well as financial reporting (Leuz and Wysocki, 2008). If the developed countries have been experiencing problems and negative consequences accompanied by the IFRS adoption, the impact on transition countries with lacks in institutions might be even worse. Furthermore, the IFRS are developed primarily to satisfy the informational needs of investors in capital markets. As it will be shown later in the paper, capital markets in the CEE region do not usually play an important role in local economies. The findings of empirical research of capital markets in the developed countries might not therefore be relevant for the transition countries. Finally, regardless whether the

outcomes of mandatory or voluntary adoption are scrutinised, empirical studies predominantly investigate the samples of companies adopting the IFRS in their statutory accounts. All data are thus publicly available. However, there are a lot of economically important companies in the region, adopting the IFRS, which do not publish the IFRS statements, as these are not used in statutory fillings, but "only" for consolidation purposes of the parent company. In fact, the subsidiaries of the parents reporting under IFRS regime are the most numerous group of IFRS adopters.

The objective of the paper is to supplement the recent reviews of the IFRS adoption literature by a narrow focus on the specifics of Central and Eastern European countries, which are the new members of the European Union. This region is a dynamic in terms of economic development, yet the countries can be distinguished from the old EU members by their unique economic structure (an important role of foreign direct investments) and several weaknesses in the institutional environment, despite facing the common EU legal framework. The unique discontinuity in economic as well as in institutional development and unpredictable dynamics of the transition changes creates unique conditions, under which the adoption of financial reporting standards stemming from a very distinctive accounting tradition can result in unusual and unexpected outcomes.

The remainder of this paper is organised as follows. The Section 2 outlines the main economic and capital market data, which support the conjecture about the specific characteristics of the CEE region, which may have impact on the outcomes of the IFRS adoption. Section 3 analyses the literature on the IFRS adoption in the selected countries, indexed in Thomson Reuters' Web of Science. Based on the literature review, potential topics for future research are proposed in Section 4. Concluding remarks are presented in Section 5.

2. BASIC ECONOMIC DATA FOR CEE COUNTRIES

The separate treatment of the effects of IFRS adoption in the CEE region is justified by unique economic, social, legal condition of these countries compared to developed countries. In this chapter, several statistics will be presented to highlight the magnitude and importance of differences. The specifics will be demonstrated on macroeconomic and capital market data. Datasets published by the Eurostat, the World Bank (WB), and the Federation of European Securities Exchanges (FESE) are utilised in the analysis. To get benchmark, data on the CEE countries will be matched with other EU members[1].

The EU-17 countries have a dominant economic power, as they produce 92.1% of the total EU gross domestic product, despite having "only" 79.6% of the EU population. Each of the Big-4 economies (Germany, France, UK, and Italy) has a bigger output than the CEE countries combined. The GDP of the CEE countries is equal to Spanish GDP. Only Poland reaches Top 10; the next best from the region is the Czech Republic (16th place), followed by the remaining CEE countries (interrupted only by Luxembourg). The economic superiority of old members is confirmed by the indicator of GDP per capita, with Slovenia being the best for CEE at 16th place, just ahead the worst from EU-17 Portugal and Greece. As prices differ across countries, we present also data on purchasing power parities (PPP) to capture a real power of inhabitants to acquire economic goods. Despite slight relative improvement by the CEE countries, the Czech Republic is ranked on the 14th place as the best among its companions.

Table no. 1 – Macroeconomic indicators of the EU (year 2014)

Country	Type	Population	GDP (mil. €)	Rank	GDP per capita (th. €)	Rank	PPP (% EU-28)	Rank
Austria	EU-17	8,506,889	329,296	10	38,709	6	130	4
Belgium	EU-17	11,203,992	400,643	9	35,759	9	119	8
Bulgaria	CEE	7,245,677	42,751	22	5,900	28	47	28
Croatia	CEE	4,246,809	43,020	21	10,130	26	59	26
Cyprus	EU-17	858,000	17,394	27	20,272	14	82	17
Czech Rep.	CEE	10,512,419	154,739	16	14,720	20	85	14
Denmark	EU-17	5,617,345	260,582	11	46,389	2	125	5
Estonia	CEE	1,315,819	19,963	26	15,171	19	76	20
Finland	EU-17	5,451,270	205,268	12	37,655	7	110	9
France	EU-17	65,835,579	2,132,449	3	32,391	11	107	11
Germany	EU-17	80,767,463	2,915,650	1	36,099	8	124	6
Greece	EU-17	10,926,807	177,559	14	16,250	18	73	22
Hungary	CEE	9,877,365	104,239	18	10,553	25	68	23
Ireland	EU-17	4,605,501	189,046	13	41,048	4	134	2
Italy	EU-17	60,782,668	1,613,859	4	26,551	12	96	12
Latvia	CEE	2,001,468	23,581	25	11,782	23	64	25
Lithuania	CEE	2,943,472	36,444	24	12,381	22	75	21
Luxembourg	EU-17	549,680	48,898	20	88,956	1	266	1
Malta	EU-17	425,384	8,106	28	19,056	15	84	15
Netherlands	EU-17	16,829,289	662,770	6	39,382	5	131	3
Poland	CEE	38,017,856	410,845	8	10,807	24	68	23
Portugal	EU-17	10,427,301	173,446	15	16,634	17	78	18
Romania	CEE	19,947,311	150,230	17	7,531	27	55	27
Slovakia	CEE	5,415,949	75,561	19	13,951	21	77	19
Slovenia	CEE	2,061,085	37,303	23	18,099	16	83	16
Spain	EU-17	46,512,199	1,041,160	5	22,385	13	91	13
Sweden	EU-17	9,644,864	430,642	7	44,650	3	123	7
UK	EU-17	64,351,155	2,254,297	2	35,031	10	109	10

Source: Eurostat/Reports tps00001; tec00001; tec00114 and own calculations

Presented macroeconomic data confirm the presumption about a lower economic performance of the CEE countries and justifies their denotation as economies in transition. However, a weaker economic power does not have to preclude countries from obtaining of benefits of the worldwide accounting harmonisation through IFRS adoption. Additional structural indicators are therefore assessed. As the IFRS are developed primarily for capital markets to ensure transparency, accountability and efficiency of financial markets, the capital market characteristics are scrutinised next.

Table no. 2 captures the development of regulated capital markets in the EU over the period 1994-2012[2]; namely the number of listed companies per a million of inhabitants. However, the criterion is not utterly ideal for the assessment of the importance of capital markets in the domestic economy, because it is favourable to small countries offering a wide range of legal, tax, social, and other advantages to multinational enterprises. This is also confirmed by the EU statistics, as Cyprus is ranked first, Luxembourg is the third and Malta the fifth. Only Spain (2nd) and Bulgaria (4th) reach Top 5 from countries with large populations. Most big economies (except for the UK) are located rather in the second half of the rankings. The Czech Republic is the last, experiencing a drop from 99.1 listed companies

per one million inhabitants in 1994 to 6.2 companies in 2003 and just to 1.6 companies in 2012. In the reference year 1994, the Czech market was the second largest European capital market in terms of the number of listed equities. The Czech stock exchanges are, although, placed at the tail of the rankings at present; only a fraction of companies compared to the past years being currently traded. A massive going-private process is an outcome of the unique transformation from command economy to private ownership. The Czech government opted extensively for the mass privatisation, which led to a largely dispersed ownership of companies by millions of people. The following concentration of equity interests came about spontaneously via domestic stock exchanges. The concentration turned to quite rapid delistings from the Czech alternative RMS market. A similar development can be tracked also for other CEE countries (e.g. Slovakia or Romania). Contrariwise, there is one exception, namely the Polish capital market, which has been experiencing the strongest growth among the CEE countries as well as in the whole EU area. The number of equities traded has increased by almost 300% from 2002 till 2012. Data are presented in Table no. 2 - Panel A.

Table no. 2 – Number of listed equities per 1 million inhabitants (Panel A);
Market capitalisation to GDP in % (Panel B)

Country	Panel A (Listed companies per 1 mil. inhabitants)			Panel B (Market capitalisation to GDP)		
	1994	2003	2012	1994	2003	2012
Austria	14.0	10.6	8.3	14.9%	21.1%	26.0%
Belgium	15.3	24.1	13.8	34.2%	54.5%	60.1%
Bulgaria	1.9	45.5	53.0	0.0%	8.3%	12.7%
Croatia	6.2	14.9	43.1	0.0%	17.7%	38.2%
Cyprus	45.4	152.3	98.3	18.0%	36.1%	8.8%
Czech Rep.	99.1	6.2	1.6	12.5%	17.8%	18.0%
Denmark	48.4	34.7	31.1	34.8%	55.8%	69.8%
Estonia	0.0	10.2	12.1	0.0%	38.6%	10.3%
Finland	12.8	27.2	22.0	37.0%	99.5%	62.0%
France	7.7	15.0	13.1	32.2%	73.4%	67.9%
Germany	5.1	8.3	8.3	21.3%	43.1%	42.1%
Greece	20.5	30.8	24.1	12.7%	53.0%	17.9%
Hungary	3.9	4.8	5.1	3.7%	19.7%	16.6%
Ireland	22.3	13.8	9.2	0.0%	52.0%	49.1%
Italy	3.9	4.7	4.7	16.4%	39.2%	23.0%
Latvia	0.0	24.5	15.2	0.0%	10.2%	3.9%
Lithuania	3.6	14.1	11.0	0.0%	18.9%	9.4%
Luxembourg	148.9	93.0	54.6	154.6%	128.3%	125.0%
Malta	10.9	32.6	47.7	1.7%	35.7%	41.0%
Netherlands	20.6	16.5	6.3	76.0%	85.6%	79.1%
Poland	1.1	5.3	21.9	2.8%	17.1%	35.8%
Portugal	19.5	5.3	4.4	16.3%	35.3%	30.1%
Romania	0.2	207.8	3.8	0.2%	9.4%	9.4%
Slovakia	3.4	56.9	12.8	5.4%	5.9%	5.0%
Slovenia	12.6	67.1	29.7	0.0%	24.0%	14.0%
Spain	9.6	76.4	67.7	29.3%	80.1%	73.4%
Sweden	26.0	29.2	34.9	57.9%	87.5%	103.1%
UK	35.8	38.7	34.2	107.1%	126.6%	115.5%

Source: World Development Indicators (time series „FS.AST.PRVT.GD.ZS "); own calculations

    The number of listed companies corresponds to the importance of stock exchanges for the local economy only loosely, as the indicator considers all issuers to be equal regardless whether it is a middle-size entity with domestic operations only, or a big multinational enterprise. This shortcoming can be overcome using the market capitalisation indicator, which relates the market value of all stocks against a country's gross domestic product. Luxembourg is still on the top, other leading places are now occupied with big EU-17 economies: the UK being the second, Sweden the third or the Netherlands the fourth. The power of domestic stock exchanges compared to GDP in the CEE region is considerably lower than for the old members. Only Portugal and Greece are positioned among CEE countries in the second half of the rankings. For CEE region, Croatia is the best and ranks in the 13th place, followed by Poland in the 14th place. Diverse results can be identified for the Czech Republic and Slovakia. Regarding the number of issuers, Czech market is almost the smallest (27.), but in terms of market capitalisation to GDP it reaches the rank 18. On the other hand, Slovakia is the 17th in case of equities traded; but the share of their market capitalisation to GDP is the second lowest of the whole EU. The underlying data are presented in Table no. 2 - Panel B.

    Furthermore, data on trading activity and trade concentration collected by the Federation of European Securities Exchanges (FESE) are presented in Table no. 3[3]. Based on the volume of trades in millions of €, a low trade activity is typical for Slovakia, Slovenia, Bulgaria as well as for small countries-tax havens (Cyprus, Malta, and Luxembourg) confirming that these three countries attract issuers not because of obtaining the access to financing, but for legal and tax reasons. The most active market from CEE region is once again the Polish one. More interesting information is captured in the columns TOP 1 / TOP 3 / TOP 5, which indicate the share of one / three / five most frequently traded equity instrument(s) compared to all trades on a given stock exchange. Referring to data in the sub-columns "Percent", substantial cross-markets differences can be identified. EU-17 markets usually experience a high dispersion of trades, CEE markets are characterised with trades concentrated only on a small number of titles. For example, the most traded Bulgarian equity (Petrol AD-Sofia) counts for 69.5% of all trades (in monetary terms); similarly, Best Hotel Properties makes 61.4% of all trades at the Bratislava Stock Exchange. Over one third share by the most traded title can be also seen in Estonia, Hungary, Latvia, Slovenia, and Romania; from EU-17 countries only Belgium is approaching this limit. Next, the first five most traded instruments count for over 90% of trades in case of the Czech Republic, Hungary, Slovakia, and Estonia. Bulgaria, Latvia, and Slovenia break the 80% border.

    Table no. 3 outlines also an alternative measure of the trade concentration; namely Herfindahl–Hirschman Index (H-index)[4]. The higher value of H-index, the lower number of equities makes the decisive volume of trades and the market is concentrated. Contrariwise, low values of H-index indicate an equal dispersion of investors' interest into more equity instruments and the market can be viewed as an active one. Not surprisingly, the most advantageous values of H-index (i.e. the lowest values) display the big capital markets in Germany and France. On the other hand, H-index amounts to high values in all CEE countries, except for Poland, which confirms its leading and exceptional position among the new EU members. The Warsaw Stock Exchange has even better assessment based on H-index than Austrian, Spanish, or Scandinavian exchanges.

Table no. 3 – Trading activity at the CEE stock exchanges (year 2013)

Stock exchange	Trade volume	TOP 1		TOP 3		TOP 5	
		Percentage	H-index	Percentage	H-index	Percentage	H-index
Bratislava Stock Exchange	39	61.4%	3,772	94.8%	4,672	96.8%	4,674
Bucharest Stock Exchange	1,165	39.3%	1,542	62.7%	1,818	75.8%	1,911
Bulgarian Stock Exchange	657	69.5%	4,825	79.9%	4,884	84.5%	4,895
CEESEG - Budapest	7,830	47.4%	2,247	84.6%	2,970	98.2%	3,141
CEESEG - Ljubljana	300	38.6%	1,487	80.3%	2,641	87.7%	2,669
CEESEG - Prague	6,724	32.1%	1,028	80.2%	2,246	93.9%	2,392
NASDAQ - Riga	n/a	43.4%	1,887	74.8%	2,507	85.4%	2,564
NASDAQ - Tallinn	n/a	46.5%	2,166	78.9%	2,708	91.2%	2,787
NASDAQ - Vilnius	n/a	22.4%	502	49.8%	953	61.3%	1,020
Warsaw Stock Exchange	52,629	15.5%	241	35.1%	435	49.0%	537

Source: own calculations based on data FESE (time series „Historical data "available at www.fese.eu/ statistics-market-research); trade volume in mil. €; H-index = Herfindahl–Hirschman Index

The macroeconomic and capital market characteristics confirm an intuitive presumption about the specifics of transition countries of the CEE region. Capital markets do not play an important role in these economies; the number of traded equities is low, the market capitalisation is negligible, and the trades are concentrated just on few instruments. In many cases[5], companies are listed on the stock exchanges as a consequence of mass privatisation since early 1990s. Their presence on capital market can thus not be motivated by lowering cost of capital or by any other economic reason, which may negatively affect their incentives to provide the public with useful financial statements. The empirical data indicate a general dysfunctionality of the CEE capital markets, as the number of listed companies has been substantially decreasing in the Czech Republic, Slovakia, Latvia, and Lithuania since 2005 (the effective year of the Regulation (EC) on IAS). For other countries, the empirical evidence provides mixed results about the capital market development. The only exception is Poland, which has succeeded in attracting not only domestic, but also foreign IPOs, being No. 1 in 2012 and No. 2 in 2013 in the whole EU (PwC, 2014).

Undeveloped and malfunctioning capital markets in the CEE region impede users and companies to obtain expected positive benefits of countrywide IFRS adoption. The roots of deficiency are to be sought in imperfections of the institutional environment in the region, including the enforcement regime. The importance of high quality institutions as well as working enforcement is highlighted by many studies (e.g., Jeanjean and Stolowy, 2008; Lee Lee *et al.*, 2008; Berger, 2010; Li, 2010; Houqe *et al.*, 2012; Pownall and Wieczynska, 2012; Ahmed *et al.*, 2013; Glaum *et al.*, 2013). The unfavourable outcomes of accounting harmonisation in transition countries were predicted already before the mandatory IFRS adoption took place. Ball (2001) asserts a simple adoption of Western-looking accounting standards by transition countries is not enough, as a country's disclosure infrastructure is overwhelmingly a function of its political and legal system. Furthermore, the improvement in financial reporting is preconditioned by simultaneous changes in economic, legal, and political fabric. The conjecture about the lower quality of institutional framework in the CEE countries can be supported e.g. by the Global Competitiveness Index (GCI) and its 1st pillar, i.e. quality of institutions[6].

3. THE SPECIFICS OF IFRS ADOPTION IN THE CEE REGION: LITERATURE ANALYSIS

3.1 Methodology

The previous analysis provides with solid arguments to consider the CEE region distinguishably different from the EU-17 at least in economic factors. Combined with different legal, cultural, political, social institutions as a result of the previous era of command economy and communistic/socialistic regime, it may create an environment, where the outcomes of IFRS adoption can be unique compared to developed countries. The uniqueness shall be a matter of importance also for accounting research. For this reason, the analysis of literature focusing on the specifics of IFRS adoption by CEE countries is performed.

An attempt to review the literature relating to IFRS adoption is made by N. Albu and Albu (2014) and other articles in a special volume of Accounting & Management Information Systems (volume 13, issue 2, 2014) focused on "IFRS application in Central and South-Eastern European countries". From the new EU members, the perspectives on the adoption process in the Czech Republic, Poland, Romania, Slovenia, and Estonia are introduced. However, a systematic overview, being based on generally accepted standards for the assessment of relevant research papers, has not been performed for the entire region yet.

Firstly, it should be stated that comprehensive analysis is impossible. If the keyword "IFRS" is searched for in the Google Scholar website platform, it returns over 190,000 references. If e.g. the phrase "IFRS Czech" is entered, the Google Scholar gives back 5,110 articles[7]. A comparable amount of references is displayed for the keyword "IFRS Romania" (4,750 records). For this reason, the complete investigation of all articles related to the IFRS adoption in the CEE area cannot be processed under cost-benefit constraint. To distinguish works of a high relevance for the research community[8], only resources included in the Thomson Reuters' Web of Science database (further WoS) are inspected[9]. Trying to detect articles dealing the specifics of IFRS in the CEE region, three distinct types of articles can be identified:

- big studies assessing various economic consequences of IFRS adoption across many countries in Europe/around the world, including some or all CEE countries;
- country-specific studies for particular CEE country;
- special comparative studies for selected CEE countries/whole region.

The first type (i.e. countrywide studies) is excluded from the further analysis for three reasons. Firstly, these papers provide the evidence that the benefits of IFRS adoption are not evenly dispersed and their occurrence depends on individual reporting incentives of firms and/or on functioning enforcement regime. The cross-sectional heterogeneity in effects of IFRS adoption is stressed by the studies concluding that the CEE region does not share benefits as they have deficient enforcement – e.g., Daske et al. (2008); Glaum et al. (2013); Houqe et al. (2012); Jeanjean and Stolowy (2008); Lee et al. (2008)[10]. Secondly, the countrywide studies are mostly based on "big data" from commercial databases (such as Datastream, WorldScope, Compustat, etc.). The quality of data for CEE capital markets is questionable; many listed companies are not included, data are incomplete, missing, mismatched[11,12]. Data are more frequently available for big companies, which have although more incentives to adopt IFRS voluntarily (Dumontier and Raffournier, 1998; Cuijpers and Buijink, 2005). As Christensen et al. (2007) and Bruggemann et al. (2013) point out, the

database bias towards large companies can exaggerate the benefits of mandatory IFRS adoption. A relatively small size of the CEE issuers[13] handicaps to obtain similar effects for capital market in these economies as in developed countries. Thirdly, big data papers suffer from significant delays[14] between the date of data origin and the date of paper publication. The findings identified, e.g. on data for the period 2005, but published in a paper, e.g. in 2013, can be interesting, but also out-of-date[15]. This assertion is in line with the findings of Iatridis and Rouvolis (2010) who argue that firms in code law countries IFRS need more time to get familiar with the exact meaning of IFRS principles. Similar remark is made by Barth *et al.* (2008). A long distance between data origin and paper publication increases the risk of suboptimal decisions, if used by policy makers.

For the reasons summarised above, the paper's analysis concentrates on single-country studies or on comparative-country studies. Applied methodology in the country-studies can solve many of the most common restrictions of big data studies (incomplete data, delays, and unawareness of local specifics); especially if high quality data collected manually is used. This view can be supported by findings of some up-to-date studies, which reveal that the quality of financial reporting by Czech listed companies has considerably improved in certain aspects recently (Honkova, 2015; Vojáčková, 2015). Furthermore, a detailed focus on homogenous sample (or population) of companies, manual work with annual reports and/or good knowledge of country- or company-unique characteristics might be a decisive factor for the identification of the specifics of IFRS adoption in a given country.

To summarise and justify the restriction of the literature analysis, big studies may reveal that the outcomes of the IFRS adoption process are different in the CEE region, they may identify the determinants (or proxies of determinants) of the differences, but they are silent about the reasons behind. This shortcoming can be removed by a detailed country study (or comparative study) backed by a good knowledge of local specifics, as many companies and countries exercise the exceptions, which influence the results of the adoption process (Pownall and Wieczynska, 2012).

3.2 Analysis procedure

The analysis of literature on IFRS adoption in the CEE countries was run records contained in the WoS on 8 February 2016. The procedure is as follows:

- The keyword "IFRS" is entered into the "Basic Search" form and the field "Topic" is selected from the menu. The query finds 1,438 unique records, which contain the word "IFRS" in the paper's title or in its abstract.
- Restriction of research domains to "Social Sciences" and "Art Humanities" is made to exclude the results from "Technology". The restriction yields 1,285 records (for accounting and related areas).
- Complete publication data for all records are exported from WoS and imported into the citation program Zotero.
- Complete bibliographical records are exported from Zotero to an Excel file.
- Papers' titles and abstracts are screened for keywords relevant to the CEE region; i.e. the names of CEE countries, regional denotations (such as Central Europe, Eastern Europe, CEE, new EU members, V4 countries, Balkan countries, Baltic countries, etc.), supplementary labels (such emerging / transition / developing / communistic / socialistic / command country or economy). 102 such papers are identified in total.

- Each paper focusing on the specifics of IFRS adoption in the CEE region is classified either as a country study (and assigned to corresponding country) or as a regional/comparative study.
- The identified papers are further analysed based on selected criteria (publication year, type of publication, the main topic of publication).

Table no. 4 – Selection process for the WoS literature

Selection process	Number of records
Keyword "IFRS"	1,438
Restriction to accounting area	1,285
Identification of the CEE related papers	102

Source: own analysis of records in the Web of Science

89 of 102 research papers are country-specific studies investigating the selected research question only for the conditions of a given economy. The most frequent cases deal with the Czech Republic and Romania, confirming thus previous findings on the leading position of these countries in accounting research in the CEE region (N. Albu and Albu, 2014)[16]. On the other hand, there is not a single country-specific study for six economies. Furthermore, the WoS indexes only three papers on the Polish experience with IFRS adoption, which is in a direct contradiction with the leadership of its domestic capital market in the region. In general, the number of papers has been steadily increasing since 2011. However, this does not mean automatically an increasing awareness of the importance of the region, but it can be just a result of the increasing pressure to publish articles indexed in databases generally recognised by the research community (C. N. Albu and Albu, 2015)[17]. Some arguments for the second conjecture will be provided with data in Table no. 5.

Table no. 5 – WoS results for country studies

Year	BUL	CZE	EST	CRO	LAT	LIT	HUN	POL	ROM	SLO	SVK	Total
2002											1	1
2003												0
2004											1	1
2005			2									2
2006												0
2007		1							1			2
2008		1							1		1	3
2009		2							2			4
2010									5			5
2011		7							3	1		11
2012		6							14			20
2013		5						1	8		1	15
2014		8						2	8			18
2015		4							3			7
Total	**0**	**34**	**0**	**0**	**0**	**0**	**0**	**3**	**45**	**1**	**4**	**89**

Source: own analysis

A detailed analysis of the main topics is made for two major countries. In case of the Czech Republic, 9 papers present a comparative analysis for the accounting treatment of certain accounting elements according to Czech GAAP in comparison with the treatment under IFRS; 6 papers focus on the mutual relationships between accounting under IFRS regime and taxation; 4 papers deals with the technical aspects of conversion of financial statements from Czech GAAP to IFRS; 3 papers are interested in decision-usefulness of IFRS for external users and 3 papers assess the impact of IFRS adoption on management accounting and internal users. It should be stressed that most papers do not assess economic consequences of IFRS on listed companies, but rather on other entities actually or potentially engaged in the adoption. An opposite situation can be identified in case of Romanian research, where most papers evaluate the impact of IFRS adoption on the Romanian listed companies or on the banking industry (11 papers both). Romanian authors also investigate the perceptions of stakeholders (users, preparers, auditors, advisors) on the decision-usefulness of IFRS (10 instances).

Table no. 6 – WoS results for regional studies of the CEE area

Year	Country-country	Baltic countries	CEE Region	Total
2011	1		1	2
2012	4	1		5
2013	2		1	3
2014		1	1	2
2015	1			1
Total	8	2	3	13

Source: Own analysis

The preference of country studies, in which authors utilise their knowledge of local environment, is confirmed also by Table no. 6. It decomposes just 13 regional studies, which compare situation in two or more countries. In 8 instances, a comparative study focuses on two (or maximum three) economies: two papers analyse the links among countries within the CEE region; remaining six articles use the developed markets as a benchmark. There are also two studies for Baltic countries. Finally, three papers take a comprehensive view and attempt to evaluate the consequences of IFRS adoption in the whole CEE region.

The most important piece of knowledge revealed by the literature analysis is that only 17 papers out of 102 are the journal articles. Remaining 85 papers are contributions to conference proceedings. From the journal articles, two are comparative country studies and both relate to topics rather on the edge of research interest in the field of IFRS adoption – consolidated taxation (Kahle and Schulz, 2011) and education (Jackling *et al.*, 2012). There are also two papers dealing with a bulk of the countries of the region (Djatej *et al.*, 2011 and Zehri and Chouaibi, 2013). All these four papers, taking a broader perspective than a single country, are written by the "regional outsiders". The local researchers prefer – similarly to conference articles – country-specific studies. One paper focuses on the impact of IFRS on Slovenian risk management activities (Berk and Loncarski, 2011); two studies address Slovakian particularities on consolidation in the pre-adoption period (Hvozdarova, 2002; Hvozdarova, 2004). Three articles have a Romanian origin (N. Albu and Albu, 2012; C. N. Albu *et al.*, 2014; Istrate *et al.*, 2015). Finally, seven studies address several issues of

interest from the point of view of Czech accounting academia (Svoboda, 2007, 2008, 2011; Malikova and Brabec, 2012; Šimberová and Kocmanová, 2013; Honkova, 2015; Mejzlik *et al.*, 2015). There is no country study published by the WoS journals for Poland. It is once again surprising taking into account the regional importance of the Warsaw Stock Exchange. It has to be admitted that some papers are published in Scopus journals or in other international journals (e.g., Jaruga *et al.*, 2007; Dobija and Klimczak, 2010; Klimczak, 2011), but the top league of WoS journals seems to be unattainable either for Polish researchers or for the research focused on specifics of the IFRS adoption in Poland.

Following implications of the literature analysis are to be emphasised:

- Country studies performed by domestic authors are mainly published in domestic journals; if a foreign journal is opted for the publication, then it is a journal devoted to general economics or business, but not specialised in accounting. There are only two exceptions from this rule – N. Albu and Albu, 2012 and C. N. Albu *et al.*, 2014.

- Papers do not usually deal with the measurable economic consequences of IFRS adoption; application of quantitative data and econometric methods is rather rare. The preference is put on "expert opinions, qualitative statements and comparative analyses of accounting treatments" and other methods of field studies.

- The relation between journal articles and conference proceedings is totally opposite to the rest of the papers in the population. 1,052 out of 1,285 papers on IFRS adoption listed in the WoS are journal articles, which make 81.9% of all papers. Only 18.1% of the articles are conference articles or book chapters in the conference proceedings. However, the proportion of the papers on CEE region is inverse, as sketched in Table no. 7.

The journal articles on the CEE specifics count for just 1.6% of all WoS journal papers on the outcomes of IFRS adoption. However, the papers relating just to the Czech Republic and Romania make 5.2% share of all papers identified by Google Scholar. These findings lead to a conjecture about a relatively huge disproportionality between quantity and quality of research on the IFRS adoption in the CEE region.

Table no. 7 – WoS papers on the IFRS adoption according to their type and regional focus

Type of paper	CEE region		Other papers		Total	
	Count	Share	Count	Share	Count	Share
Journal article	17	16.7%	1,035	87.5%	1,052	81.9%
Conference paper	85	83.3%	148	12.5%	223	18.1%
Total	**102**	**100.0%**	**1,183**	**100.0%**	**1,285**	**100.0%**

Source: own analysis

The unsatisfactory state of art is a combined consequence of two factors:

- CEE researchers' incapability to perform a high-level research as well as bias of the top journals' editors to researchers from the CEE area;

- underdeveloped capital markets, which do not offer a vital background for attracting the attention of a wider research community, resulting in the lack of interest in the CEE settings.

The first reason is a general limitation for the academia in the transition countries of the CEE area (N. Albu and Albu, 2014). However, even if the subjective personal limitations of researchers are removed, the latter determinant is objective and prohibitive. Only Poland has a relatively large capital market both in terms of number of issuers and share of total market capitalisation on GDP. Other capital markets of the region are

unattractive, inactive and therefore vapid for doing research. Based on the analysis of economic characteristics, it can be assumed that a relatively poor quality of research on the economic consequences of IFRS adoption on capital markets in the CEE region will not significantly improve in near future.

4. SUGGESTIONS FOR FUTURE RESEARCH

With reference to the Regulation (EC) 1606/2002, Bruggemann *et al.* (2013) identify five goals, which shall be reached through the IFRS adoption in the European Union.
- efficient capital market (ultimate objective);
- transparency and comparability of financial statements (two intermediating financial reporting objectives);
- employment and economic growth (two macroeconomic goals justifying the approval of Regulation (EC)).

Bruggemann *et al.* (2013) label these five goals as intended consequences of IFRS adoption; all other outcomes are comprehended as unintended. Regarding the intended consequences, harmonised financial reporting shall increase accounting quality and value relevance of financial statements for economic decision-making of users. Better information processing by investors shall improve the functioning of capital markets by reducing companies' cost of capital and/or increasing liquidity and trading volumes. Consequently, smooth operation of stocks and bonds market shall support economic growth, employment, foreign direct investments, etc. However, the IFRS adoption influences also other fields of economy.
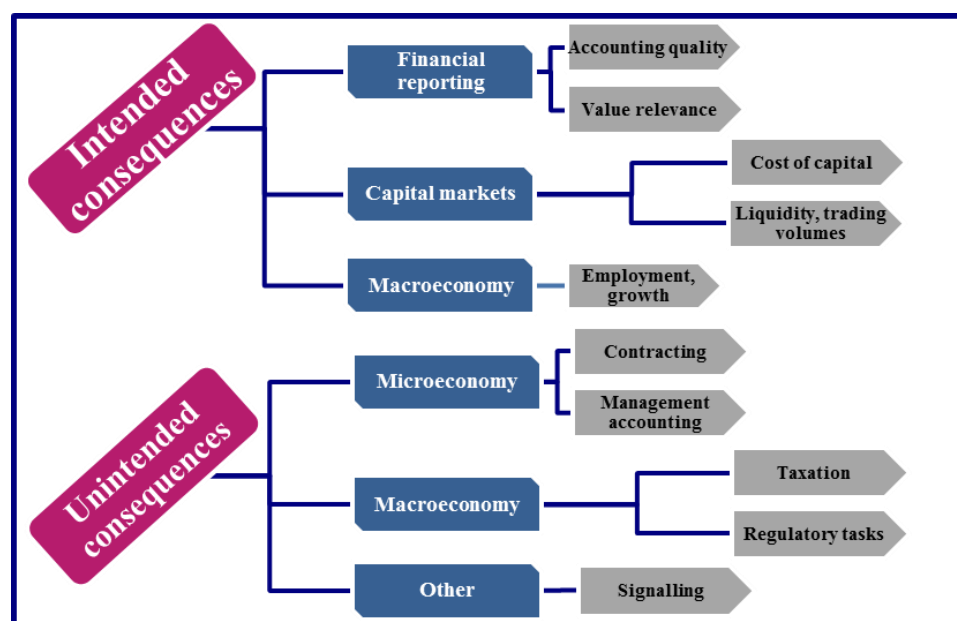
Source: author's extension of the Bruggemann et al. (2013) model
Figure no. 1 – Classification of consequences of IFRS adoption

As accounting figures serve as fundamental sources in contracting (e.g. bank covenants, management compensation), a shift from local GAAP to IFRS may require substantial adjustments of the risk management models of banks or trade partners, bonus schemes of top management, conditional lease payments, etc. Similarly, regulators need to recalibrate or completely rework their regulatory models. The IFRS adoption raises debates in countries with a strong link between accounting and taxation. Transposition of the new accounting system into tax rules can breach the basic canons of taxation, e.g. neutrality, equality, simplicity, and legal certainty (MacDonald, 2002; Oestreicher and Spengel, 2007), esp. if two different accounting regimes (IFRS and local GAAP) coexist in the given economy. Finally, a widespread mandatory adoption of a single set of accounting standards weakens the signalling function (Akerlof, 1970; Spence, 1973) of accounting (Morris, 1987); furthermore it restricts innovativeness of standard setters in long-term (Ball, 2006).

Figure no. 1 summarises intended and unintended consequences of IFRS adoption. Regarding the CEE region, the intended outcomes are hardly of any research interest because of underdeveloped capital markets (see Section 2 for data). The unintended consequences might be more important. In particular, an intense attention shall be devoted to the IFRS adoption within the "parent-subsidiary" links, where the parent is listed at capital markets of any "old" EU member or in any other developed country requiring IFRS for listed companies. The increased focus on research in this field can be backed up by following arguments. Firstly, the CEE countries attract relatively small attention both in general research on the parent-subsidiary links (Q. Yang *et al.*, 2008) and in accounting research on country specifics and consequences of IFRS adoption (N. Albu and Albu, 2014). The evidence on insufficient accounting research on IFRS adoption in the CEE region covered by main WoS journals is also provided in the Section 3. The second reason rests on the arguments explaining the roots of a higher tension between local practices and global standards in transition countries compared to developed countries (C. N. Albu *et al.*, 2014). A more complex environment containing dysfunctional institutions can modify the institutional duality (Kostova and Roth, 2002) into dual institutionality (Alon, 2013) with different strategic responses and economic outcomes than predicted by Guerreiro *et al.* (2012) based on the general Oliver's model (1991). Thirdly, a different economic structure of CEE countries, which lack a sufficient stock of capital to finance the business activities, increases the pressures for attracting foreign capital. Domestic firms under foreign control produce a decisive share of aggregate economic output, which is dominantly exported (Ernest, 2014; Prochazka, 2016a). A massive openness of an economy curtails the power of policy makers to regulate activities of companies and to influence their performance on one side. On the other side, the subsidiaries under foreign control are exposed to meet international standards of doing business (including the requirements on financial reporting). An unfavourable financial reporting regulatory regime, establishing many duties based only on local perspectives, can thus create obstacles to companies operating in an international environment under the subordination of foreign parents. Any regulatory change can then have significant impact on the behaviour of affected subsidiaries.

Based on the paper's exposition, following areas are proposed as potential research topics for future research.

4.1 The role of IFRS adoption in transfer of international practices and knowledge

Accounting as a language of business promotes the transmission of knowledge and practices. IFRS have conceptual background in the common-law tradition; transition countries are characterised by a mixed system of institutions with various origin. The tensions between both systems can be mitigated by the links between foreign parents and domestic subsidiaries, if the latter acknowledge the vision and goals of the group. IFRS might be helpful in the process of accommodating to international practices by sharing knowledge through the same communication language. Future research shall address (a) whether the IFRS are a viable tool of transferring knowledge, practices, values from developed countries to transition countries in the CEE region and vice versa (following the above mentioned findings of business research on conventional and reverse transfers between parents and subsidiaries); (b) whether a successful/unsuccessful incorporation of subsidiaries from the CEE region into the MNEs' structures can mitigate/intensify the negative impact of cultural differences on quality of the group's consolidated financial statements and their comparability with other companies (following the general evidence on the role of culture in current research (Prescott and Vann, 2015).

4.2 The role of IFRS adoption on the architecture of management accounting system

Several previous studies assess the impact of the IFRS adoption on the management accounting practices (Colwyn Jones and Luther, 2005; Angelkort *et al.*, 2008). Some papers highlight a specific type of integration of management accounting with financial reporting after adoption of the IFRS as a statutory system (Weissenberger and Angelkort, 2011). These studies focus, although, on companies with the IFRS as a statutory financial reporting regime, where the impact of IFRS adoption on the design of management accounting could have been reasonably expected. In case of IFRS adopted by subsidiaries, the IFRS are adopted alongside with the statutory local GAAP. The conversion of financial statements is not a trivial issue (Mejzlik, 2006; Šteker, 2013) and the costs of operating more accounting information modules increase significantly. In order to optimise the "cost-benefit function", e.g. Czech subsidiaries under foreign control have been steadily replacing the traditional management accounting practices based on local GAAP by the measures based on IFRS principles (Prochazka, 2011; Prochazka, 2012a), despite their statutory accounting is still being operated under Czech GAAP. The development seems to provide some preliminary evidence that global standards are adopted instead of local practices and supports the conjecture on the "win-win" outcome of "parent-subsidiary" links at least in the Czech Republic. Future research shall investigate the situation in other CEE countries and extend our knowledge about the determinants of the mutual relationship between financial and management accounting under the pressure of divergent external institutions and internal incentives. Furthermore, the cost-benefit analysis shall be processed, as far as the costs of the conversion of financial statements from local GAAP to IFRS concern as well as perceived benefits from having two different subsystems of accounting information. General analysis for EU public entities is made by Macias and Muino (2011), partial evidence for the Czech forced IFRS adopters is elaborated by Prochazka, 2016c.

4.3 The impact of IFRS adoption on corporate governance of subsidiaries

The transparency of financial reporting and corporate governance are still weak in the CEE region (Ding *et al.*, 2009). The positive impact of a foreign parent on the corporate governance of the subsidiary may enhance the quality of inputs submitted by the subsidiary to the parent for the preparation of consolidated statements (the issue raised by the first proposal above) as well as it can bolster the subsidiary's performance. The superior performance of Czech companies under control of foreign strategic investors compared to other types of ownership was already identified in the late 1990s (Claessens and Djankov, 1999), however without discussing the determinants of better corporate performance of this type of privatisation. A possible link between imported corporate governance procedures and performance is suggested by N. Albu *et al.* (2014) on a case study on the privatization of Petrom, the largest company listed on the Romania's Bucharest Stock Exchange (BSE). Future research shall explore the role of IFRS in an entire chain "foreign (strategic) owner – transfer of corporate governance – subsidiary's performance" on larger samples to uncover any specific patterns of the process of accommodating local corporate structures to parent's commands through information and knowledge transfers via accounting systems. Country-studies are recommended, as the methods as well as the results of the privatisation process differ across countries (Mickiewicz, 2009), which may have an impact on the results of corporate governance implementation.

4.4 The impact of IFRS adoption on taxation and investment flows

The findings on previous research proposals might be also important for economic policy makers, especially in the regulation and promotion of foreign direct investments (e.g. through investment incentives) and in the sphere of corporate taxation. If the conjecture on the superior performance of companies under foreign control is confirmed by future research, then policy makers might consider extending the system of incentives and benefits for foreign strategic investors. However, the extended support can have also negative consequences. Firstly, the foreign investors require a corresponding return on their investments. E.g. in the Czech Republic, the net difference between dividends paid out to abroad and received from abroad during 2014 was 214 billion CZK, in relative terms 5% of GDP, which is the third largest share among the EU countries after Malta and Ireland (Kučera, 2015). Ill-considered greater support of foreign direct investments may influence negatively the balance of payments in long-run as well as public budgets (because of tax allowances granted, employee subsidies, etc.).

5. CONCLUSION

The paper reviews recent literature on the adoption of International Financial Reporting Standards (IFRS) in Europe. In particular, the paper investigates the specifics of the adoption process by the countries from the Central and Eastern Europe entering the European Union in 2004 and later. The region experienced a dynamic change in economic, social, legal environment over the last twenty years. Despite being members of the EU or even OECD, the transition to a standard developed economy has not yet finished. The first part of the paper presents macroeconomic statistics and capital market data, which underline a unique economic structure of the region. The capital markets play relatively unimportant

role in raising funds for financing business activities (except for Poland). The region relies heavily on the inflows of foreign direct investments. The foreign investors do not import capital only, but they transfer know-how and business practices as well. Despite positive achievements in recent years, a communistic history combined with centrally planned command economy has still an impact on the quality of institutions. The quality of financial reporting (commonly subordinated to fiscal needs of the states) suffers from these deficiencies as well. Under such conditions, the economic consequences of IFRS adoption can be unpredictable and adverse.

The second part of the paper analyses the reflection of specifics of the IFRS adoption in the CEE region in research studies covered by the Thomson Reuters' Web of Science database. The analysis focuses on the identification of type of papers investigating the topic and their country/regional orientation. The main findings can be summarised in following way: (a) the most research papers are country-specific studies, not attempting at comparing one country's experience with the development in another country of the region; (b) there is a cross-country disproportion in the research coverage (the Czech Republic and Romania being explored overwhelmingly); (c) the international authorial cooperation is rare; (d) authors prefer domestic journals and conferences as the main platform for the disseminating their research results; (e) the most studies are published as conference proceedings; (f) there is a relatively low coverage of the IFRS research focusing on the CEE countries in top accounting journals.

The paper also outlines potential streams of future research. By extending the model of Bruggemann *et al.* (2013), an immense attention to unintended consequences of IFRS adoption is recommended. As foreign direct investments are crucial for economic development of the region, the focus shall be put on the specifics of IFRS adoption in the "(foreign) parent-(domestic) subsidiary" links. Recent fragmental research indicates that IFRS are adopted not only as a group's financial reporting system for consolidation purposes, but IFRS serve also as the tool for transferring global business practices from the parent companies to the subsidiaries. Such transfers have positive impact on the performance of subsidiaries as well as the aggregate economic performance (N. Albu *et al.*, 2014). Similarly, the institutional duality stemming from the tension between global standards and local practices reshapes a traditional architecture of accounting systems and the relations between financial and management accounting (Prochazka, 2016b).

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Notes

[1] EU-15 plus Malta and Cyprus, which do not share common history with new EU members from the CEE region. This group will be denoted "EU-17".

[2] Until 2012, the World Bank utilised the S&P database for the collecting data on number of listed companies over the world. In 2013, the cooperation was ceased and the World Bank started to compile data from several resources, mainly from the various federations of stock exchanges. However, the coverage is not full, as some countries' stock exchanges are not evidenced by collaborating exchanges. Furthermore, the methodology applied differs across the federations. For this reason, the 2012 data presented in the paper are slightly outdated figures, but complete and determined using the same methodology.

[3] To limit the paper's length, only CEE countries are presented in the table (Table no. 3). Croatia was not a member of the FESE in 2013.

[4] The Herfindahl–Hirschman Index is primarily developed to measure the level of output concentration in a given industry. It is calculated as the sum of the squares of the market shares of the firms within the industry. Its values range from 0 to 10,000. Low values indicate a high competition and low concentration of output (0 is for perfect competition); high values show a low competition and high concentration of output (10,000 for monopoly).

[5] e.g. more than one third of equities currently listed at the Prague Stock Exchange are a relic of the coupon privatisation.

[6] Detail composition of GCI and its results are available at https://www.weforum.org/reports/the-global-competitiveness-report-2016-2017-1.

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[7] All three searches were made on 24 December 2016.

[8] I am aware that the relevance for the research community does not guarantee the relevance for the policy makers, regulators as well as for the public. However, an objective yardstick is needed.

[9] This restriction has an obvious disadvantage in omitting some important studies from the analysis – e.g. a frequently cited paper of Sucher and Jindrichovska (2004) for the Czech Republic, or Jaruga *et al.* (2007) and Dobija and Klimczak (2010) for Poland. These papers are listed in the Scopus database, which is no. 2 among recognised indexing platforms. However, the records in the Scopus database are not analysed in this paper (space restrictions of this paper, majority of works are duplicated in both databases). On the other hand, the sole focus on WoS enables to analyse all articles contained in the database. Furthermore, it helps in distinguishing relevant and high-quality research articles from the poor ones. Finally, the approach chosen mitigates the problem of subjectivity in the selection of relevant publications, if the choice would be made from the whole population identified e.g. via Google Scholar. Some kind of the restriction is applied by other review studies as well – compare e.g. with De George *et al.* (2016), who limit their analysis just for five top journals in accounting research.

[10] This is a better situation. There are also papers, which purport to address research question for the whole EU, but they ignore the CEE countries in fact. E.g., Berger (2010) analyses the development and status of enforcement in the EU without investigating any CEE country. Similarly, Callao and Jarne (2010) attempt to detect earnings management practices after the IFRS adoption in the EU, but with no CEE country in the sample.

[11] This has a disastrous effect on the number of companies included in the samples and on the relevance of the papers' results. For example, there are six Czech observations included in the study of Glaum *et al.* (2013), five in Li (2010) and only two companies in Barth *et al.* (2008). Can the results be then relevant to the whole Czech capital market and the whole country? As Bruggemann *et al.* (2013) point out, the restricted samples can be a source of biased results of capital market research on effects of mandatory IFRS adoption.

[12] An example of discussion on quality of data for Czech companies in leading databases e.g. in Prochazka (2012b).

[13] For example, only 3 out of 20 biggest Czech firms (measured by turnover) are listed on the Prague Stock Exchange.

[14] Data collection and input into databases; more complex paper writing; these papers are submitted usually to top journals with a longer review and acceptance process.

[15] E.g. paper of Glaum *et al.* (2013).

[16] It should be stated that almost all authors are inhabitants of corresponding country. There only few instances of co-authorship with researchers outside the region.

[17] In case of the Czech Republic, substantial changes in the research assessment occurred in 2011 (and were effective from 2012 and 2013 respectively).