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Stowarzyszenie Księgowych w Polsce

Applying Benford's Law on assessing the reliability of financial information in European companies from the rental and leasing sector before and after the adoption of IFRS 16

Zastosowanie prawa Benforda do oceny wiarygodności informacji finansowych w europejskich spółkach z sektora wynajmu i leasingu przed i po przyjęciu MSSF 16

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Abstract

Purpose: The purpose of the manuscript is to ascertain whether the introduction of IFRS 16 changed the reliability of financial information in companies in the NACE 77 sector. Benford's Law was applied to identify errors within a selected sample of European leasing and rental companies (NACE code 77).
Methodology/approach: The study examines accounting manipulations in positive profit and loss (P&L) before tax in 2015 and 2019; Part 2 explores manipulation within negative P&L before tax in 2015 and 2019; Part 3 discovers manipulations in operating revenue in 2015 and 2019. In the empirical part of the study, MAD and Kolmogorov–Smirnov tests were applied.
Findings: The study confirmed that the reliability of financial information did not change even though the small differences in the distribution of digits appeared, before and after IFRS adoption.
Research limitations: Limitations from this research refers to the sample size; only companies from the leasing and rental industries are included in the study
Originality/value: The study adopts Benford's Law in accounting for IFRS leasing adjustments.
Keywords: IFRS 16, adoption, Benford's Law, profitability, European companies.

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Streszczenie

Cel: Celem artykułu jest zbadanie porównywalności informacji finansowej przed i po przyjęciu MSSF 16 *Leasing* dla spółek z sektora NACE 77. W celu oceny występowania anomalii w wynikach spółek, w próbie europejskich firm leasingowych (kod NACE 77) wykorzystaliśmy prawo Benforda.
Metodyka/podejście badawcze: W badaniu poszukujemy potencjalnych anomalii w wartości wyniku finansowego przed opodatkowaniem w 2015 i 2019 roku, a także w przychodach operacyjnych w latach 2015 i 2019. Dopasowanie rozkładów empirycznych i teoretycznych jest mierzone za pomocą MAD i testem Kołmogorowa–Smirnowa.
Wyniki: Badanie potwierdziło, że w teście pierwszej cyfry Benforda nie zauważono istotnych zmian w kształtowaniu się informacji finansowych, mimo że pojawiły się drobne anomalie w rozkładzie cyfr przed i po przyjęciu MSSF 16.
Ograniczenia badawcze: Podstawowym ograniczeniem badania jest wielkości próby, a więc firmy z branży leasingowej. W kolejnych badaniach planujemy rozszerzenie badania o spółki korzystające z leasingu.
Oryginalność/wartość: W badaniu przyjęto prawo Benforda do ujawniania występowania anomalii w rozkładach cyfr danych finansowych spółek przed i po wdrożeniu MSSF 16.

Słowa kluczowe: MSSF 16, wdrażanie, prawo Benforda, zyskowność, spółki europejskie.

Introduction

The quality of financial information plays a crucial role in decision-making. Reliably reporting information becomes essential when unpredictable events (for example, the COVID-19 pandemic) or changes in the law occur. To communicate better with stakeholders about corporate financial information, companies adopt a set of international financial reporting standards (IFRS) or international accounting standards (IAS). In 2019, after a 3-year transition period, new, revolutionary regulations on disclosure and recognition of lease agreements (IFRS 16) came into force. IFRS 16 applies to companies in various sectors where leasing contracts are used. Our preliminary study focuses on one NACE[1] 77 sector (the rental and leasing sector) in European companies. The purpose of the manuscript is to verify whether the introduction of IFRS 16 changed the reliability of financial information in companies in the NACE 77 sector. This change will be measured using Benford's Law, which is used, inter alia, in detecting tax fraud.

Although Benford's Law is used in social sciences, including tax and audit studies, a limited number of manuscripts use Benford's Law to analyze the quality of reporting information. The manuscript verifies if, despite the significant differences in the valuation of assets and liabilities due to the implementation of IFRS 16, we can still rely on the financial data disclosed in the annual financial statements. We assume that the anomalies in the digits distributions detected with the use of Benford's Law in 2019 (when IFRS 16 was applied), which will be absent in

[1] The Statistical Classification of Economic Activities in the European Community, from the French *Nomenclature statistique des Activités économiques dans la Communauté Européenne*.

2016 (IFRS 16 was not yet applied), may indicate difficulties that companies may have implementing the new principles of the standard. Our article contributes to the literature on the effects of accounting adjustments on financial information (Bohusova et al., 2022) and the reliability of financial figures concerning a company's profitability (Jianu, Jianu, 2021). Some authors (e.g., Bohusova et al., 2022; Heywood, 2020) tested companies' responses to IFRS 16 adoption in different sectors. They checked differences in financial ratios but did not check if financial figures followed the same distribution. In the selected rental and leasing sector (NACE 77), we noticed a massive withdrawal from IFRS to local accounting regulations, demonstrating that IFRS 16 implementation affects this sector as well. The research gap concerns the reliability of nonlisted companies' financial figures before and after IFRS 16 adjustments based on conformity to Benford's distribution.

The article is organized as follows. The second section presents a literature review, while the third section describes the data sample, research hypotheses, and methodology. The fourth section presents the research findings, and the fifth section concludes the study.

1. Literature review

The application of international accounting standards guarantees the appropriate quality of reporting information. These regulations have been the subject of many scientific studies. Previous studies have focused on the costs and limitations of adopting IFRS (e.g., Bradshaw, Miller, 2008; Carmona, Trombetta, 2008; Delvaille et al., 2005; Epstein, Mirza, 2004; Nobes, Parker, 2004). Authors such as Callao et al. (2007), Guerreiro et al. (2008) and Jermakowicz (2004) highlighted potential implementation limits, suggesting that IFRSs are too costly, complex, and unnecessary for companies. Zeghal and Mhedhbi (2006) compared countries that decided to adopt IFRS with countries that did not. They showed that adopting international accounting standards brought high economic growth, advanced educational levels, and developed capital markets. In addition to its limitations, other research emphasized the benefits of IFRS adoption. Haverals (2007) discussed the improved comparability and transparency of financial information in annual reports, while Jermakowicz (2004) talked about the higher and better harmonization of external and internal reporting after IFRS adoption as a single and unique accounting worldwide language. Djatej et al. (2009) investigated the decrease in information asymmetry, while Schleicher et al. (2010) demonstrated companies' improved capital market functionality.

Developing new accounting standards requires the art of compromise to comply as fully as possible with the overriding principles of accounting. Improving existing IFRS 16 was described by Rey (2020), who indicated that different groups of lobbyists represented the accounting profession, academics and other financial statement users affect the new IFRS 16. Based on our research, the latest IFRS 16 changes did not meet the leasing companies' expectations in the NACE 77 sector, which resulted in a mass departure of these companies from the international financial reporting standards on national regulations.

In 2016, Hans Hoogervorst (IASB Chairman) was very optimistic about the future of the new IFRS 16 leasing application. In his speech, he believed that implementing IFRS 16 would not adversely affect the leasing sector, and companies would benefit from leasing in the form of financing. From a tax perspective, companies also view leasing as a form of financing assets in the aviation sector. Various studies have indicated that this form of financing is attractive for companies (Bazargan, Hartman, 2012; Chen et al., 2018). However, the reporting method impacts companies' financial data provided to financial institutions. The new IFRS 16 regulations affect debt ratios, which may encourage companies to move away from IFRS.

The impact of implementing IFRS 16 on the financial results of European companies in the commercial sector was studied by Czech scientists (Bohusova et al., 2022). They noted that the changes to IFRS 16 may affect the comparability of financial data in annual financial statements. The introduction of IFRS 16 resulted in significant changes to financial disclosures and financial ratios in the wholesale sector (Bohusova et al., 2022) and the airline sector (Öztürk, 2022). Similar conclusions can be drawn from a study of Polish companies in the energy sector (Górowski et al., 2022), which indicated that the introduction of IFRS 16 significantly influenced the changes in the disclosed values of the assets and liabilities of the surveyed companies. In addition, the impact of implementing IFRS 16 on changes in estimates and disclosures in the financial statements of Asian companies was also examined (Wang et al., 2020). Regardless of the location of the business, implementing IFRS 16 had a significant impact on the financial data reported in the financial statements of leasing companies from various sectors. Still, no one investigated the rental sector (NACE 77).

Based on financial reporting data, we noticed a massive departure of companies from NACE 77 (rental and leasing) from IFRS in favor of local accounting regulations in 2018, which may suggest that IFRS 16 affected the rental and leasing sector. There is a lack of research on the IFRS 16 implementation and how it affected the quality of financial data measured by natural law (Benford's Law). We assume that if before the implementation of IFRS 16, the financial data selected in the study followed the Benford distribution, then after the change, and if there are no manipulations of the financial data, the variables should also follow the Benford distribution. Failure to maintain this distribution in 2019 may suggest problems with the reliability of financial information after the new IFRS 16 regulations were adopted.

2. The data sample, hypotheses, and methodology

2.1. Benford's Law

Benford's Law refers to the natural dependencies of the logarithmic distribution of certain digits in numbers (Hill, 1995; Nigrini, 2012). Benford's Law requires certain assumptions concerning the analyzed variables to be fulfilled (Nigrini, 2012). The records should represent the size (or the value) of researched facts, and they should not have built-in maximum or minimum values. The data distribution

should be right-skewed, so figures with the highest value should occur less often. According to recent research, examples of variables in the Benford Law compliance analysis may include the number of deaths as a result of COVID-19 (Morillas-Jurado et al., 2022), housing prices (Hull et al., 2022), characteristics of planets in the universe (Melita, Miraglia, 2021), and the prices of natural resources, including almonds (Martinez-Sanchez, 2021). A large group of studies applying Benford's Law refers to financial data complying with the theoretical distribution (Benford's distribution). Benford's Law has been successfully used to detect fraud and manipulation in financial data (Herteliu et al., 2021; Nigrini, 2012; Rauch et al., 2011).

We use selected variables commonly used to assess performance management: revenue and profit before tax (Isaković-Kaplan et al., 2021; Jordan et al., 2009; Kumar et al., 2021). We decided to use profit before tax to eliminate the taxation system and taxation burdens of different European Union (EU) countries for the financial results.

Benford's Law reveals accounting data manipulation in the distribution of digits. We compare the empirical data distribution with theoretical values in the research process. The mere presence of an anomaly does not automatically mean fraud or manipulation, but it indicates potential places worth analyzing more closely because human decisions may distort them. Irregularities may occur due to the inappropriate selection of the research sample.

2.2. Hypotheses development

The new leasing standard introduced revolutionary changes in recognizing and settling leasing contracts. Many authors wondered about the impact of the changes introduced by IFRS 16 on the financial performance or other measures of companies' financial condition. Our study does not focus on the impact of IFRS 16 on business performance. Instead, it assesses the reliability of reporting information before and after adopting IFRS 16. Only two manuscripts in the SCOPUS database deal with Benford's Law's application to IFRS. The first examines the usefulness of the financial data of listed companies before and after the implementation of IFRS (Jianu, Jianu, 2021). The second examines the performance management of Chinese public companies before and after implementing IFRS (Dang et al., 2017). Benford's Law has been used to study the quality of financial information in various sectors, including the financial industry (Davydov, Swidler, 2016; Yang, Dong, 2015). Research using Benford's Law included public companies (Guan et al., 2006; He, Guan, 2014; Lin et al., 2011). Companies listed on regulated markets are obliged to follow best practices and meet strict conditions of financial data transparency. Our research extends the knowledge about the reliability of financial data beyond companies listed on regulated markets that operate rental and leasing services.

The introduction of IFRS is associated with an increase in reporting standards and the comparability of financial data (Meshram, Arora, 2021). The implementation of IFRS may be mandatory or voluntary. Based on an extensive research sample (covering 26 countries), it is concluded that the voluntary implementation of IFRS is better perceived by capital market participants (Daske et al., 2008).

Additionally, studies on the implementation of IFRS in Europe indicate a positive impact of IFRS on the quality of reporting data (e.g., Armstrong et al., 2010).

However, studies show that the implementation of IFRS may, in certain situations, deteriorate the quality of financial data. This may result from a lack of institutional preparation (Adhikari et al., 2021). The institutional background significantly impacts the benefits of implementing IFRS or the lack thereof (Soderstrom, Sun, 2007). The IFRS framework gives managers great flexibility in determining valuation methods and reporting disclosures. On the one hand, the ability to adjust accounting to the specific conditions of companies may increase the usefulness of financial data. On the other hand, it makes it possible to manipulate the accounting policy and thus reduce the quality of financial data (Ahmed et al., 2013).

Therefore, the article aims to ascertain whether the introduction of new solutions in IFRS 16 regarding the recognition of leases caused an anomaly in companies' financial data. The research focuses on voluntary IFRS adoption (i.e., European companies not listed on a stock exchange). We will introduce common characteristics of companies (revenues, financial results), which, according to the research, can be analyzed using Benford's Law (He, Guan, 2014; Kumar et al., 2021; Lacina et al., 2018).

2.3. Data sample

We obtained financial data for this study from the BvD Orbis database (accessed on 31/08/2021). The BvD Orbis database enables precise data filtering on companies' characteristics. Table 1 presents the research steps undertaken to get the research sample.

Table 1. Research steps in database

Search step		**Search result**
1. NACE Rev. 2 (Primary codes only)	77 – Rental and leasing activities	1,432,149
2. World region/Country/Region in country	European Union [27]	282,725
3. Listed/Unlisted companies	Unlisted companies	282,676
4. Operating revenue (Turnover)	All companies with a known value, 2019, 2015, 2014, 2013, 2012, for all the selected periods, exclusion of companies with no recent financial data and Public authorities/States/Governments	20,694
5. Accounting practice	IFRS	2,532

Source: BvD Orbis.

This article focuses on the effects of implementing the new IFRS 16 standard. In the first research step, we selected companies whose business profile includes rental and leasing activity. Therefore, we limited companies to NACE code 77 – rental and leasing activities. There were 1,432,149 companies in the database that met this criterion. In the second step, we narrowed our research to companies registered in the EU (27 member states). Based on European Parliament Regulation no. 1606/2002, publicly listed companies from the EU are obliged to prepare consolidated financial statements according to the IFRS principle. The introduction of the second criterion limited the sample to 282,725 companies. We want to focus on companies that are not public, and therefore their choices regarding the accounting principle are not limited. From Table 2, it can be seen that most European rental and leasing companies are private companies (282,676).

Another criterion concerns the period of economic activity, including the use of IFRS by those companies. They have been operating since at least 2012 (their revenues are disclosed in BvD Orbis). The time limit until 2012 results from the availability of financial data in BvD Orbis. Another important IFRS implementation date is 2015. On 13/01/2016, the IASB[2] issued the new IFRS 16, and the transition period related to implementing the new IFRS 16 had begun. The companies selected for the analysis also had to operate in 2019. Since 2019, companies have been obliged to apply the new IFRS 16. The long period of using IFRS by selected companies should minimize the risk of a lack of knowledge or experience in IFRS practice. This criterion limited the search to 20,694 companies. The last criterion concerns the use of IFRS by companies in their financial reports. Ultimately, this criterion reduced the sample to 2,532 companies.

In further analysis, we will ascertain the differences between distributions of the empirical and theoretical first digits of revenues, profit before tax, and net profit. We will also examine positive and negative profits (Kumar et al., 2021). We used the last year before the publication of the new IFRS 16 (2015) and the first year of obligatory application of the new IFRS 16 (2019) as benchmarks. The analysis is based on the first-digit test according to Benford's Law (Nigrini, 2012). Discrepancies in the distributions may indicate problems with the reliability of financial data, which reduces reporting data quality.

2.4. Methodology

The distribution functions of the above-identified indicators are compared to the Benford's Law distribution calculated as follows:

$$BL(d) = log\left(1 + \frac{1}{d}\right)$$

where:
d – number of digits

[2] The International Accounting Standards Board.

This study compares the results of two often-used approaches to verify conformity, namely:

1. Mean Absolute Deviation (MAD)

$$MAD = \frac{1}{n}\sum_{i=1}^{n}|x_i - m(X)|$$

where:
m(X) – average value of the data set
n – number of data values
x_i – data values in the set

2. Kolmogorov–Smirnov test (K–S)

$$D_{n_1,\,n_2} = \sup_{-\infty < x < \infty}\left|F_{1,\,n_1}(x) - \mathrm{F}_{2,\,n_2}(x)\right|$$

where:
$F_{1,\,n_1}(x)$ – empirical distribution function of the first sample
$\mathrm{F}_{2,\,n_2}(x)$ – empirical distribution function of the second sample

Two distribution functions are compared using the following test criterion:

$$\sqrt{\frac{n_1 n_2}{n_1 + n - 2}D_{n_1 n_2}} > K_a$$

where:
n_1 – number of observations of the first sample
n_2 – number of observations of the second sample
K_α – test criterion at level α
The tested hypotheses are:
H_0: Two univariate random variables come from the same probability distribution.
H_1: Two univariate random variables do not come from the same probability distribution.

The abovementioned approaches are very often used for this kind of comparison. The conformity with Benford's Law has been tested by Isaković-Kaplan et al. (2021) and Adahali and Hall (2020), who used all three approaches. MAD has also been used by Půček et al. (2016) and Van Caneghem (2016). Meanwhile, Aggarwal and Dharni (2020) and Badal-Valero et al. (2018) used the Kolmogorov-Smirnov test for this kind of comparison.

The analysis and statistical evaluation were processed in MS Excel, Statistica 13.4, and Statgraphics XVIII.

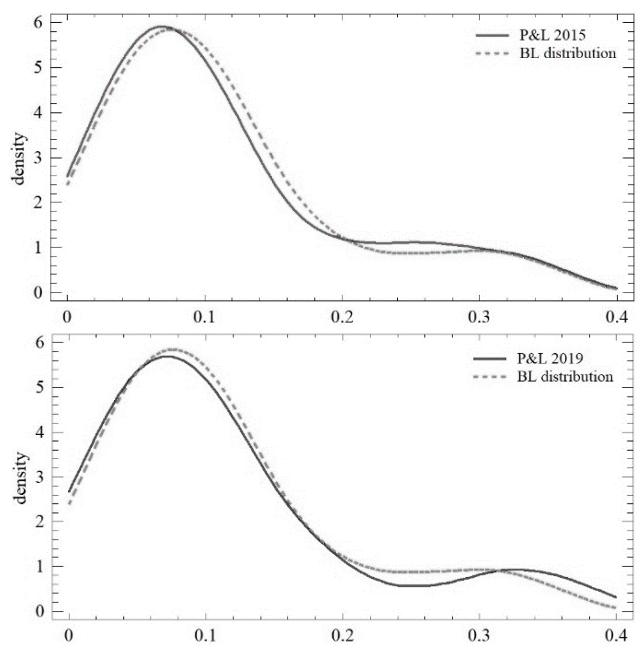
3. Results and discussion

We will divide the study of the impact of the IFRS 16 amendment on the reliability of financial data into three stages using the same research methodology in each step. We will introduce the first-digit test and assess the compliance of the empirical and theoretical distributions using MAD and the Kolmogorov–Smirnov test. Variable distributions will be compared for crucial moments related to IFRS 16. These reporting periods are 2015 and 2019. In 2015, the regulations were not yet in force, nor was it a transition period for the new IFRS 16. In 2019, all companies using IFRS had to adapt their accounting to IFRS 16. We started our analysis with the first-digit test for positive and negative profits before tax. Next, we analyze operating revenues (turnover).

3.1. Comparison via positive P&L before tax in 2015 and 2019

Using Figure 1, we can observe graphical differences between individual distributions, i.e., the distribution of P/L before tax in 2015 and 2019 and Benford's Law distribution. From the first point of view, it is possible to identify some differences, but without quantifying them, it is impossible to check the similarity of these distributions.

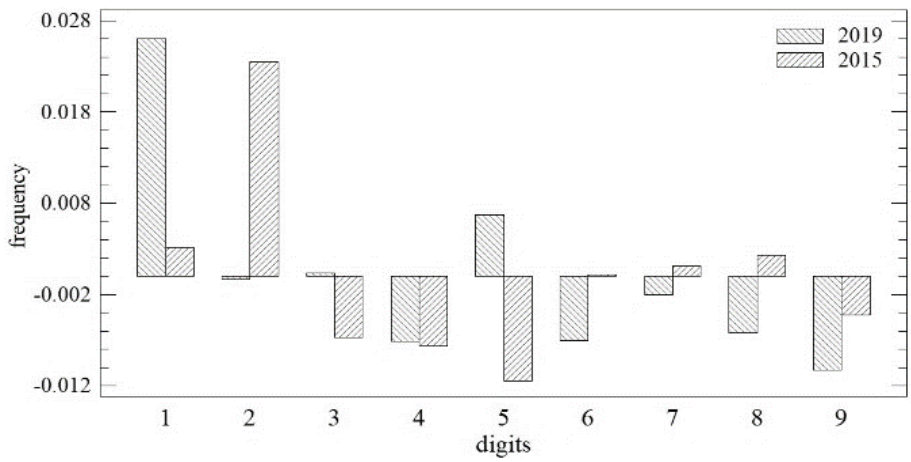
Figure 1. Density plot of positive P&L before tax in 2015 and 2019, and Benford's Law distribution



Source: authors' own elaboration.

The absolute differences illustrated in Figure 1 are described in Figure 2. The most significant differences are observed using digit 1 (0.0260 in 2019) or digit 2 (0.0234 in 2015), and both are positive. As the number of digits increases, those differences decrease.

Figure 2. Differences between positive P&L before tax in 2015 and 2019, and Benford's Law distribution



Source: authors' own elaboration.

Based on the Kolmogorov–Smirnov test, there is no statistically significant difference between these two pairs of distributions, i.e., Benford's Law and P&L in 2015/2019, at the 95.0% confidence level (see Table 2).

Table 2. Statistical verification of distribution fitting of positive P&L before tax in 2015 and 2019, and Benford's Law distribution

Item	2015	2019
MAD	0.006696	0.007355
K–S*	0.111 (p-value = 1)	0.222 (p-value = 0.979)

* At the level of significance $\alpha = 0.05$

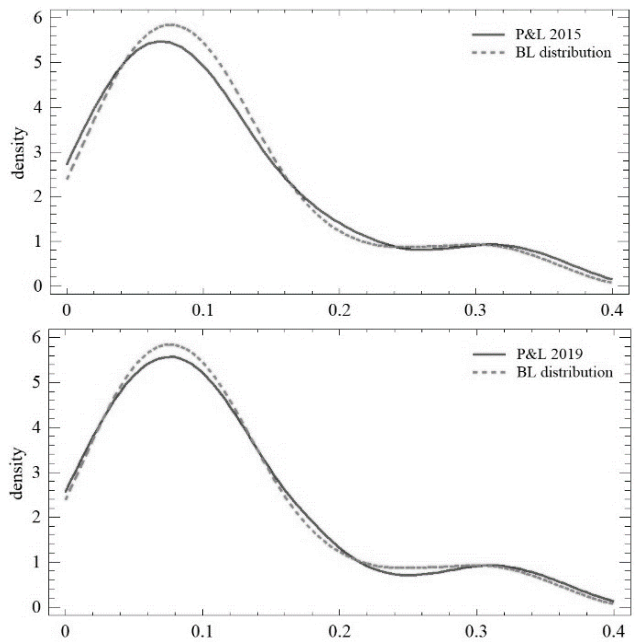
Source: authors' own elaboration.

These results identify the same or a very similar situation in both years. MAD increased slightly, so we conclude that conformity is acceptable. The K–S test also demonstrates the lack of differences between these distribution fittings.

3.2. Comparison via negative P&L before tax in 2015 and 2019

Graphical differences between Benford's Law distribution and distributions of negative P&L before tax are identified using Figure 3. Based on this figure, the "main" differences could be observed, especially at the beginning of both comparisons, i.e., using a lower number of digits.

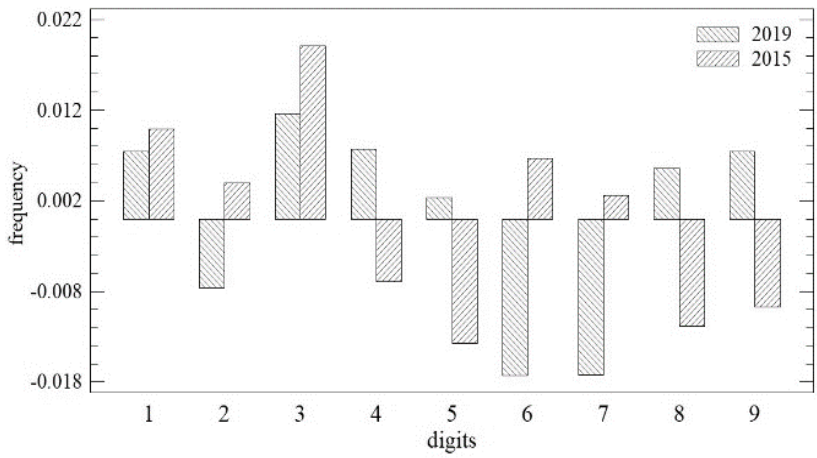
Figure 3. Density plot of negative P/L before tax in 2015 and 2019, and Benford's Law distribution



Source: authors' own elaboration.

The absolute differences are illustrated in Figure 4. They could be described as lower and more homogenous over the number of digits (compared with the previous analysis). The biggest positive difference is observed using digit 3 (0.0190 in 2015); the biggest negative one is observed using digit 6 (0.0173 in 2019). From our point of view, an increase in the number of digits does not automatically mean smaller absolute differences.

Figure 4. Differences between negative P&L before tax in 2015 and 2019, and Benford's Law distribution



Source: authors' own elaboration.

MADs in both years are almost the same. Based on the Kolmogorov–Smirnov test, we can confirm the similarity of distribution fittings in 2015 and 2019 (see Table 3).

Table 3. Statistical verification of distribution fitting of negative P&L before tax in 2015 and 2019, and Benford's Law distribution

Item	2015	2019
MAD	0.009385	0.009370
K–S*	0.222 (p-value = 0.979)	0.222 (p-value = 0.979)

* At the level of significance $\alpha = 0.05$.

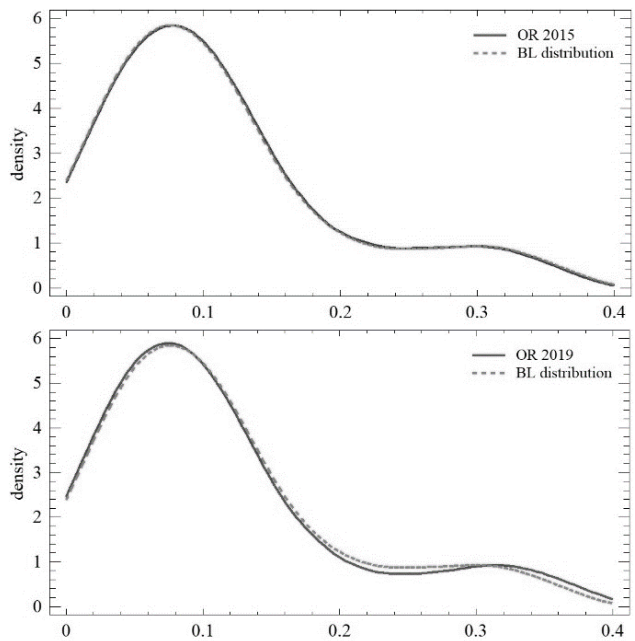
Source: authors' own elaboration.

These results identify the same or a very similar situation in both analyzed years. The level of MAD remained the same, so we conclude that conformity is acceptable. The K–S test also demonstrates the lack of differences between these distribution fittings.

3.3. Comparison via operating revenue in 2015 and 2019

The highest graphical conformity between Benford's Law distribution and distributions of operating revenue can be identified using Figure 5. Based on this figure, no statistically significant differences are expected.

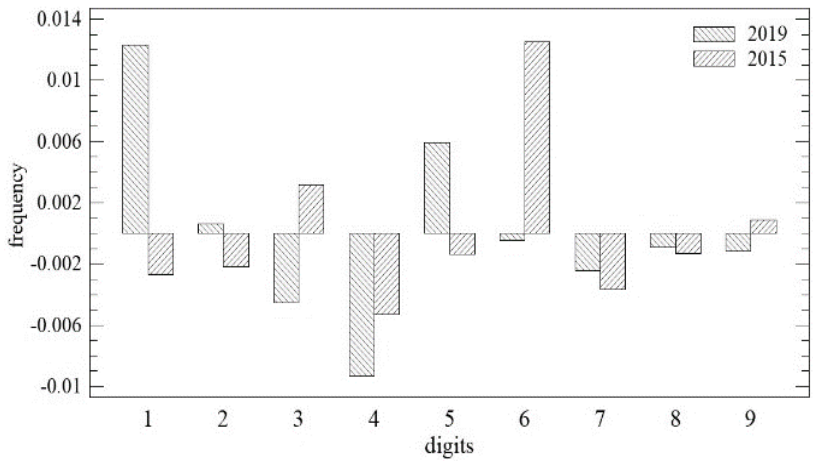
Figure 5. Density plot of operating revenue in 2015 and 2019, and Benford's Law distribution



Source: authors' own elaboration.

The small absolute differences are illustrated in Figure 6. Compared with both previous analyses, they could be described as much lower. The majority of these differences are negative, but the biggest ones are positive each year (0.0123 in 2019; 0.0125 in 2015). From our point of view, using higher digits, lower differences could be identified.

Figure 6. Differences between operating revenue in 2015, 2019 and Benford's Law distribution



Source: authors' own elaboration.

MADs in both years are the lowest and very similar. The K–S test confirms the similarity of distribution fittings in 2015 and 2019 (see Table 4).

Table 4. Statistical verification of distribution fitting of operating revenue in 2015 and 2019, and Benford's Law distribution

Item	2015	2019
MAD	0.004198	0.003669
K–S*	0.111 (p-value = 1)	0.111 (p-value = 1)

* At the level of significance $\alpha = 0.05$.

Source: authors' own elaboration.

Based on these results, almost the same conclusion could be made in all previous analyses. The level of MAD remained the same over the evaluated years, so we conclude close conformity. The K–S test also demonstrates the lack of differences between these distribution fittings.

Benford's first digit test for financial data, i.e., operating revenue and P&L before tax (positive and negative), for two periods significant in the IFRS leasing regulations, confirms the matching of empirical and theoretical distributions. In 2019 (when the new IFRS 16 provisions were mandatory), no significant differences were noticed from the Benford distribution in the distributions of the first digits, indicating anomalies. This confirms that the comparability and quality of financial data disclosed in the NACE 77 sector are maintained after the new IFRS 16 was implemented. Verifying the compliance of the distributions may be the first step to analyzing companies' results, including ratio analysis. Therefore we can develop

the existing literature on IFRS 16 adjustments (Bohusova et al., 2022; Górowski et al., 2022; Wang et al., 2020). Studies on the effects of implementing IFRS 16 lacked an analysis of the reliability of financial data, especially in the event of a radical change in accounting principles for leasing contracts.

Conclusions

In recent decades, rising concerns, such as advanced technology, globalization, and the internet, have led to international accounting improvements and adaptations to new circumstances. Numerous financial scandals showed that the quality of financial information and accounting standards could no longer follow the global business environment.

Based on the European financial sector research, the adoption of IFRS by companies resulted in a reduction in earnings management (regardless of whether the implementation was prior or compulsory) (Leventis et al., 2011). Lee (2019) examined the implementation of IFRS in Korea and came to similar conclusions. The impact of IFRS 16 on the increase in amounts of property, plant and equipment (PPE) recognized in the financial statements from the lessee's perspective was investigated by Heywood (2020). New, revolutionary changes to the principles of leasing contracts in IFRS 16 did not result in withdrawing from concluding new leasing contracts (Gruber, Hartmann, 2021). Our research contributes to describing the effect of IFRS 16 implementation from the lessor's side (Bülbül et al., 2014).

The study aimed to verify whether the new IFRS 16 impacted the reliability of financial data presented in financial statements. NACE 77 companies from the EU were selected for the analysis. The research period covered two crucial moments for IFRS 16 – 2015 (the last year before the introduction of the IFRS 16) and 2019 (the first year of mandatory IFRS 16 application by all companies). We selected companies with a long history of using IFRS in financial reporting practice.

The research on the quality of financial data was carried out using Benford's first-digit test for the income and profit before tax variables. We assumed that if there were difficulties in fully applying IFRS 16, it would appear as accounting manipulation in the first digit distributions. We analyzed the degree of fitting the empirical distributions with the Benford distribution using two commonly used tools, MAD and the K–S test.

Based on the results, it can be concluded that for the revenue variables, positive and negative profits confirmed the close conformity of the empirical and theoretical distributions. Therefore, it can be concluded that small differences in the distribution of digits did not affect the reliability of financial data before and after the implementation of IFRS 16.

The limitations of this research include the sample size and the fact that only companies from the leasing and rental industries are included. Future research will focus on other sectors.

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