European Research Studies Journal
Volume XXIV, Issue 3, 2021

pp. 899-917

Does Adoption of Latest Modifications of IAS 16 Influence on Company's Profitability? Evidence from European Companies

Submitted 19/06/21, 1st revision 04/07/21, 2nd revision 23/07/21, accepted 20/08/21

Piotr Luty[1], Miloš Petković[2]

Abstract:

Purpose: *This study aims to investigate the influence of applying IFRS on European companies' profitability. The research focuses on adopting the new IFRS 16, specifically the accounting treatment of leases. The new standard introduces revolutionary changes in the treatment of leasing contracts. Many companies have moved away from IFRS, so it is essential to check the impact of IFRS on other companies.*
Design/Methodology/Approach: *The study includes an analysis of two periods, before and after implementing IFRS 16 (leasing). In the study, we focus on specific sectors of economic activity. We examine the distributions of individual variables and compare the medians using parametric and non-parametric tests. The survey results indicate whether the implementation of IFRS 16 negatively affected the results of the companies.*
Findings: *The study proves that adopting new IAS 16 related to leases does not negatively influence companies' profitability than the previous treatment of this financial position within financial statements. This study confirms that European companies improve profitability by adopting new modifications of the IAS 16.*
Practical Implications: *The study represents a motive for managers to accept new accounting treatments of leases that will create tangible value and generate further economic benefits.*
Originality/Value: *We examined companies implementing new assumptions for the recognition of leasing. Contrary to the numerous voices of practitioners pointing to the negative effects of the implementation of IFRS 16, we showed that the implementation of IFRS 16 did not significantly change the profitability of companies. Thus, it can be indicated that the primary objective of introducing IFRS 16, to organize the recognition of company assets, has been met.*

Keywords: *Adoption, IFRS/IAS, profitability, European companies.*
JEL: *M41, L25, L84.*
Paper Type: *Research Paper.*

Acknowledgement*: The project is financed by the Ministry of Science and Higher Education in Poland under the programme "Regional Initiative of Excellence" 2019 - 2022 project number 015/RID/2018/19 total funding amount 10 721 040,00 PLN.*
The authors are supported by the research project (Decision No. WGB-2/13/Z/2020) by Wroclaw University of Economics and Business, Wroclaw, Poland.

[1]*Wroclaw University of Economics, Wroclaw, Poland, ORCID: 0000-0003-0955-7000.*
E-mail: Piotr.Luty@ue.wroc.pl;
[2]*Singidunum University, Belgrade, Serbia, ORCID: 0000-0002-1989-0504*

1. Introduction

According to local national standards, financial information prepared may no longer satisfy users with the growing globalisation and internationalisation of economic trade. This financial information user may be limited in the decision-making processes but even excluded for further businesses. Considering the new global economic environment, there is a rising need to adopt accounting standards and practices in recent years. This initiative is to have more synchronised accounting standards that will provide national and international decision-makers with relatively coherent information that is reliable and comparable. To come to this point, the International Accounting Standard Board (IASB) publishes and prepares International Financial Reporting Standards (IFRS) and International Accounting Standards (IAS) that become a reference for the whole global environment (Dumontier and Raffournier, 1998). International Financial Reporting Standards are widely used in many countries. There are criticisms of the international nature of the standards due to the use of IFRS mainly by listed companies (Dvořák and Vašek, 2015). There are also voices encouraging the use of IFRS by globally active unlisted companies to reduce information asymmetry (Agostino *et al.*, 2011; Bertrand *et al.*, 2021). However, there is no doubt that IFRS set new trends and directions of changes in financial reporting.

The IFRS/IAS presents accounting standards that allow users to compare and utilise corporate financial information internationally. Until now, more than 160[3] countries adopted (to a greater or lesser extent) or expressed intentions to adopt the IFRS for financial reporting. On July 19, 2002, the European Parliament adopted the regulation, starting in 2005. Since January 2005, all European publicly listed companies on European financial markets have been using IFRS. On February 27, 2006, the Financial Accounting Standards Board (FASB) and IASB signed a memorandum confirming their shared objectives to develop high-quality accounting standards. There is still no precise date when all countries will adopt IFRS or adapt their particular reality. This process will improve the quality of financial information, resulting in economic development, investment flow, and capital in these countries.

Most previous studies have examined the costs linked to adopting IFRS (Delvaille *et al.*, 2005; Epstein and Birchard, 1999; Larson and Street, 2004; Nobes and Parker, 2004). This article contributes to the literature by emphasizing the debate on a company's motivation to accept new modifications of international accounting standards (Ball, 2016; De George *et al.*, 2016). These private companies in Europe can publish their financial information either based on local or international standards. They are less constrained and have a unique non-mandatory setting that opts for IFRS in transparency and communication with its stakeholders. By presenting the benefits of IFRS adoption for private European companies, we can

[3]*Use of IFRS around the world overview sept 2018.*

better understand and emphasise the role of accounting standards (Bertrand *et al.*, 2021).

This paper is organised into five sections. The second section reviews the literature associated with the subject. The third section describes the data sample, research hypotheses and research methodology. The fourth section presents the research findings and discussion. Finally, the fifth section concludes the study.

2. Literature Review

In line with the globalization process, countries such as Australia, South Africa, and the European Union (EU) were mandated to use the IFRS for traded companies in their financial markets since 2005. South Korea adopted IFRS for the first time in 2011. The United States (US) also has a timeline for adopting the IFRS for companies trading in the US.

Previous literature is focused on two groups of research. The first stream of research concentrates on the macroeconomic impact of IFRS adoption (Beneish *et al.,* 2015; Bonito and Pais, 2018; El-Helaly *et al.,* 2020), whereas the second investigates the effects of IFRS application on a microeconomic level, precisely on companies' levels (Ball, 2016; Weetman, 2018). The purpose of our study is to examine the influence between the adoption of IFRS and financial profitability on the sample of European companies.

The study published by Leuz and Verrecchia (2000) has explored German listed companies for 1998. The authors prove that company size, financial performance and financing need influence IFRS adoption. These factors explained what the accounting choice of German companies listed on the DAX index is. Bassemir (2018) researched the impact of IFRS on access to capital of German companies (Bassemir, 2018). Barbu (2004) conducted a longitudinal study covering only French companies from 1985 to 1999. The author measured the French companies' tendencies to implement the international benchmark. He stated the need for wandering accounting development among the French sample of companies.

Affes and Callimaci (2007) have focused on the motivations for early adoption of IFRS on a sample of German and Austrian listed companies. The logistic regression was implemented on a sample of 106 companies in total. The study results revealed the motivation for early IFRS adoption increases with firm size. Also, the early adoption of IFRS on a company's debts seems to have minor importance.

According to a study covering 28 Swiss listed companies and applying local standards together with 51 companies, authors Dumontier and Raffournier (1998) stated that there is no evidence of the significant relationship between the voluntary adoption of IFRS, the company's performance and debt ratio.

From all the mentioned in the literature review, it can be said that the research field of IFRS adoption stays limited and with mixed results. Most of the previous studies show the importance of institutional factors (economic growth, capital markets, educational level) together with specific countries' features regarding the operating companies' performance (size, quality of external audit, debt level, financial results, etc.) in decision-making processes related to accounting standards adoption (Patro and Gupta, 2012).

2.1 Adoption of IFRS

Zeghal and Mhedhbi (2006) stated that favourable or unfavourable decisions for adopting IFRS are non-existent. The final decision for adoption was always controversial, so we distinct two schools of thought. The first school supports the adoption of international standards because it enhances the quality of financial information, improves the comparability of financial information in the international milieu, facilitates financial operations on a global scale (Houqe *et al.*, 2016; Taylor *et al.*, 1986), and contributes efficient integration for developing countries in financial markets (Peavy and Webster, 1990). According to Wolk *et al.* (1989), the harmonisation of international accounting standards is significant, especially for developing countries and their economic development. Kim and Chung (2008) also emphasised the importance of the IFRS adoption and its impact on the future quality of financial information.

The second school of thought insists on considering each country's specific economic environment in establishing the national accounting system. Talaga and Ndubizu (1986) stated that the national accounting system must be adapted to local economic conditions. Perera (1989a) thinks that one developed country's financial information is not relevant for one less-developed country. Different arguments by different authors opposed the IFRS adoption (Hove, 1989; Perera, 1989b).

The rising importance of IFRS adoption has the objective of simplifying international business cooperations and relations. Several obstacles in successful IFRS adoption include national and regional differences in interpretation of the same standards and practical application (Patro and Gupta, 2012) and different levels of transparency in the IFRS adoption processes (Steffee, 2009).

In their study, Patro and Gupta (2012) indicated that even though considerable effort has been expended in achieving uniformity, countries might not even comply with their internal accounting standards but also according to international accounting standards. Countries that have embraced IFRS expected to face implementation difficulties. Armstrong *et al.* (2010) stated that European IFRS adoption requires the highest levels of government. Their study proved significantly positive reaction for companies with lower-quality pre-adoption information mainly linked to banks and incrementally negative reactions for companies integrated into code law countries.

These studies attempted to answer limitations that influence IFRS adoption, but still, the questions remained unanswered. The answers to these questions remain of high importance, not only on the organisational level but also on the national.

2.2 Impact of IFRS Adoption on Company's Performance

Byard *et al.* (2011) examined the effects of the mandatory adoption of IFRS by the European Union on financial analysts' information environment. To control the selected sample, the authors decided to use a selection of companies that already voluntarily adopted IFRS for at least previously two years. The study showed that analysts' absolute forecast errors and forecast dispersion decrease only for those IFRS adopters with strong domestic and national requirements different from IFRS. Furthermore, for the mandatory adopters' results were the same. The forecast errors and dispersion decreased for companies with stronger demands for transparent financial reporting. The findings prove the importance of roles of enforcement regimes in companies-level reporting demands that are related to the impact of mandatory IFRS adoption.

Jeanjean and Stolowy (2008) examined the impact of mandatory IFRS adoption on earnings quality and earnings management, focusing only on first-time IFRS countries adopters, namely Australia, France and the UK. The study proved that earnings management did not decrease after the IFRS adoption. In a French sample of companies, the earnings management increased significantly. Barth *et al.* (2008) explained that companies that adopted IFRS were less sensitive on earnings smoothing and were more prepared to recognize losses adequately. DeFond *et al.* (2011) proved that IFRS adoption leads to improved comparability in the foreign mutual fund ownership. On a German sample of listed companies, Daske (2006) investigated the economic benefits that are coming from the adoption of IFRS. The paper stated that the expected cost of equity capital has increased. Finally, Houqe *et al.* (2012) investigated the link between adopting IFRS and investor protection on accounting earnings quality. The results showed that earnings increased for mandatory IFRS adoption only when a domicile protection regime requires stronger protection. The accounting practices depend mainly on the national macro-economic situation.

3. Methodology

3.1 Data and Research Sample

The study bases on the financial information gathered from the financial database "BvD". It comprises financial data from the financial statements of European companies during the period 2019-2017. The sample includes companies from 28 different industries. The research sample selection for this research requires the introduction of 5 stages of data selection, which presents in Table 1.

Table 1. *Sample of Companies*

Table of Sample Companies	
Starting Number of Observed Companies – Active companies	283,429,829
Companies from European Union (27)	48,325,323
Accounting practice in 2019 - IFRS	1,253,973
Companies with a known value of leasing liabilities in 2019, 2018 and 2017	996
Final Sample of Companies	996

Source: *Own study, based on BvD database.*

The first step in the design of the research sample is the selection of actively operating companies. We assume that there was no significant change in the profile of their activities in these companies in the audited reporting periods, which meant a departure from the going concern principle. At this stage, there were 283,429,829 companies in the BvD database. The next stage concerns limiting the companies from the European Union. Standard rules for applying the International Financial Reporting Standards are in force in all Member States, confirmed by Regulation (EC) No 1606/2002. The introduction of the criterion of countries from the European Union limited the research sample to 48,325,323 companies.

The third step is to select companies that applied International Financial Reporting Standards in 2019. 2019 ends the three-year transition period for the implementation of the new IFRS 16. Therefore, all companies that use IFRS in 2019 had to implement the new regulations regarding recognising lease agreements. As there was a transition period for implementing IFRS 16, the analysis will also cover companies implementing the new IFRS 16 regulations in 2018 or 2017. Including step three limits the research sample to 1,253,973 companies. The final stage is selecting the companies disclosed by the lease liabilities in 2019, 2018 and 2017. The introduction of this stage is because the new IFRS 16 regulations require that lease contracts be recognised so that the lessee will have lease liabilities. As a result of the introduction of the last stage, the final research sample covers 996 companies.

Summing up, the introduction of all selection wizards means that the research sample will include active companies from the European Union, which will apply the IFRS principles and disclose leasing liabilities during the implementation period of the new IFRS 16 regulations.

In the following part of the study, these companies were assigned to economic activity sectors by the BvD classification.

3.2 Conceptual Research Model and Hypotheses Development

Based on the literature, it can be concluded that there are no clearly defined behaviours for changes and implementation of new accounting regulations. Some companies may not accept the changes and may depart from the financial reporting system used so far. Other companies continue their financial reporting following IFRS as amended. For companies applying IFRS, the implementation of IFRS 16 was somewhat revolutionary. The question arises as to how implementing the new leasing regulations affected the financial results, including profitability ratios.

The companies selected for the audit could implement new IFRS regulations in different years - during the transition period. Ultimately, all companies had to implement IFRS 16 in 2019. For this reason, the companies were divided into four groups, depending on the implementation of IFRS 16. The authors believe that the change in the value of lease liabilities helps assess whether IFRS 16 has been implemented in a given year. The new IFRS regulations result in recognition of new lease liabilities. The study assumes that IFRS implementation timing reflects increases in the value of lease liabilities. The analysis assumes that the moment of implementation of IFRS 16 corresponds to the period with the most significant increase in leasing liabilities in the implementation years of IFRS 16, i.e. 2019, 2018 and 2017. The variable "Time Adoption" takes the value:

- 1 for companies with the highest increase in lease liabilities in 2019,
- 2 for companies with the highest increase in lease liabilities in 2018,
- 3 for companies with the highest increase in lease liabilities in 2017.

Based on the "Time Adoption" variable, in the sample under study, we distinguished 332 companies that had enormous changes in leasing liabilities in 2019. In our further research, we will also examine changes in the profitability of companies after the implementation of IFRS 16 in the remaining years of the transition period. These will be the implementation periods of IFRS 16 in 2018, 2017 and 2016.

The new way of measuring and presenting lease agreements affects the financial results of economic entities. The analysis will be the impact of the implementation of IFRS 16 on the companies' profitability ratios. For this purpose, we will analyse:

Gross Margin

$$Gross\ Margin = \frac{Gross\ profit}{Operating\ Revenue} \times 100$$

Profit Margin

$$Profit\ Margin = \frac{Profit\ before\ tax}{Operating\ Revenue} \times 100$$

EBIT Margin

$$EBIT\ Margin = \frac{Earnings\ before\ interest\ and\ tax}{Operating\ Revenue} \times 100$$

EBITDA Margin

$$EBITDA\ Margin = \frac{Earnings\ before\ interest\ and\ \ tax - depreciation}{Operating\ Revenue} \times 100$$

TANG (Tangibility)

$$TANG = \frac{Fixed\ assets}{Total\ Assets}$$

The impact of the implementation of IFRS 16 on companies' results was examined by PricewaterhouseCoopers (PWC)[4]. The amendment to the IFRS regulations regarding leasing contracts should not directly impact the realised sales margin. The amendment to IFRS 16 concerns the measurement and recognition of lease contracts. Therefore it should affect the EBIT (operating profit), EBITDA (operating profit less depreciation), gross profit. The accrued depreciation of leased fixed assets and the operating lease fees not present in IFRS 16 influences the EBIT value. The PWC study indicates that the amendment to IFRS will improve EBIT and EBITDA and increase debt. The PWC study[5] showed that prior leases' capitalisation was only a minor part of the companies' results.

Additionally, recognising new lease liabilities results in the emergence of financial costs related to servicing the liabilities. In the study, we do not analyse the net financial result, as it is subject to corporate income tax (CIT), which is calculated according to national tax rates. Companies from different countries may bear different tax burdens that do not result solely from specific tax law regulations. We will verify the impact of the new IFRS 16 on the valuation of assets using the fixed assets structure ratio. The amendment to IFRS 16 in the valuation of leases results in recognising new assets under lease agreements. According to the authors, this should increase the share of fixed assets in total assets.

Our study refers to Hans Hoogervort[6] statement about significant changes in the regulation of IFRS 16 and the results of the PWC study. Based on the previous literature review, there are many benefits of using IFRS, especially in European countries. The amendment to IFRS 16 impacts a different method of measurement and recognition of lease contracts. In our opinion, the implementation of IFRS 16 should have an effect on the companies' profitability ratios, which translates into the hypothesis:

H1: The implementation of IFRS 16 had a significant impact on the profitability of European companies.

---

[4] *mssf-16-broszura-pwc.pdf*
[5] *mssf-16-broszura-pwc.pdf*
[6] *https://www.ifrs.org/news-and-events/2016/03/hans-hoogervorst-article-shining-the-light-on-leases/*

The starting point for our study is to check the distributions of the variables selected in the study. We will check the compliance of the distributions with the normal distribution using the Shapiro-Wilk test. The tests chosen for the normality of the distribution of variables are used in the literature, including IFRS implementation (Emett and Nelson, 2017; Gastón *et al.,* 2010; Sugiyama and Islam, 2016). In normally distributed variables, we will compare the differences in values using the Student's T-test. For the T-Student test, the significance level is 5%. For the remaining variables, where the assumptions of the normal distribution are not met, we will apply the non-parametric Wilcoxon test.

This test is used to compare the significance of the differences between two dependent samples. In our study, the comparison concerns the same companies in two periods, so there is an indication that the variables are dependent. In Wilcoxon's test, the null hypothesis is that the medians in the two samples are equal. In our study, the hypothesis is tested at a significance level of 5%. For the value of p> 5%, we assume the hypothesis that the medians are equal. For p <5%, we reject the null hypothesis favouring the alternative hypothesis that medians are not equal.

The Wilcoxon test is commonly used to compare the medians of variables belonging to two groups. In the literature on the subject, the Wilcoxon test was used to compare the median return on assets (EBITDA / assets) (Fu and Ogura, 2019), financial liquidity (Mateus and Mateus, 2021), EBIT margin (Li *et al.,* 2019), or comparisons resulting from the implementation IFRS 8 (Göttsche *et al.,* 2021).

The median equality test (Wilcoxon test) covers the years 2019-2018, 2018-2017 in pairs for profitability ratios. Additionally, we will introduce an analysis of the equality of medians by sectors of economic activity and the moment of implementing IFRS 16 by companies. The use of sector analysis results from the high value of the coefficient of variation. It justifies the introduction of a grouping of companies to specific sectors of economic activity. Companies may use the available resources differently in different sectors, and sales profitability may be different.

We will analyse the skewness coefficient, particularly considering the variable TANG and those variables. The implementation of IFRS 16 resulted in a change of sign or withdrawal from the symmetric distribution.

4. Research Results and Discussion

Research conducted by PWC and the analysis of the new IFRS 16 indicates that the change in accounting regulations will affect the debt ratios and profitability ratios. The research aims to check whether the companies that implemented IFRS 16 disclosed significantly different profitability ratios in practice. The analysis of variables' differences before and after IFRS 16 adoption begins with determining the gross profit, operating EBIT (earnings before interests and tax), EBITDA (earnings before interests, tax and depreciation), profit. Because the implementation of IFRS

16 may have different impacts on companies from various activity sectors, we will analyze by sector of activity according to the BvD classification.

In the first step, we check whether the distribution of variables is close to the normal distribution. For this purpose, we will apply the Shapiro-Wilk distribution normality test. This test will allow the selection of appropriate tools for the analysis of changes in the studied variables. For variables with a normal distribution, we will use the Student's T-test. For variables with a different distribution than the normal one, we will use the non-parametric Wilcoxon test.

Based on the analysis of the equality of medians for companies implementing IFRS 16 in 2019, we noticed that in 12 sectors of the median of the TANG variable (2019 and 2018), they differed at the significance level of 5%. Additionally, we conducted a median equality test for companies implementing IFRS in 2018 and noticed. We noticed that for only two sectors of the median of the TANG variable in 2018 and 2017, they differed at the level of 5%. The obtained results conclude that the most affected companies by the change in IFRS postponed the implementation of IFRS 16 at the very end of the transition period, i.e. 2019. In the further study, we will focus only on those sectors in which in 2019 the companies had the most significant changes in the structure of assets permanent. Table 2 shows the sectors in which the companies implemented IFRS 16 in 2019, and the Wilcoxon test result shows that the medians of the TANG variable are not equal.

Table 2. *Equality test for TANG variable*

BvD sectors	p-value	interpretation
Transport Manufacturing	0,0049	not equal
Communications	0,0129	not equal
Chemicals, Petroleum, Rubber & Plastic	0,0031	not equal
Metals & Metal Products	0,0090	not equal
Transport, Freight & Storage	0,0007	not equal
Construction	0,1516	equal
Industrial, Electric & Electronic Machinery	0,0010	not equal
Wholesale	0,0029	not equal
Business Services	0,0001	not equal
Retail	0,0001	not equal
Food & Tobacco Manufacturing	0,0070	not equal
Travel, Personal & Leisure	0,0173	not equal

Source: *Own study, based on Statistica software.*

Figure 1 shows a box plot for TANG categorized by BvD sectors. The chart shows the median and the mean value of the variable. We notice that in some sectors, boxes moved up, which means that the TANG variable increased in 2019. From Figure 1, it can be concluded that there was a right-hand or left-hand skew in the equal sectors.

Figure 1. *Box Plot of TANG grouped by TIME; categorized by BvD sectors*

Source: *Own study, based on Statistica software.*

Implementing the IFRS 16 regulations increases the companies' total assets (Tumpach *et al.*, 2021). The study results on the group of Slovak companies (Tumpach *et al.*, 2021) are consistent with the lower results regarding changes in the structure of fixed assets (Table 2). Our further analysis shows how the implementation of IFRS 16 has affected the profitability of the companies. The research is a discussion of the results of a study published by PWC. In Table 3, we present the median equality analysis for the Gross Margin variable.

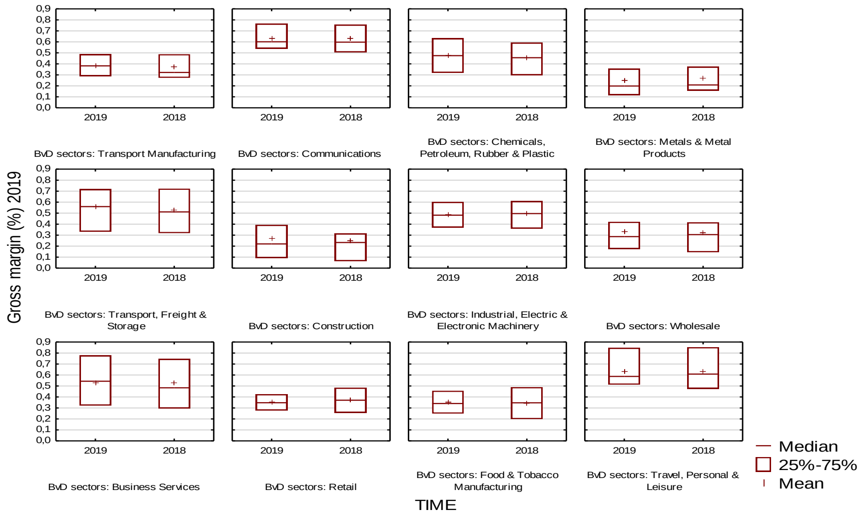
Table 3. *Equality test for Gross Margin variable*

BvD sectors	p-value	interpretation
Transport Manufacturing	0,8295	equal
Communications	0,8828	equal
Chemicals, Petroleum, Rubber & Plastic	0,1075	equal
Metals & Metal Products	0,6219	equal
Transport, Freight & Storage	0,0239	not equal
Construction	0,0865	equal
Industrial, Electric & Electronic Machinery	0,3816	equal
Wholesale	0,6567	equal
Business Services	0,2265	equal
Retail	0,2767	equal
Food & Tobacco Manufacturing	0,8584	equal
Travel, Personal & Leisure	0,8618	equal

Source: *Own study, based on Statistica software.*

Figure 2 shows the box plot for Gross Margin. This chart confirms the results of the equality test from Table 3. It can also be noticed that in many sectors, there was a right-hand skewness (the mean value was above the median).

***Figure 2.** Box Plot of Gross margin grouped by TIME; categorized by BvD sectors*



***Source:** Own study, based on Statistica software.*

Gross profit includes basic operating costs, which will reflect changes in the valuation of leasing assets after the implementation of IFRS 16. Based on the data in Table 3, it can be concluded that only in 2 sectors (Metals & Metal Products, Transport, Freight & Storage), the gross profit differed in 2018 and 2019, so before and after implementing IFRS 16 in 2019. Another analysis concerns changes in the EBIT margin. Table 4 presents the results of the median equality test for the EBIT margin variable.

***Table 4.** Equality test EBIT margin variable*

BvD sectors	p-value	interpretation
Transport Manufacturing	0,2868	equal
Communications	0,8543	equal
Chemicals, Petroleum, Rubber & Plastic	0,0883	equal
Metals & Metal Products	0,0074	not equal
Transport, Freight & Storage	0,2560	equal
Construction	0,6272	equal
Industrial, Electric & Electronic Machinery	0,0629	equal
Wholesale	0,4692	equal
Business Services	0,2307	equal
Retail	0,9273	equal
Food & Tobacco Manufacturing	0,7467	equal
Travel, Personal & Leisure	0,2076	equal

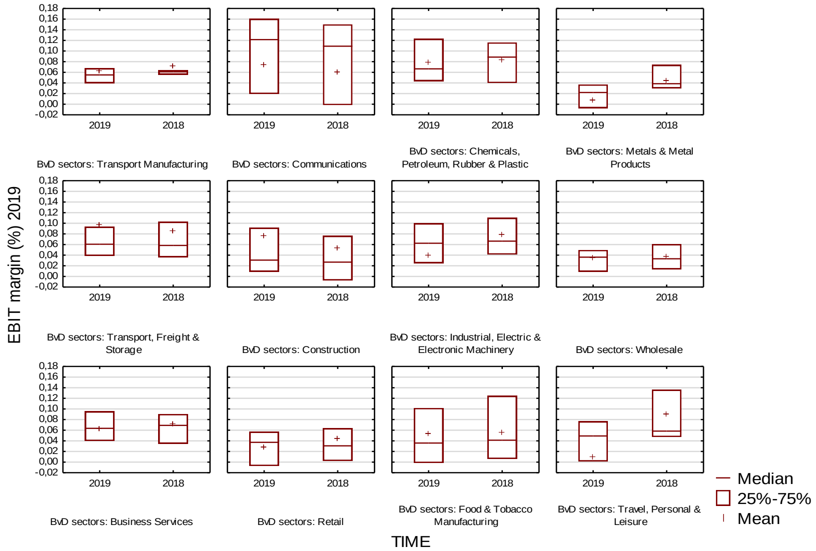
***Source:** Own study, based on Statistica software.*

Figure 3 shows the box plot for the EBIT margin variable. For some sectors, the skewness changed from right-hand to left-hand or vice versa. In many sectors, the boxes showing 50% of the middle observations lagged, and thus the EBIT margin values decreased.

The results in Table 4 show that in only one sector (Metals & Metal Products), the median EBIT Margin differed before and after implementing IFRS 16. Other costs and operating income influence the EBIT value. The further analysis concerns the adjustment of operating profit for accrued depreciation. Depreciation reflects the consumption of non-current assets, including leased assets. Table 5 presents the results of the median equality analysis for the EBITDA margin variable. Based on Figure 4, we note that the results of the median equality test should be analyzed together with the box plot. We notice different median levels in the box plot, whereas the Wilcoxon test proved the equality of medians. It is because the p-value is close to the rejection value of the null hypothesis. Chart 4 reveals the asymmetry in the distribution of the EBITDA margin variable for selected sectors.

Table 5 and Table 1 show that the change in the asset structure had an impact on the EBITDA margin for four sectors. It means that the difference in the valuation of the leased assets affected the cost value, irrespective of its recognition, depreciation or other costs. The results of our research confirm earlier assumptions that in some sectors, in companies that implemented IFRS 16, profitability ratios based on EBIT and EBITDA measures increased (Baastad and Aslaksen, 2017). The final impact of the amendment to IFRS 16 on companies' profitability will be visible in the net financial result. Table 6 shows the results of the median equality analysis for the Profit margin variable. Figure 5 shows the box plot for the Profit margin variable. It can be seen in the chart that there are sectors where the range of changes was extensive (box position changes, medians). Additionally, in the analyzed years, in some sectors, we notice changes in the asymmetry of the distribution from right-hand to left-hand.

Figure 3. *Box Plot of EBIT margin grouped by TIME; categorized by BvD sectors*



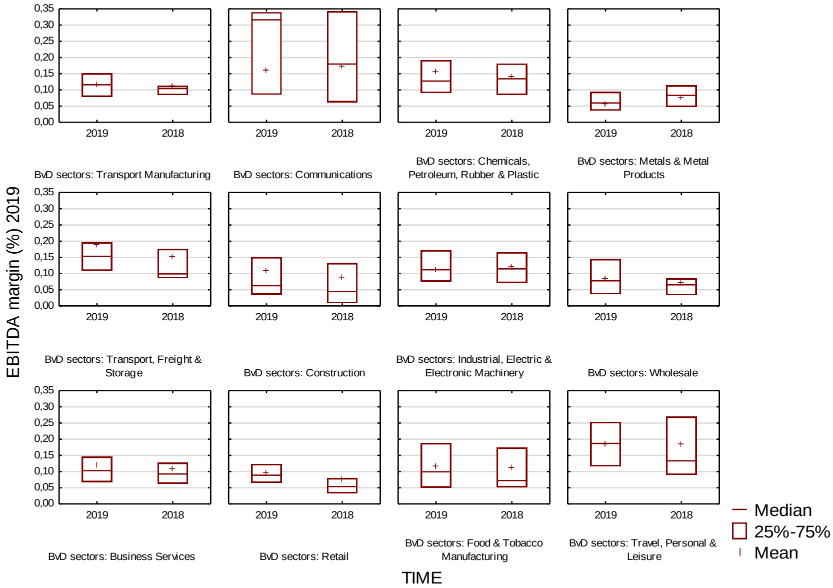
Source: *Own study, based on Statistica software.*

***Table 5.** Equality test for EBITDA margin variable*

BvD sectors	p-value	interpretation
Transport Manufacturing	0,2659	equal
Communications	0,0929	equal
Chemicals, Petroleum, Rubber & Plastic	0,2273	equal
Metals & Metal Products	0,0854	equal
Transport, Freight & Storage	0,0008	not equal
Construction	0,1615	equal
Industrial, Electric & Electronic Machinery	0,2817	equal
Wholesale	0,0201	not equal
Business Services	0,0102	not equal
Retail	0,0416	not equal
Food & Tobacco Manufacturing	0,3341	equal
Travel, Personal & Leisure	0,9960	equal

***Source:** Own study, based on Statistica software.*

***Figure 4.** Box Plot of EBITDA margin grouped by TIME; categorized by BvD sectors*



***Source:** Own study, based on Statistica software.*

***Table 6.** Equality test for Profit margin variable*

BvD sectors	p-value	interpretation
Transport Manufacturing	0,4925	equal
Communications	0,5701	equal
Chemicals, Petroleum, Rubber & Plastic	0,0258	not equal
Metals & Metal Products	0,0065	not equal
Transport, Freight & Storage	0,9547	equal
Construction	0,2652	equal
Industrial, Electric & Electronic Machinery	0,1023	equal
Wholesale	0,3673	equal

Business Services	0,0447	not equal
Retail	0,3615	equal
Food & Tobacco Manufacturing	0,3415	equal
Travel, Personal & Leisure	0,2076	equal

Source: *Own study, based on Statistica software.*

Based on the summary from Table 6, it can be concluded that the implementation of IFRS 16 had a significant impact on the Profit margin only in two sectors (Chemicals, Petroleum, Rubber & Plastic, Metals & Metal Products). The sector analysis shows that the implementation of IFRS 16 had the most significant impact on the EBITDA margin (for four sectors), while the positive profitability levels of the medians in most sectors are the same (at the 5% significance level).

Profit before tax covers all costs related to running a business, including expenses related to leasing. Based on Table 6, the hypothesis that the implementation of IFRS 16 impacted the profitability of companies can be rejected for most sectors.

5. Conclusion

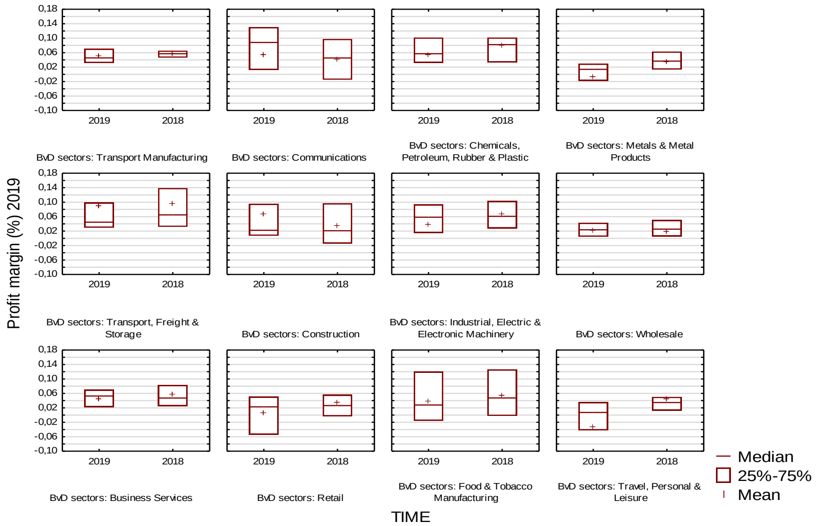
In the early 2000s in the US and Europe, the financial scandals were the signals that the quality of accounting standards must be improved in economic globalisation. This reform resulted in improvements in governance practices and financial communications together with IFRS adoption.

Over the past two decades, the global community was interested in developing harmonized international accounting practices. But, the adoption of international accounting standards did not receive the same attention from every country.

This study's main objective is to emphasize the importance of adopting IFRS on the company’s final financial result. The research covered a total of 996 European companies over the period 2018-2019. For the study, the Wilcoxon test was developed to provide the empirical investigation of IFRS 16 adoption impact on the company’s profitability.

Our results are essential for companies concerned about their financial performance after new adoptions and a better understanding of factors that may influence the whole process. Our results provide some guidelines for accounting regulators because IFRS adoption is costly, and it can be more complicated to recommend adoption to all firms to switch to IFRS, including SMEs.

Figure 5. *Box Plot of Profit margin grouped by TIME; categorized by BvD sectors*



Source: *Own study, based on Statistica software.*

References:

Affes, H., Callimaci, A. 2007. Les déterminants de l'adoption anticipée des normes comptables internationales: Choix financier ou opportunisme ? Comptabilité - Contrôle - Audit, 13(2), 149. https://doi.org/10/gh3n9x.

Agostino, M., Drago, D., Silipo, D.B. 2011. The value relevance of IFRS in the European banking industry. Review of Quantitative Finance and Accounting, 36(3), 437-457.

Armstrong, C.S., Barth, M.E., Jagolinzer, A.D., Riedl, E.J. 2010. Market Reaction to the Adoption of IFRS in Europe. The Accounting Review, 85(1), 31-61. https://doi.org/10/dpmvmn.

Baastad, M.S., Aslaksen, A.B. 2017. IFRS 16 leases and its effects on management compensation systems in the Norwegian retail industry. Master's Thesis. BI Norwegian Business School.

Ball, R. 2016. IFRS–10 years later. Accounting and Business Research, 46(5), 545-571.

Barbu, E. 2004. L'harmonisation comptable internationale: D'un vagabondage comptable à l'autre. Comptabilité - Contrôle - Audit, 10(1), 37. https://doi.org/10/gh3n85.

Barth, M., Landsman, W., Lang, M. 2008. International Accounting Standards and Accounting Quality. Journal of Accounting Research, 46(3), 467-498. Retrieved from: http://www.jstor.org/stable/40058143.

Bassemir, M. 2018. Why do private firms adopt IFRS? Accounting and Business Research, 48(3), 237-263.

Beneish, M.D., Miller, B.P., Yohn, T.L. 2015. Macroeconomic evidence on the impact of mandatory IFRS adoption on equity and debt markets. Journal of Accounting and Public Policy, 34(1), 1-27. https://doi.org/10.1016/j.jaccpubpol.2014.10.002.

Bertrand, J., de Brebisson, H., Burietz, A. 2021. Why choosing IFRS? Benefits of voluntary adoption by European private companies. International Review of Law and Economics, 65, 105968. https://doi.org/10.1016/j.irle.2020.105968.

Bonito, A., Pais, C. 2018. The macroeconomic determinants of the adoption of IFRS for SMEs. Revista de Contabilidad, 21(2), 116-127. https://doi.org/10.1016/j.rcsar.2018.03.001.

Byard, D., Li, Y., Yu, Y. 2011. The Effect of Mandatory IFRS Adoption on Financial Analysts' Information Environment: The effect of mandatory ifrs adoption. Journal of Accounting Research, 49(1), 69-96. https://doi.org/10/ctjxwg.

Daske, H. 2006. Economic Benefits of Adopting IFRS or US-GAAP - Have the Expected Cost of Equity Capital Really Decreased? Journal of Business Finance and Accounting, 33(3-4), 329-373. https://doi.org/10/fq5gqj.

De George, E.T., Li, X., Shivakumar, L. 2016. A review of the IFRS adoption literature. Review of Accounting Studies, 21(3), 898-1004.

DeFond, M., Hu, X., Hung, M., Li, S. 2011. The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. Journal of Accounting and Economics, 51(3), 240-258. https://doi.org/10/bb3z2w.

Delvaille, P., Ebbers, G., Saccon, C. 2005. International Financial Reporting Convergence: Evidence from Three Continental European Countries. Accounting in Europe, 2(1), 137-164. https://doi.org/10/fv4rk9.

Dumontier, P., Raffournier, B. 1998. Why Firms Comply Voluntarily with IAS: An Empirical Analysis with Swiss Data. Journal of International Financial Management and Accounting, 9(3), 216-245. https://doi.org/10/cs9v83.

Dvořák, M., Vašek, L. 2015. Are IFRS Really Global Standards of Financial Reporting? Analysis of Worldwide Jurisdiction Profiles. Procedia Economics and Finance, 25, 156-165. https://doi.org/10.1016/S2212-5671(15)00724-8.

El-Helaly, M., Ntim, C.G., Al-Gazzar, M. 2020. Diffusion theory, national corruption and IFRS adoption around the world. Journal of International Accounting, Auditing and Taxation, 38, 100305. https://doi.org/10.1016/j.intaccaudtax.2020.100305.

Emett, S.A., Nelson, M.W. 2017. Reporting accounting changes and their multi-period effects. Accounting, Organizations and Society, 57, 52-72. https://doi.org/10.1016/j.aos.2017.03.002.

Epstein, M.J., Birchard, B. 1999. Counting what counts: Turning corporate accountability to competitive advantage. Perseus Books.

Fu, J., Ogura, Y. 2019. Are Japanese companies less risky and less profitable than US companies? Evidence from a matched sample. Japan and the World Economy, 51, 100960. https://doi.org/10.1016/j.japwor.2019.100960.

Gastón, S.C., García, C.F., Jarne, J.I.J., Laínez Gadea, J.A. 2010. IFRS adoption in Spain and the United Kingdom: Effects on accounting numbers and relevance. Advances in Accounting, 26(2), 304-313. https://doi.org/10.1016/j.adiac.2010.08.003.

Göttsche, M., Küster, S., Steindl, T. 2021. The usefulness of Non-IFRS segment data. Journal of International Accounting, Auditing and Taxation, 43, 100382. https://doi.org/10.1016/j.intaccaudtax.2021.100382.

Houqe, M.N., Monem, R.M., Tareq, M., van Zijl, T. 2016. Secrecy and the impact of mandatory IFRS adoption on earnings quality in Europe. Pacific-Basin Finance Journal, 40, 476-490. https://doi.org/10.1016/j.pacfin.2016.08.002.

Houqe, M.N., van Zijl, T., Dunstan, K., Karim, A.K.M.W. 2012. The Effect of IFRS Adoption and Investor Protection on Earnings Quality Around the World. The International Journal of Accounting, 47(3), 333-355. https://doi.org/10/ghmnr6.

Hove, M. 1989. The inappropriateness of international accounting standards in less developing countries: The case of international accounting standard number 24–

Related Party Disclosure–concerning transfer prices. International Journal of Accounting Education and Research, 24(2), 81-100.

Jeanjean, T., Stolowy, H. 2008. Do accounting standards matter? An exploratory analysis of earnings management before and after IFRS adoption. Journal of Accounting and Public Policy, 27(6), 480-494. https://doi.org/10/fm9dv8.

Karpuz, A., Kim, K., Ozkan, N. 2020. Does financial reporting regulation influence the value of cash holdings? Journal of Empirical Finance, 59, 52-67. https://doi.org/10.1016/j.jempfin.2020.09.004.

Kim, I., Chung, Y. 2008. A Study on Improvement of Accounting Curriculum in Commercial Information High School by Introducing K-IFRS. The Korean Research Association for the Business Education, 22.

Larson, R.K., Street, D.L. 2004. Convergence with IFRS in an expanding Europe: Progress and obstacles identified by large accounting firms' survey. Journal of International Accounting, Auditing and Taxation, 13(2), 89-119. https://doi.org/10/bk4b6t.

Leuz, C., Verrecchia, R.E. 2000. The Economic Consequences of Increased Disclosure. Journal of Accounting Research, 38, 91. https://doi.org/10/c66ctd.

Li, B., Megginson, W.L., Shen, Z., Sun, Q. 2019. Privatization effect versus listing effect: Evidence from China. Pacific-Basin Finance Journal, 56, 369-394. https://doi.org/10.1016/j.pacfin.2019.07.001.

Mateus, C., Mateus, I.B. 2021. Does a VAT rise harm the tourism industry? Portuguese evidence. Tourism Management, 83, 104234. https://doi.org/10.1016/j.tourman.2020.104234.

Nobes, C., Parker, R.H. (Eds.). 2004. Comparative international accounting, 8th ed. FT/Prentice Hall.

Patro, A., Gupta, V.K. 2012. Adoption of International Financial Reporting Standards (IFRS) in Accounting Curriculum in India-An Empirical Study. Procedia Economics and Finance, 2, 227-236. https://doi.org/10/gh3d9z.

Peavy, D.E., Webster, S.K. 1990. Is GAAP the gap to international market? Management Accounting, 72, 31-35.

Perera, M.H.B. 1989a. Accounting in developing countries: A case for localized uniformity. British Accounting Review, 21, 141-158.

Perera, M.H.B. 1989b. Towards a framework to analyze the impact of culture on accounting. Journal of Accounting Education and Research, 24(1), 42-56.

Steffee, S. 2009. IFRS Discrepancies Vary by Country, Company. The Internal Auditor, 66(4), 13.

Sugiyama, S., Islam, J. 2016. Empirical findings from the reconciliations in the first IFRS compliant reports prepared by Japanese-owned subsidiaries in Australia. Advances in Accounting, 35, 143-158. https://doi.org/10.1016/j.adiac.2016.06.003.

Talaga, J.A., Ndubizu, G. 1986. Accounting and economic development: Relationships among paradigms. International Journal of Accounting Education and Research, 21(2), 55-68.

Taylor, M.E., Evans, T.G., Joy, A.C. 1986. The impact of IASC accounting standards on comparability and consistency of international reporting practices. International Journal of Accounting Education and Research, 22(1), 1-9.

Tumpach, M., Juhászová, Z., Kubaščíková, Z., Krišková, P. 2021. Datasets of impact of the first-time adoption of IFRS 16 in the financial statements of Slovak compulsory IFRS adopters. Data in Brief, 36. https://doi.org/10.1016/j.dib.2021.106996.

Weetman, P. 2018. Financial reporting in Europe: Prospects for research. European Management Journal, 36(2), 153-160. https://doi.org/10.1016/j.emj.2017.11.002.

Wolk, H.I., Francis, J.R., Tearney, M.G. 1989. Accounting theory: A conceptual and institutional approach (2nd ed). PWS-Kent Pub. Co.

Zeghal, D., Mhedhbi, K. 2006. An analysis of the factors affecting the adoption of international accounting standards by developing countries. The International Journal of Accounting, 41(4), 373-386. https://doi.org/10/c2kzs4.