Changes to IFRS 16 on Leasing Operations: State of Art and Research Possibilities

Alterações da IFRS 16 em Operações de Arrendamento Mercantil: Estado da Arte e Possibilidades de Pesquisa

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ABSTRACT

Companies frequently use lease contracts to finance their operations. In this operation, the lessee company acquires the right-of-use the underlying asset in exchange for a contractual flow of payments. IAS 17, applicable standard up to 2018, required that lease contracts should be classified as operating or finance lease. The IFRS 16, requires that the lessee firms should account for all lease contracts as a finance lease and, therefore, have to recognize the right to use the identified asset as well as the lease liabilities in the balance sheet. This paper aims to review the literature regarding the issuance of IFRS 16, in order to consolidate the reported impacts and also to suggest opportunities for future research. This research is expected to provide important contributions to the previous literature and accounting regulation process, that can consider the evidences documented in the academic literature during the Post-Implementation Review (PIR) of IFRS 16.

RESUMO

Os contratos de arrendamento têm sido frequentemente utilizados pelas empresas como forma de financiamento de suas operações, já que a empresa arrendatária obtém o direito de uso de determinado ativo em troca de um fluxo de pagamentos contratualmente estabelecido. A IAS 17, vigente até 2018, determinava que os contratos de arrendamento poderiam ser classificados como operacionais ou como financeiros. A IFRS 16, requer que todos os contratos de arrendamento devem ser tratados como financeiros pelo arrendatário, ou seja, pelo reconhecimento do ativo e do passivo correspondente no balanço patrimonial. O presente objetiva realizar uma revisão da literatura sobre as pesquisas que abordam a adoção da IFRS 16 e que já foram publicadas até então, com o propósito de consolidar os impactos que já foram reportados pelas pesquisas anteriores e sugerir oportunidades de pesquisas futuras, as discussões aqui apresentadas podem contribuir para a academia e para os órgãos reguladores.

KEYWORDS

Financial disclosure; IFRS; leasing

Reporte financeiro; IFRS; arrendamento

1. INTRODUCTION

Companies frequently use lease contracts to finance their operations (Giner & Pardo, 2018). Through this arrangement, the les-

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see acquires the right to use the underlying asset in exchange for a contractual flow of payments. This allows companies to access the assets they need without formally purchasing them. According to 2020 *Global Leasing Report*, by White Clarke Group (2020), leasing volume increased 116% from 2010 to 2018, most of it in North America, followed by Europe and Asia.

IAS 17 was the applicable standard up to December 31st, 2018. This standard required that lease contracts should be classified as operating lease or finance lease. When classified as operating lease, the payments should be recognized as an expense in the income statement, while in the finance lease the lessee firm has to recognize the identified asset and also the lease liability. However, discussions on the need to revise this accounting treatment have been going on for years and only in 2006 the International Accounting Standards Board (IASB) added to the agenda a formal project to revise IAS 17. After 10 years, the Board issued IFRS 16, applicable from January 01st, 2019. This new standard requires that the lessee firms should account for all lease contracts as a finance lease and, therefore, have to recognize the right to use the identified asset as well as the lease liabilities in the balance sheet.

The changes proposed by the new standard (IFRS 16) can significantly impact the financial statements (Pardo & Giner, 2018; Giner & Pardo, 2019; Ron van Kints & Louis Spoor, 2019). According to Giner and Pardo (2019), the new accounting treatment to lease contracts, proposed by IFRS 16, aims to increase the quality and relevance of accounting information. The authors also argue that one of the main undesired consequences of the prior standard (IAS 17) was that lessee firms could choose operating leases mainly in order to avoid an increase in their liabilities due to the recognition of lease payments. Consequently, investors and other users of accounting information could not properly evaluate the firm's economic and financial position (Giner & Pardo, 2019). When IFRS 16 determines the recognition of right-of-use assets and liabilities for every lease contract, it improves the quality of accounting information used in the decision making process of several users of accounting information (Ron van Kints & Louis Spoor, 2019).

In this context, several researches must be conducted to evaluate the impact and main challenges reported in the implementation of IFRS 16, which is an important feedback to the standard setting process. Therefore, this paper aims to review the literature regarding the issuance of IFRS 16, in order to consolidate the reported impacts and also to suggest opportunities for future research regarding the leasing accounting standard.

We conducted a systematic literature review, searching "IFRS 16" in SCOPUS platform, without any time constraint, resulting in a sample of 23 papers. After reading the title and abstract, we eliminated those papers that were not aligned with the purpose of this research and also those papers that we did not have access to the full text. Consequently, we analyzed 12 papers that composed our final sample.

This research is expected to provide important contributions both to the existing literature and to the accounting regulation process. Specifically, the discussions in this paper can enrich prior studies by consolidating research on lease contracts and the effects of IFRS 16 implementation. Regarding accounting regulation, the study may be useful for companies that have faced challenges in implementing IFRS 16, and especially for standard setters, who can take into account the evidence documented in academic literature during the Post-Implementation Review (PIR) of IFRS 16

There are already some papers that revised the literature of leasing in a longer time horizon, like Barone et al (2014) and Matos and Murcia (2019). Barone et al (2014) discussed the impact of recognition of assets and liabilities arising from lease contracts previously classified by IAS 17 as operating leases. The authors indicate that economic consequences are expected both to preparers and also to users of accounting information. Matos and Murcia (2019) broadly analyzed the leasing literature up to July, 2018. They identified three main thematic groups: (i) Management Decisions/Behavior; (ii) Risk assessment based on financial information; and (iii) Leasing Standard Setting.

Our paper contributes by focusing specifically in publication related to IFRS 16, applicable only from January 1st, 2019, onwards. Therefore, we were able to provide a deeper discussion about the changes proposed by the standard and their impacts, a timely discussion given the recent applicability of this new normative. Additionally, given that we analyzed papers until May 2020, this research also expands the period of analysis used in previous literature. This additional time interval is important because it comprises the beginning of the implementation of IFRS 16, not analyzed in previous research.

This paper is divided into five main sections.. First, this introduction section presents the contextualization, objectives and contribution of the paper. The second section presents the theoretical background, explaining the historical development of IFRS 16 as well as discussions of expected impacts of the proposed changes, providing evidence on the importance of conducting a literature review on this topic. The third section describes the methods used to select the papers, followed by the analysis in the fourth section, including the general metadata, like journal, sample, citations and discussing the content of each paper. The fifth and last section presents final remarks and suggestions for future research.

2. THEORETICAL BACKGROUND

Lease contract is an operation in which one entity or individual has the contractual right to use an identified asset during a period of time, which will generate future economic benefits to the firm, in exchange for a flow of payments (IFRS 16). Many firms use this type of contracts to finance their operations, because sometimes the lessee firm cannot afford to (or has no interest in) formally acquire the assets required for their operations. In this setting, the lessee firm establishes a contract with the lessor (who holds the legal ownership of the asset) to have the right-of-use of the asset without purchasing the asset, in exchange for a flow of payments (Gelbcke, Santos, Iudícibus & Martins, 2018; Ron van Kints & Louis Spoor, 2019).

Due to the increasing relevance of leasing contracts on the debt structure of companies, IASB significantly changed the accounting standard for such operations. Up to 2018, IAS 17 – Leases was the applicable international standard. This standard required the classification of lease contracts as either finance lease or operation lease. One important note is that the legal ownership of the asset belongs to the lessor in both classifications. However, whether the contract transfers the risks and benefits of the assets, from the lessor to the lessee, the lease contract should be classified as a finance lease. In such a case, the required accounting treatment was to recognize the asset in the lessee firm as well as the lease liabilities. On the other hand, if the risks and benefits remain with the lessor, the lease contract should be classified as operating lease. Consequently, the lessee firm should recognize the payments as rental expenses in their income statements (IAS 17, 2009).

These two different accounting treatments impaired the comparability of accounting information between companies (Veverková, 2019), which is a fundamental part of the effort of IASB in the standard setting process (Reina, Reina, & Silva, 2014), given that the same lease contract could be accounted for differently in distinct firms. In addition, they also encourage firms to structure lease contracts that fell into the operating classification in order to avoid the recognition of assets and, specially, liabilities in their financial statements. This would result in a misinterpretation of the firm's economic and financial position (Basis for conclusion on IFRS 16, 2016; Veverková, 2019).

In the Effect Analysis of IFRS 16, the IASB mentions that public companies that applied IFRS or USGAAP reported approximately US$ 3 trillions of liabilities arising from lease contracts classified as operating leases and that were not being recognized in their financial statements (off-balance-sheet liabilities). Additionally, the IASB also explains that many users of accounting information had to adjust the lessees' financial statements to recognize the assets and liabilities of the lease contracts classified as operating lease, given that these assets and liabilities represent assets and liabilities of the lessee firm, and therefore should be recognized as such (*Effect Analysis IFRS 16 Leases*, 2016; Pardo & Giner, 2018).

The urge to revise the lease accounting treatment is not a recent one. It started in 1996, in a G4+1 meeting. However, the IASB did not formally include in its agenda a project to revise IAS 17 until 2006, and it took 10 years of discussions until IFRS 16 was issued in 2016, coming into force on January 1st, 2019 (Giner, Merello, & Pardo, 2019). The main change proposed by IFRS 16 was the elimination of the possibility of classifying leasing contracts into two different categories (operating lease and finance lease). Specifically, IFRS 16 requires that lessee firms should use the right-of-use approach, so that all leasing contracts should be accounted for as a finance lease, and, therefore, the assets and liabilities arising from the lease contract should be recognized in their financial statements.

The adoption of IFRS 16 can substantially impact the financial statements of firms that have lease contracts that were previously classified as operating leases, since they must now recognize in their balance sheet assets and liabilities that were not being recognized. Similarly, in the income statement the rental expense will be replaced by the depreciation expense of the right-of-use asset and the interest expense arising from lease liabilities (Morales-Díaz & Zamora-Ramírez, 2018). To establish such possible effects of standard implementation researches are fundamental (Estevão, Neto, Edith, & Pinheiro, 2009; Reina et al., 2014; Santos & Cavalcante, 2014; Zortea, Galdi, Monte-mor, & Beiruth, 2017).

Consequently, the adoption of IFRS 16 may restrict access of some companies to capital providers and also impact debt covenants, EBITDA measures, as well as other variables (Pardo & Giner, 2018; van Kints & Louis Spoor, 2019, Veverková, 2019).

3. RESEARCH DESIGN

In order to achieve the purpose of this research, we performed a systematic literature review. According to prior studies, such as Delbufalo (2012), Sivarajah et al. (2017) and Tranfield et al. (2003), systematic literature review is a structured research method, transparent and replicable, used to analyze existing literature in the topic of interest. The analysis aims to identify research gaps and propose new possibilities for future research, as well as define references to guide current research and possible new research topics. Therefore, the literature review carried out in this paper allows an international perception on the current academic debate on the new accounting standard: IFRS 16 – Leases.

We used a three-step methodological approach: the first step determined the review protocol in accordance to the research aim and object of the paper. The second step identifies, selects, evaluates and synthesizes the selected studies. Lastly, we present the descriptive results and the thematic summary of the papers (Sivarajah et al., 2017). To develop the research protocol (first step), we applied the following parameters:

a) Step 1: We choose the Scopus Database to search for papers, seeking to collect reliable information on the topic.
b) Step 1: To investigate the academic debate, all papers with the keywords were considered.
c) Step 1: The research comprises all journals without any time restrictions.
d) Step 1: The research includes papers related to IFRS 16 of any subject area.

In the second step, we execute the process of searching the database (Delbufalo, 2012; Waiczyk & Ensslin, 2013). Initially, we inserted the keyword "IFRS 16" in the Scopus website following the criteria: papers published in journals in any moment of time and any subject areas. It resulted in 23 publications worldwide.

e) Step 2: To ensure the success in selecting papers, we considered the keyword "IFRS 16". Therefore, we examined every study that contains the keyword IFRS 16, or something related, in the title or referencing a direct link to IFRS 16.
f) Step 3: It was ensured that we selected conceptual studies, as well as empirical ones.
g) Step 3: Finally, we read the full text to determine the alignment between the selected papers and the review objectives. This is a key factor to the inclusion of the paper in the analysis, for substantive context and adequate empirical content.

After analyzing the title, abstract and body of the paper in accordance with letters "e" and "f", 8 papers were excluded. Following the analysis in accordance with letters "e" and "g", we analyzed 12 papers that composed our final sample.

After the selection of papers, we used a spreadsheet to perform the manual analysis of each of the 12 papers, in order to have data on their characteristics. Then, in step 3, we reported the general descriptive results: author(s); title; year of the publication; journal; volume and edition; first page; last page; number of pages; number of citations in Scopus and in Google Scholar; DOI; link; type of document; publication phase; type of access and source.

For a deeper understanding of the academic debate of the changes proposed by IFRS 16, we collected in each paper information about: objectives; results; theory; sample; industry of the sample; country of the sample; and research method.

4. RESULTS AND DISCUSSIONS

Section 4.1 presents the description information about the 12 papers analyzed (geographical location, sample and the number of citations). The following three sections (4.2, 4.3 and 4.4) discuss the papers in each of the three proposed categories: (i) impact of IFRS16 on the financial statements and financial ratios; (ii) impact of IFRS16 on investors and/or managers decision making; and (iii) Accounting regulation process and legal impacts.

4.1. IFRS 16 in the academic debate

We present the continental geographical location of the papers on IFRS 16 – Leases in accordance to three criteria: journal location (Table 1.1); location of the filiation of the first author (Table 1.2); and the location of the companies of the sample (Table 1.3)

The results in Table 1.1. show that the majority of the journals publishing about IFRS 16 are based in Europe. Journals from America, Asia and Oceania published only 1 study each, while African journals did not publish any.

Table 1.1 - Geographical Location of the Journal

Year	Africa	America	Asia	Europe	Oceania	Total
2017	0	1	0	0	0	1
2018	0	0	1	3	1	5
2019	0	0	0	4	0	4
2020	0	0	0	2	0	2
Total	0	1	1	9	1	12

Table 1.2 shows the geographical location of the filiation of the first author. Again we see Europe with the larger number of publications, with 7 authors, from which Spanish authors published 4. Asian authors published 4 papers and American 1. Africa and Oceania did not have any paper with the first author, although one journal from Oceania published about the change of IFRS 16.

Table 1.2 - Geographical Location of the filiation of the first author

Year	Africa	America	Asia	Europe	Oceania	Total
2017	0	1	0	0	0	1
2018	0	0	2	3	0	5
2019	0	0	1	3	0	4
2020	0	0	1	1	0	2
Total	0	1	4	7	0	12

Finally, Table 1.3 presents the context used as a sample for the analysis: 5 papers used European companies; 4 from Asia; and 1 from America. Africa and Oceania were not used as context for research. There was one paper that is classified as fictious, because it is an experimental research aiming to evaluate the quality of financial statements of a fictitious company, without indicating the location, limiting to inform the industry of the company.

Tabela 1.3 - Geographical Location of Companies of the Sample

Africa	0
America	1
Asia	4
Europe	5
Oceania	0
Fictious	1

Table 1.4 presents the industries within the samples in the studies of IFRS 16. Most studies used multiple industries for their analysis, because they gather the data from publicly traded companies, whose financial statements are easily available, and comprise diversified industries. Industry specific, there were two studies that investigated aviation companies, and 3 papers that investigated only one industry: university, hospitality, and dredging. One last paper discussed lobbying in the standard setting process of IFRS 16, and, therefore, industry was not a reported analysis.

Table 1.4 - Industry of companies in the sample

Industry	N.º papers
University	1
Hospitality	1
Aviation	2
Dredging	1
Several	6

We collected the number of citations, and presented, in Table 2, the most cited papers, according to Google Scholar. We also reported the number of citations within the Scopus database. We observed 5 papers cited by more than 6 researchers in Google Scholar.

Table 2 - Paper by number of citations

Authors	Year	Title	Journal	Citations Scopus	Citations Google Scholar
Morales-Díaz, J., Zamora-Ramírez, C.,	2018	The Impact of IFRS 16 on Key Financial Ratios: A New Methodological Approach	Accounting in Europe	3	59
Giner, B., Pardo, F.	2018	The Value Relevance of Operating Lease Liabilities: Economic Effects of IFRS 16	Australian Accounting Review	1	17
Pardo, F., Giner, B.	2018	The capitalization of operating leases: Analysis of the impact on the IBEX 35 companies	Intangible Capital	0	7
Giner, B., Merello, P., Pardo, F.	2019	Assessing the impact of operating lease capitalization with dynamic Monte Carlo simulation	Journal of Business Research	1	6
Nasip, I., Sudarmaji, E.	2018	Managing tax dispute due to IFRS-16 on the retrofits implementation in Indonesia	International Journal of Engineering and Technology	1	6

The most cited paper is “The Impact of IFRS 16 on Key Financial Ratios: A New Methodological Approach”, with 3 citations on Scopus database and 59 on Google Scholar.

4.2. Estimated impact of IFRS 16 application on financial statements and financial ratios

As previously mentioned, IFRS 16 was issued in 2016, but companies were not required to implement it until 1 January 2019. The board allowed this time lapse so that companies could prepare to implement the standard. Thus, a frequent debate was the impact of the new standard on financial statements and consequently on the accounting and financial ratios.

Table 3 shows the studies from the sample that estimated the value of off-balance sheet leases, to demonstrate the impact of the new standard. A common characteristic of those studies is that all of them collected data from publicly traded companies.

The first paper to specifically address IFRS 16 was conducted by Chatfield et al. (2017), and discussed similarities and differences of the two accounting standards: ASU 842 and IFRS 16. The authors estimated the impact of operational lease recognition in the financial statements and ratios of hospitality American companies. They identified that within the Hospitality industry, companies of food and beverages are the main users of lease, followed by casinos. The results pointed to unfavorable changes in the financial ratios, and the authors manifested concern on the cost of debt, because there is no credit rating for the hospitality industry. Finally, they argue that IFRS 16 implementation will be costly and time consuming for the companies.

Pardo and Giner (2018) analyzed the same issue with higher diversity of industries. They analyzed the impact of the change in the accounting standard of lease in the balance sheet and financial ratios. The authors used the Constructive Capitalization model to estimate off-balance assets and liabilities. For the sample of companies in the Spanish stock index, the estimated value of off-balance total liabilities amounts to 20 billion euros. This represents a 4.81% increase in total recognised liabilities.. On financial ratios, the authors showed that they were significantly altered, specially non-current assets turn over, increase in the proportion of short time liabilities over the total liability, leverage and ROA. Despite that, not all the changes are negative: ROE and market-to-book increased after computing the estimated value of leases. Finally, the authors performed a regression to understand the determinants of the variation of EBITDA. They identified that larger companies will have higher values of EBITDA after the implementation of the new standard for lease, and that companies with higher market-to-book ratios will have positive effects on EBITDA. They also highlighted that retail companies, considering a 10% significance level, will have a higher impact on EBITDA, what the authors argued as coherent, because retail was the industry with the greater impact of the estimation.

In order to take the discussion even deeper, Giner et al. (2019) investigated the effect of off-balance sheet lease estimated by the Monte Carlo method, a computational algorithm that relies on repeated random sampling. The authors applied the model to Europe 100 index, a listing of the 100 largest publicly traded companies, considering the year of 2016. The results suggested that the main financial ratios will not have permanent changes, if the companies keep their leasing structure unaltered. Notwithstanding, in the year of change, the authors identified that liability maturity, liquidity and return on assets will decrease, while leverage and return on equity will increase. They also identified that reducing the life of lease contracts can smooth the financial impact. Despite that, the authors highlighted that there are differences on the effect of the new standard between companies according to the industry. Retail companies will be specially impacted.

Morales-Díaz and Zamora-Ramírez (2018) focused on improving the Imhoff et al. (1991) estimation model of off-balance leases, in STOXX Total Market companies. They applied a survey for companies of a diversity of industries, and used the input to create an industry factor, which they multiplied by the leasing expense of the period. They also proposed an industry specific discount rate, taking into account the 5 years variation of liabilities. With the estimated value of off-balance leases, they projected the effect of IFRS 16 implementation on assets, liabilities and leverage. The main finding was that total assets and liabilities will significantly increase, as well as leverage, but with severe differences across industries, and retail, hospitality and transportation are the most affected industries.

In a setting outside Europe and USA, Nurkasheva et al. (2018) collected data from Kazakhstan companies, to simulate the impact of implementation of IFRS 16 on financial statements. The authors employed what they called an estimation of costs and benefits and compared the results to the research conducted by IASB in 2016, to estimate the impact of the issuance of IFRS 16. They recalculated assets and liabilities based on information from financial statements notes. The results indicated increase of total liabilities and assets and consequent change in financial ratios. They highlighted the effect on EBITDA, that was impacted by the alteration from rent expense in operational lease to depreciation of the right-of-use asset and by the interest recognition due to the lease liability. They estimated a more pronounced effect on the retail industry, due to intense use of operational lease for commercial facilities, followed by the aviation industry. The author argued that the new standard may change policies, process, controls and accounting systems that deal with lease contracts, impacting existing contracts and stakeholders.

In an industry specific study, Veverková (2019) analyzed financial statements of 15 European aviation companies from 2010 to 2016, because it is an industry in which high impact of the implementation of the new standard is expected. Firstly, the author used information from the notes on the financial statements to estimate the value of off-balance sheet assets and liabilities, as well as their effect on profit or loss. Then, they analyzed the impact of such changes on return, leverage and liquidity. Their results pointed to an increase of non-current assets and liabilities and the decrease of equity. They also showed that the changes brought by the implementation of IFRS 16 will increase the interest and depreciation expenses, as well as EBIT and EBITDA. Interestingly, ROA decreased while ROE, calculated using EBITDA and profit margin, showed a positive variation. Lastly, liquidity decreased and debt ratios increased. The analysis performed was on descriptive statistics only, so the results did not have statistical tests to inform about the statistical significance.

Also investigating the aviation industry, Alabood, Abuaddous e Bataineh (2019) aimed to demonstrate the estimated impact of capitalization of leases, following Imhoff et al. (19991) method, in 3 aviation companies from the Middle East. One of those companies relied heavily on leasing contracts, while other had some balance between owned and leased assets and another owned most of its planes. As expected, they identified an increase in total assets and liabilities and consequent decrease in equity. The authors pointed out that companies that use intensively lease contracts may observe a reduction of equity up to 60%. This effect will have implications to return rations of companies. Specifically, the authors reported increase in leverage and decrease in ROA and ROE. The findings showed that companies that maintain a large proportion of assets in lease contracts can suffer significant impact on leverage and return ratios and, therefore, face difficulties in getting funding. The authors argued that companies that used operational leases will face challenges due to the complexity of tax treatment, rations instability, and difficulties in attracting investors. Specially, companies with more intense use of operations leasing and that already had losses may present a severe reduction of ROE, after IFRS 16 is implemented.

To summarize the impact estimated by those researches, we present in Table 4, the comparison of the effects reported in the seven papers described in this section.

Table 4 - Comparison of results found in researches of estimated impact of IFRS 16

	Chatfield et al. (2017)	Pardo and Giner (2018)	Giner et al. (2019)	Morales-Díaz and Zamora-Ramírez (2018)	Nurkasheva et al. (2018)	Veverková (2019)	Alabood, Abuaddous and Bataineh (2019)
∆ ASSET	3.66% to 53,69%	3,50%	-	9,96%	-11% a 19%	25,17%	7,85% to 42,46%
∆ LIABILITY	4,01% to 65,60%	7,00%	-	21,40%	16% a 19%	9,89%	25,04% to 58,04%
∆ D/E	-	2,31%	-	32,10%	26% a 46%	72,00%	28,57% to 298,68%
∆ D/A	-	-	4,10%	9,28%	-	6,35%	10,94% to 28,95%
∆ ROE	-	1,33%	4,10%	-	-	15,94%	–152.27% to 4.52%
∆ ROA	-	-2,15%	-6,20%	3,07%	-	-20,94%	–29.76% to –7.51%
∆ EBITDA	-	1,90%	-	-3,60%	13,00%	28,06%	-
∆ EBIT	-	-	-	-	-	4,70%	-
Liquidity	-	-0,014	-0,123	-	-	-	-

The findings of all studies consistently showed an increase in total liability, and consequent effect in leverage, because it is the proportion of liability and equity (or assets). The studies also found an increase in total asset, due to the recognition of the right-of-use. Similarly, most studies identified an increase in ROE, the only exception is Alabood, Abuaddous e Bataineh (2019), that registered decrease of this ratio in one of the three analyzed companies. The estimation of EBITDA was also consistently higher, but for one of the papers. Similarly, results for the decrease of ROA were presented in 4 papers, but Morales-Díaz e Zamora-Ramírez (2018) findings suggested an increase in ROA. On the other hand, only two papers reported leverage, but they consistently show the reduction of companies liquidity after the estimation of the effect of IFRS 16. Lastly, only one paper presented the result for EBIT, that consistent with EBITDA, indicated increase in the estimation. One relevant finding was that retail is the industry in which the effect is more pronounced in all three papers investigating multiple industries samples.

4.3. Impact of IFRS 16 adoption on investors and/or managers decision making

As explained in the previous section, the focus of the discussions on the effects of the adoption of IFRS 16 was to estimate the impact on the financial statements and the main financial ratios. However, some papers have also investigated how the decision--making process of investors and managers can be influenced by the recognition of the right-of-use the specified asset and of lease liabilities, which until then were not recognized in the firms' financial statements, because of their classification as operating leases.

Seeking to assess whether investors already consider in the share price the amounts of assets and liabilities arising from operating leases, even before the adoption of IFRS 16, Giner and Pardo (2018) used a value relevance model to estimate the value relevance of unrecognized lease contracts. The sample is composed by Spanish firms, which are in a code-law institutional environment that is significantly different from the common-law system, in which studies have already been carried out. The results indicate that investors consider liabilities of unrecognized lease contracts as liabilities of the lessee firm, due to the materiality of the liability of these unrecognized lease contracts to the liability of the lessee firm. The authors also argue that this result in strongly influenced by the retail industry. In addition, due to the similarity of the results with other research in the USA and the United Kingdom, Giner and Pardo (2018) found that the institutional code-law environment presents a similar result regarding the influence of these unrecognized amounts. Finally, the authors also argue that managers' concern that firm shares will be affected by the recognition of lease contracts previously classified as operating leases is unfounded, given that investors already incorporate this information in the share price.

The Ron van Kints and Louis Spoor (2019) experiment questions whether operating lease information is incorporated by the market participants in the decision-making process. The study consists of an experiment with 46 masters students, to evaluate the effect of the change in the leasing accounting standard on the users' decision making. Information from a fictitious firm was provided to master students, and for a group of students the information on the lease contracts was in accordance with IAS 17, that is, only the finance leases were recognized as assets and liabilities (the information on the operating leases was presented in the notes), and for the second group the information was in accordance with IFRS 16, that is, both operating and finance leases were recognized in the financial statements. The results indicate that the information presented in accordance with IFRS 16 has a higher quality for investment decisions. However, this does not mean that the adoption of IFRS 16 made the decision-making process easier or faster, since the time required for the experiment had no statistically significant difference between those who received the information in accordance with IAS 17 or in accordance with IFRS 16.

Finally, Zhang and Liu (2020) was the only study that investigated how the standard can influence corporate decisions. The authors argue that Chinese state-owned firms have a unique characteristic of providing incentives for managers to increase the size of firms. This incentive, generated by a variable remuneration liked to the size of the firms' assets, makes it interesting for managers to use finance leases, in order to increase their bonuses. The evidence from Zhang and Liu (2020) confirms that Chinese state-owned firms intentionally prefer finance lease contracts. This conclusion is supported by a paired sample analysis that controls for industry.. The results also show that firms with higher borrowing costs tend to use finance leases, being a cheaper way to obtain credit. Finally, it was found that the excess of finance lease contracts in state-owned firms when compared to non-state firms decreased significantly after privatization, which confirms that the use of finance leases was due to the incentives to increase the firms' assets and, therefore, the managers' bonus. Based on these findings, the authors conclude that the effects of IFRS 16 should not be so material in Chinese state-owned firms when compared to other segments. This can also be applied in other contexts where managers have incentives to increase the firms' size and, therefore, were more likely to enter into finance lease contracts.

4.4. Accounting standard setting process and legal impacts

While most studies on IFRS 16 are focused on the impacts on the financial statements and the decision-making process, another stream of research aims to investigate the regulation process itself and how it can have an effect on local regulation.

Seeking to evaluate the lobbying behavior in the process of issuing the new accounting standard for leases (IFRS 16), Rey, Maglio and Rapone (2020) analyzed the comment letters sent by users during both the Discussion Paper and the Exposure Draft of IFRS 16. Lobbying in an expected behavior (Santos, Silva, & Santos, 2016; Visoto, Silva, Nobre, & Rodrigues, 2020) and Rey, Maglio and Rapone (2020) argue that the level of attention perceived by the comment letters indicates legitimacy of the IASB, since the attempt to interfere in the regulation process comes from the perception that there will be implications for the issuance of the standard. The first finding is that regulators and institutions that issue local accounting standard from different countries sent comment letters to the IASB. This finding allows authors to argue that the IASB is recognized by these regulators for its global importance in the process of issuing international accounting standards, which legitimizes the IASB. In relation to the preparers of financial statements, the authors found a greater engagement from those who perceive that the changes proposed by IFRS 16 are somewhat unfavorable to them. The authors also analyzed the profile of lobbying practitioners who were able to convince the IASB, through the arguments presented in the comment letters, to change certain points of the standard. The authors identified that the most influential lobbyists generally (i) have a representative of their country on the IASB; (ii) finance the IASB and (iii) come from countries with higher level of enforcement.

In addition, Nasip and Sudarmaji (2018) assess how IFRS 16 can draw the attention of a very specific type of contract that can generate changes in tax regulation. Their main purpose is to understand retrofit contracts and how they can be impacted by IFRS 16. They explain that Retrofits contracts are based on the conscious use of electric energy and, to achieve this, equipment is replaced by equivalents with less energy consumption. The payment of the "rent" of the equipment is defined by the reduction of the energy cost. Due to its characteristics, this type of contract, which had become popular in Indonesia, is considered as an operating lease and therefore not recognized in the financial statements. The research design used by Nasip and Sudarmaji (2018) includes semi-structured questionnaires, interviews and document analysis, following the principles of the Grounded Theory. The authors argue that the results indicate that the benefits of implementing retrofit financing outweigh the cost and complexity of changing to the new accounting standard for leases. Regarding the immediate tax effects, the authors highlight the deferred taxes, which will arise due to time differences, as well as the possibility of adjustments in tax regulation because of the need for different treatments. Finally, the authors also argue that, given the characteristic of socio-environmental well-being, it is possible that the regulators will grant favorable tax treatment to retrofit contracts.

Table 5 - Estimated impact of IFRS 16 application on financial statements and financial ratios

Authors	Year	Title	Journal	Aim	Result	Sample	Research Approach	Method
Chatfield, H.K., Chatfield, R.E., Poon, P.	2017	Is the Hospitality Industry Ready for the New Lease Accounting Standards?	Journal of Hospitality Financial Management	Analyze the impact of the change in the accounting standard brought by ASU 842 and IFRS 16, in companies of hospitality industry.	The results pointed to unfavorable changes in the financial ratios, and the authors manifested concern on the cost of debt, because there is no credit rating for the hospitality industry.	Companies of hospitality industry.	Qualitative.	Descriptive analysis
Pardo, F., Giner, B.	2018	The capitalization of operating leases: Analysis of the impact on the IBEX 35 companies	Intangible Capital	Analyze the impact of the change in the accounting standard of lease in the balance sheet and financial ratios.	The estimated value of off-balance total liabilities amounts to 20 billion euros. Financial ratios are significantly altered with reduction of ROA, increase of total liabilities, leverage, ROE and Market-to-book.	20 companies of IBEX 35, with data from 2010 a 2013. Financial and insurance companies are not part of the sample.	Quantitative.	Multivariate analysis
Giner, B., Merello, P., Pardo, F.	2019	Assessing the impact of operating lease capitalization with dynamic Monte Carlo simulation	Journal of Business Research	Simulate IFRS 16 impact on financial statements using Monte Carlo method.	For 2019 the liability maturity, liquidity and return on assets are expected to decrease, while leverage and return on equity are expected to increase. But, in the long run the main financial ratios will not have permanent changes, if the companies keep their leasing structure unaltered.	Companies indexed in STOXX All Europe 100, excluding financial companies, between 2011 and 2015. The sample comprised 357 observations.	Quantitative.	Monte Carlo simulation
Morales-Díaz e Zamora-Ramírez	2018	The Impact of IFRS 16 on Key Financial Ratios: A New Methodological Approach	Accounting in Europe	Estimate the financial effects of balance sheet lease operation.	Total assets and liabilities will significantly increased, as well as leverage and ROA, and decrease of EBITDA	European companies listed in *STOXX Total Market*. After excluding outliers, companies that did not use lease, the sample comprised 646 observations of 2015.	Quantitative	Wilcoxon and T. test
Nurkasheva, N.S., Dosmanbetova, A.S., Zharylkasinova, M.Z.	2018	Impact of lease accounting according to international financial reporting standards on the indicators of financial statements in Kazakhstan	Journal of Applied Economic Sciences	Estimate the impact of implementation of IFRS 16 on financial statements.	Increase of total liabilities and assets and consequently increase in EBITDA and leverage.	Kazakhstan companies.	Qualitative.	Descriptive analysis
Veverková, A.	2019	IFRS 16 and its impacts on aviation industry	Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis	Quantify the impact of implementation of IFRS 16 in the financial statements European aviation companies.	Increase of non-current assets, liabilities, EBITDA and ROE and the decrease of equity and ROA.	The authors analyzed 15 Europeans aviation companies between 2010 and 2016.	Quantitative.	Descriptive analysis
Alabood, Abuaddous e Bataineh	2019	The impact of IFRS 16 on airline companies: an exploratory study in the Middle East	International Journal of Economics and Business Research	The research Estimate impact of capitalization of leases, following Imhoff et al. (19991) method, in 3 aviation companies from the Middle East.	Increase in total assets and liabilities and decrease, that can be up to 60%, in equity. On the rations it was identified increase in leverage and decrease in ROA and ROE.	2016 financial statements of three Middle East Aviation companies.	Quantitative	Descriptive analysis

Table 6 - Impact of IFRS 16 adoption on investors and/or managers decision making

Authors	Year	Title	Journal	Aim	Result	Sample	Research Approach	Methodos
Giner, B., Pardo, F.	2018	The Value Relevance of Operating Lease Liabilities: Economic Effects of IFRS 16	Australian Accounting Review	Assess whether investors already consider in the share price the amounts of assets and liabilities arising from operating leases.	Investors consider liabilities of unrecognized lease contracts as liabilities of the lessee firm.	229 observations of 132 Spanish, public traded companies, after dropping observations with excluding missing values, or absence of lease notes, with negative accounting value.	Quantitative.	Panel Data
Ron van Kints, R.E.G.A., Louis Spoor, L.L	2018	Leases on balance a level playing field?	Advances in Accounting	Verify whether operating leases information is incorporated by the market participants in the decision-making process.	The results indicate that the information presented in accordance with IFRS 16 has a higher quality for investment decisions. However, this does not mean that the adoption of IFRS 16 made the decision-making process easier or faster.	46 MBA students (EMFC).	Qualitative.	Experiment
Zhang, S., Liu, C.	2020	State ownership and the structuring of lease arrangements	Journal of Corporate Finance	How the IFRS16 can influence corporate financing decisions	Chinese state-owned firms intentionally prefer to enter into finance lease contracts due to the incentives to increase the firms' assets and, therefore, the managers' bonus.	757 non-financial companies listed on Chinese A-share Market between 2001 and 2016. 368 state-owned firms and 389 private companies.	Quantitative.	OLS method.

Tabela 7 - Processo de regulamentação contábil e impactos legais/fiscais

Authors	Year	Title	Journal	Aim	Result	Sample	Research Approach	Method
Rey., Maglio., Rapone.	2020	Lobbying during IASB and FASB convergence due processes: Evidence from the IFRS 16 project on leases	Journal of International Accounting, Auditing and Taxation	Evaluate the lobbying behavior in the process of issuing the new accounting standard for leases (IFRS 16).	Greater engagement from those who perceive that the changes proposed by IFRS 16 are somewhat unfavorable to them. The most influential lobbyists generally (i) have a representative of their country on the IASB; (ii) finance the IASB and (iii) come from countries with higher level of enforcement.	1.724 comment letters to lease proposed standard.	Quantitative	Mann–Whitney and logistic regression
Nasip, I., Sudarmaji, E.	2018	Managing tax dispute due to IFRS-16 on the retrofits implementation in Indonesia	International Journal of Engineering and Technology (UAE)	How IFRS 16 can draw the attention of a very specific type of contract that can generate changes in tax regulation.	Complexity of IFRS 16 and deferred taxes, which will arise due to time differences, will influence on the use of Retrofits, as well as the possibility of adjustments in tax regulation because of the need for different treatments.	1 Indonesian University.	Quantitative and Qualitative.	Grounded Theory and survey

5. FINAL REMARKS AND SUGGESTIONS FOR FUTURE RESEARCH

The recent change in the accounting treatment of lease contracts is one of the main changes made by the IASB to the international accounting standards (IFRS). IFRS 16 was issued in 2016, but came into force only on January 1, 2019, and the main change is regarding the accounting treatment for the lessee firm. After the adoption of IFRS 16, all lease contracts must be accounted for as finance leases, that is, the lessee firm must recognize the right-of-use of specified asset (which will be depreciated) and the lease liability (which will result in the recognition of interest expense over the contractual term). IFRS 16, therefore, has the potential to affect several firms, but, in particular those that rely heavily on lease contracts to acquire the assets necessary to carry out their operations, such as firms in the retail industry and also airlines.

Academic research plays an important role in the accounting regulation process by developing studies that assess the main impacts and difficulties that firms face when implementing new standards. Against this backdrop, this paper aims to review all literature published on the topic to date, consolidating existing evidence on the effects of adopting IFRS 16 and suggesting opportunities for future research. As the issuance of IFRS 16 is still quite recent, few researches have been published until now (specifically, 12 papers). However, it is expected that the number of researchers on IFRS 16 will increase in the coming years, not only due to the greater maturity of the researches, but also due to the greater availability of data.

Of the 12 papers that have already been published, most of them (7) had the purpose of evaluating the effects on the financial statements of the lessee firm and on the main financial ratios. In summary, these studies have documented relevant impacts on the total assets, total liabilities, EBITDA as well as in several financial ratios, such as leverage and indebtedness ratio, return on assets and return on equity. Although incipiently, we also found 3 papers that evaluated the effects of adopting IFRS 16 on the decision-making process of investors and managers and 2 papers about the effects of IFRS 16 adoption on the accounting regulation process (lobbying) and legal/tax issues.

Despite the advances in research related to the effect of the adoption of IFRS 16, there is still much to be explored, especially considering that it has been two years of mandatory application of the new standard. When firms adopt a new standard for the first time, they must restate comparative financial statements if the impact is material. Therefore, the first suggestion for future research is to assess the real impact of the adoption of IFRS 16 on the financial statements and financial ratios using the restatement data, since the studies carried out until now have used estimated data.

One of the main concerns of the preparers of the financial statements with the adoption of IFRS 16 is that the change in the standard will result in an increase in the liabilities of the firms, as a result of the recognition of the lease liability, which affects the indebtedness and leverage indicators. This effect on the indicators may result in violations of restrictive clauses (covenants) on loans and financing. Therefore, an important issue to be explored in the literature is the impact of adopting IFRS 16 specifically on covenants. Was there a need to renegotiate the limits defined in the restrictive clauses? Did firms have greater difficulties in raising funds as a result of greater leverage?

Another important question is whether these sudden changes in the financial ratios of firms that are heavily financed by lease contracts, especially in relation to debt indicators, may have resulted in a loss in the firms' market value. In other words, what is the reaction of investors to the increase in debt indicators of firms due to the adoption of IFRS 16? Has the firm's market value decreased? Were there shareholder dissent or significant changes in capital flows?

Although the impacts on the financial statements and financial ratios indicate a concern about the effect of IFRS 16 adoption on executive incentives and compensation, Zhang and Liu (2020) present a context in which there is an incentive to incorporate all operating leases in the financial statements. This influence, which, in this case, mitigates the effect of the adoption of IFRS 16, may also occur in other arrangements of the compensation package. This issue raises many questions about how the compensation package induced or discouraged the use of operating leases. Did remuneration systems based mainly on financial measures encourage the use of operating leases? Did using long-term compensation mechanisms mitigate the manager's incentive for leverage? Does the adoption of IFRS 16 have an impact on firms' earnings management, given that managers may try to mitigate the effect by adjusting profit with discretionary accruals? Did the adoption of IFRS 16 change the firms' compensation system?

Through an experiment, Ron van Kints and Louis Spoor (2019) showed that IFRS 16 could result in higher quality accounting information for decision-making when compared with the information obtained by the previous accounting standard (IAS 17). Therefore, several studies can be carried out in order to explore this effect on the capital market. For example: has the adoption of IFRS 16 decreased information asymmetry? Has it decreased the level of earnings management? Has the quality and relevance of accounting information increased?

Still in this context, one of the main criticisms that existed in relation to the previous accounting standard (IAS 17) was that some firms could structure transactions so that their lease contracts were classified as operating leases with other firms classified them as finance leases. Therefore, an important question to be explored is whether the adoption of IFRS 16 has increased the comparability of accounting information between firms, since all firms are now using the same accounting treatment.

Another important question is whether the adoption of IFRS 16 affected the analysts' forecast. On the one hand, if IFRS 16 increased the quality and comparability of accounting information, a positive effect on the analysts' forecast would also be expected. However, on the other hand, many analysts have already incorporated in their forecasts the accounting amounts of lease contracts that were previously classified as operating leases and, therefore, were not recognized in the financial statements.

Studies that explore these and other issues are essential for the academic literature to provide consolidated evidence on the effects of the adoption of IFRS 16 on firms and, therefore, to effectively contribute to the international accounting regulation process, providing insights that the IASB may take into account during the Post-Implementation Review (PIR) of IFRS 16.

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