

Enforcement and accounting quality in the context of IFRS: is there a gap in the literature?

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Abstract

Purpose – Existing research has concluded that accounting quality is influenced not only by the quality of accounting standards, but also by enforcement systems. Therefore, enforcement is one of the key factors for ensuring International Financial Reporting Standards' (IFRS) compliance and achieving accounting quality. However, one still does not know what has been studied about this relationship in scientific literature. Accordingly, the purpose of this paper is to identify, recap and evaluate the current state of research on the relationship between IFRS enforcement and accounting quality, to provide a critical overview of publications in this field and to identify future areas of interest.

Design/methodology/approach – Supported by a structured literature review, this paper fills in a research gap by conducting a scientometric analysis of papers on the relationship between IFRS enforcement and accounting quality construed in a broad sense. It reviews papers published between 2006 and 2019 selected from the Web of Science database, particularly analyzing main journals, authors, geographic areas of study, methods used, specific topics explored and future lines of research to be developed.

Findings – Main findings show a shortage of studies analyzing IFRS enforcement practices in individual countries and, in turn, the impact these practices may have on the accounting quality. This gap calls for further research to know the effectiveness of the IFRS-related enforcement mechanisms.

Originality/value – To the best of the authors' knowledge, no previous scientometric studies focused on the enforcement of IFRS and accounting quality. This study fills this research gap and improves the understanding about what has been published on the topic, also proposing an agenda for future research that can help regulators to adjust policies for the implementation and enforcement of IFRS.

Keywords Content analysis, Structured literature review, Accounting standards, Research description, Scientometric study

Paper type Literature review



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1. Introduction

Accounting quality has been defined by several researchers considering different perspectives: the extent which the accounting information reflects the company's performance and/or financial position (Barth *et al.*, 2008; Chen *et al.*, 2010; Hribar *et al.*, 2014); the extent which accounting information makes it possible to estimate the expected cash flows (Callen *et al.*, 2013); or the accomplishment of the qualitative characteristics of the financial information (Legenzova, 2016; IASB – International Accounting Standards Board, 2018). In this paper, all these perspectives are considered, meaning that accounting quality is understood in a broad sense, including but also going beyond the concept of financial reporting quality, to encompass earnings management, value relevance and timely loss recognition concepts, among others (Robu *et al.*, 2016).

Soderstrom and Sun (2007) identified the determinants of accounting quality following the adoption of International Financial Reporting Standards (IFRS) in the European Union (EU). They concluded that, apart from the quality of the accounting standards, accounting quality is also influenced by management, political and legal factors. Other authors, such as Holthausen (2009), Hope (2003), Kabir and Laswad (2015) and Guerreiro *et al.* (2020), argued that accounting quality is only possible with a rigorous IFRS enforcement mechanism.

Enforcement is considered as a “compliance analysis” of the financial information reported by an entity to ensure that the accounting standards, namely, IFRS, are being properly implemented. It is a system to prevent, identify and take the necessary measures, in cases of material error or omission in the application of IFRS (ESMA, 2014). The authorities or bodies who control standard implementation are called “enforcers”.

Over the past few years, IFRS enforcement has been acknowledged as increasingly important (Anagnostopoulou, 2017; Daher, 2017; Duru *et al.*, 2018; Eutsler *et al.*, 2016; Preiato *et al.*, 2015). It is also recognized that enforcement plays a very important part in encouraging the production of high quality financial information (Alexandre and Clavier, 2017; Brown *et al.*, 2014; Christensen *et al.*, 2013; Gu *et al.*, 2019; Kavanagh, 2017; Leuz, 2010; Oz and Yelkenci, 2018; Peña and Franco, 2017), hence playing a key role in accounting quality.

Accordingly, it is important to assay whether the standards are being enforced and to understand if this mechanism of control leads to an improvement in the quality of accounting information. Previous literature reveals that the adoption of IFRS is important for improving the quality of accounting information only if properly enforced (Guerreiro *et al.*, 2020). Enforcement is also necessary to enhance comparability and transparency of the accounting information disclosed by companies.

Accounting quality (considering the different perspectives mentioned before) and IFRS are vastly studied areas in the literature, especially if considered separately. On the other hand, although the concept of enforcement appeared after the wide acceptance of IFRS (in the EU, particularly from 2005), enforcement mechanisms have not yet been implemented in some countries or, where implemented, the consequences and impacts of enforcement on the quality of accounting information have not been empirically assessed (ESMA, 2017; Mantzari and Georgiou, 2019). This may justify the scarcity of literature about enforcement and IFRS.

Given the significance of accounting information for society in general, IFRS enforcement and accounting quality turns out to be a very relevant topic. It is, therefore, important to provide researchers with an overview of what has, or has not yet, been done in terms of research in these areas. A structured literature review is appropriate to provide critical insight into this field, allowing to improve understanding of IFRS enforcement and accounting quality, to gain a broad view of the current situation and to explore research opportunities for the future. According to Massaro *et al.* (2016), it is necessary to scrutinize

the existing field of knowledge to offer a credible path for future research. These authors argue that a well-structured literature review must demonstrate what has been done in the literature, what the focus of the research is and what the future of research will be.

Supported by a structured literature review, this paper tries to fill in a research gap by conducting a scientometric analysis of studies on the relationship between enforcement and accounting quality in the context of IFRS. The aim is to identify, synthesize and evaluate the current state of research, to provide a critical overview of publications in this field and to identify future areas of interest. The paper reviews articles published between 2006 and 2019 gathered from the Web of Science (WoS) database. An ultimate objective of this paper is to improve understanding about what has been published on the topic and to propose an agenda for future research that can help regulators to adjust policies for the implementation and enforcement of the IFRS.

The research in this paper brings two important contributions. First, it highlights the shortcomings in the study of IFRS control mechanisms and the accounting quality. To the best of our knowledge, no previous studies focused on the enforcement of IFRS and accounting quality. Thus, this study fills a gap, because there is a shortage of research directed to this topic (Porte and Sampaio, 2015). Second, this research helps scholars and researchers directing their work, by proposing an agenda for future research.

The paper is organized as follows. Section 2 provides a short review of scientometric studies that helped to formulate the research questions. The sections that follow present the sample selection, research method, main findings and conclusions.

2. Review of scientometric studies and research questions

Literature reviews usually present an exhaustive collection of the scientific production in a given area of study (Dumay, 2014; Paoloni *et al.*, 2020). Through them, knowledge about the state of the art is acquired, allowing to identify research gaps (Jesson *et al.*, 2011). For a better outline of the literature review, a scientometric analysis is useful, as it provides both the general and the specific overview of a certain subject, pointing out trends and lines of future research, supported by quantitative data (Cocosila *et al.*, 2011; Ramy *et al.*, 2018; Waltman *et al.*, 2011).

Nalimov and Muljenko (1971) defined “scientometrics” as a quantitative method that sheds light on the developments of science through an informational process. Scientometric studies have been published in scientific journals over the years in all areas of knowledge. However, to the best of our knowledge, there is no scientometric study involving accounting quality and enforcement of IFRS.

To proceed with the scientometric analysis, this paper relies on a structured review of the literature (Massaro *et al.*, 2016). Thus, along the same lines as Bracci *et al.* (2019) and Paoloni *et al.* (2020), we propose to answer the following research questions:

- RQ1. What is the current state of research on the relationship between IFRS enforcement and accounting quality?
- RQ2. How have the main topics related to IFRS enforcement and accounting quality evolved?
- RQ3. What are the future avenues of IFRS enforcement and accounting quality research?

Regarding RQ1, the scientometric analysis aims to understand which journals publish more papers, the most cited papers and the most prolific authors, in the same way as Akhavan *et al.* (2016), Rodríguez Bolívar *et al.* (2016) and Sáez-Martín *et al.* (2017). Although good

papers can be found in numerous sources of information, the best journals tend to publish the best papers. These were analyzed by the best reviewers, which leads to high-quality pieces of research (CABS – Chartered Association of Business Schools, 2018).

The geographical area where the research is carried out has lately gained emphasis. It is interesting to know where these analyses have already been done, to identify less explored regions. As Akhavan *et al.* (2016), this research will also identify the countries where studies on IFRS enforcement and accounting quality were focused.

In the context of this research, it is also important to know the most used research design, the type of data collection and type of data analysis. The methodology is defined as the “general logic and theoretical perspective for a research” (Bogdan and Biklen, 2007). Research methods can be described as all the data collection and analysis techniques that are used for conducting research activities to solve research problems (Kothari, 2004). Following Rodríguez Bolívar *et al.* (2016) and Sáez-Martín *et al.* (2017), the analysis in this paper seeks to identify the methodology used in the literature about IFRS enforcement and accounting quality.

To answer RQ2, the scientometric analysis seeks to analyze the main topics that have already been addressed in the previous literature, identifying which specific subjects are most frequently analyzed and the main trends over the years, in this case, relating particularly to both IFRS enforcement and accounting quality considered together. Furthermore, the structured analysis, while identifying the topics and regions that are less explored, and the methodologies less used, will also help to highlight future lines of research to be developed, to reply to RQ3.

3. Sample selection and research method

3.1 Database and sample selection

The data gathering process is assumed to be the main aspect of this research, as the collected data will serve as basis for a better understanding of the research subject – enforcement and accounting quality in the context of IFRS.

3.1.1 Database. It is generally acknowledged that there are three main academic databases: WoS, Scopus and Google Scholar (Harzing and Alakangas, 2016). The WoS, formerly known as the Web of Knowledge, is one of the most comprehensive databases in the world, possessing, as at 2018, more than 12,530 high-quality journals in the fields of natural sciences, social sciences and arts and humanities. Scopus, later introduced by Elsevier, is defined as a large database of abstracts and quotations of scientific papers, books and conferences. These databases are competing in the market. Finally, Google Scholar is also a search engine that has greater breadth in the area of international business and management (Harzing and Wal, 2008). However, Google Scholar database has been criticized for the unsuitability of scientometric analyses; although it helps in the search for very specific information, it is inflated by inadequate and out-of-date information (Falagas *et al.*, 2007; Harzing, 2014; Jacsó, 2010).

Considering this scenario, this paper uses the WoS database, as it is considered as a “gold standard” for citation analyses (Harzing and Alakangas, 2016) and it is the database most used by researchers (Amara and Landry, 2012). In particular, it focuses on the Core Collection that includes Social Science Citation Index, Science Citation Index Expanded, Conference Proceedings Citation Index Science, Arts and Humanities Citation Index and Conference Proceedings Citation Index-Social Sciences and Humanities.

3.1.2 Time period. The time lapse of this study consists of 14 consecutive years, starting in 2006 and ending in 2019. This time frame is essentially because of two aspects. The year 2006 was chosen as the starting date for the research because, under Regulation (EC) No.

1606/2002, from 2005 onwards, all listed companies in the EU member states were required to prepare their consolidated financial statements in accordance with IFRS. Consequently, since 2006, the amount of scientific production on the topic increased significantly (Anagnostopoulou, 2017). Also, in the period under review, we verified that issues related to IFRS enforcement and accounting quality deserved greater attention of researchers, probably related to the growing importance of control mechanisms (Anagnostopoulou, 2017; Daher, 2017; Duru *et al.*, 2018; Eutsler *et al.*, 2016).

3.1.3 Papers. As explained earlier, the analysis of these papers is the main purpose of this research, as it provides insight on the state of the art of a certain research matter. From this analysis, it is possible to identify trends, gaps and future research perspectives.

In the process of selecting the papers, an initial WoS search was conducted, including in the field named “topic” the appropriate keywords and time period, in the same way as Paoloni *et al.* (2020). The search was limited to the “paper title,” “abstract” and “keywords”. Afterwards, following Rodríguez Bolívar *et al.* (2016) and Sáez-Martin *et al.* (2017), one exclusion criterion was applied: all types of documents that were not set up as research papers, e.g. abstracts of conference communications, book reviews, book chapters, editorial material and proceedings papers, were excluded [1].

The search for the papers was carried out tacking these conditions into account. Concerning the accounting quality, a difficulty of finding the most appropriate terms to be searched had to be overcome, considering the aforementioned diverse understanding of the accounting quality concept. The literature has been developing different terminology to refer to the quality of accounting information. The most used terms are accounting quality, quality of accounting information, quality of financial information and quality of financial reporting. A brief search allowed us to conclude that, despite different meanings, all terms tend to be used as synonymous; therefore, the search was carried out using all of these terms (together with IFRS), so that the results focus on themes related to accounting quality in a broad sense. The terms “enforcement,” “accounting quality” and “IFRS” were used to search for papers and 47 documents were initially found. To gather all papers that are related to International Accounting Standards (IAS) and IFRS, another search was conducted using the terms “enforcement,” “accounting quality” and “IAS” [2]. As a result, one additional paper was obtained. Thus, 48 papers were found in total for “enforcement,” “accounting quality,” “IFRS” and “IAS.” As IFRS presented the most results, IFRS will be the terminology used.

3.1.4 Knowledge areas. The definition of the research area gains importance in this study. A proper definition will provide for adequate research focus. The journals, and consequently the papers, will be selected according to the topics under research. WoS presents several categories or areas of knowledge, namely, business-finance, economics, management, business, public administration, international relations, law, educational research, multidisciplinary sciences, social sciences interdisciplinary, environmental studies and others. For the 48 papers under analysis, WoS was used to check the areas with highest relative weight and that are most suitable for the research, namely, those related to accounting.

Figure 1 highlights the areas that comprise the most papers: business finance, economics, management and business. Thus, to focus the sample on the desired topics, without ignoring any area that is related to the research, a filter was considered to restrict the papers only to these areas (Paoloni *et al.*, 2020; Rodríguez Bolívar *et al.*, 2016; Sáez-Martin *et al.*, 2017).

3.1.5 Journals. Finally, the search for papers was limited to journals included in the Journal Citation Reports (JCR) list with reference to the year 2018, which was the last year available. JCR is one of the most widely used indexes for impact factor of the most

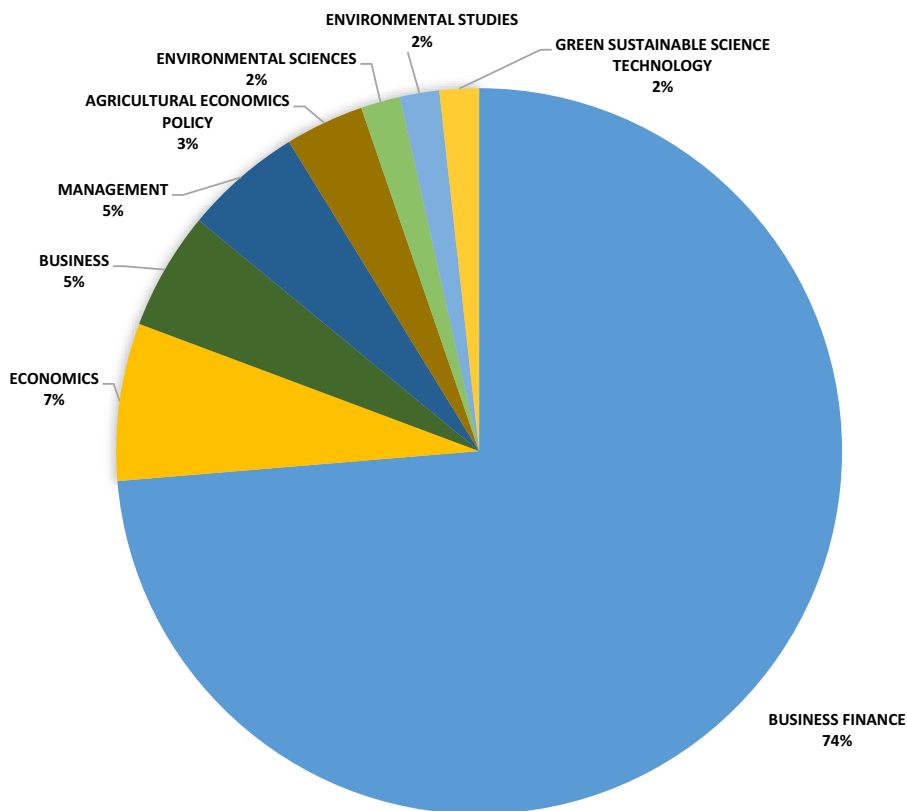


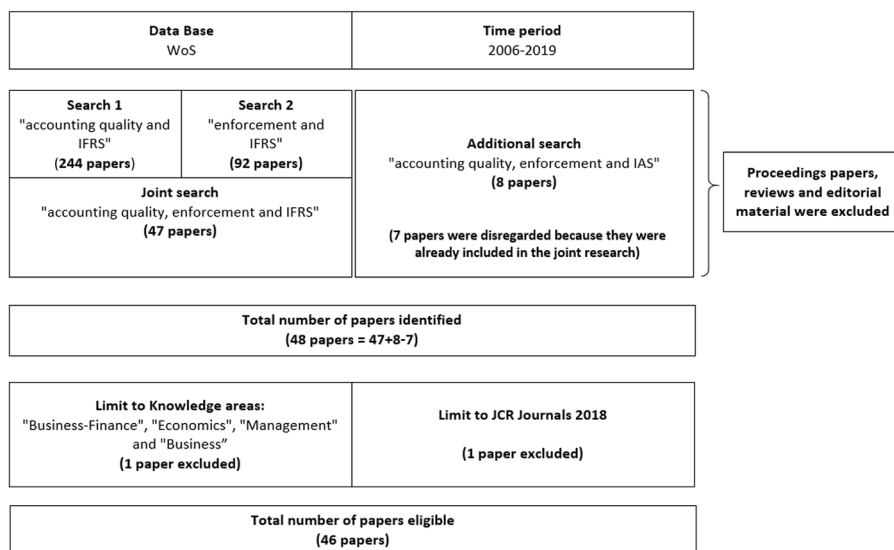
Figure 1.
WoS research areas

international and visible papers in the business area, not only among the bibliometric community, but also researchers and science policymakers (Bordons *et al.*, 2002).

3.1.6 *Final sample.* Figure 2 summarizes the data collection process presented above.

Accordingly, during the period 2006–2019, we collected 92 publications on “enforcement and IFRS” and 244 publications on “accounting quality (including synonyms) and IFRS,” corroborating the idea that the “accounting quality” theme is already widely studied in the literature. Moreover, this evidence supports previous literature pointing to a shortage of studies related to the enforcement of IFRS, e.g. Böcking *et al.* (2015), Brown *et al.* (2014), Duru *et al.* (2018), Houque (2018) and Preiato *et al.* (2015).

Then, we proceeded to select the common publications in the 2 searches, having found a total of only 47 documents. Indeed, a deeper analysis after the initial searches found that, despite several papers addressing “accounting quality and IFRS” and “enforcement and IFRS” separately, only 14% (47 out of the total 336) analyzed “accounting quality and enforcement and IFRS” together. In addition to these papers, research using IAS terminology (“enforcement,” “accounting quality” and “IAS”) has added 1 more paper to the 47 found previously. Furthermore, after this selection, two papers were excluded by applying the restrictions of the areas of knowledge (one paper was not included in the areas selected) and the journal rankings (one paper was not published in a JCR journal). Therefore, the research developed a deep analysis of the 46 papers that are finally part of the sample.



Source: Based on Paoloni *et al.* (2020)

Figure 2.
Papers selection
scheme

3.2 Research method

Following the point of view of several researchers (Akhavan *et al.*, 2016; Rodríguez Bolívar *et al.*, 2016; Paoloni *et al.*, 2020; Sáez-Martín *et al.*, 2017), the process starts with the reading of the title, summary or abstract and keywords. These three elements provide a general idea of the study, identifying its purpose, how it is achieved and its main conclusions. Where it is not possible to find the main ideas this way, the process continues with the reading of the introduction. However, to better analyze the methodology of each research, sometimes there is a need to read the whole paper. To systemize and interpret the findings of the readings, we use manual conventional (qualitative) content analysis (Hsieh and Shannon, 2005).

The articles collected in the research were organized using MS Excel (Harzing, 2014; Rodríguez Bolívar *et al.*, 2016; Sáez-Martín *et al.*, 2017). MS Excel was chosen as it is a widely used tool worldwide that allows you to select, classify, filter, introduce functions and draw many types of figures and graphs. In this research, we used MS Excel to categorize the papers under analysis by journal, date of publication, author(s), title, purpose, main conclusions, geographical area of study, research design, data collection method and data analysis methods. In addition to this categorization, considering the objectives of this research, we have classified the papers by main topic or focus of the study. This allowed us to see which have been the most frequently studied topics in the literature and the main trends observed in recent years. It also facilitated the analysis of the results and helped to provide better answers to the research questions. After the content analysis, the data were quantified by frequency analyses.

4. Main findings: description and analysis

An analysis of the chronological development of the publication of the papers shows a gradual increase in studies published since 2010 (Figure 3). Also, the average number of publications in the past 10 years is four times higher than the average of the first years. However, very few studies were published in JCR journals, especially considering the

importance the subject “enforcement of IFRS” and “accounting quality” appears to have gained in practice, in this period (IFRS Foundation, 2018).

4.1 Current state of research on the relationship between International Financial Reporting Standards enforcement and accounting quality

4.1.1 Journals that published the most. To characterize the state of the art of the research, we started by analyzing the journals that have served as a venue for most publications on the topic under study.

Table 1 displays the main findings. Accordingly, the journal that has published most papers on enforcement, accounting quality and IFRS is the *Accounting Review*. This journal publishes mainly quantitative studies in any accounting related subject. It is the oldest academic journal, with 4.562 impact factor, published by the American Accounting Association [3]. During the period under review, five papers on those joint topics were published in this journal, accounting for 11% of all publications. They all consist of empirical analyses conducted in different countries.

Then comes the *Accounting and Business Research*, the *Australian Accounting Review*, *Journal of Business Finance Accounting* and *Review of Accounting Studies* with four publications each. In the 2 journals that are not European (*Accounting Review* and *Australian Accounting Review*), 9 papers were published, whereas 12 papers were published in 3 European journals (*Accounting and Business Research*, *Journal of Business Finance Accounting* and *Review of Accounting Studies*). However, most studies were multi-country, with a major focus on European countries.

Going deeper into the content of the four papers published in the *Accounting and Business Research*, two are literature reviews on the adoption of IFRS (the first published in 2011 and the following in 2016), and the other two papers are empirical studies. All papers published in the *Australian Accounting Review* are empirical studies. The *Journal of Business Finance Accounting* has also only published empirical studies. It should be highlighted that one of them presents the most recent measure of enforcement – an “Audit and Enforcement Proxy” (Brown et al., 2014). Given that several authors consider that the previous measures of enforcement, based on countries’ legal system, are not real measures of IFRS enforcement (Moscariello et al., 2014), this paper brings a significant addition to the field.

The *Review of Accounting Studies* published a literature review in 2016 about the effects of IFRS adoption, and three empirical studies. The *ABACUS – A Journal of Accounting Finance and Business Studies* (impact factor 2.200) and the *Accounting Horizons* (impact factor 1.377) provided three publications, all empirical studies.

Accounting and Finance, *Custos e Agronegocio On line*, *Journal of Accounting and Economics* and *Journal of Accounting Research* only published two papers each. All papers published by the journal *Custos e Agronegocio On line* address issues related to accounting standards of agriculture.

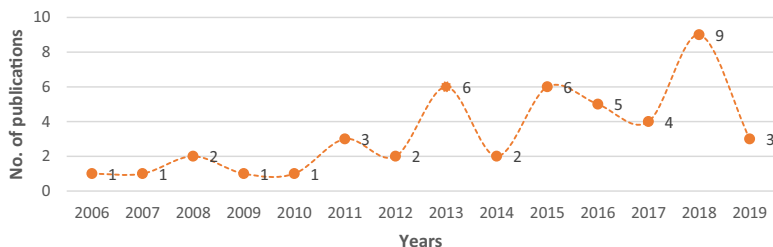


Figure 3.
Chronological evolution of the papers published

Publication source	Impact factor 2018	Five-year impact factor	Quartiles	No. of publications	(%)
<i>Accounting Review</i>	4.562	5.464	Q1	5	11
<i>Accounting and Business Research</i>	2.250	2.653	Q2	4	9
<i>Australian Accounting Review</i>	1.443	1.758	Q3	4	9
<i>Journal of Business Finance Accounting</i>	1.562	1.968	Q2	4	9
<i>Review of Accounting Studies</i>	2.108	3.348	Q2	4	9
<i>Abacus: A Journal of Accounting</i>					
<i>Finance and Business Studies</i>	2.200	2.161	Q2	3	7
<i>Accounting Horizons</i>	1.377	2.642	Q3	3	7
<i>Accounting and Finance</i>	1.481	1.829	Q2	2	4
<i>Custos e Agronegocio On Line</i>	0.390	0.426	Q4	2	4
<i>Journal of Accounting Economics</i>	3.753	7.058	Q1	2	4
<i>Journal of Accounting Research</i>	4.891	6.056	Q1	2	4
<i>Australian Journal of Management</i>	1.183	1.600	Q4	1	2
<i>Contemporary Accounting Research</i>	2.261	3.711	Q1	1	2
<i>European Accounting Review</i>	2.322	3.173	Q1	1	2
<i>Finance Research Letters</i>	1.709	1.467	Q2	1	2
<i>International Review of Financial Analysis</i>	1.693	2.088	Q2	1	2
<i>Journal of International Financial Management Accounting</i>	1.478	2.265	Q2	1	2
<i>Journal of International Money and Finance</i>	1.780	2.448	Q2	1	2
<i>Management International Review</i>	2.689	3.164	Q2	1	2
<i>Research in International Business and Finance</i>	1.467		Q3	1	2
<i>Review of Managerial Science</i>	2.393	2.015	Q2	1	2
<i>Revista de Contabilidad Spanish Accounting Review</i>	1.250		Q3	1	2
				46	

Table 1.
Distribution of
papers by journals

4.1.2 *Most published authors.* Looking at the authors, Figure 4 shows the authors who published more than one paper (as lead author or co-author) on the subject under study during the time concerned. The authors Philip Brown and Ann Tarca co-authored three papers. Their first joint paper related to the subject under study was published in 2007.

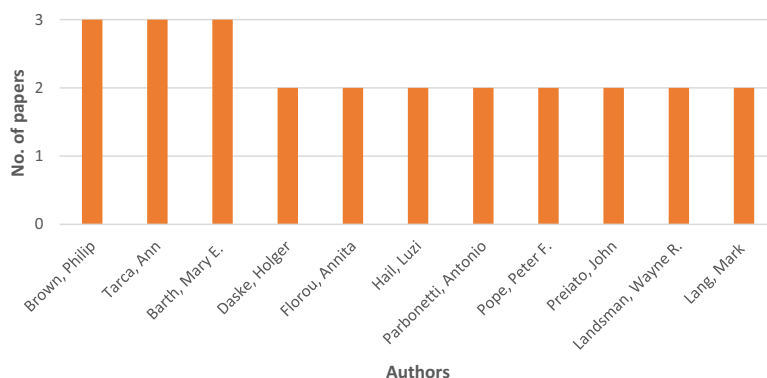


Figure 4.
Authors who most
published

Later, those authors joined John Preiato to create the most recent measure of enforcement in 2014 – the aforementioned “Audit and Enforcement Proxy.” These three authors continued publishing in 2015 “A Comparison of Between-Country Measures of Legal Setting and Enforcement of Accounting Standards.” Other authors presented in the figure published two articles each, in some cases co-authoring, e.g. Annita Florou and Peter F. Pope published “Mandatory IFRS Adoption and Institutional Investment Decisions” in 2012. Also, the trio Mary Barth, Wayne Landsman and Mark Lang wrote two papers. One of them is the most cited, which we will refer later. The other addressed whether IFRS are comparable to US Generally Accepted Accounting Principles.

4.1.3 Most cited papers. Regarding the most cited papers, we have considered the average number of citations per year (CPY). A general analysis shows that the majority of the 46 papers are relatively recent, as most of them were published in the past five years of analysis (2014–2019) (see [Figure 3](#)). For this reason, the three most cited papers (CPY) date back to the first years of the analysis. These papers study the consequences of adopting IFRS, documenting some of the impacts of the standards on the countries’ economies (considering that IFRS are high quality standards, but compliance with these standards depends on the existence of enforcement). Since then, these articles have been cited regularly in subsequent studies.

Analyzing [Table 2](#), the paper “International accounting standards and accounting quality” has the highest CPY (62.08) and is also the most cited in the period of analysis (807 citations). It is the only paper that refers to IAS, so this is the one that appears in the search “enforcement,” “accounting quality” and “IAS.” Using a sample of 21 countries, the authors evaluated whether the implementation of IAS was associated with a higher accounting quality, using the metrics earnings management, timely loss recognition and value relevance. The results helped to conclude that the entities that implemented IAS showed fewer earnings management, more timely loss recognition and more value relevance of accounting amounts than the companies that applied non-US domestic standards.

Published in 2008, “Mandatory IFRS Reporting around the World: Early Evidence on the Economic Consequences” is the second most cited paper (665 citations in total in the period and quoted approximately 51 times a year). It is an empirical paper, which aims to look into the global economic consequences of mandatory IFRS reporting. It concluded that capital-market benefits occur only in countries where firms have incentives to be transparent and where legal enforcement is strong, emphasizing the importance of country enforcement regimes for the quality of financial reporting.

The third most cited paper (about 24 CPY) is “Mandatory IFRS reporting and changes in enforcement.” This paper from 2013 sought to assay whether observed liquidity benefits following mandatory IFRS adoption are attributable to the change in accounting standards, changes in enforcement made concurrent with IFRS adoption or a combination of the two. The results obtained allowed the authors to conclude that the concurrent changes in enforcement play an important, if not a dominant, role for the documented liquidity benefits around mandatory IFRS adoption.

The 2010 paper “Market Reaction to the Adoption of IFRS in Europe” is the fourth most cited, with an average of nearly 24 CPY. Its purpose was to assess market reactions related to the adoption of IFRS. It concluded that companies with lower quality in pre-adoption information and companies with high asymmetry in pre-adoption information reacted positively; companies domiciled in code law countries reacted negatively, consistent with investors’ concerns over enforcement of IFRS in those countries.

4.1.4 Most studied regions of the world. [Figure 5](#) shows the regions of the world that have received more attention from researchers in the topics under analysis. For this it was

Year	Authors	Article title	Average per year (CPY)	Total citations
2008	Barth, Mary E.; Landsman, Wayne R.; Lang, Mark H.	International accounting standards and accounting quality	62.08	807
2008	Daske, Holger; Hail, Luzi; Leuz, Christian; Verdi, Rodrigo	Mandatory IFRS reporting around the world: early evidence on the economic consequences	51.15	665
2013	Christensen, Hans B.; Hail, Luzi; Leuz, Christian	Mandatory IFRS reporting and changes in enforcement	24.25	194
2010	Armstrong, Christopher S.; Barth, Mary E.; Jagolinzer, Alan D.; Riedl, Edward J.	Market reaction to the adoption of IFRS in Europe	23.82	262
2013	Ahmed, Anwer S.; Neel, Michael; Wang, Dechun	Does mandatory adoption of IFRS improve accounting quality? Preliminary evidence	22.13	177
2012	Barth, Mary E.; Landsman, Wayne R.; Lang, Mark; Williams, Christopher	Are IFRS-based and US GAAP-based accounting amounts comparable?	20.78	187
2014	Brown, Philip; Preiato, John; Tarca, Ann	Measuring country differences in enforcement of accounting standards: an audit and enforcement proxy	14.14	99
2016	De George, Emmanuel T.; Li, Xi; Shivakumar, Lakshmanan	A review of the IFRS adoption literature	11	55
2011	Pope, Peter F.; McLeay, Stuart J.	The European IFRS experiment: objectives, research challenges and some early evidence	8.7	87
2012	Florou, Annita; Pope, Peter F.	Mandatory IFRS adoption and institutional investment decisions	8.44	76
2006	Daske, Holger; Gebhardt, Guenther	International Financial Reporting Standards and experts' perceptions of disclosure quality	7.8	117
2015	Andre, Paul; Filip, Andrei; Paugam, Luc	The effect of mandatory IFRS adoption on conditional conservatism in Europe	7.5	45
2015	Cascino, Stefano; Gassen, Joachim	What drives the comparability effect of mandatory IFRS adoption?	7.17	43
2011	Chalmers, Keryn; Clinch, Greg; Godfrey, Jayne M.	Changes in value relevance of accounting information upon IFRS adoption: evidence from Australia	5.5	55
2015	Florou, Annita; Kosi, Urska	Does mandatory IFRS adoption facilitate debt financing?	5.33	32

Table 2.
List of the most cited papers

important to first identify whether the studies focused on multi or single-country analysis, and only afterwards to identify which countries are more often study objects. Most of the studies conducted a multi-country analysis (72%), comparing several countries. Research has aimed particularly at comparing two distinct realities: code law vs common law systems. Understanding what is happening regarding IFRS enforcement and the consequences in accounting quality in different regions/countries may help to identify different practices as well as to know how different contexts may affect enforcement practices and mechanisms overall.

The countries classified as common law are characterized by higher accounting quality (Ball, 2006; Ball *et al.*, 2000; Filip *et al.*, 2015; Tawiah and Boolaky, 2019). As such, studies

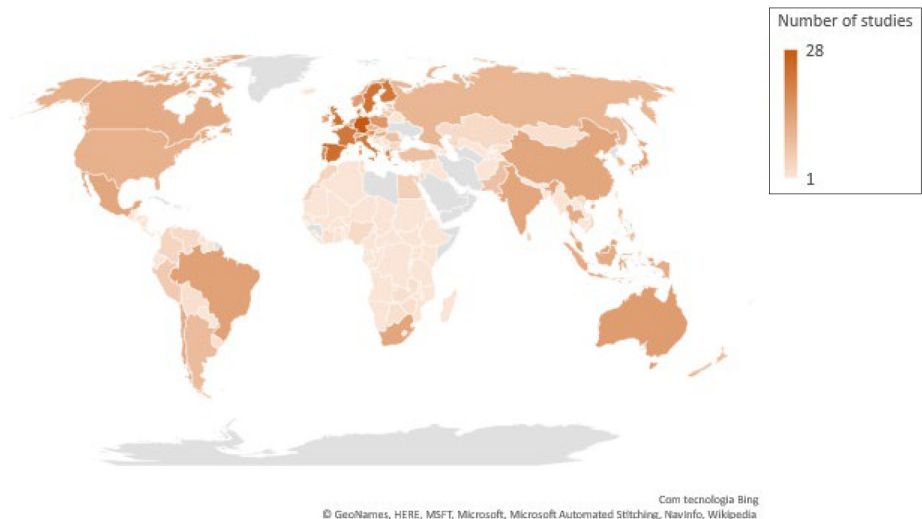


Figure 5.
Studies per country

analyzed several countries with distinct characteristics. Most studies focused on the countries of Europe. EC Regulation 1606/2002 laid down that, from 2005, all listed companies would have to adopt the IAS/IFRS. From that year onwards, European business accounting systems suffered major changes. Member countries had to adapt to the new rules, consequently having to implement enforcement mechanisms to control this implementation. The following years were marked by studies that assessed the effects of the adoption of IFRS on the accounting quality (Isaboke and Chen, 2019; De George *et al.*, 2016; Tokar, 2016). Among these studies with European focus, many authors considered that the adoption of IFRS *per se* is not enough to guarantee accounting quality (Barth *et al.*, 2008; Cho *et al.*, 2015; Daske *et al.*, 2013; Hail *et al.*, 2014; Horton *et al.*, 2013; Landsman *et al.*, 2012). Subsequently, more recently, enforcement has been considered an essential factor for achieving such quality (Alexandre and Clavier, 2017; Demmer *et al.*, 2019; Gao and Sidhu, 2018; Gu *et al.*, 2019; Houqe, 2018; Oz and Yelkenci, 2018; Wijayana and Gray, 2019).

Looking at Figure 5, the countries which earned most attention were Germany (in 28 papers), Spain and UK (in 24 papers), Sweden (in 23 papers), Finland, France and Italy (in 22 papers), Belgium (in 21 papers) and Denmark, Greece and Portugal (in 20 papers).

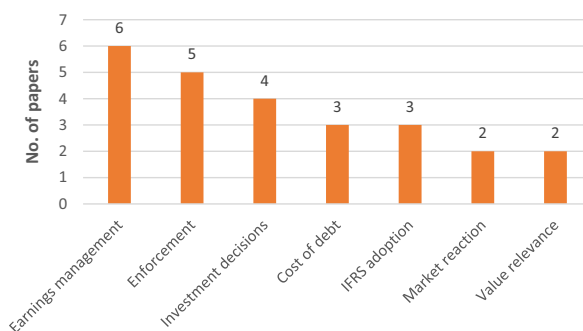
4.1.5 Most used methodology. Table 3 displays the most used research design, the type of data collection and type of data analysis.

First, it was important to understand the research design used in the studies under analysis and whether the studies were empirical or non-empirical. The analysis showed a clear preference for the use of empirical research methods (93%). The remaining 7% (three papers) refer to non-empirical studies, representing literature reviews on the adoption of IFRS (as evidenced in the topics under analysis, see Figure 6).

Regarding empirical studies, quantitative techniques are preferentially used (91%), supporting what had been observed by Ryan *et al.* (2002), that quantitative studies prevail in empirical accounting and finance research. Qualitative analysis is considered more difficult and it is adopted by researchers because they do not trust numerical data or because they do not like working with numbers (Smith, 2012). The most frequent data analysis used in quantitative studies is multivariate analysis (93%), whereby 88% of the papers carried out

Table 3.
Research design,
data analysis and
data collection

	Research design and data analysis						Data collection methods			
Non-empirical studies:	3	7%	<i>Qualitative methodology studies:</i>	1	2%	<i>Quantitative methodology studies:</i>	42	91%	Secondary data (databases, websites, archival sources and international reports)	93%
Literature review	100%		Content analysis	100%		Univariate analysis		7%	Primary data: surveys conducted to analyze the objective of research (by email, Web, online or telephone)	7%
						Multivariate analysis:		93%		
						✓ Cluster analysis		12%		
						✓ Regression analysis		88%		

**Figure 6.**
Categorization of
papers by topics

regression analyses and only 12% cluster analyses. On the other hand, the qualitative content analysis is adopted in only one paper.

The *RQI* sought to verify the form of data collection used as well. Among the different methods of data collection, questionnaires, interviews, focus groups and the use of secondary data stand out (Tashakkori *et al.*, 2003). Data can be collected through surveys, questionnaires or interviews being the methods most frequently used (Smith, 2012). While the interview assumes the meeting and conversation between two people on a certain subject, the questionnaire can be sent by post, email or internet. The focus group is a set of people with similar interests or characteristics, who discuss a particular subject (Marvasti, 2004). Secondary data might be defined as the set of information already collected and treated by other researchers or sources.

The analysis reveals that, as displayed in Table 3, for the great majority of papers (93%), data were obtained from secondary sources, where they were previously treated by third parties, either databases or information from other papers. There is one paper that uses both data collection methods and seeks to understand the enforcement of the IFRS. Other methods of data collection, namely, surveys, although not so widely used, are most popular among enforcement researchers.

4.2 Evolution of the main topics studied

Figure 6 helps us to start answering the RQ2 on the main topics addressed by researchers. Only those which are addressed in more than one paper are presented.

The 46 papers that were obtained from the search using “enforcement, accounting quality, IFRS” were categorized according to a specific (main) topic addressed. The topics were obtained by applying manual content analysis (Hsieh and Shannon, 2005) to the abstracts of individual papers, focusing in particular on the objective and conclusions.

Six papers addressed “earnings management.” These studies aimed to study the behavior of “earnings management” before and after the adoption of IFRS, briefly mentioning the enforcement of IFRS. Three of them included only one country, and the other three performed analyses including different countries.

As referred, earnings management is one of three main dimensions commonly used to measure accounting quality (Paananen and Lin, 2009; Dayanandan *et al.*, 2016; Eliwa *et al.*, 2019; Liu *et al.*, 2011; Muttakin *et al.*, 2020; Song, 2016). Earnings management has been described as a change in financial reporting (Ronen and Yaari, 2008) to mislead stakeholders about the entity’s economic performance or contractual results that come from accounting figures (Healy and Wahlen, 1999). In the literature, several proxies have been used to capture earnings management, such as income smoothing (Ahmed *et al.*, 2013; Barth *et al.*, 2008; Christensen *et al.*, 2015; Hellman, 2011; Uyar, 2013; Zeghal *et al.*, 2012), accruals quality (Chen *et al.*, 2010; Cho *et al.*, 2015; François and Gary, 2011; Kabir and Laswad, 2015; Martínez *et al.*, 2014; Zeghal *et al.*, 2012) and discretionary accruals (Bouchareb *et al.*, 2014; Cang *et al.*, 2014; Chen *et al.*, 2010; Hail *et al.*, 2010; Robu *et al.*, 2016; Uyar, 2013; Zeghal *et al.*, 2012). Overall, researchers have demonstrated that high levels of earnings management imply low accounting quality (Barth *et al.*, 2008).

The second most discussed topic is “enforcement.” However, out of the 46 papers selected for the period under analysis, only 11% (5) focus on the study of IFRS enforcement, which corroborates the opinion of several authors who claim that studies on enforcement mechanisms of the various countries are scarce (Böcking *et al.*, 2015; Guerreiro *et al.*, 2020; Mantzari and Georgiou, 2019; de Moura and Gupta, 2019; Preiato *et al.*, 2015).

From these five papers, one proposed a new metric for enforcement, already mentioned, the “Audit and Enforcement Proxy,” and another compared this with other metrics previously created. Brown *et al.* (2014) developed a proxy to identify differences between countries in auditing and enforcing accounting standards. Data were collected from the International Federation of Accountants, the World Bank and the securities commissions in 51 countries for the years 2002, 2005 and 2008. The measure created includes the audit quality index for public companies (AUDIT), the degree of accounting control activities carried out by independent supervisory bodies (ENFORCE) and the sum of the two measures (AETOTAL) (Brown *et al.*, 2014). The first index (AUDIT) comprises nine items related to the audit function: licensed auditors, more extensive licensing requirements, ongoing professional development, quality assurance program in place, set up of an audit oversight body, the possibility of the oversight body to apply sanctions, audit rotation required, audit fee level and the level of litigation risk for auditors. Regarding the measure of enforcement, developed by independent supervisory bodies (ENFORCE), six items have been identified: the security market regulator or other body that monitors financial reporting; the body that has the power to set accounting and auditing standards; the body that reviews financial statements; the body that provides a report about its review of financial statements; the body that takes action to enforce financial statements; and the level of resourcing based on the number of employees by the securities market regulator. The authors conclude that the measure developed has additional explanatory power in

determining the level of economic activity, financial transparency and earnings manipulation in each country, when compared with the measures of legal systems. Recent studies have adopted this measure to evaluate the enforcement of IFRS (André *et al.*, 2015; Bonetti *et al.*, 2016; Duru *et al.*, 2018; Kabir and Laswad, 2015).

The remaining three papers reviewed the enforcement system of one specific country. Brown and Tarca (2007) studied the practices of two different enforcement bodies: the UK Financial Reporting Review Panel and the Australian Securities and Investments Commission. In Germany, there is the two-tier enforcement system: the Deutsche Prüfstelle für Rechnungslegung (German Financial Reporting Enforcement Panel) and the German securities market regulator BaFin (Bundesanstalt für Finanzdienstleistungen – Aufsicht) studied by Böcking *et al.* (2015). More recently, a study was published to assess the implications of the enforcement of accounting standards in Nigeria (Abdul-Baki and Haniffa, 2019). Only the latter analyzes the impact of enforcement on the quality of financial information disclosed by entities. This means that the first study analyzing the enforcement of IFRS and accounting quality was carried out in 2019 only.

Of the remaining (39) papers, 4 focused on which countries have more reliable accounting systems to support foreign investment. These studies assayed the best country to invest in. The other (35) papers mostly analyzed the accounting quality of several countries, highlighting the importance of control mechanisms for greater compliance with IFRS.

As to how these topics have evolved, Figure 7 highlights that the only topic that follows an upward trend in recent years of analysis is enforcement of the IFRS. This analysis allows us to state that this topic may become a publishing trend in the next few years, corroborating the opinions stated above. Additionally, topics related to earnings management, in other words, research on accounting quality, which were widely studied in literature in the past, are consequently less published nowadays.

4.3 Future avenues of research on International Financial Reporting Standards enforcement and accounting quality

The last research question may be addressed by analyzing the findings stemming from the previous questions. Our findings suggest that the matters related to accounting quality are vastly studied in the literature in comparison with the topic on IFRS enforcement. When crossing the two searches, we found that the number of papers is relatively low for a 14-year analysis period, which flags a shortage of studies. The literature recognizes further gaps, both in how practitioners see the changes in IFRS implementation (Mantzari and Georgiou, 2019)

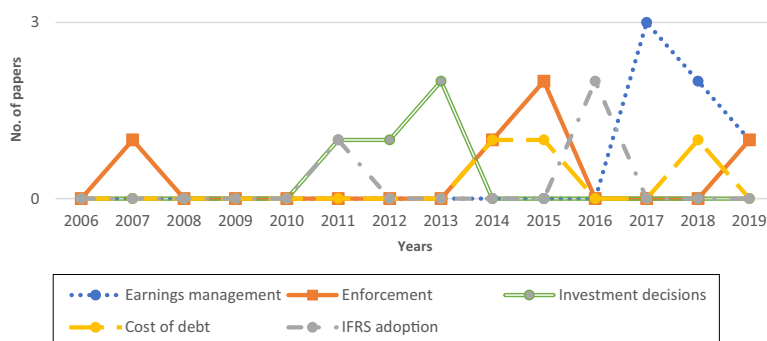


Figure 7.
Chronological
evolution of the main
topics

and in the understanding of how enforcement interacts with the assessment of the impact of IFRS on accounting quality (Gao and Sidhu, 2018). Several authors have additionally highlighted the scarcity of studies on enforcement mechanisms in the various countries (Böcking *et al.*, 2015; Guerreiro *et al.*, 2020; Mantzari and Georgiou, 2019; de Moura and Gupta, 2019; Preiato *et al.*, 2015), perhaps because of the acknowledged difficulty in analyzing real practices, as these depend on the internal characteristics of the country (Gu *et al.*, 2019).

During the research in this paper, we have found that, in reality, there is only one study, conducted in 2019, that analyzes the impact of IFRS enforcement on the quality of financial information disclosed by entities, studying the reality of Nigeria. This result allows us to alert researchers to several issues. The first is related to the fact that there are no such studies in Europe (region where the most studies in these areas are published), which represents a research opportunity, especially as there are two legal contexts in Europe (code law vs common law countries) and it would be interesting to understand the differences between them. Finally, the analysis also highlights the fact that most research carries out quantitative analyses, being the qualitative perspective an opportunity to explore methodologies that have never been used. The only (qualitative) content analysis that was found in the research is a study of the enforcement in Australia, which may raise awareness of the fact that the enforcement in countries can only be studied through qualitative approaches.

5. Conclusion and implications

In the context of IFRS, this paper sought mostly to carry out a scientometric analysis of the literature on the relationship between IFRS enforcement and accounting quality, with a view to identifying, synthesizing and evaluating the current state of research, to provide a critical overview of published trends in this field and to identify future areas of interest. As underlined, this type of analysis allows us to assess the state of development of a certain scientific subject, encouraging the debate between researchers. In the accounting setting, this paper presents a preliminary study of this kind, therefore making an interesting contribution to identifying research trends and gaps in research about IFRS enforcement and accounting quality.

Considering only papers in journals in the JCR ranking, the results showed that *Accounting Review*, an American journal, has published the most about accounting quality, enforcement and IFRS. Still, European countries have earned the greatest attention of researchers, particularly Germany, Spain, UK, France, Italy, Sweden, Finland, Belgium, Denmark, Greece and Portugal.

The categorization of the topics evidenced that only one paper published in 2019 was used to assess the impact of IFRS enforcement on the accounting quality. This finding allows us to observe that there is a gap in the literature concerning studies that analyze IFRS enforcement by countries and the impact thereof on the quality of financial information disclosed by entities.

This study also shows that most studies have relied on quantitative analyses using multivariate regression analysis. However, to study the level of IFRS enforcement (and its effectiveness), it is important to analyze the practices of enforcers. Qualitative research aims to understand, interpret and explain in depth social practices (Mason, 2002; Vieira *et al.*, 2009). In particular, the depth and detail analyses intended in the study of enforcement of accounting standards are only achieved with such approaches. Consequently, in our opinion, qualitative studies have the potential to provide a more detailed picture of the practices being adopted by enforcers. Subsequently, their impact on accounting quality can be assessed using quantitative methodologies. Accordingly, the combination of a mixed

methodology appears to be the most appropriate way to study enforcement practices and their relationship with the quality of accounting and financial information reported.

This analysis also underscores that most of the data for the research is obtained through secondary sources. The use of secondary data may raise problems for researchers. The problems relate to the scope of data collection which differs from study to study, the ability of the researcher to select only the relevant information and the need to ensure that the data meet quality requirements for research and methodological criteria of good scientific practice (Hox and Boeije, 2005). Data should be collected, preferably, directly by the researcher to assess the actual situation in each country.

In summary, the analysis evidenced that enforcement in the context of IFRS and its impact on accounting quality is a topic that is still in the early stages of research, and must be looked into further. This corroborates the opinion of researchers who argue that few studies actually assess the enforcement practices of countries (Böcking *et al.*, 2015; Guerreiro *et al.*, 2020; Kleinman *et al.*, 2019; Mantzari and Georgiou, 2019; de Moura and Gupta, 2019; Preiato *et al.*, 2015; Silva and Rodrigues, 2017).

A total of 15 years have elapsed since the mandatory adoption of IFRS in the EU, recommending the implementation of enforcement mechanisms to ensure that accounting standards are applied correctly. However, this neither means that these mechanisms have been implemented, nor, if implemented, that they are working properly [4]. Therefore, nowadays research should no longer be concerned with IFRS implementation in the different countries, but rather with how IFRS enforcement mechanisms are performing and the consequences of this performance. For this, assessment analysis about enforcement mechanisms is important.

This paper identifies a clear gap in research – the shortage of studies analyzing enforcement practices of each country and, in turn, the impact these practices may have on the accounting quality. This gap calls for further research on the effectiveness of the IFRS-related enforcement mechanisms implemented by each country, namely, to understand the existing bodies (enforcers), in particular those which in the country are responsible for enforcing IFRS and the procedures that have been adopted to exercise such control, and to analyze the impact of enforcement practices on accounting quality and on IFRS implementation.

Despite the above contributions, this research presents some limitations. The fact that only JCR listed journals were used may have led to disregard important papers on the topic under analysis that, even if not having high impact factor, may nevertheless have brought important additions to research. Another limitation concerns the use of the term “accounting quality” in a broad sense, which may have prevented more focus on the quality of financial reporting.

Notes

1. These were excluded because the complete documents were not available, but only the summaries, not providing sufficient data for the analysis.
2. Standards issued by the International Accounting Standards Board before 2001 were called IAS. Thus, by including this term, we make sure that all papers about IAS are included in our study.
3. <http://aaajournals.org/doi/full/10.2308/1558-7967-90.6.2639>
4. Although the European Securities and Markets Authority has been publishing activity reports on the European enforcers since 2014 (ESMA, 2020), only since 2018 has a detailed analysis of the enforcement actions by country been carried out.

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