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MASTER'S THESIS

**Measurement of Mutual Harmonisation of
National Accounting Standards – the
Case of Selected European Countries**

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Declaration of Authorship

Hereby I declare that I compiled this thesis independently, using only the listed resources and literature. I also declare that the thesis has not been used to obtain a different or the same degree.

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Prague, April 29, 2015

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Abstract

This thesis uses data obtained from 335 annual reports of actual companies from ten European countries to quantify the level of material accounting harmony among them. It employs various specifications of the T index and by comparing their outcomes attempts to find the best possible combination of properties desirable for this purpose. The three main problems addressed in this work are; estimating the scope of material harmonisation over time by comparing our results to the previous research, assessing the current extent of material harmony among studied countries, and comparing the situation of Czech and Slovak companies with respect to the rest of the sample.

JEL Classification M41, M49, C14, C43
Keywords T index, accounting harmonisation, accounting policy choice, IFRS

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Abstrakt

Táto práca využíva dáta získané z 335 výročných správ firiem z desiatich európskych krajín, aby medzi nimi kvantifikovala úroveň materiálnej účtovnej zhody. Využíva na to rôzne špecifikácie T indexu a porovnávaním jednotlivých výstupov sa snaží nájsť najlepšiu kombináciu jeho vlastností pre tento účel. Tri hlavné problémy, ktoré táto práca rieši, sú odhadnutie miery materiálnej harmonizácie v čase prostredníctvom porovnania našich výsledkov s predchádzajúcim výskumom, odhadnutie súčasného rozsahu materiálnej zhody medzi študovanými krajinami a porovnanie situácie českých a slovenských spoločností vo vzťahu k ostatným krajinám.

Klasifikácia JEL M41, M49, C14, C43
Kľúčové slová T index, harmonizácia účtovníctva, výber účtovnej metódy, IFRS

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Acronyms

COGS	Costs Of Goods Sold
EEA	European Economic Area
EC	European Communities
EU	European Union
FIFO	First-In, First-Out
GAAP	Generally Accepted Accounting Principles
GDP	Gross Domestic Product
IAS	International Accounting Standards
IASB	International Accounting Standards Board
IASC	International Accounting Standards Committee
IFRS	International Financial Reporting Standards
LIFO	Last-In, First-Out
MACRS	Modified Accelerated Cost Recovery System
OCI	Other Comprehensive Income
PPE	Plant, Property and Equipment
PW	Price Waterhouse
SMEs	Small and Medium-sized Enterprises
SYD	Sum of Years' Digits
UK	United Kingdom
US	United States

Master Thesis Proposal

Author	Bc. Mária Mišuráková
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Proposed topic	Measurement of Mutual Harmonisation of National Accounting Standards – the Case of Selected European Countries

Motivation The current state of increasing globalisation also creates pressure on harmonisation of financial reporting. Figures obtained from financial statements are of great importance not only for international investors but also for financial institutions and potential trading partners. Easy comparability of accounting information on companies located in different countries therefore makes life easier for a considerable number of entities. Moreover, it reduces costs. These include direct costs of “translating information into common language” as well as indirect costs arising from misinterpretation the figures and making wrong investment or trade decisions as a result.

Undoubtedly the biggest step towards harmonisation of accounting standards was the introduction of International Financial Reporting Standards (IFRS) that follow International Accounting Standards (IAS). Under the Regulation 1606/2002 of the European Parliament and the Council, the use of these standards is mandatory for all European companies trading their securities on regulated markets. Firms meeting this, or possible other criteria set by national authorities, have to report their consolidated financial statements in accordance with IAS/IFRS since 1 January 2005.

The success of accounting harmonisation has been examined in many papers during last decades. In my thesis I will summarize the most important findings, describe the methods used, and discuss their comparability, advantages and drawbacks. I will also contribute to the existing research myself, using the data from recent annual reports of companies from selected European countries.

Hypotheses

- Hypothesis #1: There are no significant differences in accounting methods used in observed countries.
- Hypothesis #2: The degree of harmony in observed countries has risen over past 20 years.
- Hypothesis #3: Accounting methods used in the Czech Republic and Slovakia are not significantly different from those used in other countries of interest.

Methodology Existing literature in this field distinguishes between so called formal and material harmonisation (van der Tas, 1988) or *de jure* and *de facto* harmonisation (Tay and Parker, 1990), respectively. Formal (*de facto*) harmonisation describes the process of convergence of accounting regulation while material (*de jure*) harmonisation focuses on actual accounting practices used by firms.

In my thesis I will be measuring the latter. My analysis will be based on the paper by Herrmann and Thomas (1995), that examines the harmony of accounting methods used in eight EC countries. Like the authors, I will obtain data directly from annual reports of chosen companies (particularly notes to financial statements containing the information on accounting policies used). Annual reports will be obtained from web pages of individual firms, databases of annual reports or directly from company representatives (requesting them via email). I plan to gather 30 annual reports from each of 10 countries of interest, which will make a sample of 300 reports. List of included firms will be based on current company rankings in selected countries. Companies using IFRS mandatory will be excluded from the sample.

For better comparison I will choose the very same list of countries as Herrmann and Thomas (1995), i. e. Belgium, Denmark, France, the Netherlands, Ireland, Germany, Portugal and the Great Britain. I will also add the Czech Republic and Slovakia to the sample, as I believe that no similar attempt has been made yet (there are works of J. Strouhal (2009, 2011), who, however, focused on formal harmonisation). The accounting practices explored will contain the following: fixed assets valuation, depreciation, goodwill, research and development, inventories, foreign currency translation, leasing and extraordinary items (as in Herrmann and Thomas, 1995). I will find and describe all possible alternatives of accounting for these issues, and calculate ratios of companies

using individual alternatives for each country separately. Then I will use this data to compute the I index (index of international harmonisation) introduced by van der Tas (1988) as a modification of famous Herfindahl index. I will be particularly interested in I indices for individual accounting practices, the overall I index and also the bi-country indices for all possible pairs of countries.

Expected contribution Results of my own research will be directly compared to those obtained by Herrmann and Thomas in 1995, which will enable me to comment on the development of accounting harmonisation in chosen European countries over the last 20 years. Moreover, by adding Czech and Slovak firms to the sample I will be able to observe the level of their mutual harmony as well as their harmony with each of the other countries of interest. Based on the I indices for individual accounting practices I will identify areas with the lowest levels of harmony and point to the possibilities of further direction in efforts to harmonize accounting standards.

Outline

1. Introduction: the need and efforts to accounting harmonisation.
2. Measurement of harmonisation: formal vs. material, methods of harmonisation, their pros and cons.
3. Existing research: summary of results of most important papers in field, both formal and material harmonisation.
4. My analysis: collecting and processing the data, comparing treatment of individual accounting policies by national accounting standards of selected countries and IFRS.
5. Results: computing the indices based on the results of previous part, comments, comparison with other studies.
6. Conclusion: summary of results, recommendations.

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Author

Supervisor

Chapter 1

Introduction

So many countries, so many customs. And so many accounting standards. “Grundsätze ordnungsmäßiger Buchführung” in Germany, “Plan Comptable Général” in France, “Generally Accepted Accounting Practice” in the United Kingdom (UK) and “České účetní standardy” in the Czech Republic prescribe accounting treatment of business transactions in respective countries. And the list could go on. Basically each member state of the European Union (EU) has its own set of national Generally Accepted Accounting Principles (GAAP). This could serve as a limitation in process of creating the single market. Even if capital can move freely across borders, in order for it to be allocated efficiently there is a need for comparability of financial information. Harmonisation of accounting practices is therefore crucial, and the EU has made an important step in this direction. Although it lacks its own set of accounting standards, Regulation No. 1606/2002 requires that since 2005 all companies, whose shares are traded on regulated markets inside the EU, report their consolidated financial statements in accordance with International Financial Reporting Standards (IFRS). In addition, each country has the option to require or permit usage of IFRS also for other companies or for separate financial statements.

Still there is a plenty of room for variation in used accounting practices. Although paragraph 13 of the Preface to IFRS states that “the International Accounting Standards Board (IASB) intends not to permit choices in accounting treatment . . . or at least reduce the number of those choices”, in some cases particular standards still offer several alternatives. On the other hand, they often provide a non-binding recommendation for using a particular one. Whether efforts for international accounting harmonisation were successful, was a matter of interest of many researchers. Some of them tried to measure the similar-

ity between accounting standards used across countries. The others focused directly on the accounting practices used by companies. These two views are referred to as formal and material harmonisation, and they will be explained more closely later in this paper. The main results obtained in the field so far will be also reviewed.

Our analysis contributes to the existing literature by examining the extent of accounting harmonisation in chosen European countries (Belgium, the Czech Republic, Denmark, France, Germany, Ireland, the Netherlands, Portugal, Slovakia and the United Kingdom). We do not study similarity of accounting regulation in these countries, but rather actual accounting practices used by observed companies. For this reason we directly examine annual reports of selected companies and use that information to compute the index of international harmonisation. We turn our attention to companies using IFRS either because of European Communities (EC) regulation, national requirements, or on a voluntary basis. Appendix A provides detailed summary of IFRS usage, including lists of regulated markets and additional national requirements in the ten countries of our interest, as produced by the IFRS Foundation. Our goal will be therefore to assess whether harmonisation efforts by the EU have been successful and find areas where IFRS still allow for substantial disharmony, based on actual experience from chosen EU companies.

The remainder of this thesis is structured as follows: Chapter 2 defines some basic terms and describes methods used to measure accounting harmonisation. Chapter 3 summarizes results of previous research in the field. Chapter 4 discusses our own analysis, describes the data and gives overview of different treatment of accounting issues in selected countries. Chapter 5 presents the results and compares them with relevant studies. Chapter 6 summarizes our main findings and provides suggestions for further research.

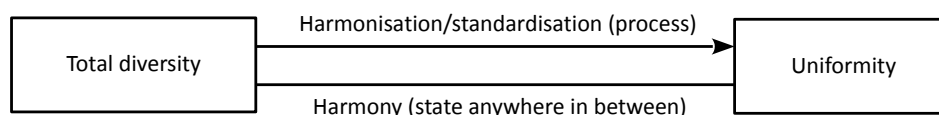
Chapter 2

Methods of Accounting Harmonisation Measurement

2.1 Terminology

To properly understand findings of previous literature as well as our own analysis, we first need to clarify some terms that could cause confusion. First, it is important to distinguish between harmony, uniformity, harmonisation and standardisation. The former two terms represent states, whereas the latter two stand for processes. Tay & Parker (1990, p. 73) define harmonisation as a movement away from total diversity of practice. Standardisation is more strict. It also includes reduction in the number of available methods and leads to uniformity (state with a single accounting treatment). Harmony represents any state between total diversity and uniformity. Therefore, it is possible to measure current state of accounting harmony and assess whether uniformity is achieved, or observe how level of harmony in accounting practices changes over time and assess corresponding stage of harmonisation. Relationships among these terms are illustrated in Figure 2.1.

Figure 2.1: Harmonisation vs. harmony



Source: author based on Tay & Parker (1990, p. 73).

Another distinction is based on whether we look at accounting regulations (in form of laws and standards) or actual practices used by companies. Tay &

Parker (1990) refer to these two approaches as *de jure* and *de facto* respectively. Combining these with the four terms discussed previously, they arrive to eight distinct categories. *De jure* uniformity describes a state when the accounting regulation allows only for one particular treatment; process of adjusting regulation to achieve this state is then *de jure* standardisation. When all accounting entities follow a single accounting method, we define it as *de facto* uniformity, and process towards this state as *de facto* standardisation. *De jure* as well as *de facto* harmony and harmonisation are defined similarly. All eight concepts can be also summarized in Figure 2.2, that follows Lasmin (2011). It is also important to note that they can be applied on national as well as international level.

Figure 2.2: Definition matrix

		Strictness of regulation	
		High	Low
Application levels	Standard	<i>De jure</i> standardisation and uniformity	<i>De jure</i> harmonisation and harmony
	Practice	<i>De facto</i> standardisation and uniformity	<i>De facto</i> harmonisation and harmony

Source: author based on Lasmin (2011, p. 73).

From now on we focus on right hand side of the figure, *i.e.* *de jure* and *de facto* harmony and harmonisation. Other authors (*e.g.* Van der Tas (1988)) refer to *de jure* and *de facto* as “formal” and “material” respectively. This is also the notation we follow further in this work. It is also worth mentioning that material harmonisation can exist without formal harmonisation and *vice versa*. Material harmonisation without formal harmonisation is referred to as spontaneous harmonisation. Van der Tas (1988) also distinguishes between disclosure harmonisation—that looks at the extent of disclosure—and measurement harmonisation—that considers applied accounting methods.

In this work we measure current level of material harmony, and also observe process of material harmonisation over the last 20 years in chosen European countries. In both cases we are interested in measurement rather than disclo-

sure. Before we proceed to our own analysis, we first provide an overview of different methods used so far to measure formal and material harmony and harmonisation as well as the most interesting results in the field.

2.2 Measurement of Formal Harmonisation

As already mentioned, formal harmonisation stands for the process of convergence of accounting standards. It therefore focuses on analysis of regulations and laws prescribing treatment of accounting issues. The techniques of its measurement are based on the distance or the similitude degree—represented by various coefficients.

2.2.1 Euclidean Distances

Probably the most widely used measure of distance between two elements is the concept of Euclidean distances. Garrido *et al.* (2002) use the measure of Euclidean distance for two vectors $\mathbf{X} = (x_1, x_2, \dots, x_n)$ and $\mathbf{Y} = (y_1, y_2, \dots, y_n)$ defined as:

$$ED(\mathbf{X}, \mathbf{Y}) = \left[\sum_{i=1}^n (x_i - y_i)^2 \right]^{\frac{1}{2}}.$$

In their work, and similarly in Fontes *et al.* (2005), the vectors are constructed to represent how various alternatives for individual accounting issues are divided into distinct categories (required, benchmark, allowed, forbidden) in observed periods. For example $\mathbf{A}_1 = (0, 4, 0, 0)$ illustrates that accounting issue 1 at time A assumes four alternatives and all of them are categorized as “benchmark”. If $\mathbf{B}_1 = (0, 2, 1, 1)$, we see that at time B only two alternatives stay as “benchmark”, one is considered as “allowed” and one as “forbidden”. These numbers are then plugged into the equation and the distance (or dissimilarity) of treatments of issue 1 over the period from A and B is computed. If we sum up these values for all studied accounting issues, we get the overall Euclidean distance of particular accounting standard over period from A to B. As the other vector we can also use values for another country and estimate the harmony of accounting standards between two countries.

By definition, Euclidean distances can attain values from zero to infinity, with lower values indicating higher level of harmony. The number itself, however, can be hardly interpreted. It is a relative measure and should be rather used in case of two or more periods, when its change indicates movement to-

wards greater or smaller harmony. As the possible number of elements (in our case accounting treatments) can change over time, Mustata *et al.* (2011) present the adjusted instrument, called the ED index. We can interpret it as a normalized measure of Euclidean distances taking into account the number of elements n as follows:

$$\text{ED Index} = \frac{ED}{n}.$$

There are, however, still some drawbacks to this approach. An important issue that Fontes *et al.* (2005) notice, is that Euclidean distances are sensitive in quantitative but not in qualitative terms, as they do not express which particular method is adopted nor its strenght. The results of such analysis must be therefore supported by other measures, for example coefficients, that we introduce in following sections.

2.2.2 Association Coefficients

According to Mustata *et al.* (2011), a clearer dimensioning of the accounting harmonisation degree is offered by association or correlation coefficients. Out of the family of association coefficients they mention Jaccard's coefficients, defined in following way:

$$S_{ij} = \frac{a}{a + b + c},$$

$$D_{ij} = \frac{b + c}{a + b + c}.$$

S_{ij} is referred to as similarity coefficient, D_{ij} as dissimilarity coefficient, and obviously they always add up to 1. These coefficients are used to compare two sets of accounting standards (i and j), where a stands for the number of methods used by both standards, b for the number of methods used by standard i and not by standard j , and c for the number of methods used by standard j and not by standard i . The biggest advantage of the coefficients over the concept of Euclidean distances, according to Fontes *et al.* (2005), is the possibility to account for the number and the strenght of accounting methods. It also allows to interpret the results in static, not only dynamic terms. In other words, the calculated value multiplied by 100 directly represents the percentage of similarity (or dissimilarity) of the two studied accounting standards.

The coefficients can attain values from 0 to 1, and the highest possible level of harmony between standards i and j is demonstrated by $S_{ij} = 1$ and $D_{ij} = 0$. In the way they are constructed, however, we omit the information

on the number of methods not considered by any of the studied standards. To control for this, Mustata *et al.* (2011) also mention Sokal and Sneath's coefficient, defined as:

$$SS_{ij} = \frac{2(a+d)}{2(a+d)+b+c},$$

where d stands for the number of methods that are used by none of the two standards. Strouhal *et al.* (2011) also mention Roger-Tanimoto similarity and Lance-Williams dissimilarity coefficients:

$$R\&T = \frac{d+a}{d+a+2(b+c)},$$

$$L\&W = \frac{b+c}{2a+b+c}.$$

2.2.3 Correlation Coefficients

To reinforce the results obtained by computation of association coefficients, Fontes *et al.* (2005) also use Spearman's correlation coefficient, defined generally as:

$$r_s = \frac{\sum_{i=1}^n R(A_i)R(B_i) - n\left(\frac{n+1}{2}\right)^2}{\left(\sum_{i=1}^n R(A_i)^2 - n\left(\frac{n+1}{2}\right)^2\right)^{\frac{1}{2}} \times \left(\sum_{i=1}^n R(B_i)^2 - n\left(\frac{n+1}{2}\right)^2\right)^{\frac{1}{2}}}.$$

The idea behind this approach is to divide various alternatives for each accounting issue into distinct categories based on the extent to which they are recommended by particular accounting standard. $R(A_i)$ and $R(B_i)$ then stand for the rank order in terms of strength of recommendation of i -th accounting method in standards A and B respectively—with the total number of accounting methods studied equal to n . Values of Spearman's coefficient range between -1 and 1; the closer the value to 1, the higher the level of harmony between the two accounting standards.

To sum up, out of the available measures of formal harmonisation Fontes *et al.* (2005) recommend using association and correlation coefficients rather than Euclidean distances. The drawback we see in all above mentioned techniques, is that they only compare pairs of standards, and cannot be used to

evaluate the international level of harmony across more countries. This could be overcome by using indices, that will be described in following section.

2.3 Measurement of Material Harmonisation

For measuring material harmonisation, accounting standards and laws are irrelevant. Instead, one has to look at actual practices used by companies when preparing their financial statements. The relative frequency with which they are used serves then as an input for computing various indices.

The simplest one, used by Van der Tas (1988), is the Herfindahl index, given by a well-known formula:

$$H = \sum_{m=1}^M p_m^2,$$

where p_m is the relative frequency of method m , and M the total number of possible alternatives. The H index ranges between 0 and 1; the higher the value, the higher the level of harmony. Its change over time then measures the extent of harmonisation. Advantage of this index is in its simplicity; it is easy to compute and interpret—it reflects the probability that two randomly chosen companies apply the same accounting method. On the other hand, limitation of this index is that it can only be applied to a single country. It is therefore possible to measure and compare harmonisation over different time periods but not between countries. This can be partially overcome by not distinguishing companies in the sample according to their country of residence, but rather considering the group of countries as a whole. This approach, however, also has its drawbacks, as it assigns higher weights to countries with the larger number of companies in the sample.

Another problem arises when companies use more than one method. To account for this option—known as multiple reporting—Van der Tas (1988) developed the C index, which he defined as follows:

$$C = \frac{\sum_{m=1}^M a_m^2 - N}{N^2 - N},$$

where a_m is the number of entities applying method m , and N the total number of companies. The C index can also report values from 0 to 1, and is interpreted as the H index. Archer *et al.* (1995) further decomposed it into within and between indices.

International comparison that controls for the size of samples from respective countries is possible by using the I index, also developed by Van der Tas (1988). For the case of two countries the formula is given as follows:

$$I_{1,2} = \sum_{m=1}^M (p_{m,1} \times p_{m,2}),$$

where $p_{m,1}$ and $p_{m,2}$ are the relative frequencies of usage of method m in countries 1 and 2. Possible values of the I index range from 0 to 1, with higher values indicating higher degree of international harmony. It is interpreted similarly to the H index, but this time the randomly chosen companies are each from different country—while in case of the H index they could be both from the same country. Van der Tas (1988) also proposed generalization of his I index for more than two countries. The formula, where $p_{m,n}$ stands for the relative frequency of usage of method m in country n , also includes the correction factor for the number of countries in exponent:

$$I = \left[\sum_{m=1}^M \left(\prod_{n=1}^N p_{m,n} \right) \right]^{\frac{1}{N-1}}.$$

Its interpretation, however, is not that straightforward. Because of the $(N-1)$ -st root, it can no longer be explained in terms of probability. Another drawback is that it does not allow for the possibility of multiple reporting.

This and another issues were addressed by Taplin (2004), who offered unified treatment of the above mentioned H , C and I indices. He not only placed them in a unified framework, but also developed an index superior to them. His newly introduced T index then enables to utilize desirable properties of these particular indices without sacrificing others. Moreover, it offers several new indices that can be tailor-made for specific needs of each researcher. This is possible by simultaneous setting of parameters out of the choice offered under each of these four criteria:

- the weighting of countries,
- international focus,
- the treatment of multiple accounting policies, and
- the treatment of non-disclosure.

The T index can be then written as:

$$T = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj},$$

which accounts not only for the proportion of companies using particular accounting methods in respective countries (given by p_{ki} and p_{lj}), but also for the comparability between the methods (represented by coefficients α_{kl}) and weights of respective countries (set by coefficients β_{ij}).

The T index then works as a weighted average of the two country indices and can also attain values between 0 and 1. It is interpreted as the probability that two randomly selected companies will have comparable accounts. Taplin (2004) argues, that the T index serves as a better measure of the level of material harmony than the H , C and I indices, as it combines all their desirable properties. It is, however, more complicated to compute. Fortunately, professor Taplin developed a user friendly software called Harmoniser, which he provided us for the purpose of this research. That saved us a lot of time and enabled us to customize its properties, so that they best suit our purpose. To the best of our knowledge, no other more advanced index was developed and therefore we are proud to be using the T index in our work.

Chapter 3

Existing Research on Accounting Harmonisation in Europe

Over the past decades, efforts to develop single set of accounting standards, that could be used globally, appeared. International Accounting Standards Committee (IASC), predecessor of IASB, started issuing the International Accounting Standards (IAS) in 1973. These standards, later amended or replaced by IFRS, were developed to enhance comparability of accounting statements issued by companies located in different countries. (Here the notation can be quite confusing. IAS refers to the set of standards issued until 2001; the standards issued after that are known as IFRS, although the name also refers to the whole group of standards consisting of both IAS and IFRS.) In order to achieve this goal, national standard setting bodies are supposed to incorporate principles covered by IFRS into their legislation. Estimating the success of these efforts became a topic of interest of several researchers. Some of them used particular national accounting standards as a source of data. In other words, they measured formal harmonisation. Others obtained data directly from financial statements of companies, and measured material harmonisation.

3.1 Empirical Evidence on Formal Harmonisation

Works measuring formal harmonisation focused mainly on estimating the degree of convergence in the process of developing IAS. Tay & Parker (1990) provided an overview of studies up to 1988 that, due to different scope of analysis and applied methods, arrived to different results. Using data from three Price Waterhouse (PW) surveys (1973, 1975, 1979), Nair & Frank (1981) con-

cluded that greater harmony was achieved over the observed period. On the contrary, McKinnon & Janell (1984) based on PW data from 1979, as well as Doupnik & Taylor (1985), who also added data from their own questionnaire to the sample, found that there was still much diversity. We can therefore conclude that evidence on IASC achievements over the first years after introducing IAS is ambiguous.

Above mentioned authors used descriptive and nonparametric statistics in their analysis. Now we turn to techniques discussed in Section 2.2. Garrido *et al.* (2002) applied the concept of Euclidean distances and examined changes in IAS over the three stages of their existence. They observed reduction in the measure of Euclidean distance that suggests harmonisation and enhanced comparability (through reduction of available methods) over time. Fontes *et al.* (2005) supported their findings. They compared IAS with Portuguese Accounting Standards, and also observed convergence in terms of formal harmonisation. As there are some limitations to the concept of Euclidean distances, they also calculated Jaccard's similarity coefficients and Spearman's correlation coefficient that reinforced their results.

Another analysis was conducted by Strouhal *et al.* (2009) using data for the Czech Republic. Using Jaccard's coefficients they observed a high degree of similarity between the Czech national GAAP and IFRS for Small and Medium-sized Enterprises (SMEs). Similarly, Strouhal *et al.* (2011) studied formal harmonisation of Czech, Estonian, Latvian and Romanian national accounting standards with IFRS for SMEs. Using Jaccard's and Roger-Tanimoto coefficients for measuring similarity and Jaccard's and Lance-Williams coefficients for measuring dissimilarity, they concluded that accounting systems of Baltic countries are most compatible with the international referential. It can be observed that these more recent studies produced more optimistic results. According to them, there is a positive convergence of IFRS and national accounting standards of chosen countries.

3.2 Empirical Evidence on Material Harmonisation

Most of the work in measuring the extent of harmonization has been done in field of material harmonisation. Here we summarize the most interesting papers focusing on European countries.

Van der Tas (1992) studied the accounting for deferred taxation in nine European countries over the period 1978–1988. He used data from 154 listed companies to calculate values of his C index. After taking into account the reconciliation data in notes to financial statements, he found increased degree of harmony. However, according to his results, the Fourth EC Directive only had statistically positive impact on individual but not on consolidated accounts.

Six accounting practices (stock valuation, depreciation, goodwill, R&D expenses, valuation of fixed assets and extraordinary items) were examined by Emenyonu & Gray (1992), who used data on 26 large companies from each of the three countries: France, Germany and the UK. Their hypotheses that there were no significant differences in used methods were rejected after running the Chi-square tests for all respective alternatives. According to the authors, this could be attributed to flexibility of the Fourth EC Directive, that had been already applied by all three countries at that time. Values of the I indices showed that the highest level of harmony could be observed in treatment of extraordinary and exceptional items, whereas depreciation methods were the least harmonised.

Soon after that, Emenyonu & Gray (1996) published a similar study. The sample contained data on 293 companies from the three previously studied European countries and Japan and the United States (US) in addition. This time the authors compared treatment of 46 issues in accounting years 1971/72 and 1991/92. Although results of the Chi-square tests indicated harmonisation over the 20 years, computed I indices suggested that the increase in harmony was only modest.

Data from 413 French, German, UK, Japanese and US companies were used also by Emenyonu & Adhikari (1998). They applied the same methods as in the previous two studies, but reported results for whole sample and EU countries separately. In all three main areas (inventory, fixed assets and investments) obtained results were similar for full and EU sample, and indicated significant differences. Degree of harmony measured by the I index was, however, lower for EU sample in all cases, suggesting that there was still much to be done in efforts for harmonisation within the EU. The highest degree of harmony was documented in treatment of gains or losses on disposal of current investments and the lowest again in depreciation methods.

Another study relevant for our own research is the one by Herrmann & Thomas (1995). The authors also used the Chi-square test and the I index to estimate the extent of harmony in eight countries of former EC, namely Bel-

gium, Denmark, France, Germany, Ireland, the Netherlands, Portugal and the UK (sample contained data on 217 companies). Based on the test of statistical significance, they found that only foreign currency translation and inventory valuation methods did not differ across countries, which was also confirmed by relatively high values of the I indices for these practices. Inventory costing, goodwill, fixed asset valuation and R&D still reported significant differences and low I indices. Harmony of depreciation methods used was, however, significant for the sample without Germany, that seemed to be the only outlier. Another interesting part of this paper was reporting of bi-country indices for all possible pairs of countries. They revealed the highest degree of harmony between the UK and Ireland, and the lowest bi-country average index between Portugal and Germany.

Archer *et al.* (1995) focused their analysis on treatment of goodwill and deferred taxation across 99 companies from Belgium, France, Germany, Ireland, the Netherlands, Sweden, Switzerland and the UK. As a measure of harmony they used the C index, which they separated into within-country and between-country components. By comparing their values for two periods (1986/87 and 1990/91) they found low levels of harmonisation in both studied areas.

The decomposition of the C index proposed by Archer *et al.* (1995) was also used by Aisbitt (2001). By studying 29 accounting issues in 48 companies in Nordic countries (Denmark, Finland, Sweden and Norway), she estimated the degree of harmonisation over the period 1981–1998. For this purpose she calculated the C index in each of the four dates in between and found out that although there has been overall increase in harmony between 1981 and 1998, disharmonisation could be observed between 1992 and 1994.

Harmonisation of four accounting issues (deferred taxation, goodwill, leasing and foreign currency translation) was estimated by Canibano & Mora (2000). The authors used data on 85 global players from 13 European countries and compared the C indices computed for two periods (1991/92 and 1996/97). As a statistical measure they employed the Chi-square test and also a bootstrapping test of the C index. Their result, that values of the C index were higher in the second period, reinforced by statistical tests, suggested that there has been harmonisation in studied years.

Taplin (2010) did not introduce new sample of countries, nor did he look at different practices as his predecessors. He only recalculated the results of Herrmann & Thomas (1995) by using the T index developed by himself. Although values of his index were a little different, main conclusions remained.

Many of the above mentioned studies found no or only modest harmonisation in European countries over observed periods. However, they are quite outdated. Purpose of our research is therefore to estimate the current level of harmony across chosen countries, using recent data from 2013 financial statements. As the globalization pressure and opening of capital markets were increasing over the past years, we expect to find enhanced comparability of accounting practices and significant harmonisation over studied period.

Chapter 4

Own Analysis

4.1 Data Collection

As the goal of this study is to measure material harmony and harmonisation, data was gathered from actual financial statements of companies from 10 countries of our interest—Belgium, Denmark, France, the Netherlands, Ireland, Germany, Portugal, the United Kingdom, the Czech Republic and Slovakia. The most important factor driving the choice of countries was possibility of comparison over time. As already mentioned, similar study was conducted in 1995 by Herrmann & Thomas, who measured accounting harmony in eight countries of former EC. By using the very same list of countries, our results can be directly compared to theirs, which enables us not only to assess current level of harmony, but also comment on its development. We can therefore estimate degree of harmonisation over the last 20 years and assess the impact of IFRS adoption in this process. Our further objective is to estimate level of harmony of accounting practices between the Czech Republic and Slovakia. In order to do this, we also added these two countries to our sample and are particularly interested in computing two country indices.

Choice of particular firms was based on the lists of largest companies (usually top 100) in respective countries. Appendix B contains the list of references used in the first step of gathering data—obtaining the sample of companies. One of the reasons for choosing largest companies was easy accessibility of data. Even within the top 100, many of the smaller companies do not publish their financial statements and notes to them in English or at all. Next, including the “big players” adds to significance of our results. Larger companies usually enjoy substantial market share, and therefore have important impact on the

country's capital market and economy as a whole. They are also more likely to attract international attention, and so comparability of their accounting statements is of great importance. There is also higher probability of finding companies that follow IFRS. Most of them are obliged to do so by EC Regulation No. 1606/2002 (that requires usage of IFRS for consolidated statements of all EU listed companies), and some others are also required to report in accordance with IFRS by their national authorities. Complete overview can be found in Appendix A. Moreover, even if not required to do so, some firms use IFRS on voluntary basis. On the other hand, financial institutions and insurance companies are usually also represented among the top 100, but we excluded them from our analysis, because of their specific nature and the fact that they do not disclose information about certain policies we are interested in. Other industries are represented randomly.

In the second step, we browsed websites of individual companies or annual report databases of respective countries in order to download their 2013 annual reports or at least their financial statements. With respect to year-end dates, vast majority of reports covers periods ended on 31 December 2013, although there are some referring to year ended on 31 March 2013, 30 June 2013 or 30 September 2013. Interesting fact to note is that 10 out of 42 British companies refer to 52 or 53 weeks rather than a year ended on a particular date. After abandoning all companies that were not reporting their financial statements in accordance with IFRS, or did not provide access to them, we were left with the total of 335 annual reports (or at least financial statements). In case of French companies, they were often part of registration documents (in 14 out of 32 cases). Although we were only looking for reports in English, not all Czech and Slovak companies in our sample provided them in foreign language. Therefore we were left with 13 annual reports in Czech and 11 annual reports in Slovak. All the other reports (311) are in English language. Similarly, while collecting consolidated financial statements, there was a problem with Czech and Slovak companies, that are generally smaller, and usually acted as subsidiaries rather than parent companies. For that reason we included 19 individual statements from the Czech Republic and 29 individual statements from Slovakia. Remaining 287 are all consolidated. Numbers of financial statements collected from each country of our interest are summarized in Table 4.1 and their complete list is provided in Appendix C.

Table 4.1: Sample composition

<i>Country</i>	Acronym	Number of reports
Belgium	BE	30
Denmark	DK	30
France	FR	32
Netherlands	NL	50
Ireland	IE	30
Germany	DE	31
Portugal	PT	30
United Kingdom	UK	42
Czech Republic	CZ	30
Slovakia	SK	30
Total		335

Source: author's analysis.

4.2 Data Processing

We carefully examined each annual report and looked for specific information disclosed in notes to financial statements, particularly in these areas:

- fixed asset valuation,
- depreciation,
- inventory costing,
- investment property,
- foreign currency translation,
- employee benefits,
- business combinations,
- cash-flow presentation, and
- government grants.

For each practice we first identified possible accounting treatments allowed under particular IFRS or IAS. In Section 4.4 we provide their basic description, their effect on company's net income and overview of their usage across countries based on our data. That was processed in two waves. In the first wave, we went through every single annual report and recorded used methods for all individual practices. Information not disclosed or not clear was noted down as well. To ensure accuracy, in the second wave we read all the reports with

unclear disclosures once again and tried to make sure the information was not hidden anywhere else. This way we managed to identify treatments only in a few extra companies; almost all available information was correctly processed already in the first wave. The identification of used practices was based on the notes to financial statements, particularly chapter “Significant accounting policies”. With respect to employee benefits, we either examined the disclosure in part “Basis of preparation” under “Changes in accounting policies”, or looked for the 2012 annual report (because of the amendment of IAS 19, that will be explained later). After all these information had been recorded, we proceeded to the next step. There we counted numbers of firms using each alternative for every single country and reported these numbers in a separate table for each practice. Data processed in this way is used for computing the T index, as described in the next section. Numbers of companies not disclosing their practices, either because not applying particular policy, not considering it necessary, or not willing to disclose the used method, are reported in a joint non-disclosure category.

4.3 Methodology

Our research aims to find support for the following hypotheses:

- Hypothesis #1: There are no significant differences in accounting methods used in observed countries.
- Hypothesis #2: The degree of harmony in observed countries has risen over past 20 years.
- Hypothesis #3: Accounting methods used in the Czech Republic and Slovakia are not significantly different from those used in other countries of interest.

Crucial part of this work is to calculate the concentration (or also referred to as similarity) index, that allows to compare level of harmony across practices. We are using the T index, as developed by Taplin (2004). Similar approach, although using more simple I index, was used also in works by others (*e.g.* Emenyonu & Gray in 1992 and 1996 and Herrmann & Thomas in 1995). By recalculating the results of the last mentioned paper using the T index, direct comparison over time is also possible.

As already mentioned in Section 2.3, general formula for the T index is defined as follows:

$$T = \sum_{i=1}^N \sum_{j=1}^N \sum_{k=1}^M \sum_{l=1}^M \alpha_{kl} \beta_{ij} p_{ki} p_{lj},$$

where:

- coefficients α_{kl} account for comparability between accounting methods k and l , and can range between 0 and 1 inclusive;
- coefficients β_{ij} represent weights of companies in countries i and j , also range from 0 to 1, and have to add up to 1;
- p_{ki} stands for the proportion of companies in country i that use accounting method k ;
- p_{lj} stands for the proportion of companies in country j that use accounting method l ;
- N represents the number of countries, and
- M represents the number of accounting methods.

Process of computing this index by hand is nicely described in Taplin (2004). However, it is too demanding, and already for three countries and three methods it requires 81 terms to be computed and added up. In our case with 10 countries it would be impossible to get results this way. Fortunately, professor Taplin provided us with the specialized software called Harmoniser, which he developed for the purpose of computation of the T index. Introduced in Taplin (2006), Harmoniser is very convenient to use. Its advantage is also that it provides researchers with several options to customize properties of the index to their particular needs. Apart of inputting the data, users are required to choose from several options that specify parameters of the index and define the coefficients α_{kl} and β_{ij} . The criteria that need to be specified are: weighting of countries, international focus, treatment of multiple accounting policies and treatment of non-disclosure.

1. The weighting of countries: Under this feature, researchers are able to assign weights to particular countries in the sample. Harmoniser software (or generally the T index) offers the following three possibilities:

- (a) weights according to the number of sampled companies—countries with higher number of companies in the sample are given proportionally higher weight, as in the case of H and C indices;
- (b) equal weights—each country is given equal weight irrespective of the number of companies in the sample, as in the case of I index, and

- (c) weights according to population—this allows to define weights arbitrary without any reference to the number of countries collected in the sample, for example based on the Gross Domestic Product (GDP) or total number of companies listed in respective countries. The user in addition inputs the population matrix, which is then used to assign weights to individual countries. This feature is particularly beneficial, as it was not offered by the previous indices, and it allows for fair representation of countries in the overall index. That way countries that are larger in economic terms can also have a larger impact on the overall index, which better reflects reality.

As the composition of our sample does not represent the actual number of companies per country, it would make little sense to use the first option. Rather, we decided to compute the T index firstly using the equal weights under option (b), so that the results will be comparable to those produced by Herrmann & Thomas (1995), and then using the population matrix under option (c), which we see as the most reasonable choice. As weights we use the numbers of listed domestic companies in particular countries. It is also interesting to observe how the index changes based on this criterion.

2. International focus: This feature also offers three options to customize the T index. Users can let the programme compute one of the following:

- (a) overall index—where all observations from all countries are allowed to be chosen for comparison, as in the case of H and C indices;
- (b) within index—that requires random draws of companies to be from a single country, as the within country C index, and
- (c) between index—that ensures that two randomly drawn companies are from different countries, as in the case of I index and between country C index.

In our computations, we primarily stick to option (a), and then also employ option (c), which is also the one mostly used in previous literature.

3. Treatment of multiple accounting policies: In case that companies are not required to choose a single policy, but instead can use a combination of two or more of them, researchers face a problem. They must decide whether to

account for the combination as a separate method, or to include those observations in the number of companies disclosing one particular method (and of course choose which one). This issue is, however, overcome in the construction of the T index, which enables to specify comparability of used methods. Treatment of multiple policies then depends on the choice of one of these methods:

- (a) no comparability—this feature does not allow for multiple accounting policies, each one is defined as completely non-comparable to others, and so companies are required to express their choice for one and just one policy, as was the case of H and I indices;
- (b) complete or no comparability—under this option, multiple policies can be chosen if the methods are set as completely comparable, which is the case of the C index, and
- (c) partial comparability—this feature was newly introduced by Taplin (2004) and generalises previous two points. It allows to set the comparability of certain methods as a fraction between 0 and 1.

In our work we employ option (a) for policies that do not allow the usage of multiple methods (*e.g.* choice between reporting operating cash-flow directly or indirectly), and option (c) where such a choice is possible (*e.g.* in depreciation or inventory costing methods). In those cases we consider combination of the two used methods as equally comparable to both and set the comparability coefficients to 0.5.

4. Treatment of non-disclosure: Another issue arises when companies do not disclose their policies. Taplin (2004) provides four ways of dealing with this:

- (a) removing non-disclosure observations from the sample—particularly in case when the policy is not an issue for particular company (like some policies relevant only to financial institutions);
- (b) complete comparability with all methods—useful in case when non-disclosure actually stands for non-applicability. Then it is treated as another method;
- (c) no comparability with other methods—this should be used in cases when non-disclosure was caused by non-willingness of companies to report information about their policy, although they certainly use one, and

- (d) comparability to selected method—in this case user specifies the method to which non-disclosure compares and it is then understood as a “default” method used without specifically stating so.

In our analysis we compute the indices using first option (a), as usual in the literature so far, but we also employ options (b) and (c) to see how values of indices change under these circumstances.

It is important to note that each of these four criteria can be defined independently on the others, and each such combination in fact produces a new index. It is then up to researchers to choose one which best suits the focus of their analysis. With respect to the general formula, the first two criteria define coefficients β_{ij} , while the latter two specify coefficients α_{kl} . Taplin (2004) uses notation assigned to individual criteria in a very convenient way. By providing the numbers corresponding to particular criteria along with the letters for individual options, he can easily refer to a particular index created by their combination. For example index with the combination of properties 1a2a3a4a corresponds to the well-known *H* index. Similarly, the *I* index can be defined as the combination 1b2c3a4a.

4.4 Overview of Alternatives

In the following subsections we discuss alternative treatments of various accounting policies allowed under IFRS. Some of them remained the same as those studied in previous works mentioned in Chapter 3, others were unified and are no longer interesting for research, and some new issues have evolved over time. Here we present their overview, description and implications on financial statements.

4.4.1 Fixed Asset Valuation

First area of our interest is valuation of fixed assets. Those are usually also referred to as Plant, Property and Equipment (PPE), and their treatment is covered in IAS 16. Two conditions have to be met in order to recognise an item of PPE as an asset—probable future economic benefits and reliably measurable costs. When an item is qualified for recognition in this way, it is required to be measured at cost. Measurement after recognitions is, however, more interesting from our point of view.

To account for this issue, IAS 16 allows two alternatives—cost model or revaluation model. Entity is required to apply chosen model to the entire class of PPE, but can use different methods for different classes. Under cost model, item is carried at its cost less accumulated depreciation and impairment losses. If the revaluation model is applied, item is carried at its fair value at the date of revaluation, and also less accumulated depreciation and impairment losses. In line with the notion of fair view, revaluations are supposed to be made regularly to ensure that the asset is carried at its “correct value”. Standard further sets how to determine fair value of such items, and also how to treat accumulated depreciation in case of revaluation. Upward revaluations are credited to equity, while downward revaluations are recognised in the income statement.

Main difference between cost model and revaluation model is that although both allow for downward revaluations in the form of impairment losses, only under the revaluation model value of an asset can be adjusted upwards. Cost model is on the other hand easier to implement, as it does not require frequent measurement of fair value of an asset (it does require some though, as potential impairment loss should be accounted for). Entity should therefore carefully decide which method to choose, as it not only influences value of its fixed assets in the balance sheet, but revaluations eventually affect profits.

Table 4.2 provides an overview of used methods across companies in our sample. It is interesting to see that although none of the methods is recommended by the standard, in reality vast majority of firms prefer cost model (319 out of 335 surveyed). Pure revaluation model is only used by five companies from our sample, and combination of cost and revaluation model for different classes of assets is used by 11 companies. The issue of fixed asset valuation is also one of the rare policies disclosed by all companies in our sample. When focusing on the Czech and Slovak companies, they seem to be in line with the rest of the sample when it comes to this particular accounting policy.

Table 4.2: Fixed asset valuation

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
cost model	30	28	32	49	25	31	27	41	29	27	319
revaluation model	0	0	0	0	0	0	1	1	1	2	5
combination	0	2	0	1	5	0	2	0	0	1	11
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author’s analysis.

When our results are compared with those of Herrmann & Thomas (1995), at first sight there is a tendency towards greater harmony in the field of fixed asset valuation. Twenty years ago, when their analysis was carried out, 123 surveyed companies were using historical cost model while 94 modified historical model, that allowed for periodic revaluations. Only German companies were going purely for historical cost, for the other countries decisions between the two methods were more ambiguous. In Portugal all 20 companies in the sample even reported usage of modified historical method.

Nowadays, according to our data, there is a strong inclination of companies towards cost model. The statement that it is due to adoption of IFRS is exaggerated though, as IAS 16 allows for both alternatives and does not specifically declare preference for any one of them.

4.4.2 Depreciation

The very same standard (IAS 16) also deals with depreciation of fixed assets. With respect to the particular accounting method, it does not prescribe a single treatment, but allows for choice among various alternatives. It only requires that chosen depreciation method reflects “the pattern in which the asset’s future economic benefits are expected to be consumed by the entity” (IAS 16, par. 60). As this pattern may be changed during asset’s useful life, chosen method must be reviewed at least once a year. The list of allowed depreciation methods (which is not exhausting) mentions three alternatives—straight-line method, diminishing balance method and units of production method (IAS 16, par. 62). If a company chooses straight-line method, it allocates a constant amount of depreciation expense in each period over the useful life. Under the diminishing balance method, charged depreciation expense is higher at the beginning of an asset’s life and then gradually decreases. Last mentioned method depends on the units of production, and assigns depreciation charge according to expected use or output. As each class of PPE can be depreciated according to a different method, some companies may use more than one simultaneously.

There are several pros and cons to each of the alternatives. Straight-line depreciation is easy to compute, but may not reflect the actual use of depreciated asset. Diminishing balance method—also referred to as accelerated depreciation—results in higher expenses and therefore lower accounting profits and lower tax burden in first years of the asset’s use. Units of production method provides most reliable estimate of the asset’s wear and tear, but its

computation is too cumbersome. Apart of that, there are other methods that can be used as well, *e.g.* Modified Accelerated Cost Recovery System (MACRS) or Sum of Years' Digits (SYD) method. None of them, however, appeared in our sample.

An overview of actually used methods is provided in Table 4.3. Similarly to the case of fixed asset valuation, there is a strong tendency among studied companies towards one method—particularly straight-line—which is used by 309 out of 335 companies. Moreover, another 14 use it in combination with other method (ten companies with units of production method, three with diminishing balance method and one with both, units of production and diminishing balance method). Diminishing balance alone is only used by one Belgian company and units of production alone is not used at all across our sample. Information about used depreciation method was not disclosed in the reports of 12 companies of our interest. With respect to companies from the Czech Republic and Slovakia, their accounting seems to be in line with the rest of the companies in our sample.

Table 4.3: Depreciation

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
straight-line	26	29	30	45	27	30	26	41	27	27	308
declining balance	1	0	0	0	0	0	0	0	0	0	1
units of production	0	0	0	0	0	0	0	0	0	0	0
combination	3	0	2	2	3	1	0	1	0	2	14
not disclosed	0	1	0	3	0	0	4	0	3	1	12
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

Our findings are in line with the paper of Herrmann & Thomas (1995), who also report strong tendency of surveyed companies towards straight-line depreciation. The only exception were the companies from Germany, that opposed to those from other countries, used combination of straight-line and declining balance method. In this case the need for harmonisation was not that pronounced, as companies were already quite uniform in the way of accounting for depreciation. Germany, the only outlier, apparently also found its way to meet its other European companions.

4.4.3 Inventory Costing

Important indicator of financial position for some companies is the value of inventory. Treatment of this balance sheet item is covered in IAS 2. Regarding measurement of inventories, standard exactly states the valuation rule: “lower of cost and net realisable value” (IAS 2, par. 9). On the other hand, there is still room for choice when determining cost of inventories. If possible, specific identification of costs should be used (that is in cases when individual items of costs are not easily interchangeable). In most cases, however, this method would not work. Paragraph 25 than states that cost of inventories should be determined by either of the two methods: First-In, First-Out (FIFO) or weighted average cost method.

As the names indicate, under FIFO rule, items are expected to be sold in the same order as they are purchased. That means that company using this method first accounts for disposal of the oldest items, and the ones remaining in storage are always those most recently obtained. Under weighted average method, cost of inventories depends on the cost of items currently held. Here an entity can also choose frequency of recalculating weighted average. The same cost formula has to be used for all inventories of similar nature, but it can differ for different classes of inventories (IAS 2, par. 25). This means that entity can use both methods simultaneously.

The advantage of using FIFO method is that it better reflects actual flow of inventories in a company—it is usual that companies first sell the oldest items in stock. On the other hand, weighted average cost model can be easier to implement for smaller firms. The effect of choice between one of these methods on net income is not substantial. Resulting figure of Costs Of Goods Sold (COGS) is a bit higher when using weighted average cost than under FIFO, but the effect is still less pronounced than if a company was using Last-In, First-Out (LIFO) method. That one is even forbidden under IFRS. According to Fazal (2011), the main reason is that using LIFO leads to reporting outdated value of inventories in the balance sheet. If the items that were purchased most recently are disposed of first, the cost of inventory would reflect the price of the oldest items. This may not be reliable estimate of inventory value, which contradicts the principle of fair reporting IFRS is built on. Another reason can also be that under the assumption of positive inflation, the cost of recently purchased inventories is higher and if those are expensed first, cost of sales is artificially increased, leading to lower profit and consequently lower tax burden.

Complete overview of the usage of inventory costing methods in our sample of companies can be found in Table 4.4. As we can see, here the policy choices of studied companies are not that uniform. About 30% of companies (99 out of 335) use FIFO method, while about 40% (131 out of 335) prefer weighted average cost method. Combination of the two is used by another 28 firms. Moreover, eight companies (all from Slovakia) are using standard costing method. The rest of Czech and Slovak companies go in line with the rest of the sample and do not show a strong tendency towards any of the methods. 20% of all surveyed companies (69 out of 335) did not disclose the method they use or do not keep inventory at all.

Table 4.4: Inventory costing

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
FIFO	11	16	6	22	16	3	1	14	6	4	99
weighted average	10	5	13	10	7	14	25	14	18	16	131
both	4	3	6	4	1	8	0	2	0	0	28
standard costing	0	0	0	0	0	0	0	0	0	8	8
not disclosed	5	6	7	14	6	6	4	12	6	3	69
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

Similar diversity in used inventory valuation models was reported also by Herrmann & Thomas (1995). Moreover, there was still a possibility to use LIFO method. The extent of disclosure appears to be improved since then. While in the sample of Herrmann & Thomas (1995) it was less than 60%, in our case the disclosure rate is 80%.

4.4.4 Investment Property

Property, that is not held and used in the ordinary course of business (*e.g.* for production or administrative purposes), but rather to “earn rentals or for capital appreciation or both”, is referred to as investment property and its treatment is covered in IAS 40. Usually it is land or a building and can be held by the owner or the lessee.

Treatment of investment property in IAS 40 is similar to that of PPE in IAS 16. There are also recognition criteria—probable future economic benefits and reliably measurable costs. At recognition, investment property is initially measured at cost. Then IAS 40 allows to choose from two alternatives—fair

value model or cost model. Chosen model has to be then applied to whole class of investment property. Change can be only made if it results in more appropriate representation of actual state. If an entity chooses fair value model, value at which the investment property is recorded in the balance sheet, should reflect market conditions. To be precise, fair value is defined as “the price at which the property could be exchanged between knowledgeable, willing parties in an arm’s length transaction” (IAS 40, par. 36). Standard also provides guidelines on how to understand given definition, how to determine fair value of given property, and what to do if it cannot be estimated. If an entity chooses cost model, it shall account for it as under conditions stated in IAS 16. Implications of such choice are the same as those arising at valuation of PPE.

Table 4.5 reports the frequency of usage of fair value model and cost model in our sample of companies. In this case the information was disclosed only by mere 30% companies (101 out of 335), from which 41 use fair value model and 60 cost model. While in some countries we observe a tendency towards cost model (*e.g.* all 15 companies that disclosed their policy in Germany and 12 out of 15 companies that disclosed their policy in Belgium), some prefer fair value model (*e.g.* seven out of eight disclosing companies in Ireland), and in some the situation is ambiguous (*e.g.* eight out of 16 companies in Portugal). Majority of the companies in our sample, however, do not hold any investment property or do not disclose the method of accounting for it. That is also the case of Czech and Slovak companies, so not many conclusions can be drawn from our data in this respect.

Table 4.5: Investment property

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
fair value model	3	4	2	5	7	0	8	4	7	1	41
cost model	12	2	5	3	1	15	8	5	4	5	60
not disclosed	15	24	25	42	22	16	14	33	19	24	234
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author’s analysis.

4.4.5 Foreign Currency Translation

When it comes to translation of foreign currencies, IAS 21 exactly prescribes what rate to choose under respective circumstances. There are two cases when

an entity has to deal with foreign currencies. Firstly, it may enter into transactions with its foreign business partners. In those situations, transactions are to be accounted for using the spot exchange rate at the date of transaction (IAS 21, par. 21). This could be too cumbersome and therefore usage of average rate is allowed (under assumption that the exchange rates do not fluctuate significantly). Entities can then choose whether to use average rates computed weekly, monthly, or any other way, and use them over the period. At the end of the reporting period, used exchange rate depends on the nature of particular item. Paragraph 23 of IAS 21 covers this issue and states that the closing rate shall be used for monetary items, the exchange rate of the date of transaction shall be used for non-monetary items measured at cost, and the exchange rate of the date when the fair value was determined shall be used for non-monetary items measured at fair value.

Secondly, entities have to deal with foreign currencies when they have an interest in foreign entities and need to translate the figures to prepare their consolidated financial statements. In that case, paragraph 39 states that closing rate is to be used for assets and liabilities, and exchange rates at the dates of transactions for income and expenses. Any translation differences are recognised in other comprehensive income. Here the standard also allows for the usage of average exchange rate instead of the spot rates at the dates of transactions for income statement items. The way of determining this average rate is again left up to the entities, and that was the information we were looking for in the annual reports.

As presented in Table 4.6, this information was quite difficult to obtain, as 101 out of 335 companies did not disclose it. This, however, includes also 19 Czech and 29 Slovak companies, for which we used individual rather than consolidated financial statements, and so they were not dealing with the currency translation at consolidation. Another 60 companies stated that they were using average exchange rate, but did not specify the frequency of its computation. With regards to the rest of the sample, we observe that majority (140 companies) use yearly average (or average across period). It is also not uncommon to use monthly average, as is the case of 31 companies. The strongest preference for this method is observed in Denmark, where it is used by 13 out of 16 companies that specify the type of average they use. Quarterly average is only used by one Dutch firm and weekly average by two Belgian companies.

Table 4.6: Foreign currency translation

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
yearly average	12	3	27	13	18	18	19	22	7	1	140
quarterly average	0	0	0	1	0	0	0	0	0	0	1
monthly average	1	13	2	4	0	4	2	3	2	0	31
weekly average	2	0	0	0	0	0	0	0	0	0	2
not specified average	6	10	2	15	7	9	3	6	2	0	60
not disclosed	9	4	1	17	5	0	6	11	19	29	101
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

4.4.6 Employee Benefits

One of the issues that may have serious effect on reported financial results is treatment of employee benefits. This broad topic is covered by IAS 19, which has been recently revised. On 16 June 2011 amended IAS 19 was released, with effective date of 1 January 2013. This means that all the financial statements we examine in this work are already prepared in conformity with IAS 19R (as it is often referred to). As it prohibits usage of one of the accounting methods, it certainly represents a step towards greater harmony of accounting practices, and enhances comparability. On the other hand, it would be interesting to see how situation in this field looked like before the amendment. We attempted to find this information in notes regarding the change of accounting policies as of 1 January 2013, or directly examined 2012 annual reports (if it was not disclosed clearly).

Following paragraphs therefore refer to IAS 19 as valid before its amendment that came into force in 2013. The standard covers short-term, long-term, post-employment and termination benefits, and sets specific rules for each group. The area which can provide evidence on the level of accounting harmony is post-employment benefits. This category includes not only pensions, but also other post-employment benefits, such as life insurance or medical care. More important distinction, however, depends on economic substance. According to who bears the risk, we distinguish between defined contribution plans and defined benefit plans. In practice, defined contribution plans leave all risk burden on the employee. Employer only pays contributions to a pension fund, but does not guarantee the exact level of pension or other benefit—that depends on the success of a fund itself. On the other hand, under defined benefit plan,

employer directly promises an employee to pay certain benefit after retirement and bears all actuarial and investment risks that may arise.

There is no room for earnings management under defined contribution plans. In a period when service is rendered by an employee, employer recognises an expense against a liability, and contributes corresponding amount to the plan. No actuarial gains or losses arise. Under defined benefit plans, however, actuarial assumptions have to be made. In order to determine the level of earned benefit, employer has to take into account demographic as well as economic conditions. Further, as post-employment benefits are to be paid on a future date, proper discounting method has to be used. In case these assumptions change over time, or actual return on plan assets differs from expected return, resulting actuarial gains or losses have to be calculated and properly recognised.

Here IAS 19 (before amendment) allowed for three methods: direct recognition in profit or loss, direct recognition in Other Comprehensive Income (OCI) and so called “corridor approach”. The first methods are straightforward. Regarding the third one, if a company chose that method, it only recognised a portion of actuarial gains or losses that exceeded a corridor set as the greater of: “10% of the present value of the defined benefit obligation at that date (before deducting plan assets); and 10% of the fair value of any plan assets at that date” (IAS 19, par. 92). Then the exceeding amount was recognised in equal portions along the duration of the plan. In other words, recognition of actuarial gains or losses could be deferred. This was supposed to avoid fluctuations in the balance sheet. As it also provided room for managing earnings, IAS 19R no longer allows for this choice. “Corridor approach” is abolished and the only way to report actuarial gains and losses is now to recognise them directly in year they occur in OCI.

The situation among companies in our sample before this step is summarized in Table 4.7. After omitting Czech and Slovak companies, that do not use defined benefit plans, we are left with 275 firms, out of which 67 used “corridor approach” for their 2012 financial statements, 153 were already directly recognising all the actuarial gains and losses in OCI, and 11 used the possibility to recognise them directly in the profit and loss account. 63 firms did not disclose the details or stated that they only account for defined contribution pension plans. From national perspective, we observe strong tendency among Dutch companies to use “corridor approach”. In 2012 it was chosen by 28 companies as opposed to 17 companies going for the OCI method (another five did not disclose their policy). In all other countries we observe the opposite

situation—majority in each of them preferred recognition in the OCI. The effect is most pronounced in the UK (where all 32) and Ireland (where all but two companies that disclosed their policy) already accounted for the actuarial gains and losses in accordance with IAS 19R. This is also in line with findings of Fasshauer *et al.* (2008), who explained the widespread use of the OCI method by its previous requirement by the UK GAAP, which was used by both UK and Irish companies.

Table 4.7: Employee benefits

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
corridor approach	9	4	12	28	2	11	1	0	0	0	67
directly to OCI	13	17	19	17	21	20	11	32	0	3	153
directly to P&L	3	3	1	0	0	0	4	0	1	0	12
not disclosed	5	6	0	5	7	0	14	10	29	27	103
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author’s analysis.

4.4.7 Business Combinations

It is not rare that large companies engage in business combinations with other entities. When they acquire another company, IFRS 3 requires them to account for it using acquisition method (before referred to as purchase method, which can be still found in notes to financial statements of some companies). Paragraph 5 of IFRS 3 describes the acquisition method as a series of steps in which the following are identified or measured:

1. the acquirer,
2. acquisition date,
3. assets, liabilities and non-controlling interest in the acquiree, and
4. goodwill or a gain from a bargain purchase.

The standard then further provides guidelines on how to deal with respective steps. The possibility of choice between two alternatives appears when it comes to measuring components of non-controlling interest. The two allowed methods are fair value and “the present ownership instruments’ proportionate share in the recognised amounts of the acquiree’s identifiable net assets” (IFRS 3, par.

19). Entities can also choose whether to use one of them for all acquisitions, or decide on acquisition-by-acquisition basis.

How choices are made in practice, can be seen in Table 4.8 summarizing data from our sample. In this area, disclosures were generally poor. About a half of the companies in our sample did not disclose used method. This is particularly the case of Slovak (all 30), Czech (23 out of 30) and British (28 out of 42) companies that did not report such information in their statements (it is important to note, however, that those Czech and Slovak companies did not report their consolidated statements at all). Overallly only 156 companies provided details about accounting for non-controlling interest in case of business combinations, out of which only four measure it at fair value (full goodwill method), 51 at the proportionate share of net assets of the acquired entity (partial goodwill method) and remaining 101 decide on acquisition-by-acquisition basis.

Table 4.8: Business combinations

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
fair value	0	0	2	0	0	1	1	0	0	0	4
share of net assets combination	6	2	1	9	4	13	6	6	4	0	51
not disclosed	10	12	19	20	9	6	14	8	3	0	101
Total	14	16	10	21	17	11	9	28	23	30	179
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

4.4.8 Cash-flow Presentation

Important information about company's operating, investing and financing activities is also provided in the cash-flow statement. Users of financial information can get overview of how cash is generated and used in a company, about its solvency and liquidity. The guidelines for cash-flow statement preparation are contained in IAS 7.

When it comes to presentation of cash-flow from operating activities, standard allows a choice between two methods—direct and indirect. Under direct method, entity adds up major classes of gross cash payments and receipts to end up with total operating cash-flow. When indirect method is chosen, it starts with net operating income and adjusts that for change in inventories, receivables, payables, non-cash items (*e.g.* depreciation, impairment losses,

investment revaluations) and other items that correspond to investing or financing cash-flow.

IAS 7 encourages usage of direct method, as it can be more informative than indirect method in some respects. Actual company choices are, however, different. Their overview can be found in Table 4.9. As we can see, there is a strong tendency among studied companies to use indirect method. Considering the nine countries of our interest (excluding Portugal), all but 3 Dutch and 2 Czech companies chose to use indirect method. However, interesting is the case of Portugal. There the situation is opposite: only 1 out of 30 companies uses indirect method, others prefer direct one. The reason is that direct method is specifically required by the Portuguese national GAAP, particularly “NCRF 2 Statement of Cash Flows”. Another interesting pattern we noticed while processing data, is that 20 out of 42 companies from the UK provide details about computing their operating cash-flow in the notes, rather than directly in the cash-flow statement within the financial statements. With respect to the Czech and Slovak companies, they follow the rest of the sample and apart of two Czech companies they all use indirect method for cash-flow reporting.

Table 4.9: Cash-flow presentation

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
direct	0	0	0	3	0	0	29	0	2	0	34
indirect	30	30	32	47	30	31	1	42	28	30	301
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author’s analysis.

4.4.9 Government Grants

IAS 20 covers accounting for and disclosure of government grants, that can relate either to assets or to income. They can be also referred to as subsidies, which was often the case. The alternative names as subventions or premiums were not used among companies in our sample. According to the standard, government grants can be recognised only if it is certain that “the entity will comply with the conditions attaching to them and the grants will be received” (IAS 20, par. 7).

There are two ways of accounting for grants related to assets. Their value can be either deducted from the acquisition price of an asset, or can be pre-

sented as deferred income and recognised on a systematic basis over the asset's useful life. If it is deducted from the asset's value, it is then *de facto* also recognised over its life in a form of reduced depreciation expense. Effect on net income is therefore the same, regardless of policy choice, the only difference is in disclosure.

Similarly, two options regarding grants related to income exist. They can either be presented in income statement (*e.g.* as other income), or deducted from the corresponding expense. Some argue that netting expense items is inappropriate, and grant should be separated for easier comparability. On the other hand, without the availability of grant the expense could have not been incurred, so the matching can be seen as reasonable (IAS 20, par. 30). The effect on net income is again identical, it is only the matter of presentation.

Actual usage of these alternatives by companies in our sample is presented in Table 4.10 and Table 4.11. Out of the companies that disclosed their accounting policy regarding government grants related to assets, 94 chose their deferred recognition in the income statement, while 72 deduct their value from the initial cost of the purchased asset. Noteworthy is the case of Germany, where 18 companies prefer deducting the grant from the asset value, while only 5 recognise it as a deferred income. In contrast with that there is Portugal, where only 3 companies use the method of deducting the grant from the purchased asset price, and 21 account for it as a deferred income. Situation is more unified in the case of government grants relating to income. Here, out of the 142 companies that disclosed their policies, only 8 deduct the grant directly from related expense. Remaining 134 account for them as deferred income. Generally though, the disclosures of this policy were poor among studied companies, which could be caused by the fact that majority of companies do not receive any government grants at all.

Interesting fact arises when looking specifically at Czech and Slovak companies. While they are coherent in accounting for grants related to income (all 11 Czech and 13 Slovak companies that disclosed their policy chose deferred recognition in the income statement), when it comes to grants related to assets, the opposite is true. Deducting them from the asset's value seems to be preferred by Czech companies (as reported by 11 out of 12 companies that disclosed their policy), while recognition as a deferred income was preferably chosen by Slovak companies (as reported by 12 out of 16 companies that disclosed their policy).

Table 4.10: Government grants related to assets

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
deferred income	14	9	5	8	11	5	21	8	1	12	94
deducted asset	8	3	8	13	1	18	3	3	11	4	72
not disclosed	8	18	19	29	18	8	6	31	18	14	169
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

Table 4.11: Government grants related to income

<i>Method</i>	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK	Total
income	16	11	3	20	13	17	21	9	11	13	134
deducted expense	1	1	0	4	0	0	2	0	0	0	8
not disclosed	13	18	29	26	17	14	7	33	19	17	193
Total	30	30	32	50	30	31	30	42	30	30	335

Source: author's analysis.

4.5 Other policies

In this section we comment on the policies we did not cover, although the previous studies did. The reason is simple—they are no longer relevant, as the possibility of choice between various alternatives was in these cases abolished. This fact, however, proves that the level of harmony is increasing. It applies to the areas stated below:

Inventory valuation: Previous works studied the choice of companies among cost, market value and lower of cost and market value for initial valuation of inventories. Nowadays, IAS 2 specifically requires the third option—lower of cost and net realisable value.

Goodwill: The Fourth EC directive allowed for two possible treatments of goodwill. It could have been either written off immediately, or recognised as an intangible asset and then amortized over five years (or even more, if that period did not exceed the useful life of the asset). Present state, however, differs a lot. Under IFRS 3, when a company enters into a business combination, it recognises goodwill and records it in the balance sheet. Then, according to IAS 36, it is not amortized, but rather tested for impairment annually. In case of

impairment of a cash-generating unit, to which goodwill is allocated, value of goodwill is the first to be reduced and in case of reversal, it is never increased back again.

Research and development: Similarly to goodwill, also R&D costs could be either capitalised and then amortized gradually, or immediately expensed under the Fourth EC directive. Now there is no such choice. Treatment of R&D costs is covered by IAS 38, that specifically describes conditions under which R&D costs are capitalized (until they are met, they have to be expensed). The conditions are stated as follows: technical feasibility, intention to complete, ability to use or sell, probable future economic benefits, available resources and reliably measurable expenditures.

Extraordinary items: Although previously extraordinary items were required to be reported separately from the items resulting from ordinary activities, they are no longer allowed under IFRS. IAS 1 clearly states that: “An entity shall not present any items of income or expense as extraordinary items, in the statement of comprehensive income or the separate statement of comprehensive income (if presented), or in the notes”. No such item therefore appears in any of the annual reports in our sample.

Deferred taxation: Some authors also examined treatment of deferred taxation. The issue there was whether an entity chooses current tax rate, or the one expected in the relevant period. This is no longer a matter of choice. According to paragraph 47 of IAS 12, tax rate used to determine the amount of deferred tax asset or liability is the one expected for the period when asset or liability is to be settled.

Leasing: Previously, it was up to a company, whether to capitalize financial leasing or not. Nowadays the situation is different. IFRS contain strict distinction between operating and financial lease and provide guidelines on how to account for respective alternatives. In case of financial lease (which is in IAS 17 characterized as the one where all risks and rewards related to ownership of an asset are transferred to the lessee), lessee initially recognises both asset and liability arising from the lease. As the duration of lease progresses, the asset is being depreciated, the liability is being reduced, and finance expense recorded against lease payments. Therefore such choice between capitalizing or

not capitalizing financial lease is no longer in place. In case of operating lease (which IAS 17 simply defines as lease that is not a finance lease), lessee does not record leased asset nor liability in his balance sheet, but only recognises lease expense each period. Depreciation of a leased asset is accounted for by the lessor.

Chapter 5

Results

5.1 Measuring Harmonisation over Last 20 Years

As Cairns *et al.* (2011) state, “comparability improves when the indices show that companies’ policy choices for like transactions and events are clustered around like methods”. They also specify two ways to interpret that. If a single measurement policy is allowed under IFRS, improved comparability is achieved when IFRS replaced more flexible national standards. In cases where IFRS allow more choices for particular policy, greater comparability indicates that more companies make the same choice than under national standards. Our analysis in this section focuses on the latter.

We compute indices for three accounting policies (fixed asset valuation, depreciation and inventory costing), and compare them with those reported by Taplin (2010), based on the data used by Herrmann & Thomas (1995). As our sample contains two countries that were not included in the original study (namely the Czech Republic and Slovakia), we omit those observations and compute values of the T index on the restricted sample of eight countries. Table 5.1 provides overview of the T indices and sample sizes of both studies.

Table 5.1: Comparison of the T indices over time

<i>Measurement practice</i>	Herrmann and Thomas (1995)		Our sample (2015)	
	n	T	n	T
Fixed asset valuation	217	0.47	275	0.91
Depreciation	217	0.68	267	0.91
Inventory costing	124	0.27	215	0.38

Source: Taplin (2010) and author’s computations.

For the purpose of calculating the T indices for these three practices, we follow the choice of parameters from Taplin (2010), *i.e.* 1b2c3a4a. In particular, it means the following:

- 1b—each country is assigned equal value;
- 2c—between country index is used (random draws from the sample are done so that companies are each from different country);
- 3a—no multiple policies are allowed (so the combination of used methods was treated as a new method non-comparable to others), and
- 4a—companies not disclosing their policies in these areas are excluded from the sample.

This combination is chosen so that it simulates construction of the I index used in the original study.

The data in Table 5.1 suggest increased level of harmony for all three observed practices. The most pronounced change can be seen in area of fixed asset valuation, where the index almost doubled. Move towards historical cost method, that we noted in previous chapter, is therefore supported. Substantial increase is reported also in accounting for depreciation. Here, straight-line method is chosen most often by surveyed companies. With respect to inventory costing, the choice of companies is quite ambiguous. Although the level of harmony increased—partly also because of the abolishment of LIFO method—there is still substantial variance among studied companies. Overall, however, we can say that choices of actual companies are more clustered around particular methods than 20 years ago.

These results seem to have little power, as we only compare accounting policy choices for the three practices. However, it is important to note that the other areas examined by Herrmann & Thomas (1995) are no longer relevant to study, as IFRS unify their treatment and only allow a single method for each of them. If we collected data for these practices, all companies disclosing their policies would therefore go for that particular treatment, and values of the T indices (computed under above stated specification of parameters) would equal 1. For these practices we can state that there was a substantial harmonisation over observed period, leading to total harmony.

On the other hand, we managed to identify other accounting practices that can be still treated in several ways under IFRS. To the best of our knowledge, there were no other studies focusing on these areas of financial reporting among European countries so far, therefore in the next section we only discuss our

findings, without commenting on the development of relevant indices. Still the analysis is interesting, as it illustrates how values of the T index vary with changing specification of its parameters. Moreover, it points out to the areas that are currently most and least harmonised.

5.2 Analysis of Our Sample Using the T Index

In this section we summarize values of the T index computed for all studied practices, using data from the whole sample of 335 companies. Following Taplin (2004), we employ different combinations of the four parameters that specify the T index in order to increase robustness of our results. As a default combination, that best suits our objectives, we consider $1c2a3c4a$, *i.e.* weights according to population, overall index, fractional comparability when it comes to using multiple policies and ignoring the non-disclosures. We will refer to this index as T_1 .

Our choice of parameters for the main index can be explained as follows. Firstly, weighting individual countries according to population best reflects importance of their respective contribution to the overall index. As an approximation of the countries' population, we use the numbers of listed domestic companies on stock exchanges of particular countries, as reported by the World Bank for the end of 2012. Based on these numbers presented in Table 5.2, it is clear that the highest weight is assigned to companies from the UK, followed by France and Germany. On the other hand, the lowest influence on our index is made by companies from the Czech Republic, Ireland, Portugal and Slovakia.

Table 5.2: Listed domestic companies

	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK
number of companies	154	174	862	105	42	665	46	2179	17	69

Source: The World Bank.

Secondly, we use overall index, which means that random draws of two companies are likely to be both from within one country or from different countries. There is no reason to restrict the choice on one or another, as our goal is to assess the level of harmony across our sample, which includes both within and between comparison. Thirdly, for areas where it makes sense, we allow for multiple reporting and treat it in such a way that the choice of combination of two methods is proportionally comparable to each single of them.

It means that if there are two possible ways of accounting, the coefficients of comparison of each of them to their combination equal 0.5. When there are three alternative options, the coefficients equal 0.3333, and in case of four alternatives, the coefficients equal 0.25. Finally, as we cannot distinguish which companies do not disclose their policy because they are not willing to do so or because it is not applicable to them, for the computation of our default index we exclude such observations from the sample.

Although we believe that this combination of properties is the most reasonable in our case, further we also provide values of different variations of the T index, to see how choice of assumptions can effect the final results. A key to understanding the construction of individual T indices is provided in Table 5.3. As already mentioned, the index with most desirable properties for our analysis is denoted as T_1 . The other indices then represent its modifications, so that each of the indices T_2 to T_6 differs from the default index only by a single parameter. Index T_2 focuses on between rather than overall comparison, T_3 and T_4 treat non-disclosure differently, T_5 does not allow for multiple policies and T_6 weights countries equally rather than by their population. Finally, T_7 simulates construction of the popular I index.

Table 5.3: Properties of the T indices

<i>Index</i>	weights	international focus	multiple policies	non-disclosure
T_1	population weights	overall	possible	removed from the sample
T_2	population weights	between	possible	removed from the sample
T_3	population weights	overall	possible	comparable to all methods
T_4	population weights	overall	possible	not comparable to any method
T_5	population weights	overall	not possible	removed from the sample
T_6	countries weighted equally	overall	possible	removed from the sample
T_7	countries weighted equally	between	not possible	removed from the sample

Source: author.

The summary of our results is presented in Table 5.4. Although for all computations we used the unrestricted sample of 335 companies, the last column reports numbers of companies disclosing their statements, which is *de facto* the sample relevant for all indices except for T_3 and T_4 (only those two indices use all observations, the others exclude non-disclosures). Firstly, we analyse the results horizontally, to see how values of the T index change with the change of parameters, and secondly we look at the table from vertical perspective to compare the T index values for different practices and comment on the level of harmony measured in our sample.

Table 5.4: Values of the T indices

<i>Measurement practice</i>	T_1	T_2	T_3	T_4	T_5	T_6	T_7	n
Fixed asset valuation	0.97	0.97	0.97	0.97	0.96	0.94	0.90	335
Depreciation	0.95	0.95	0.95	0.94	0.93	0.94	0.91	323
Inventory costing	0.51	0.51	0.72	0.27	0.39	0.49	0.38	258
Investment property	0.55	0.54	0.97	0.04	0.55	0.51	0.49	101
Foreign currency translation	0.61	0.59	0.74	0.40	0.53	0.56	0.47	234
Employee benefits	0.69	0.59	0.76	0.47	0.69	0.48	0.45	232
Business combinations	0.72	0.69	0.94	0.16	0.49	0.61	0.41	156
Cash-flow presentation	0.98	0.96	0.98	0.98	0.98	0.81	0.79	335
Grants relating to assets	0.51	0.47	0.92	0.08	0.51	0.51	0.49	166
Grants relating to income	0.98	0.97	1.00	0.08	0.98	0.93	0.92	142

Source: author's computations.

First thing to note, is that in areas with high levels of disclosure and no outlier countries (that report different practices than the rest of the sample), values of the T index do not differ much when we change the specification of parameters. For fixed asset valuation the T index ranges from 0.90 to 0.97, and for depreciation the variance is even smaller, with values between 0.91 and 0.95. Similar situation is the one with cash flow presentation, where the disclosure rate was 100%. Values of the indices T_1 to T_5 are almost identical, ranging from 0.96 to 0.98. A drop can, however, be seen when it comes to indices T_6 and T_7 . Those assign individual countries equal weights, rather than taking into account their population. These indices for cash-flow presentation are pulled downwards by Portugal, that reports strong preference for direct method. This country is rather small in terms of population, but when it is given equal weight as the “big players”, the final outcome is skewed. This is why we consider weighting countries according to their population as better representation of the real state, and prefer using the T index rather than the I

index, that does not offer this option. Possibility to weight countries according to their population is a great advance introduced by Taplin (2004), and it substantially improves indices used by previous researchers.

Another big issue that impacts the final result is treatment of non-disclosure. Here we focus on values of indices T_3 and T_4 , that deviate from the others more and more with the increasing number of non-disclosing companies in the sample. This deviation is observed in both ways: while values of T_3 are substantially higher when many companies do not disclose their policies, values of T_4 drop significantly. These effects are most pronounced in case of investment property. While the other indices report values close to 0.5, value of T_3 equals 0.97 and value of T_4 equals 0.04. The rate of disclosure here is the lowest across all studied policies; mere 30% (101 out of 335) companies reported that they account for investment property and disclosed the method they use. Similar situation is in fields of business combinations and government grants, where values of the T indices move accordingly. The explanation lies within the definition of parameters of the T index. In case of T_3 , non-disclosing observations are treated as comparable to all. That means that they are regarded as non-applicable, and the non-disclosure category is seen as a new method—used by the companies that do not apply any policy—which is completely comparable to all other methods. This is why the values of T_3 are so high compared to other indices. Opposite situation holds for T_4 , which considers all non-disclosures as completely non-comparable to any other accounting method, and represents the situation when companies purposely do not disclose their policy, although they use one. This fact pulls value of the T index downwards. The feature of setting conditions for treating non-disclosures is therefore very desired in cases when the reasons of non-disclosure are known. Unfortunately, this information was hard to obtain in our sample. By our estimate, majority of the companies not disclosing their policies were doing so, because they did not use any. As, however, we do not have any concrete evidence of this fact for each single company, we decided to drop these observation from our sample for the purpose of computing the default index.

When it comes to choosing either overall or between index, values of indices T_1 (overall) and T_2 (between) convince us that it is not a big deal. The differences are none or negligible for all practices. The only outlier is treatment of employee benefits, where the change from overall to between index—while keeping all the other properties unchanged—results in drop of the index from 0.69 to 0.59. This can be explained by great within country consistency that

is translated into higher overall index, that contrary to the between index also considers this aspect.

The last parameter that needs to be set when computing the T index is treatment of multiple policies. In our case this only refers to some policies—particularly fixed asset valuation, depreciation, inventory costing, investment property, foreign currency translation and business combinations. Effect of this choice is captured by the difference between indices T_1 (that allows for multiple policies) and T_5 (that does not). The most pronounced change is in cases of business combinations and inventory costing, where combinations of two methods are frequently used. Treating them as partially comparable to the individual methods not only increases reported values of the T index, but also better reflects actual state.

When we focus on the individual practices, we see that some are more and some are less harmonised. From values of our main index T_1 , the highest degree of harmony can be observed in the way of presenting cash-flow and grants related to income, followed closely by fixed asset valuation and depreciation. All these practices report values from 0.95 to 0.98, that almost approach uniformity. This holds also when we look at the other indices (T_2 to T_7), except for the case of government grants. As there is a huge portion of non-disclosing companies, the indices T_3 and T_4 are affected as explained above.

Moderate level of harmony can be seen in accounting for business combinations, employee benefits and foreign currency translation, that report values of 0.72, 0.69 and 0.61 respectively. The lowest harmony is reported in the areas of inventory costing, grants related to assets and investment properties, although the levels still exceed the value of 0.5.

5.3 Two Country T Indices

One of the advances of the Harmoniser software is that it automatically reports values of the two country T indices for each pair of countries. Overall T index is then computed as their weighted average. In this section we will, however, focus explicitly on this “by-product” of the T index computation. For the purpose of our analysis, we look at the average two country T indices for each pair of countries calculated over all ten accounting policies. Their values are summarized in Table 5.5 and are based on the values of our default index T_1 .

Numbers on the diagonal axis represent values of within indices (or the H indices) and can be interpreted as the probability that two companies randomly

Table 5.5: Values of the two country T indices

	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK
SK	0.62	0.57	0.64	0.53	0.63	0.64	0.58	0.67	0.57	0.75
CZ	0.61	0.60	0.65	0.61	0.60	0.65	0.57	0.62	0.79	
UK	0.73	0.72	0.75	0.69	0.79	0.75	0.67	0.80		
PT	0.61	0.59	0.64	0.57	0.65	0.62	0.77			
DE	0.74	0.66	0.77	0.70	0.68	0.82				
IE	0.71	0.74	0.72	0.70	0.83					
NL	0.68	0.68	0.71	0.71						
FR	0.73	0.68	0.79							
DK	0.68	0.74								
BE	0.72									

Source: author's computations.

chosen from a particular country will have comparable accounts. Based on our data, it can be concluded that the highest level of within consistency is observed in Ireland, followed by Germany and the UK. On the other side we record the Netherlands, Belgium and Denmark. Still the differences are not that pronounced, as the within T index for Ireland is 0.83, while for the Netherlands it equals 0.71. In words, it means that the probability that two randomly chosen Irish companies use the same accounting method for a certain policy is 83%, while in case of Dutch companies it is 71%.

When we look at between T indices—occupying rest of the table—their values range from 0.53 in case of the Netherlands–Slovakia, to 0.79 recorded for the pair Ireland–the UK. The interpretation is similar to the case of within indices. We can say that the probability, that one randomly drawn company from the Netherlands and one randomly drawn company from Slovakia are having comparable accounts equals 53%. In case of Ireland and the UK the probability is higher, it equals 79%. When we do not consider the Czech republic and Slovakia and look at the very same sample of companies as the one used in Herrmann & Thomas (1995), we find the lowest level of international harmony between Portugal and the Netherlands, with the value of two country index of 0.57. These findings are interesting in relation to the cited study. According to its outcomes, the most harmonised pair of countries was Ireland–the UK, as is our case. On the other hand, the lowest harmony was reported between Portugal and Germany, that rank among the least harmonised also in our analysis, with the index of 0.62. The pair Portugal–the Netherlands, that shows the lowest two country index in our case, is also amongst the least

harmonised in the cited study.

The results are even more interesting when we look at the averages of the two country T indices for each country, that are reported in Table 5.6. It shows that the most harmonised country in relation to rest of the sample is the UK, with the index of 0.72, while the least harmonised (again disregarding Slovakia and the Czech Republic) is Portugal. The results still hold when we drop observations from Slovakia and the Czech Republic totally, although the values of indices change a little. This again corresponds to the findings of Herrmann & Thomas (1995), who also report the UK as the most, and Portugal as the least harmonised among the observed countries. Although the accounting practices studied in our work differ from those researched in the cited study, we use a different sample of companies from each of the studied countries, and the methodology differs as well—instead of their bi-country I index we use two country T index—the results are surprisingly similar even after 20 years. This not only implies that the “inter-country” relations have not changed much over the years, but also confirms robustness of our results, as there clearly is some pattern that we managed to confirm.

Table 5.6: Averaged two country T indices

	BE	DK	FR	NL	IE	DE	PT	UK	CZ	SK
average T index	0.68	0.67	0.71	0.66	0.70	0.70	0.63	0.72	0.63	0.62

Source: author’s computations.

When looking at the two countries that are new to the sample—particularly the Czech Republic and Slovakia—we find the values of their average two country T indices among the lowest. The value 0.62 for Slovakia can be interpreted that the probability that two randomly chosen companies—from which at least one is Slovak—use the same accounting method is 62%. For the Czech Republic the index is only slightly higher, equal to 0.63. Although these values are at the tail end in our sample, their absolute difference from the most harmonised countries is not that substantial. Considering that these countries were disadvantaged by including mostly individual rather than consolidated financial statements to the sample, we conclude that there is not sufficient evidence for difference between their accounting practices and the rest of the sample.

Chapter 6

Conclusion

The main purpose of this thesis is to measure extent of accounting harmonisation across ten European countries. Although the process of adoption IFRS for European companies made a great deal of work in the way towards greater harmony, still we were able to identify ten accounting practices where treatment is ambiguous. For our analysis we chose 335 companies reporting in accordance with IFRS from the countries of our interest, and we directly examined their 2013 annual accounts. Using actual financial statements for quantifying the level of their mutual compliance is referred to as measurement of material harmony, and observing the change over time as measurement of material harmonisation. This work attempts to do both. Main analytical tool used in this process is the T index developed by Taplin (2004). We employ its various forms and observe how changing of the parameters impacts final value of the index.

Firstly, we compare our results to those of Herrmann & Thomas (1995), who conducted a similar study 20 years ago. Treatment of most of the practices they examined was already unified within IFRS framework. For the rest—particularly fixed asset valuation, depreciation and inventory costing—we compare their findings recalculated using the T index with ours, and conclude that there has been an increase in harmony in all three observed areas.

Secondly, we attempt to quantify the current level of accounting harmony across the ten chosen countries. Based on our results obtained by using different specifications of parameters of the T index, we conclude that the most harmonised are issues of cash-flow presentation, treatment of government grants relating to income, fixed asset valuation and choice of depreciation method. Among the least harmonised we find inventory costing, treatment of govern-

ment grants relating to assets and valuation of investment property. The T index that we consider most suitable for our case is the overall index, weighting countries according to their population, allowing for multiple policies and excluding non-disclosures from the sample. Robustness of our results is confirmed by using alternative specifications that also lead to the same conclusions.

Finally, we examine the two country T indices for all possible pairs of countries in our sample, and conclude that the practices used in the Czech Republic and Slovakia do not materially differ from those in the rest of the sample. We also identify the most harmonised pair as the UK–Ireland and the least harmonised pair as Portugal–Germany (only regarding the sample of eight original countries). Moreover, the highest overall two country harmony index, computed as an average of individual two country T indices, is reported by the UK, and the lowest by Portugal. This exactly matches the findings of Herrmann & Thomas (1995).

We therefore conclude that material harmonisation in Europe over the last 20 years was observed not only as a result of compulsory adoption of IFRS by listed companies, but also because of spontaneous convergence of used accounting practices. On the other hand, some national patterns seem to persist, as shown in the case of the UK and Portugal, that remain the most and the least harmonised in relation to the rest of the sample.

Measurement of accounting harmonisation in Europe is an interesting topic, and it becomes even more relevant with efforts to achieve a single market. Numerous opportunities for further research therefore exist. Due to our time and language constraints, we only focused on the ten countries, but it would be also useful to estimate the level of harmony of the other members of the EU, particularly the newcomers. Also, with respect to our results, it would be interesting to see how extent of international harmony changes over time, and to repeat this study on the very same sample of companies in five or ten years from now. For this purpose we state the full list of companies from our sample in Appendix C and hope that someone will build on our results in the future.

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Appendix A

Who Uses IFRS?

Table A.1: Who uses IFRS?

	Regulated Markets	Other
Belgium	<ul style="list-style-type: none"> • Le Marché Hors Bourse des Obligations Linéaires - Des Titres Scindés et des Certificats de Trésorerie • LIFFE Brussels • Euronext Brussels 	<p>Required in:</p> <ul style="list-style-type: none"> • the consolidated financial statements of credit institutions, insurance companies, and investment firms whose securities do not trade in a public market; • the separate company financial statements of real estate investment companies (SICAF/BEVAK). <p>Permitted in:</p> <ul style="list-style-type: none"> • the consolidated financial statements of companies other than credit institutions, insurance companies, and investment firms whose securities do not trade in a public market. <p>Not permitted in:</p> <ul style="list-style-type: none"> • separate (or statutory) financial statements other than real estate investment companies.
Czech Republic	<ul style="list-style-type: none"> • Prague Stock Exchange • RM-System 	<p>Required in:</p> <ul style="list-style-type: none"> • both the separate company financial statements and consolidated financial statements of all companies whose securities trade in a public market. <p>Permitted in:</p> <ul style="list-style-type: none"> • the consolidated financial statements of companies whose securities do not trade in a regulated market; • the separate company financial statements of a company whose securities do not trade in a regulated market if it is a subsidiary of a parent company that uses IFRSs as adopted by the EU for preparation of its consolidated financial statements.

Denmark	<ul style="list-style-type: none"> • GXG Official List • NASDAQ OMX Copenhagen A/S 	<p>Permitted in:</p> <ul style="list-style-type: none"> • both the consolidated and separate company accounts of companies do not trade in a regulated market.
France	<ul style="list-style-type: none"> • Euronext Paris Matif. • Euronext Paris Monep. • NYSE Euronext Paris • Bluenext 	<p>Permitted in:</p> <ul style="list-style-type: none"> • the consolidated accounts of companies that do not trade in a regulated market starting in 2005. However, IFRSs as adopted by the EU are not authorised for individual/statutory accounts for any French companies. The French Plan Comptable Général applies.
Germany	<ul style="list-style-type: none"> • Boerse Berlin • Duesseldorfer Boerse • Duesseldorfer Boerse Quotrix • Boerse Berlin Equiduct Trading • Frankfurter Wertpapierboerse • Hanseatische Wertpapierboerse Hamburg • Niedersaechsische Boerse Zu Hannover • Boerse Muenchen • Baden-Wuerttembergische Wertpapierboerse • European Energy Exchange • Frankfurter Wertpapierboerse Xetra • Frankfurter Wertpapierboerse Xetra International • Eurex Deutschland • Tradegate Exchange 	<p>Required in:</p> <ul style="list-style-type: none"> • consolidated financial statements of companies whose debt or equity securities trade in a regulated market and companies in the process of being listed on such a market. <p>Permitted in:</p> <ul style="list-style-type: none"> • consolidated financial statements of unlisted companies and companies listed on public securities markets that are not regulated markets. <p>Not permitted in:</p> <ul style="list-style-type: none"> • separate financial statements of listed and unlisted companies.
Ireland	<ul style="list-style-type: none"> • Main Securities Market (MSM) of the Irish Stock Exchange 	<p>Required for:</p> <ul style="list-style-type: none"> • issuers on the Enterprise Securities Market (ESM) (an equity market designed for small to medium sized growth companies that is not a "regulated securities market") that are incorporated in the Republic of Ireland or elsewhere in the EEA and that are parent companies. <p>Permitted for:</p> <ul style="list-style-type: none"> • all companies whose securities do not trade in a regulated market, other than companies not trading for gain; • issuers on the Global Exchange Market (GEM) (a specialist debt market) that are incorporated in the Republic of Ireland or elsewhere in the EEA.

Netherlands	<ul style="list-style-type: none"> • European Energy Derivatives Exchange N.V. • NYSE Euronext - Euronext Amsterdam • Euronext COM - Commodities Futures and Options • Euronext EQF - Equities and Indices Derivatives • Euronext IRF - Interest Rate Future and Options 	<p>Permitted in:</p> <ul style="list-style-type: none"> • both the consolidated and separate company accounts of companies that do not trade in a regulated market.
Portugal	<ul style="list-style-type: none"> • Eurolist by Euronext Lisbon (Mercado de cotação oficial). • MEDIP - Mercado Especial de Dívida Pública. • Mercado de Futuros e Opções. • MIBEL - Mercado Regulamentado de Derivados do Mibel. 	<p>Required in:</p> <ul style="list-style-type: none"> • the financial statements of a company whose securities trade in a regulated market but that does not prepare consolidated financial statements because it does not have subsidiaries; • the consolidated financial statements of all credit institutions and other financial institutions whose securities do not trade in a regulated market. • In addition IFRS are required for all banks by the Bank of Portugal and for all insurance companies by the Portuguese Insurance Institute, whether or not the bank or insurance company has issued securities that trade in a regulated market. <p>Permitted in:</p> <ul style="list-style-type: none"> • the financial statements of the subsidiaries of a company whose securities trade in a regulated market; • the separate financial statements of all other companies whose securities trade in a regulated market. If such a company chooses to prepare its separate financial statements using Portuguese national accounting standards rather than IFRS, it is required to provide additional disclosures; • the consolidated financial statements of all other companies whose securities do not trade in a regulated market; • the separate financial statements of any company within the scope of consolidation of an entity that applies IFRS as adopted by the EU; • the separate financial statements of insurance undertakings that are not within the scope of consolidation.

Slovakia	<ul style="list-style-type: none"> • Bratislava Stock Exchange 	<p>Required in:</p> <ul style="list-style-type: none"> • both the consolidated and separate company financial statements of all "public interest entities". These are defined as: <ul style="list-style-type: none"> – Banks and branches of foreign banks; – Export-Import Bank of Slovak Republic; – Insurance companies and branches of foreign insurance companies except health insurance companies; – The Stock exchange; – Office of Slovak Assurors; – The Slovak Railroads; – Reinsurance companies; – Asset management companies; and – Those companies that meet at least two of the following criteria in two consecutive years: <ul style="list-style-type: none"> * total assets more than €165,969,594; * net turnover more than €165,969,594; and * average number of employees more than 2,000; • the consolidated financial statements of companies whose securities do not trade in a public market. <p>Permitted in:</p> <ul style="list-style-type: none"> • the separate company financial statements of all companies whose securities are traded in a regulated market that are not "public interest entities".
United Kingdom	<ul style="list-style-type: none"> • BATS Europe Regulated Market • BATS Europe Regulated Market • Intercontinental Exchange - Ice Futures Europe • ISDX Main Board • NYSE Euronext London • The London International Financial Futures and Options Exchanges (LIFFE) • The London Metal Exchange • London Stock Exchange 	<p>Required for:</p> <ul style="list-style-type: none"> • issuers on the AIM (a UK market for trading securities that is not a "regulated market") that are incorporated in the UK or elsewhere in the EEA and that are parent companies. <p>Permitted for:</p> <ul style="list-style-type: none"> • all companies whose securities do not trade in a regulated market.

Source: author based on IFRS Foundation.

Appendix B

Resources of the Lists of Companies

Table B.1: Resources of the lists of companies

Country	Resource
Belgium	http://www.transnationale.org/countries/bels.php
Czech Republic	http://www.czechtopy100.cz/
Denmark	http://www.largestcompanies.com/toplists/denmark/
France	http://www.verif.com/Hit-parade/01-CA/00-Pays/0-France
Germany	http://top500.welt.de/list/2013/
Ireland	http://www.top1000.ie/companies
Netherlands	http://nssp.nl/top-500-bedrijven-elsevier/ http://jaarverslag.info/annualreports
Portugal	http://economico.sapo.pt/public/uploads/especiais_sp/1000_maiores.pdf
Slovakia	http://www.revuepriemyslu.sk/top-250/liste
United Kingdom	http://www.fasttrack.co.uk/fasttrack/leagues/top100leaguetable.asp?siteID=4&searchName=&yr=2014&sort=num&area1=99

Source: author.

Appendix C

Lists of Companies from Individual Countries

Belgium:

Ablynx, Ackermans & van Haaren, Agfa-Gevaert, Anheuser-Busch InBev, Barco, Bekaert, Belgacom, Bpost, CMB, Colruyt, D'Ieteren, Deceuninck, Delhaize, Etex, Euronav, Exmar, Fluxys, GBL, IBA, Kinopolis, Mobistar, Nyrstar, Recticel, Solvay, Tessenderlo, TiGenix, UCB, Umicore, Vandemoortele, VGP.

Czech Republic:

AAA Auto, ABS Jets, Aquapalace, BigBoard, Cetelem, Česká rafinérská, České Dráhy, ČEZ, Czech Property Investments, Dalkia, Energoaqua, Energochemica, Já chymov Property Management, Korado, LEO Express, O₂, OHL ŽS, Philip Morris, Pivovary Lobkowicz, Pražská plynárenská, Pražské služby, PRE, RMS Mezzanine, Severočeské doly, Severomoravské vodovody a kanalizace, Škoda, T-Mobile, TOMA, Unipetrol, ZONER software.

Denmark:

A.P. Moller-Maersk, Arla Foods, Carlsberg, Coloplast, Danfoss, Danish Crown, DFDS, DLH, Dong Energy, DSV, Egmont, FLSmidth, ISS, Kirkbi, Lego, NKT Holding, Norden, Novo Nordisk, Novozymes, Nykredit, OW Bunker, Pandora, Rockwool, Schouw & Co., Solar, TDC, Topdanmark, Tryg, Vestas, William Demant.

France:

Aéroportos de Paris, Air France-KLM, Alcatel-Lucent, Auchan, Bouygues,

Capgemini, Carrefour, Casino, CMA CGM, Danone, Dassault Aviation, EDF, Eurotunnel, Faurecia, GDF Suez, L'oréal, La Poste, Michelin, Natixis, OCP, Orange, PSA Peugeot Citroën, Publicis, Renault, RFF, Safran, Sanofi, SchneiderElectric, Synergie, Total, Veolia, Vivendi.

Germany:

Aurubis, BASF, Bayer, BayWa, Bertelsmann, BMW, Bosch, Celesio, Continental, Daimler, Deutsche Bahn, DHL, Deutsche Telekom, E.ON, Fresenius, Henkel, Heraeus, Hochtief, Linde, Lufthansa, MAN, Metro, Phoenix, REWE, RWE, Südzucker, SAP, Siemens, ThyssenKrupp, Volkswagen, ZF Friedrichshafen.

Ireland:

Abbey, Aer Lingus, Aminex, Bord Gáis, C&C, CPL, CRH, DCC, Dragon Oil, Eircom, ESB, FBD Holdings, Fyffes, Glanbia, Grafton, Greencore, ICON, Independent News & Media, Ingersoll Rand, Kenmare, Kerry, Kingspan, Minccon, Origin Enterprises, PaddyPower, Ryanair, Smurfit Kappa, Total Produce, UDG Healthcare, Zamano.

Netherlands:

Aalberts Industries, Accell Group, Acomo, Ahold, AkzoNobel, AMG, ASML, Arkadis, Ballast Nedam, BAM, Boskalis, Brunel International, Corbion, DSM, EADS, FrieslandCampina, Fugro, Gemalto, Grontmij, Heijmans, Heineken, HunterDouglas, Imtech, KLM, KPN, LeasePlan, Macintosh Retail, Nutreco, OCI, Philips, PostNL, Randstad, Reed Elsevier, SBM Offshore, Shell, Sligro Food, STMicroelectronics, TMG, TenCate, TKH, TNT Express, TomTom, Unibail-Rodamco, Unilever, Unit4, USG People, Vopak, Wessanen, Wolters Kluwer, Ziggo.

Portugal:

Águas de Portugal, Altri, Amorim, ANA, BRISA Concessão Rodoviária, Brisa Autoestradas de Portugal, Cimpor, Cofina, CTT, EDP, Efacec Capital, Galp Energia, Jerónimo Martins, Martifer, Mona-Engil, Portucel, Portugal Telecom, REN, SAG, Semapa, Soares da Costa, Sonae, Sonaecom, TAP, Teixeira Duarte, Turbogás, Visabeira, Zagope, ZON Multimédia, ZON Optimus.

Slovakia:

Bekaert Hlohovec, Best Hotel Properties, Continental Matador Rubber, Con-

tinental Slovakia, Doprastav, Duslo, Embraco, Emerson, Foxconn Slovakia, GETRAG FORD Transmissions Slovakia, INA Kysuce, INA Skalica, Johnson Controls International, KIA Motors Slovakia, Mobis Slovakia, Mondi SCP, PCA Slovakia, Slovalco, Slovnaft, SPP, SSE, Tatravagónka, Tatra Mountain Resorts, US Steel, Whirlpool Slovakia, YURA Corporation, ZIPP Bratislava, ZSE Energia, Železiarne Podbrezová, Železnice Slovenskej Republiky.

United Kingdom:

Associated British Foods, AstraZeneca, Aveva, BAE Systems, Bakkavor, Bettefair, Biffa, BP, Brake Bros, Britvic, Capital & Regional, Co-operative Group, Debenhams, Diageo, Doncasters, Expro Holdings, Fenner, Findel, Genus, Greenery, Halma, Iglo Foods, International Greetings, JD Sports Fashion, John Lewis Partnership, KCA Deutag Alpha, LandSecurities, McBride, Missouri Topco, Mondi, NetworkRail, New Look, Playtech, Smith & Nephew, Spire Healthcare, Sports Direct, SSE, Synergy Health, Tesco, Tullow Oil, United Biscuits Topco, Wm Morrison Supermarkets.