

THESES OF THE DOCTORAL (PhD) DISSERTATION

PROBLEMS, EXPERIENCES AND FURTHER ISSUES RELATED TO THE TRANSITION BETWEEN INTERNATIONAL ACCOUNTING SYSTEMS

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1. INTRODUCTION OF THE TOPICS AND OBJECTIVE

1.1. Research background

Nowadays, the main purpose of preparing company financial statements is to provide information to internal and external stakeholders, especially potential investors, which is why it has become necessary to develop a standardised system of accounting and a set of financial statements that allow comparisons. Act C of 2000 and the changes that have taken place since then seek to follow the principles of European Union accounting legislation, which also continues to change from year to year.

Following Hungary's accession to the European Union, Regulation 1606/2002 on the application of international accounting standards, adopted by the European Parliament and the Council of the European Union on 19 July 2002, also applies to Hungary as a Member State (BEKE, 2014). The European Union decided that from 2005, listed companies must apply IFRS in the preparation of their consolidated accounts in order to increase international (EU and global) comparability (ALEXANDER–NOBES, 2013).

The next important milestone for the domestic implementation of IFRS is the adoption of Act CLXXVIII of 2015 on the adoption of International Financial Reporting Standards for specific reporting purposes and on certain financial amendments, which was adopted by the Parliament on 29 November 2015. In accordance with the provisions of the Act, the application of IFRS in the preparation of separate financial statements is mandatory for certain types of companies in Hungary and optional for other entities.

Considering that the application of IFRS in the preparation of individual financial statements in Hungary has only been an option since 2016, and since then it has become an obligation for more and more companies, the timeliness and topicality of the topic can be clearly established, as this is a real corporate problem that is currently of concern to market players. One of the most important reasons for this is that all decisions by owners, authorities and investors are primarily based on individual financial statements, so the key question is whether they are prepared in accordance with IFRS.

Furthermore, the topicality of the topic is also reinforced by the fact that although several authors have published studies on the differences in recognition and measurement between Hungarian accounting and IFRS, the transition and its effects in the recent period, to my

knowledge, however, no doctoral dissertation has been written in Hungary on the application of the provisions of the Hungarian Accounting Act on the transition to IFRS and its effects based on specific company data (considering the complete database of the companies that have transitioned).

ORBÁN - KISS (2018) have identified the range of companies for which the application of IFRS is mandatory or an option when preparing their individual financial statements. Furthermore, the authors examined the potential impact of the first-time adoption of IFRS and outlined the problems and issues related to the transition.

MADARASINÉ SZIRMAI - SZÖLLŐSINÉ SZÉP (2018) present a study on the changes that may be required in statistical reporting as a result of the transition to IFRS. This is because differences in presentation and measurement from the Hungarian rules may have a significant impact on some macroeconomic indicators calculated by the HCSO. The most important findings of the study are that the corporate tax return and the adaptation of the mid-year and annual questionnaires and reports to IFRS by the statisticians are only the first steps in the tasks arising from the transition of companies to IFRS.

The most important research background of my doctoral research is the research at the Institute of Accounting and Finance of the University of Debrecen, which will start in 2020, and will include the analysis of all Hungarian companies applying IFRS.

ORBÁN et al. (2022) present the results of a comprehensive study aiming at a full impact assessment of the first-time adoption of IFRS on the individual financial statements of Hungarian companies. The study also aims at determining the extent to which the transitioning companies made use of the options offered by the recognition and measurement standards in the year of transition. One of the main findings of the study is that, in most cases, transitioning companies chose the regulatory option that was closest to the Hungarian accounting standards.

1.2. Main objectives of the research

The primary objective of my research is to examine the impact of the transition from Hungarian accounting law to IFRS on individual financial statements. My doctoral dissertation focuses on a detailed examination of the effects of the transition on profit, the factors affecting profit, and the profitability situation. The reason for this is the investor

perspective, which is of paramount importance in IFRS, as I believe that investor interest is primarily related to the development of corporate earnings, including dividend payments or taxation.

Consequently, I formulated four main research objectives (C1, C2, C3, C4) for my doctoral research:

C1: The breakdown of companies transitioning to IFRS into groups based on their asset structure according to their Hungarian reports and the main characteristics of the groups.

C2: Examining the earnings of companies transitioning to IFRS and the factors affecting earnings in two different accounting environments.

C3: Examining the profitability and investor value judgements of companies that have switched to IFRS as a result of the transition to IFRS.

C4: To show the impact of the transition to IFRS on a sample of companies with different asset structures.

However, it is important to underline that the research does not cover a detailed analysis of the asset structure of the transition firms, only the asset structure and asset utilisation indicators necessary for the breakdown of the firms into groups are calculated.

1.3. Hypotheses of the research

In line with the objectives of my doctoral research, I have formulated five hypotheses (H1, H2, H3, H4, H5), which are:

H1: On the basis of asset structure and asset utilisation indicators, companies that have converted to IFRS can be divided into well-defined, homogeneous groups based on the annual accounts prepared in accordance with the requirements of the last published Hungarian Accounting Act.

H2: At least half of the factors determining Profit after tax (Net profit) differ significantly between the two accounting systems.

H3: Profit after tax (Net profit) as reported in accordance with the Hungarian Accounting Act and IFRS is significantly affected by different factors in the year of transition.

H4: Calculated from the financial statements of the companies prepared in accordance with the Hungarian Accounting Act and IFRS rules

H4a: Return On Sales - ROS,

H4b: Return On Asset - ROA,

H4c: Return On Equity - ROE

significantly different in the year of transition.

H5: The transition to IFRS significantly distorts the ROE ratio, the most important determinant of investor value judgement.

2. MATERIAL AND METHODS

My research was exclusively secondary research.

2.1. Data collection process and scope of the data

The research topic is the impact assessment of the transition to IFRS for companies operating in the Hungarian accounting environment. The first adopters of IFRS are the companies that already prepare their individual financial statements according to IFRS.

The data required to carry out the secondary research are contained in the annual accounts prepared in accordance with the provisions of the Hungarian Accounting Act and the financial statements prepared in accordance with IFRS.

The data was collected within the framework of the research conducted by the University of Debrecen, Faculty of Economics, Institute of Accounting and Finance in 2020.

The first step of the data collection was to identify all the companies operating in Hungary that apply IFRS, assuming that these companies would be able to study the direct effects of the transition. This was done with the help of the EMIS database, which lists companies in Hungary that publish financial statements under international accounting standards.

For the 240 companies collected from the EMIS database, I checked the official website of the Ministry of Justice's Company Information and Electronic Company Procedure Service (hereafter: the Ministry of Justice website) to ensure that they have indeed prepared accounts in accordance with both the Hungarian Accounting Act and IFRS.

The first phase of the data collection revealed that out of the 240 companies concerned, only 193 companies had made the transition from the Hungarian accounting environment to the IFRS accounting system, 47 companies did not meet the criteria necessary to achieve the research objectives and answer the research questions.

The reduction in the number of companies analysed is primarily due to the fact that 27 of the 47 companies prepare their annual accounts for the last financial year under review under Act C of 2000, while the other 20 companies have been using IFRS since their inception. Consequently, it is not possible to examine the impact of the transition for these companies, as they have only published annual accounts prepared in accordance with the rules of an

accounting system, and therefore I do not have the comparative data set needed for this research.

The breakdown of the companies in the EMIS database by main activity and by the stage of transition is shown in the following table:

Table 1: Breakdown of companies that converted to IFRS by main activity

Main activity	Transition to IFRS	No transition to IFRS	Total
Health	8	1	9
Transportation	46	0	46
Electricity	4	2	6
Trade	15	5	20
Real estate	9	6	15
Production, manufacturing	15	3	18
Asset management	11	8	19
Construction	2	3	5
Service	25	15	40
Financial leasing	8	0	8
Credit institutions	38	3	41
Insurance activity	12	1	13
Total	193	47	240

Source: Own editing, 2024

The classification of companies that have switched to IFRS by main activity is based on the sector classification. The last three of the main activities in Table 1, Financial, Insurance (Financial Leasing, Credit Institutions and Insurance), are not included in my research. The main reason for this is that these companies should be researched focusing on and highlighting the specificities of the sector (IFRS 9 - Financial Instruments Standard) due to their unique activities and accounting characteristics. This reduces the population of my research by 58 companies.

Of the remaining 135 companies, it is only possible to examine 134 companies, as one of the transport companies has not published on the Ministry of Justice's website its overall IFRS profit and loss account, which is essential for the research.

As a result, the population of the survey was eventually narrowed down to 134 items, consisting of 9 companies with 9 different core activities.

The breakdown by activity in Table 1 is based solely on the main activity of the companies. However, the different impact assessments were not carried out by grouping by main activity. The primary reason for this is that in the majority of cases, companies that have moved to IFRS and have a significant number of secondary activities. The different ancillary activities can have a significant impact on the asset structure of the companies and on the magnitude of the factors affecting their results. In the different studies, in addition to ancillary activities, investment activities can also be a problem and can have a significant impact on the asset mix and the evolution of the company's results.

For the reasons explained above, I have found it appropriate to classify the 134 companies that have been converted into homogeneous groups using cluster analysis.

Cluster analysis involves data reduction, which is the process of sorting a large data set into manageable sized information sets, grouping data into a small number of clusters. The basic principle of clustering is to maximize the similarity of cases within a group and minimize the similarity between groups (NOVOSELSKY - EUGENE, 2021).

Cluster analysis can be performed using both hierarchical and K-means methods. The K-means method is to generate a hypothetical cluster of 'k' number of clusters, such that the position of the cluster centres is continuously changed in an iteration until a stable state is reached. The data are assigned to the nearest cluster centre. Among the most important conditions of this method is that it can only be performed on large numbers of elements and can be used with scale-type data (MORISSETTE - CHAERTIER, 2013). This method also allows the possibility of clustering data according to the distance from the mean or the distance from the median (SIMON, 2006).

In my research, I used the K-means method, as my aim was to create a predefined number of two distinct groups. The reason for this is that it is not worth dividing the low element count population (134) into more than two groups, as this would result in groups with a critically low element count, which would have made it impractical to carry out the statistical tests I had set out to perform.

I chose asset structure and asset utilisation ratios calculated from the data of the annual accounts prepared according to the Hungarian accounting rules as the clustering criteria for the cluster analysis. In my opinion, the composition of the assets of the companies has a

significant impact on the development of the result for the year under review, and therefore I considered it appropriate to group the companies according to asset structure and asset utilisation ratios. I consider it important to stress that my research does not include a detailed analysis of the asset structure of companies and the related balance sheet items in any accounting system, but only the calculation of these items was necessary to perform the cluster analysis.

The cluster analysis was carried out on the basis of the following indicators (clustering criteria):

- Fixed Assets/Total Assets
- Inventories/Total Assets
- Asset Turnover

Using cluster analysis, I created two clusters based on the indicators of the ratio of Invested Assets, the ratio of Stocks and the rotation speed of Total Assets. The most important criterion in defining the indicators was to ensure that they adequately characterise the activities. Starting from the fact that the asset structure indicators refer to the activities of the enterprise, including its non-core activities, I considered it appropriate to choose the Fixed Assets/Total Assets and the Inventories/Total Assets indicators. The Fixed Assets/Total Assets indicator looks only at the ratio of long-term assets, including any assets that may be indicative of long-term investment activity, which is mostly indicative of the ancillary activities of the companies. In contrast, the Inventories/Total Assets indicator looks at the proportion of current assets that are least liquid, which may be indicative of trading and manufacturing activities, they characterise the core activities of companies. The Total Assets Turnover Ratio expresses how fast a company is able to turn over its assets, their revenue generating capacity, which is closely related to the asset structure of the company.

In the procedure, I created the two groups based on the distance from the median instead of the distance from the mean, because the mean can distort the clustering, since the extreme values have an effect on the mean while the median does not, so I think that this is the most reliable way to create the clusters.

After applying the cluster analysis, I carried out the statistical tests necessary to achieve the objectives and prove the hypotheses, which are described in detail in the next subsection.

2.2. Methodology of the study

The research focuses on the results of companies that have switched to IFRS and the factors that affect them. In examining the factors affecting profit and loss, I was faced with several complicating factors, the primary reason being the specificities of the presentation of the income statement under the two different accounting treatments and the fact that some companies did not prepare their income statements under the same accounting treatment as in the Hungarian accounting environment. This was mainly a problem for personnel costs and depreciation, which, with a few exceptions, are only included in the profit and loss account using the total cost method. Given that the missing factors were found in the supplementary annexes of all the companies, it was possible to examine all the companies in the database. In contrast, some of the factors affecting the results were again limited. I had intended to examine in detail Other income and Other expenses, but most of the companies either presented these items on a net basis or subdivided them into several subcategories, the details of which I could not find in the supplementary notes in most cases, so I was not able to examine these items.

Consequently, I examine the following items in the income statements of companies:

- Revenue
- Personnel Expenses
- Depreciation and Amortization
- Financial Expenses
- Tax Expenditure
- Net Profit

The factors I have examined under the Hungarian Accounting Act are fully consistent with those listed above, as well as with the headings in the income statement. In contrast, there are differences between the factors accounted for under the IFRS requirements examined, namely Tax Expenditure and Profit after Tax (Net Profit). The main reason for this is that the reliability of the studies makes it a prerequisite for the research to compare sets of results with the same content under two different accounting systems.

In the IFRS Tax Expenditure line, for many companies, only the current tax liability (in some cases tax receivable) for the current year is reported, with a separate line for the

deferred tax liability (in some cases deferred tax receivable). Given the fact that the IFRS reported company results are affected by both lines of income and that the combined balance of the two lines constitutes Income Tax Expenditure, as required by IAS 12, I have combined these lines and treated them as one factor.

Furthermore, also in accordance with IAS 12, the Income tax expense line also includes items arising from the accounting of local taxes, which have been excluded for the reliability of the analysis, as under Hungarian accounting rules companies recognise local taxes as other expenses in the income statement. In summary, Tax payable under Hungarian accounting law and Tax payable under IFRS are basically the same line item in the income statement, regardless of the different names, with the important difference that IFRS have a broader income statement, as this line item includes deferred taxes in addition to local taxes.

The IFRS corporate result is the Total comprehensive income, but instead of this factor I have used the Net result as the basis for the impact analysis on the result. I considered this to be justified mainly because Total comprehensive income includes Other comprehensive income in addition to Net profit. This part of the statement of comprehensive income presents the effects of economic events that are not recognised in the income statement under Hungarian accounting law.

The various statistical tests necessary to test and prove my stated objectives and hypotheses were carried out using Microsoft Excel spreadsheet software and Stata statistical software. I started with a descriptive statistical analysis of the factors affecting the results, including the mean, median, standard deviation, minimum, maximum and quartiles.

The results of the descriptive statistical analysis indicated that the population may contain a number of outliers, the data are not normally distributed. For this reason, I considered it appropriate to filter out extreme outliers. Outliers are generally defined as valid values in the sample that show a significant deviation from the rest of the data (SAJTOS - MITEV, 2007; DOMOKOS - VINCZE-CSOM, 2012). This poses a problem because, on the one hand, they are considered valid values, yet they are not a good representation of the whole population. In addition, outliers can distort statistical indicators, most often shifting the mean or increasing the standard deviation (HUZSVAI, 2012; FALUS, 2014).

Based on HUNYADI et al. (2001), extreme outliers were filtered out using the following formulae:

$$\text{Upper extreme: } Q3 + 3 * IQR,$$

$$\text{Lower extreme: } Q1 - 3 * IQR,$$

where Q1 is the first quartile value, Q3 is the third quartile value and IQR is the interquartile range.

In my dissertation, after filtering out extreme outliers, I illustrated the distribution of the data on boxplot diagrams in order to show the extent to which the procedure improves the distribution of the data in terms of the change in the median and the mean. All other calculations and statistical analyses have been carried out without excluding outliers, the primary reason being that the data collection is not based on a sample, but on the whole population, of which I believe outliers are an integral part, and that this allows me to draw sound conclusions.

After descriptive statistical characterisation of the factors affecting the outcome, I examined the variation in the factors. Prior to the various statistical tests, I checked statistically, using Kolmogorov-Smirnov test, whether the normality condition was fulfilled. The result of this test confirmed the fact, already indicated by the descriptive statistical analysis, that the data are not normally distributed. Another important factor that determines the application of statistical tests is that the data series according to the Hungarian Accounting Act and IFRS are considered as a coherent sample, since the data series of the same companies refer to the same financial year.

I first examined the differences in the factors affecting the outcome as absolute indicators, and then the differences in the relative indicators of profitability. For this purpose, I used the non-parametric Wilcoxon signed rank test.

The Wilcoxon signed rank test calculates the difference between two related samples and ranks them. A positive sign is associated with each rank if the first sample had the higher value, and a negative sign if the second sample had the higher value (WILCOXON, 1992). The ranks obtained are added together and compared with the expected sum. If the significance level of the test, the p-value, is below 5%, there is a difference between the samples (HUZSVAI - VINCZE, 2012; BILDER - LOUGHIN, 2015).

I also calculated the relationship between the data, the effect size, using the following formula:

$$effect\ size\ (r) = \frac{|Z|}{\sqrt{N}}$$

where Z is the standardised value of the sample element and N is the number of elements in the sample. An effect size below 0.3 indicates a weak relationship between variables, above 0.3 a moderately strong relationship, and above 0.5 a strong relationship (FIELD, 2013).

I then examined whether the same factors affect the result and whether they have the same direction of effect in the two accounting systems. For this purpose, I used principal component analysis, which provides a solution to the multicollinearity between variables in the regression model (DOMÁN, 2005). This data reduction method allows the resulting components to be completely uncorrelated, thus allowing the inclusion of independent explanatory variables in the regression model (BARNA - SZÉKELYI, 2002). A further aim of using principal component analysis is to reduce the number of clusters of variables so that variables with a high correlation are grouped together, with the main components explaining a large proportion of the variance in the data in the favourable case. The correlation between variables in the other groups is negligible. Components whose eigenvalue is equal to the mean of the explained variances, which explain more than the mean variance (KAISER - RICE, 1974), are included in the regression model. This is called the Kaiser criterion.

Once the components are created, the matrices can be rotated. The rotation was carried out using varimax rotation, a method that distributes the charge evenly between the components, thus helping to interpret the data with a more visual meaning (BARNA - SZÉKELYI, 2002). The relationship between the resulting components and the outcome, and its direction, was then examined using principal component regression.

After examining the differences in the profitability ratios, I analysed the impact of the factors influencing the ROE ratio, as this is the ratio that most determines investor value judgements. The analysis was performed using random effect (RE) panel regression with the following formula (BALÁZSI ET AL. 2014):

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_n$$

where

Y is the outcome variable,

β_0 is the regression constant,

X_n are the explanatory variables, and

β_n the constant values of the explanatory variables (coefficients).

For panel regression, both a random-effects and a fixed-effects model can be used, which can be chosen based on the results of the Hausman test (HAUSMAN, 1978; ELEKES, 2018). Regression models can be used if all conditions are met (WOOLDRIDGE, 2002; BEREZVAI, 2015). For the data used for the random-effects panel regression model, all conditions were met except for the normal distribution of the data. This required a transformation of the data, which was performed by logarithmization, as the procedure can normalize the distribution for errors. After logarithmizing the data, I checked the normal distribution of the errors. In doing so, I found that the data that did not follow a straight line (errors) had a higher frequency of small deviations than large deviations. Therefore, it can be concluded that all conditions are fulfilled by the data and the regression model can be applied to investigate the impact of factors affecting the ROE ratio.

Finally, I carried out a variance analysis of the ROE ratio, which allowed me to present in detail the factors explaining the variation of the ratio. Variance analysis is usually used in the analysis of the variance between plan and actual or between base and target periods. The methods of variance analysis include the chain-linking method, the absolute differences method and the percentage differences method. All three methods require that the item under investigation is the result of a combination of factors and that the item under investigation is the product of these factors. The analysis of variance by cluster was carried out using the method of absolute differences, based on the correlations of the Du-Pont system of indicators, the results of which were presented in the form of waterfall diagrams.

3. MAIN FINDINGS OF THE DISSERTATION

The main objective of my doctoral thesis was to examine the effects of the transition from the Hungarian Accounting Act to IFRS on individual financial statements. Consequently, the financial statements of companies that have changed from Hungarian accounting rules to IFRS for the preparation of their individual financial statements were examined. The research focused mainly on profit, factors affecting profit and profitability, taking into account the investor perspective.

When grouping the companies that are converting to IFRS based on their asset structure using the reporting data prepared in accordance with the Hungarian Accounting Act, I found that the converting companies can be divided into well-defined, homogeneous groups. The grouping criteria were the proportion of fixed assets, the proportion of inventories and the total asset turnover rate indicators, which were used to create groups of companies with high and low fixed asset requirements. It can be concluded that the grouping of companies that have switched to IFRS according to their asset structure is not closely related to either the main activity of the companies or their stock exchange presence. There is no clear delineation of whether companies with certain core activities are typically classified as high or low fixed asset intensive companies, with the exception of a few activities with a very low number of elements.

When examining the factors affecting the result in two different accounting systems, I found that at least half of the factors show significant differences as a result of the changeover. With regard to the factors affecting profit, I have analysed in detail the evolution of turnover, personnel expenses, depreciation, financial operations expenses and tax expenses. Of these, I found significant differences in turnover, depreciation and tax expense between the two sets of accounts, which were supported by statistical tests. For turnover, companies reported significantly lower figures due to the changeover to IFRS. This is mainly due to the requirements of IFRS 15. Among the many specific requirements of the standard, it should be noted that a company may recognise revenue when and to the extent that it obtains control over a product or service, the risks of which are already borne by the company. In addition, performance accounting (POC) has also caused significant differences between Hungarian accounting rules and IFRS. Both in the descriptive statistical analysis of depreciation and in

the analysis of differences, I found that on average companies reported higher depreciation in IFRS than in the Hungarian accounting environment, which leads me to conclude that the transition to IFRS is expected to result in higher depreciation. This may be due to the requirements of several standards. The requirements of IFRS 5 have a reducing effect on the amount of depreciation recognised, as assets that companies intend to sell are reclassified as current assets or cannot be depreciated. At the same time, the provisions of IAS 38, which do not allow the capitalisation of start-up costs and research costs as assets, and the depreciation of assets with an indefinite useful life, also have a reducing effect compared to the Hungarian accounting environment. Conversely, the requirements of IAS 16 and IAS 38 may have an increasing effect on the amount of depreciation recognised if some companies have exercised the option under those standards to measure owner-occupied property, plant and equipment and intangible assets using the revaluation model. These standards play an important role because revaluation has a direct impact on cost and therefore on annual depreciation. Overall, I conclude from the foregoing that a minority of the companies that have moved beyond the Hungarian practice and have probably dared to move towards the specificities of IFRS and have taken the opportunity of applying the revaluation model provided by IAS 16. In my view, the presentation of non-current assets held for sale is not, or only to a limited extent, typical for the transition companies, as only a few of them had such a line in their balance sheet under current assets. I have had similar experiences with intangible assets, I believe that the recording of intangible assets with indefinite useful lives and, with the exception of pharmaceutical companies, the recording of research and development costs is not typical, as a significant number of companies either did not recognise intangible assets at all or their amount remained unchanged as a result of the transition. Based on the foregoing, it can be said that, although few of the transitioning companies have taken advantage of the IFRS revaluation model, they have nevertheless reported higher average depreciation charges under IFRS than in the Hungarian accounting environment. The main reason for this is that the number of companies using the revaluation model, although small, is considered to be large in terms of size relative to the population, and therefore the significantly increased depreciation charges of these few companies distorted the average, even though most of the companies that converted to IFRS did not use the revaluation model in the year of transition. In examining the income tax expense, I

consider the most important finding to be that, while in the Hungarian accounting environment, the transitioning companies only recognised a tax expense, in contrast, in IFRS they recognised both a tax liability and a tax asset. This is clearly a consequence of the impact of IAS 12, under which companies have in many cases recognised deferred tax liabilities or deferred tax assets. The results of the Wilcoxon ranking test show that in the Hungarian accounting environment a higher amount of tax expense was recognised despite the unique recognition of a tax asset in IFRS. The results of the test are summarised in Table 2:

Table 2: Results of the Wilcoxon rank sum test for factors effecting the Net Profit

	Companies with high fixed asset			Companies with low fixed asset		
	p*	r	Z	p*	r	Z
Revenue	0,0003	0,4877	3,5840	0,0044	0,3186	2,8500
Personnel Expenses	0,2066	0,1718	1,2630	0,1258	0,1711	-1,5310
Depreciation and Amortisation	0,0411	0,2779	2,0420	0,0000	0,5607	-5,0150
Financial Expenses	0,1085	0,2184	1,6050	0,1014	0,1831	-1,6380
Tax Expenditure	0,0007	0,4623	3,3970	0,0000	0,6853	6,1300
Net Profit	0,1862	0,1799	-1,3220	0,3350	0,1078	0,9640

**Significant at $p < 0.05$ level*

Source: Own editing, 2024

In further examining the Profit after tax under the Hungarian Accounting Act and the Net profit under IFRS, I found that the same factors do not affect the profit in the year of transition in the same way. In my principal component analysis for companies with high fixed asset requirements, one of my key findings is that in the Hungarian accounting environment, tax expense is separated into a separate component from the other factors affecting profit. The other two components clearly distinguish between factors that are closely related to fixed assets, such as tangible assets, intangible assets and depreciation, and those that are not closely related to fixed assets, such as net sales or inventories. In IFRS, the tax expense is not a separate component and is included in the same component as items

not closely associated with non-current assets. The primary reason for this is the impact of the requirements of IAS 12, as described earlier, which resulted in all companies recognising a tax asset in IFRS. It is likely that this significant difference is also the reason why the component most closely related to the tax expense has the opposite effect in the Hungarian accounting environment than in IFRS. It is important to underline that for the companies with high fixed asset requirements, all of the factors I selected that affect earnings are highly correlated with earnings, as all of them are included in one of the remaining components. In contrast, for companies with a low fixed asset requirement, neither personnel costs nor total assets are strongly correlated with profit in any of the accounting systems, as these factors were not included in any of the components. It should be stressed that for this group of companies, the tax expense is also the most significant difference, as no strong link with net profit can be identified in IFRS. Overall, I found that earnings are not significantly affected by the same factors and in the same direction in the two accounting systems.

After examining the factors influencing the results, I examined the profitability situation of the companies and the value judgements of investors in the two accounting systems. I found that there were no significant differences in the profitability ratios of ROS and ROA between the two accounting systems.

It is important to note, however, that for both indicators, the Wilcoxon rank sum test results for firms with high fixed asset requirements show a significant difference between the two accounting systems. Taking into account the number of items, the proportion of clusters and the effect size, I do not think that it is possible to conclude that the transition has led to a significant divergence for the whole population, as the divergence is only observed for the cluster with the lower number of items and no strong relationship can be found for any of the indicators. In contrast, for the ROE indicator, a significant difference can be clearly identified between the two accounting systems, as a significant relationship can be found for both low and high fixed asset intensive companies. Overall, IFRS showed a more favourable profitability situation for the ROE indicator for the companies. The results are shown in Table 3:

Table 3: Results of the Wilcoxon rank sum test for profitability indicators

	Companies with high fixed asset			Companies with low fixed asset		
	p*	r	Z	p*	r	Z
ROS	0,0019	0,4350	-3,1070	0,0904	0,1981	1,6930
ROA	0,0426	0,2760	-2,0280	0,3013	0,1156	1,0340
ROE	0,0278	0,2994	-2,2000	0,0001	0,4443	-3,9740

**Significant at $p < 0.05$ level*

Source: Own editing, 2024

Related to this, the last part of my research was to investigate whether the significant difference in the ROE ratio in the year of transition could indeed be attributed to the transition to IFRS. In addition to the transition, I included the ROS ratio, the Total Asset Turnover Rate and the Equity multiplier as explanatory variables in the regression model, based on the Du-Pont ratio system. The results of the random-effects panel regression suggest that the change in the ROE ratio in the year of transition is not caused by the transition to IFRS for either high or low fixed asset-needy companies. Based on the results of the regression model, the significant difference is closely related to differences in the Total Asset Turnover Rate and the ROS ratio. Based on this, I conclude that the transition to IFRS certainly does not distort the investor value judgments of companies that adopt IFRS.

The hypotheses put forward, the methodology used and the results obtained are summarised in Table 4:

Table 4: Summary table of hypotheses, methodology used and results obtained

Hypothesis	Methodology applied	Results
H1	Cluster analyses	Accepted
H2	Descriptive statistics, Wilcoxon rank sum test	Accepted
H3	Principal component analyses and regression	Accepted
H4a	Wilcoxon rank sum test	Rejected
H4b	Wilcoxon rank sum test	Rejected
H4c	Wilcoxon rank sum test	Accepted
H5	Random effects regression for panel data	Rejected

Source: Own editing, 2024

The relationship between the research objectives, the hypotheses, the methods used, and the new and novel findings are summarised in Table 5.

Table 5: Summary table of hypotheses, methodology and results

Goals	Hypotheses	Methods	Results
G1: The breakdown of companies transitioning to IFRS into groups based on their asset structure according to their Hungarian Accounting Statements and the main characteristics of the groups.	H1: On the basis of asset structure and asset utilisation indicators, companies that have converted to IFRS can be divided into well-defined, homogeneous groups based on the annual accounts prepared in accordance with the requirements of the last published Hungarian Accounting Act.	Cluster analyses, Descriptive statistics	1.
G2: Examining the earnings of companies transitioning to IFRS and the factors affecting earnings in two different accounting environments.	H2: At least half of the factors determining Profit after tax (Net profit) differ significantly between the two accounting systems.	Descriptive statistics, Wilcoxon rank sum test	2.
	H3: Profit after tax (Net profit) as reported in accordance with the Hungarian Accounting Act and IFRS is significantly affected by different factors in the year of transition.	Principal component analyses and regression	3.
G3: Examining the profitability and investor value judgements of companies that have switched to IFRS as a result of the transition to IFRS.	H4: Calculated from the financial statements of the companies prepared in accordance with the Hungarian Accounting Act and IFRS rules H4a: return on sales (ROS), H4b: return on assets (ROA), H4c: return on equity (ROE) are significantly different in the year of transition.	Wilcoxon rank sum test	4.
	H5: The transition to IFRS significantly distorts the ROE ratio, the most important determinant of investor value judgement.	Random effects regression for panel data	5.
G4: To show the impact of the transition to IFRS on a sample of companies with different asset structures.	H2, H3, H4, H5	Wilcoxon rank sum test Principal component analyses and regression Random effects regression for panel data	2., 3., 4., 5.

Source: Own editing, 2024

4. NEW AND NOVEL RESULTS OF THE DISSERTATION

The main objective of my doctoral thesis is to assess the impact of the first-time adoption of IFRS through the example of Hungarian companies that previously prepared their individual financial statements in accordance with the requirements of Act C of 2000. In parallel with achieving the objectives, I have identified the following new and novel results:

1. Applying cluster analysis, it has been demonstrated that companies switching from Hungarian accounting to IFRS can be classified into well-defined, homogeneous groups based on asset structure and asset utilisation ratios calculated from the annual accounts prepared in accordance with the requirements of the last published Hungarian Accounting Act before the changeover. After the classification, a higher proportion of companies with low fixed asset requirements were classified, which is closely related to the presence of the companies on the stock exchange. In my analysis I found that a significant proportion of listed companies have a high fixed asset ratio.
2. Applying the Wilcoxon rank-sum test, it was demonstrated by applying the Wilcoxon rank sum test that at least half of the factors affecting Profit after Tax (Net Profit) in the year of transition were significantly different in the two accounting systems. Of the factors examined, I found significant differences in net sales, depreciation and amortisation and tax expense as a result of the transition. There is no significant difference between the value of the profit after tax reported in the two different accounting systems during the changeover.
3. Applying principal component analysis and a regression model, it has been shown that the net profit reported in accordance with the Hungarian Accounting Act and IFRS is significantly affected by different factors, but not in the same direction, in the year of transition. The most significant difference was caused by the tax expense for both low and high fixed asset companies, which is closely related to the fact that in the Hungarian accounting environment only tax liabilities were reported, while in IFRS both tax assets and tax liabilities were reported by the transitioning companies.

4. Applying the Wilcoxon rank-sum test, it was proved that the ROS and ROA of the companies did not change significantly as a result of the transition, as calculated from the financial statements prepared in accordance with the Hungarian Accounting Act and IFRS. Furthermore, I found that there was a significant difference in the ROE ratios for both groups of companies in the year of transition.

5. Applying a random-effects panel regression model, it is proven that the transition to IFRS does not significantly distort the ROE ratio, the most important determinant of investor value judgements. For both groups of companies, I found that the evolution of the ROE ratio was not significantly affected by the effect of the transition, but by the rotation rate of Total Assets and the change in the ROS ratio.

5. PRACTICAL APPLICABILITY OF THE RESULTS

In the course of my research, and in particular in the data collection, I found that a small proportion of the companies that are transitioning to IFRS make use of the special options provided by IFRS for recognition, classification and measurement. In the vast majority of cases, companies make use of the option for each standard that is the same or close to the Hungarian accounting practice. For companies applying IFRS, I would recommend that they dare to move towards international practice, focusing on the specificities of their activities, and apply the IFRS specifications as much as possible, with a particular emphasis on the recognition and measurement options that determine the presentation of assets and liabilities at fair value. In my view, this is of particular importance, as companies can improve their market, investor and creditor perception and strengthen their international presence by meeting one of the key objectives of IFRS, namely international comparability.

My next important observation and related proposal is closely linked to the previous ones. For a significant number of companies, I found that items were not presented in detail in the balance sheet and profit and loss account, nor were sub-divisions made in justified cases. In addition, I noted a number of important deficiencies in the IFRS additional notes. I would highlight the absence of reconciliation tables required by IFRS 1, the absence of a number of shares or interests and the lack of adequate detail on certain items. In my view, another important problem is the short length of the IFRS notes to the accounts, which I have found to be the case in particular for all limited liability companies. In order to address these problems, I would recommend that companies applying IFRS should endeavour to provide potential or existing investors with as accurate and detailed information as possible, by including the gaps described above and by presenting as much detail as possible on the items related to each balance sheet or income statement.

Based on the results of my research and the conclusions I have drawn from them, it can be concluded that the adoption of IFRS has not been a disadvantage for the companies that have made the transition. In my opinion, those companies that only had the option to apply IFRS made the right decision to apply. On this basis, I recommend the use of IFRS for those companies that still have the option to apply the IFRS.

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7. LIST OF PUBLICATIONS RELATED TO THE DISSERTATION



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