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Compliance with IFRS mandatory disclosure requirements: a structured literature review

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Abstract

This paper reviews the literature on compliance with IFRS mandatory disclosure requirements for the post-2005 period. We adopt a structured literature review methodology and address three key questions: how is research on compliance with IFRS mandatory disclosure requirements developing; what is the focus and critique of the literature on compliance with IFRS mandatory disclosure requirements; and lastly, what is the future for research on compliance with IFRS mandatory disclosure requirements? We find that studies mostly draw samples from one country and mainly focus on small markets or less developed economies. Articles which use sample firms from more than one country tend to examine primarily large firms from EU countries. We identify accounting standards which are commonly associated with low compliance and discuss factors affecting compliance. We note that only a limited number of studies examine the market consequences of compliance. Although we identify multiple scoring methods used in the literature, most studies employ a single method in isolation, despite the shortcomings of this approach. Only a small proportion of studies considers materiality of the disclosures investigated or performs validity and reliability tests. Finally, we discuss policy implications arising from this stream of research and suggest avenues for future research.

Keywords: Accounting disclosure, mandatory disclosures, compliance, IFRS, structured literature review.

JEL Classifications: M40, M41.

1 Introduction

More than 140 jurisdictions now require or permit listed companies to follow International Financial Reporting Standards (IFRS). Some countries, instead of implementing IFRS, have converged their national accounting standards to IFRS equivalent standards (e.g., China and Australia). This widespread adoption has provided academic research with a fruitful field, and a vast literature on IFRS adoption has emerged. Several recent studies have summarised the evidence arising from this literature (Ahmed, Chalmers, & Khlif, 2013; Ball, 2016; Brüggemann, Hitz, & Sellhorn, 2013; De George, Li, & Shivakumar, 2016; Pope & McLeay, 2011). The key conclusions of these review papers suggest positive effects arising from the implementation of IFRS in countries where enforcement is strong. However, even though 'the extent of compliance with accounting standards is as important as the standards themselves' (Hodgdon, Tondkar, Harless, & Adhikari, 2008, p. 1), these papers only tangentially refer to studies on compliance with IFRS mandatory disclosure requirements.[1] Effectively, this strand of the literature is virtually omitted, in spite of its importance. By contrast, this topic has been covered for the period prior to the widespread adoption of IFRS in 2005 (Ali, 2005; Ali, Ahmed, & Henry, 2004; Samaha, Khlif, & Dahawy 2016; Tsalavoutas, 2011).

We address this gap in the post-2005 IFRS disclosure literature by providing a structured literature review (SLR). Our method draws on an analytical framework with 11 classification criteria, against which we summarise and review 70 studies. We address the following key questions (as adapted from Dumay, Bernardi, Guthrie, & Demartini (2016) and from Massaro, Dumay, & Guthrie (2016)): 1. How is research on compliance with IFRS mandatory disclosure requirements developing? 2. What is the focus and critique of the literature on compliance with IFRS mandatory disclosure requirements? 3. What is the future for research on compliance

[1] For example, De George et al. (2016) and Brüggemann et al. (2013) each make reference only to two such compliance studies, and Ball (2016) cites only one. Pope and McLeay (2011) cite three reports/surveys by professional bodies.

with IFRS mandatory disclosure requirements?[2] For the purposes of this review, when we refer to IFRS, we also include IFRS equivalent standards.

The paper is, thus, part of a relatively recent tradition of structured literature reviews such as, for example, Guthrie, Ricceri, and Dumay (2012) on intellectual capital; Dumay, Guthrie, and Puntillo (2015) on intellectual capital in the public sector; Dumay et al. (2016) on integrated reporting; and Cuozzo, Dumay, Palmaccio, and Lombardi (2017) on intellectual capital disclosure.

We contribute to this tradition the first study to systematically review the literature on mandatory IFRS disclosures for the post-2005 period, and by discussing the findings, limitations, and gaps in this literature. Specifically, we identify the extent of compliance (or non-compliance) with IFRS mandatory disclosure requirements in different settings; we respond to recent calls for research that 'investigates *why* non-compliance occurs' (Tarca, 2019, p.13) by examining the factors which affect the level of compliance; we identify IFRS topics that remain under-examined; we highlight key research design issues in the extant literature; and we suggest which avenues for future research would be most fruitful.[3]

Finally, we contribute to policy-relevant research.[4] Standard setters are currently debating the usefulness of mandatory disclosures. For example, in response to feedback received on the Discussion Paper on the 'Principles of Disclosures' (IFRS Foundation, 2017), the International Accounting Standards Board (IASB) has added a targeted Standards-level review of disclosure requirements to its agenda. As a first step, the Board is, inter alia, 'developing guidance for the

[2] This study excludes literature on voluntary disclosure because detailed reviews already exist (e.g., Beyer, Cohen, Lys, & Walther, 2010; Core, 2001; Healy & Palepu, 2001) and because the costs and benefits of complying (or not) with mandatory disclosure requirements differ from those relating to voluntary disclosures (see detailed discussion in Abdullah, Evans, Fraser, & Tsalavoutas, 2015).
[3] Comprehensive literature reviews assist researchers in assessing the current state of knowledge in a specific field, and in identifying under-researched areas, gaps in existing knowledge and potential contributions to knowledge (Humphrey & Lee, 2004, p.1; Owen, 2004, p.33).
[4] Examples of an increased interest by practitioners and regulators on the issue of compliance with IFRS include the following: ICAEW (2007), ESMA (2013) and CESR (2009), Tarca (2019)).

Board itself to use when developing and drafting disclosure requirements.'[5] By identifying and summarising the key findings of prior research, the present paper can assist the Board by drawing attention to the topics that need most attention.

The remainder of this paper is organised as follows. Section 2 describes the SLR methodology adopted. Section 3 provides our core analysis of the papers reviewed. In Section 4, we provide a summary of our key findings and the answers to our three research questions, and make suggestions for future research. We also outline the policy implications that arise from our findings. Section 5 concludes the paper.

2 Methodology: structured literature review (SLR)

As a starting point, we established that no comprehensive literature review on post-2005 compliance with IFRS disclosure requirements existed when data collection commenced. Some papers provide or include such reviews, but relate to the pre-2005 era (e.g. Ali, 2005; Ali et al. 2004; Samaha et al. 2016;[6] Tsalavoutas, 2011). While a small number of papers address compliance for the post-2005 period, they have a much narrower focus than the present review. For example, Carvalho, Rodrigues, and Ferreira (2016) cover IFRS disclosure studies relating to goodwill and business combinations only; De George et al. (2016) discuss only two studies on compliance with IFRS mandatory disclosure requirements; Pope and McLeay (2011) restrict their review of EU IFRS implementation research to the work of the INTACCT Research network and cite (but do not review) three reports/surveys by professional bodies; Ball (2016) cites only one study on compliance with IFRS disclosure requirements; and

[5] https://www.ifrs.org/projects/work-plan/standards-level-review-of-disclosures/
[6] This paper presents a short meta-analysis of 17 articles, 15 of which relate to the pre-2005 period.

Brüggemann et al. (2013) cover two studies.[7] In summary, a comprehensive, critical and structured review of research examining compliance with IFRS mandatory disclosure requirements for the post-2005 era is lacking.

We adopt an SLR method to address this gap. This requires ten sequential steps (Dumay et al., 2016; Massaro et al., 2016), which we present in Figure 1 and discuss in detail below.

FIGURE 1 ABOUT HERE

2.1 The literature review protocol

As a first step, we developed and outlined a literature review protocol that guided us in developing the SLR. We agreed on the review objectives, design choices as well as choices with regard to data analysis. This ensured a standardized approach, which improves the reliability of the process and, in effect, of our findings (Yin, 2014), because the process can be replicated (Massaro et al., 2016).

2.2 Research questions

According to Massaro et al. (2016) an SLR needs to address at least three key themes: insight, critique, and transformative redefinitions. For the purpose of the present paper, we reflect on these in three questions (adapted from Massaro et al. (2016)), which are explicitly stated in the introduction and in Figure 1. In addition to these contributions to the academic literature, we also draw on and discuss practice and policy relevant insights. We thus contribute to current

[7] A recent study by Hellman, Carenys and Gutierrez (2018) contains a review of studies which *inter alia* examine compliance with accounting standard requirements (although its primary purpose is to form the basis of a response letter to the IASB discussion paper on disclosures). However, a large proportion of the papers included covers periods prior to 2005. This had already been reviewed by Ali (2005), Ali et al. (2004), Samaha et al. (2016) and Tsalavoutas (2011). Further, Hellman et al. (2018) limit the selection of papers they review (on the basis of a single journal ranking list). Finally, several of the studies reviewed by Hellman et al. (2018) do not capture or report compliance scores. Our study identifies and reviews more than 40 papers that are not covered by Hellman et al. (2018), 16 of which were published after 2017 (the cut-off point for Hellman et al.'s data collection).

debates on the issue of mandatory disclosure requirements in accounting standards (see introduction and section 4.2).

2.3 The literature search

The third step in the SLR relates to the selection of the data (i.e., studies) for review. We identified this in a process involving seven stages, which are summarised in Figure 2 and discussed below.

FIGURE 2 ABOUT HERE

Given that our primary objective was to provide a review of literature on compliance with IFRS (or IFRS equivalent) mandatory disclosure requirements for accounting periods from 2005 onwards, relevant studies had to be published from 2006 onwards. Further, we expected that any relevant study would cite at least one prior study that: reviews literature on such pre-2005 compliance; discusses methodological issues with respect to measuring compliance; and/or examines compliance with disclosure requirements prior to the mandatory adoption of IFRS. Such studies would be cited within either a literature review or a methods section.

As a first stage, therefore, we identified two reviews of the pre-2005 literature (i.e. Ali, 2005; Samaha et al. 2016), one methodological study which compares methods for measuring compliance with mandatory disclosure requirements (i.e. Tsalavoutas, Evans, & Smith, 2010) and two studies which contain comprehensive reviews of the pre-2005 literature (i.e. Ali et al., 2004; Tsalavoutas, 2011). From the literature cited in these five articles, we identified 39 studies that examine compliance with mandatory disclosure requirements in the pre-2005 period. The above approach therefore resulted in a total of 44 studies which we used as the basis for identifying relevant studies for accounting periods from 2005 onwards.

As a second stage, we used the software Publish or Perish (which relies on Google Scholar citations) to identify a total of 3,970 unique (i.e., after elimination of duplicates) citations relating to these 44 studies[8] (see Appendix A). In this way~~,~~ we identified the widest possible selection of papers in the public domain, regardless of the 'ranking' of the outlet or the type of study (i.e. academic journal article or professional research report, or similar) (see e.g., Massaro et al. 2016 and Englund & Gerdin, 2014).

As a third stage, we read the titles, abstracts, keywords (and, where further clarification was required, the research design sections) of these 3,970 studies. During this process, we eliminated studies that met one or more of the following conditions: the study uses the term compliance to signify that IFRS were the standards followed (but does not measure compliance); the study does not quantify compliance; sample companies covered by the study report under IFRS on a *voluntary* basis;[9] the study focuses on disclosures recommended but not mandated by IFRS; non-IFRS mandatory disclosure requirements are studied; research instruments include both mandatory and voluntary disclosures and the results are provided on an aggregate level; the study employs firms with financial year-ends prior to 2005; the study examines companies' compliance with the Management Commentary disclosure requirements (excluded because the publication of a Management Commentary is voluntary);[10] the study is an academic article published in a journal which is not indexed in either the 2018 Academic Journal Guide (2018 AJG),[11] the Australian Business Deans Council Journal Quality list

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[8] As of 19 February 2019, the cut-off point for our data collection.

[9] Articles examining firms which adopt IFRS on a voluntary basis are eliminated because these companies may have adopted IFRS as a symbol of legitimacy, but without fully complying with the requirements (see for example McBarnet, 1984; Touron, 2005).

[10] We also excluded Tsalavoutas et al. (2010) because this is a methods paper and only examines a small sample of firms.

[11] https://charteredabs.org/academic-journal-guide-2018/, Published by the Chartered Association of Business Schools in the UK.

(ABDC),[12] or Scopus.[13] These conditions ensure that the 57 remaining studies are directly relevant to the review objectives, are credible and, for academic journal articles, are reviewed and published in established and quality journals.

As a fourth stage, we used Publish or Perish[14] to identify studies which cite at least one of the 57 studies identified during stage three. This revealed that, as of 19 February 2019, these 57 studies jointly had 1,335 citations and, after elimination of duplicates, 910 unique citations.

In a fifth stage, we repeat the process followed in stage three for papers identified in stage four. This resulted in the identification of additional 13 studies which meet our criteria and should be included in our review.

In a sixth stage, we used Publish or Perish to identify studies which cite at least one of the 13 studies identified during stage five. This revealed that, as of 19 February 2019, these 13 studies jointly had 38 citations, relating to further 37 studies.

In the seventh and final stage, we repeat the process followed in stage three for papers identified in stage six. We identify that these 37 studies either did not meet our criteria or had been considered already.

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[12] https://abdc.edu.au/latest/1036/

[13] Journal rankings, as measures of research quality, have been widely criticised, especially when taken in isolation. We therefore also include Scopus, which offers alternative quality measure in the form of several metrics. However, while each of these rankings and metrics may provide an indication of journal quality (and even that has to be taken with caution), they cannot be used as proxy for the quality of articles published in the respective journal. This is supported by evidence from the most recent evaluation of research quality by the UK's higher education funding bodies (Research Excellence Framework, REF 2014), which showed only weak correlation between quality of papers (as based on independent peer review) and journal rankings (Pidd & Broadbent, 2015; see also Guthrie, Parker, Dumay, & Milne, 2019). In essence, article quality alone does not determine the choice of outlet; ontological and political considerations also come into play. While many highly ranked North American journals publish predominantly research that assumes market efficiency and is based on positive accounting and related theories, many of the papers we review suggest ineffective enforcement mechanisms and weak institutional environments. North American academics, and in turn journals, may be less inclined towards such research, or research drawing on data from such jurisdictions (c.f., Bédard & Gendron, 2003; De Villiers & Dumay, 2013; Parker & Guthrie, 2014). This restricts researchers in their choice outlet. If we were to exclude such papers, our review would focus primarily on firms from the European Union and Australia. We would not cover, inter alia, Brazil, Egypt, France, Ghana, Portugal, and Singapore. Our findings would be extremely biased, and reinforce the mistaken belief that, either, all jurisdictions closely resemble the North American models, or that those that differ are irrelevant. We would not provide insights into what is known and remains unknown in other jurisdictions.

[14] Publish or Perish is a software program that analyses academic citations, drawing on data from Google Scholar and similar sources. For the purposes of the present paper, it provided the data we needed for stage four. The software is available here: https://harzing.com/resources/publish-or-perish.

The process described above resulted in a total of 70 studies for review. Of these, two were research reports rather than articles published in academic journals.[15] Of the 68 journal articles we review, 41 are published in journals which are indexed in AJG, ABDC and Scopus, eight in ABDC alone, seven in AJG and ABDC, six in ABDC and Scopus, five in Scopus alone and one in AJG alone.

2.4 Article impact

Citations are an indicator of interest in an area of research (Dumay et al., 2016). According to Google Scholar, as of 19 February 2019, the 70 studies we identified for review had themselves been cited 1,373 times. We can therefore confirm that there is a considerable level of interest in this area. Of the above 1,373 citations, 1,260 relate to 63 articles published in journals indexed in either the AJG or ABDC lists; 44 of these articles are published in journals ranked as AJG rank 2 or above or ABDC rank B or above, and have 1,125 aggregate citations, while 19 articles are published in journals ranked as AJG rank 1 or ABDC rank C and combined have 135 citations. The two professional reports jointly have 74 citations. This confirms that the studies we review are influential in the wider literature.

Further, following Dumay et al. (2016), we use two alternative measures of impact to identify the most influential studies: total citations and citations per year (CPY). The latter mitigates against bias towards older studies (Dumay & Dai, 2017). We present separately, in Table 1, the top ten of our 70 studies by total citations (Panel A), and by CPY (Panel B).

TABLE 1 ABOUT HERE

[15] These were commissioned and published by a professional and an academic institution, respectively (Amiraslani, Iatridis, & Pope, 2013; Tsalavoutas, André, & Dionysiou, 2014). Prior SLR studies frequently include a separate criterion in the analytical framework to distinguish between academic and professional reports (e.g. Dumay et al., 2016). Since our data included only two such research reports, and both were authored by academics, we do not discuss this as a separate criterion, but we identify these studies separately in Appendix B.

Nine studies are included in both lists of top ten. Carlin and Finch (2010), who examine compliance by Australian firms with goodwill related disclosures, appears only in the top ten list by total citations, while Mazzi, André, Dionysiou, and Tsalavoutas (2017), who examine the effect of compliance on the cost of equity capital for a sample of EU firms, appears only in the top ten list by CPY . All but three of the top CPY articles, were published in or after 2012. For instance, Glaum et al. (2013) has been cited 165 times with a CPY of 27.5. The above confirms the contemporary and continuing relevance of the topic.

2.5 The analytical framework

To develop the framework for analysis, we first considered the criteria and attributes[16] used by both Dumay et al. (2016) and Guthrie et al. (2012) that we deemed relevant to our context *(Jurisdiction, Country of research, Focus of literature, Research methods*). Subsequently, in line with Broadbent and Guthrie (2008), two authors coded five articles independently to test the suitability of this preliminary framework. Overall, this step resulted in changing the criteria *Country of research* to *Location/Regions, Jurisdiction* to *Number of countries* and *Focus of literature* to *Research question*. The criteria's respective attributes were also amended. Additionally, because the present paper places special emphasis on the research methods applied in the studies we reviewed, we substituted the criterion *Research methods* with eight criteria to capture specific research design issues, i.e., *Research instrument, Scoring method, Validity and reliability*, *Materiality*, *Sample composition*, *Firm size filter*, *First year of adoption* and *Accounting topic examined*. Differences in the methods may significantly affect

[16] We follow Massaro et al. (2016, p. 783) in our definition of criteria as 'units of analysis within selected papers' that we treat 'as independent elements to be measured and analyzed'. We define as attributes the sub-units of analysis within the selected studies.

the conclusions and may partly explain the mixed findings in the literature prior to 2005 (Ali, 2005; Tsalavoutas, 2011).[17]

Table 2 lists these 11 criteria and their respective attributes (as well as our results, which are discussed in greater detail in section 3, below). In the interest of transparency and reliability, Appendix B reports the information attributes for each of the 70 studies. Appendix B also includes two additional pieces of information for each study: sample size (number of firms/observations) and the ranking of the journal in which the study was published. As neither of these are pertinent to our research questions, we refrain from adding them as separate criteria in our analytical framework.

2.6 Developing reliability

To limit the risk of bias and to ensure reliability of the coding and the analytical framework, two authors then again independently read and coded five articles. Subsequently, the third author acted as an independent reviewer/moderator. We discussed and clarified discrepancies and then independently coded four additional papers. No further discrepancies arose and no further reliability checks were deemed necessary.

2.7 Testing literature review validity

Three main areas require validity tests, namely: internal validity, external validity and construct validity (Massaro et al., 2016; White & McBurney, 2012). Internal validity relates to the extent to which the criteria we identify are comprehensive and appropriate, i.e. capture patterns in the literature reviewed (Massaro et al., 2016 with reference to Yin, 2014). This has been ensured by the process we discuss in section 2.5. External validity in SLRs ensures 'the

[17] The most important issues, in this respect, relate to the research instruments and to scoring methods (compliance measurement), the validity and reliability of the research instruments and the relevance/materiality of the information that the researchers aimed to capture.

comprehensiveness of the sources used' (Massaro et al., 2016, p. 786). For our purposes, this was ensured by the process we describe in section 2.3 (see also Dumay et al., 2016). Finally, construct validity is concerned with the quality of the measures used (in this instance, the studies reviewed). Massaro et al. (2016) note that this can be ensured through the analysis of citations. Given our conclusions in section 2.4 above, we are satisfied that our data meets the requirements of construct validity (see also Dumay et al., 2016).

2.8 Coding

Having defined the analytical framework and performed reliability testing, one author coded the articles we review and captured the result in Excel. Ambiguities were resolved by consulting the co-authors. In total, 30 studies were subjected to such discussion and scrutiny by the team.

3 Insight and critique

In this section, we discuss the literature on compliance with IFRS mandatory disclosure requirements and provide answers to two of our three research questions, namely: "how is research on compliance with IFRS mandatory disclosure requirements developing?" and "what is the focus and critique of the literature on compliance with IFRS mandatory disclosure requirements?". We discuss the key features of the literature, based on the 11 criteria of our analytical framework (see section 2.5; step 5 in Figure 1). The summary findings for each criterion and across the various attributes are reported in Table 2.

TABLE 2 ABOUT HERE

We outline the insights and the critique arising from our analysis in the sub-sections below. For each criterion, we begin by explaining the rationale for our selection. Moreover, in several instances, we report information for one criterion by also reflecting on features of another criterion. This is consistent with Massaro et al.'s (2016, p. 788) suggestion to present, where appropriate, statistical analysis *across* criteria, in order to develop 'deeper insights and relationships ***between categories [criteria]*** within the dataset' (emphasis added). To ease the flow of the discussion, we refrain from citing the respective studies in the text.[18] These, and their attributes should instead be accessed in Appendix B.

3.1 Number of countries (A1 – A4)

This criterion is an adaptation of the criterion *Jurisdiction* in Guthrie et al. (2012) and Dumay et al. (2016). It captures whether a study's sample is drawn from one or from several countries and allows us to examine whether compliance differs across countries and whether country characteristics can explain such differences. The attribute A1 (*Single country*), identifies articles that draw on data from a single country. Articles which use sample firms from two, five or more than five countries are classified under attributes A2, A3 and A4 respectively.

The vast majority of articles (55/70) are single-country studies (A1). Five studies draw on firms from two (predominantly EU) countries (A2), one study on five (A3) and the remaining nine studies on data from more than five countries (A4).

Given the resource implications of manual data collection, the personal interests of the researchers, and their understanding and knowledge of specific socio-economic contexts, the preference for single-country studies is not surprising. We observe, however, an increasing interest in multi-country studies, beginning in 2013, with at least one such study published every year until 2018. The most recent year examined by multi-country studies is 2015.

The most recent year examined across all studies reviewed is 2016, which is the focus of two studies that each employ sample firms from a small and developing economy. As shown

[18] We make this choice because including all references for all attributes would lengthen the paper considerably and, more importantly, result in an extremely cluttered text, which would be difficult to read. Alternatively, including only selected references would inevitably introduce bias.

in Figure 3, there is an increase in the number of studies published recently. Although most of these are single country studies, this is nevertheless indicative of a growing interest in these disclosure studies.

FIGURE 3 ABOUT HERE

Indirectly, our 'Number of countries' criterion (A1) also reflects firm size, since cross-country studies usually only sample from firms with the highest market capitalization or firms belonging in the corresponding premier stock market indexes, while single country studies are more likely to focus on a wider size-range of firms. This observation is confirmed by our criterion *Firm size* filter, below.

3.2 Firm size filter (B1 – B3)

This criterion allows us to examine whether the literature focuses on larger firms. It is important because disclosure incentives differ between smaller and larger firms, which affects the inferences that can be drawn. The large majority of the studies (66) focus on listed firms; only three include both listed and non-listed firms, while one is silent on listing status.[19]

Confirming our observation above (section 3.1), we find that two-thirds (10/15) of the multi-country studies (A2-A4) do indeed sample from larger firms, i.e. focus on firms listed in the local premier stock market indexes. By contrast, only 18 of the 55 single-country studies (A1) draw on firms listed in the premier market segment (e.g., FTSE 100 in the UK) or sample from a given number of large firms (e.g., 100 largest firms). While one study is silent on this matter, the remaining 37 single-country studies and 5 multi-country studies do not apply such a filter but tend to employ sample firms from smaller or developing markets.[20] Most studies

[19] We do not create a separate criterion for listing status, since only Bova and Pereira (2012) provide separate statistics for both listed and non-listed firms.

[20] Bova and Pereira (2012) draw their sample from firms considered by the Institute of Certified Public Accountings of Kenya (ICPAK) for 2006 FiRe Awards. The criteria applied by the ICPAK are not explicitly stated; hence we classify this study as B3.

that examine the determinants of compliance establish a significant positive impact of firm size on compliance levels (see D2 and D3, section 3.4); in other words, higher levels of non-compliance will occur in samples comprising, or including, smaller firms. While this suggests a need for further research on the disclosure practices of smaller firms, the number of studies employing a firm size filter has increased over time, indicating that the literature is shifting the focus to larger firms.

3.3 Location/Regions (C1 – C6)

This criterion is an adaptation of the criterion *Country of research* in Dumay et al. (2016) and allows us to identify geographic areas from which samples were selected, as well as areas that are under-researched. We classify studies as follows: C1 for countries in Europe, C2 for countries in Asia, C3 for countries in Oceania/Australia, C4 for countries in Africa, C5 for countries in South America and C6 ("Worldwide") for two studies which employ samples from several regions.

While Canada adopted IFRS in 2011, we identified no studies on compliance by Canadian firms. By contrast, three studies exist for Brazil, which adopted IFRS in 2010. This may be consistent with the ontological and epistemological divide between North American and European research referred to in footnote 13 and identified by Dumay et al. (2016) with respect to other areas of research.

Thus, we find that there appears to be a continuing interest in European firms, with a total of 23 studies (C1). Since 2010, and with the exception of 2012, at least one such study has been published annually. Eleven studies focus on more than one EU country. Among the single country studies, Greece has been the focus of four (although sample size and period significantly overlap for three), and the UK of three studies (with no significant overlap of sample, period, or accounting topic). We also note an increasing interest in Asia (C2), with at least one study published every year except for 2012: seven studies cover Malaysia, and four Kuwait. Finally, for Oceania/Australia (C3), seven studies exist on compliance by Australian firms. These trends can be partially explained by the timing of the adoption of IFRS (i.e., earlier adoption in EU and Australia and more recent adoption in Asian countries). In some cases, the time periods examined by the Asian and the Australian studies overlap.

Figure 4 below lists the countries examined by the articles reviewed in this study.

FIGURE 4 ABOUT HERE

3.4 Research question (D1 – D4)

Although all studies capture compliance with IFRS mandatory disclosure requirements, they examine different research questions. In this section, we pinpoint those that have been over or under explored.

We disaggregate the studies reviewed across four attributes: *Compliance alone* (D1) for papers that report only the level of compliance; *Determinants* (D2) if, in addition to measuring compliance, they provide insights into the factors associated with compliance; *Determinants and market consequences* (D3) for studies that examine both the factors associated with compliance levels and the impact of compliance on capital markets; and *Market consequences alone* (D4) for studies that, in addition to measuring compliance, examine the impact of compliance on capital markets but do not examine the determinants of compliance. Thus, the main difference between attributes D3 and D4 is that the former examines both the factors that are associated with compliance and the capital market consequences of compliance, while the latter only focuses upon capital market consequences. The following observations arise from this analysis.

More than a quarter of studies examine *Compliance alone* (18/70, studies D1) (usually measured by means of a disclosure index). While they may provide information on the items complied with, they tend to be descriptive and do not provide a more holistic view of what determines compliance, and/or whether any market consequences arise from the variation in disclosure levels.

The large majority of studies explore determinants of compliance (42/70). The most common determinants considered include audit firm size (18 studies), firm size (17 studies), and leverage (11 studies). Further, from 2012, corporate governance characteristics have been considered as determinants, currently investigated by 15 studies. Only one study provides evidence that product market competition is a significant determinant, which suggests that little research exists on the effect of proprietary costs. That is despite the argument that proprietary costs incentivise non-compliance (see Abdullah et al., 2015). (We discuss the determinants of compliance in greater detail in section 3.5).

Research on market consequences (10/70 studies; D3 and D4 combined) is more recent. The first study was published in 2012 and, at least one study is published annually since 2014. This indicates an increasing interest in the impact of compliance on capital markets. We identified nine studies that employ a single methodological approach to examine the valuation implication of compliance. Specifically, six studies examine the impact of compliance levels on market values, one study on the cost of equity capital, one study on trading volume, and one study on the earnings response coefficient (ERC). Only one study employs multiple approaches to examine the valuation implications of mandatory disclosures (the impact of compliance on analysts' forecasts and market values). All studies focus on equity markets only; there is no relevant research on debt markets. The evidence mostly indicates that compliance has favourable market consequences, with the exception of two studies, one of which shows that compliance is not value relevant, the other that compliance weakens the relation between current returns and earnings.

Of the above ten studies, seven focus on small or developing economies (i.e. Brazil, Greece, Kenya, Malaysia and Jordan), one on a single large and developed economy (France) and two employ large firms across the EU. There is thus a research gap relating to the market consequences of compliance by smaller firms from developed economies.

3.5 Accounting topic examined (E1 – E8)

There are more than 40 extant IFRS. Because of the resource implications of hand-collecting data, researchers frequently select from these. This is also a matter of trade-off with other decisions relating to sample selection, such as number of companies selected, whether a firm size filter is adopted, or the number of firm years covered.

Almost 37% of the studies (26/70) examine a combination of topics; we discuss these under the attribute *Multiple topics* (E1). The remaining 44 studies cover 12 individual topics, among which *Goodwill and goodwill impairment testing* (E2) has received most attention. Aside from the latter, there appears to be an increasing trend, from 2014, towards individual topic studies. Despite this shift in emphasis, studies of *Multiple topics* (E1) remain popular, perhaps because they provide evidence firms' compliance practice overall. However, the findings from this strand of this literature must be interpreted with caution, since compliance measures aggregated over several standards will disguise the economic consequences or compliance drivers of individual standards. Below we address this concern by identifying the current state of knowledge and discussing the key findings for each topic separately.

3.5.1 Multiple topics (E1)

In most of the 26 studies that explore multiple topics, average compliance ranges between 70% and 90%, with a large number of companies scoring compliance levels below 70%. In many cases minimum levels are very low, while high compliance of above 90% is very rare. Eleven studies do not provide separate compliance scores for individual standards, it is therefore not possible to identify particularly problematic standards.[21]

Reflecting on the criterion *Research question* (D), we note that 20 studies examine potential explanatory variables for compliance (D2 and D3), three studies are coded as *Compliance alone* (D1), and the remaining three are *Market consequences alone* (D4). At least one study focusing on multiple topics has been published annually since 2010, indicative of the interest in this stream of literature (see Figure 5). The first study examining market consequences of compliance with several standards/topics was published in 2012.

FIGURE 5 ABOUT HERE

Cross-referencing to *Number of countries* (A), we note that the large majority of studies that explore multiple topics are single country studies (19/26). (For reasons discussed above, large-scale, multi-country studies tend to focus on larger and developed markets and limit their sample to larger firms.) The single-country studies with large data-sets are limited to developed economies with smaller stock exchanges, such as Greece, or to developing and emerging economies, including, inter alia, Bahrain, Brazil, Ghana, Jordan, Kuwait, Malaysia, Nigeria, Saudi Arabia and Turkey. This confirms our earlier conclusion, in section 3.2, that smaller listed companies remain largely unexplored.

Further, consistent with the suggestion that country level influences affect *de facto* application of IFRS (e.g. Ball, 2006; Nobes, 2006), our review also indicates that the level of compliance varies significantly among countries. For example, firms listed in some developing or emerging economies, such as Ghana and Malaysia, tend to comply relatively more than firms in other such economies, as for example Brazil, or even in some developed economies, such as Greece. A possible explanation for this may be that Malaysia is ranked higher than Brazil and

[21] An exception among the remaining 15 studies is Che Azmi and English (2016), who provide information on the number of firms exhibiting full compliance, partial compliance and no compliance for each of eight standards examined.

Greece in terms of enforcement (see Brown, Preiato, & Tarca, 2014); several studies do in fact support the suggestion that quality of enforcement is positively related to compliance (e.g., Tsalavoutas et al., 2014).

Audit quality (proxied by audit firm size) also appears to be positively associated with compliance levels, as is firm size. While leverage and profitability tend to be significantly associated with compliance levels, the sign of the relationships, however, differs between studies.

Only seven of the multi-topic studies consider corporate governance characteristics or ownership structure; these topics therefore remain underexplored. Findings suggest that board independence is positively associated with compliance levels, whilst CEO duality is negatively associated.

Finally, the most recent financial period examined is 2014, for firms in Australia and for a worldwide sample of Islamic Banks. Thus, evidence on compliance with a combination of topics of IFRS mandatory disclosure requirements for more recent periods and for many economies across the world is lacking.

3.5.2 Goodwill and goodwill impairment testing (E2)

Goodwill/goodwill impairment testing is the most prominent among the single compliance issues explored in prior research. This is may be the case because goodwill is relevant for many companies/groups, and testing for goodwill impairment under IFRS is complex (Hoogendoorn, 2006; Wines, Dagwell, & Windsor, 2007). In fact, most of the descriptive studies which assess *Compliance alone* focus on *Goodwill and goodwill impairment testing* (9/19). Figure 6 highlights a growth of *Compliance alone* studies up to 2013 and a significant shift from 2013 to arguably more informative research that also examines explanatory factors for compliance, and its market consequences.

FIGURE 6 ABOUT HERE

Compliance with disclosure requirements relating to *Goodwill and goodwill impairment testing* is, on average, low, but with significant improvement over time. However, the most recent evidence relates to the financial years 2015, for German firms, and 2012, for Malaysian firms. Areas of non-compliance relate to proprietary information. The majority of studies focus on European countries, Australia, and Malaysia. The evidence highlights significant country differences in compliance levels. With few exceptions, the studies employ large firms. Firm size and being audited by a Big 4 auditor are factors which contribute to higher levels of compliance. Further, only Bepari and Mollik (2015) consider and find that a governance related factor is positively related to the compliance levels identified. Only two studies explore market consequences arising from the varying levels of explicitly goodwill related disclosures: Baboukardos and Rimmel (2014) who show that disclosures improve the value relevance of goodwill and Mazzi et al. (2017) who find that compliance levels are negatively related to the cost of equity capital.

3.5.3 Financial instruments (E3)

Financial instruments (E3) is a controversial topic; it involves highly complicated accounting treatments (ACCA, 2011; Larson & Street, 2004). Although the topic has been on the agenda of regulators, standard setters and enforcement bodies for years, there is relatively little research on compliance with the relevant mandatory disclosure requirements. Studies which explicitly focus on this area are recent, motivated by the implementation of IFRS 7, and cover primarily small and developing markets (specifically Botswana, Jordan, Malawi, Qatar and Ghana). Thus, with the exception of Bamber, McMeeking and Petrovic (2018), who employ a sample of UK firms, research on companies in large and developed stock markets is virtually non-existent.[22] Further, four of these studies examine the factors that affect compliance levels consider a governance related factor and document a positive correlation with compliance. Finally, only one study (Tahat, Dunne, Fifield, & Power, 2016) examines the market consequences of compliance with the disclosure requirements of IFRS 7 and shows a positive correlation between firm value and compliance. Thus, evidence on the market effects of (non)compliance levels with regard to disclosures around financial instruments is almost non-existent.

3.5.4 Business combinations (E4)

Studies on *Business combinations* (E4) have covered China, Brazil and large European firms. Evidence on smaller firms in more developed countries is generally scarce. Further, only the study by Souza and Borba (2017) examines the market effects of (non-) compliance and shows that the compliance level is positively associated with share prices.

In general, compliance with IFRS 3 is relatively high, although with significant differences between countries.[23] With the exception of Souza and Borba (2017), who focus on Brazil between 2010 and 2013, the most recent evidence covers periods only up to 2010. Thus, more recent evidence based on large samples from large and developed stock markets is generally absent. Additionally, only two studies examine the factors that affect the level of compliance.

[22] Four studies classified under the *Multiple topics* attribute (E1) touch on the issue very briefly, and the most recent of these dates from 2015. With respect to IAS 32 they report the following compliance levels: mean (median) compliance is 80% (83%) in Greece (Tsalavoutas, 2011; Tsalavoutas & Dionysiou, 2014) and mean (median) compliance is 89% (91%) in Malaysia (Abdullah et al., 2015). With respect to IAS 39 the following compliance levels are reported: mean (median) compliance is 46% (50%) and 70% (100%) for German and Italian firms respectively (Cascino & Gassen, 2015). In addition to these studies, Santos et al. (2014) combine parts of IAS 32 with IAS 39 and IAS 39 with IFRS 7, thus creating two topics, namely "Transaction Costs and Premium on the Issuance of Securities" and "Financial Instruments", respectively. The authors only present aggregated findings with regard to these two topics.

[23] Compliance scores for business combinations are also presented by several studies coded as *Multiple topics* (E1). These suggest low compliance for Brazil and Kuwait, and higher compliance among (large) European firms, Malaysia and Greece. Specifically, the following compliance levels are reported: mean (median) compliance is 77% (80%) in Malaysia (Abdullah et al., 2015), 70% (78%) in Greece (Tsalavoutas, 2011; Tsalavoutas & Dionysiou, 2014), 30% in Kuwait (Dawd, 2018) and 12% in Brazil (Santos et al., 2014). Finally, Tsalavoutas et al. (2014) report that the mean (median) compliance is 81% (84%) for their worldwide sample.

Key findings suggest that cross listed firms and firms from common law countries are more likely to exhibit higher levels of compliance. Further, leverage, profitability and a Big 4 auditor are positively related to compliance.

3.5.5 Related party transactions (E5)

Only three studies focus on disclosures with respect to *Related party transactions* (E5). They examine firms from Ghana, United Arab Emirates and South Africa. Evidence on the level of compliance is inconclusive, with South African firms exhibiting high levels of compliance, and firms in Ghana and UAE exhibiting lower levels of compliance. All three papers present evidence that strong governance mechanisms (e.g., audit committee expertise and independence, board independence) contribute positively to compliance.[24]

No study has thus far investigated the market consequences of (non-) compliance with the disclosure requirements of IAS 24, and again, the most recent evidence available is for 2010. The only exception is the study by Sellami and Fendri (2017) who investigate firms from South Africa from 2012 to 2014. Thus, evidence on companies from large and developed stock markets is again absent.

3.5.6 Income tax (E6)

Three studies deal explicitly with disclosures mandated by IAS 12, for Egyptian, Portuguese and Malaysian firms, respectively. Although all three examine the determinants of compliance, only two consider the effect of audit quality and only one considers a governance related factor.

[24] Studies classified under *Multiple topics* (E1) also provide compliance scores for this standard and suggest, generally, low levels of compliance, with the exception of companies in Greece. The following compliance levels are reported: mean compliance in Kuwait is 74% (Dawd, 2018) and 11% in Brazil (Santos et al., 2014). Tsalavoutas (2011) and Tsalavoutas and Dionysiou (2014) show that the mean (median) compliance is 77% (80%) in Greece. Additionally, Verriest et al. (2013) focusing on certain mandatory disclosure items show that mean compliance is 3.21 with maximum being four.

The evidence indicates that better audit quality and stronger corporate governance are factors which are positively related to compliance levels.[25]

No evidence exists on the market consequences of (non-)compliance. Further, more recent studies of large and developed markets are limited, as evidence on this topic is available only up to 2010 - with the exception of Wang (2018), who examines compliance for the financial years 2006, 2010 and 2014.

3.5.7 Presentation of financial statements (E7)

Only two studies focus exclusively on compliance with mandatory disclosure requirements for IAS 1 (E7). They draw on firms from Bahrain and Malaysia, and present evidence of high levels of compliance.[26] This also suggests a high level of compliance. Since IAS1 disclosures do not carry high proprietary and preparation costs (Al-Shammari, Brown, & Tarca, 2008; Tsalavoutas, 2011), this is not surprising.

3.5.8 Other (E8)

Finally, six studies are allocated to the attribute *Other* (E8) because they each cover only one topic that has not been addressed by other studies: disclosure requirements relating to Share based payments (using French companies), Operating leases (Spanish companies), Intangible assets (South African companies), Provisions (Turkish companies), Decommission costs (UK companies) and the accounting treatment of exploration costs (several regions).

[25] Further, four studies classified under *Multiple topics* (E1) include evidence relating to IAS 12. These report significant differences in compliance levels among countries. The following compliance levels are reported: mean compliance is 30% in Brazil (Santos et al., 2014) and in Greece mean (median) compliance is 74% (83%) (Tsalavoutas, 2011; Tsalavoutas & Dionysiou, 2014). Wang (2018) reports that compliance is close to 100%.

[26] Additional evidence is presented by five *Multiple topics* studies (E1). The following compliance levels are reported: mean (median) compliance is 96% (97%) in Malaysia (Abdullah et al., 2015) and in Greece mean (median) compliance is 95% (96%) (Tsalavoutas, 2011; Tsalavoutas & Dionysiou, 2014). Wang (2018) reports that compliance is close to 100%. Verriest et al. (2013) focusing on certain mandatory disclosure items shows that mean compliance is 2.91 with maximum being three.

The only study to provide evidence on market consequences is Goh et al. (2016), who show that high compliance levels improve the value relevance of stock option expenses. The evidence presented in the above articles, as well as in additional *Multiple topics* studies (E1), suggests high levels of compliance for IAS 38 and low compliance with IAS 37. There is mixed evidence of compliance with IFRS 2, with significant variation across countries. Recent studies of large and developed markets are generally scarce.

3.5.9 Evidence on compliance with disclosure requirements for specific accounting standards

Studies frequently focus on a combination of accounting topics and, therefore, disclosure requirements relating to more than one accounting standard (i.e., E1 and E2 in Table 2). This impedes identification of standards which are more, or less, demanding or costly to comply with.

We therefore isolate and collate the evidence relating to individual standards. As our observations arising from this arose incidentally, during the process of analysis rather than based on our analytical framework, we report them separately below.

Table 3 presents the frequency with which each standard has been examined in the studies discussed above, the number of studies which report separate compliance scores for each standard, and the frequency with which each standard is associated with low compliance (i.e., mean score lower than 75%).[27] Further, the last column in Table 3 reports the studies to which these findings relate. This, in combination with Appendix B, will assist readers to make inferences regarding the countries and periods to which the low compliance scores relate.

Several standards are consistently associated with low compliance, namely IAS 17, 21, 28, 31, 37, 39, 41, IFRS 6 and 8. In fact, *all* studies that provide separate compliance scores for these standards report compliance levels lower than 75%. This evidence relates to Australia,

[27] As noted above, not all studies report separate compliance scores for individual standards.

Brazil, Germany, Greece, Italy, Kuwait and Malaysia. With the exception of Australia all of these studies examine the first or very early years of IFRS adoption.

Further, although IAS 19, 23, 36, 40, IFRS 5 and 7 are included in the disclosure checklists of several studies, few report compliance scores for these standards separately. Those who do, report low compliance levels. We therefore note an absence of detailed evidence (i.e. in-depth, 'single topic' studies) on compliance with key areas such as leasing (IAS 17) (now IFRS 16), post-retirement benefits (IAS 19), share-based payments (IFRS 2), provisions and contingent liabilities (IAS 37), and investments in associates and joint ventures (i.e., IAS 28, IAS 31 (now IFRS 11)). There is, for example, a lack of evidence on the specific disclosure requirements, within these standards, with which companies fail to comply, and on the potential explanatory factors associated with compliance levels.

Finally, since the large majority (19/26) of studies in *Multiple topics* (E1) are single-country studies, the evidence on compliance with these key areas is also limited to a small number of countries.

TABLE 3 ABOUT HERE

3.6 First year of adoption (F1 – F2)

We include the criterion *First year of adoption* because low compliance in the early years of transition to IFRS may simply be due to preparers' and auditors' lack of familiarity with the requirements (c.f., Kvaal & Nobes, 2012). Only ten studies in our sample focus on first year adoption of IFRS only (F1), while the remaining studies (60) employ a sample period subsequent to the first year of adoption, or of first year and subsequent years of adoption (F2).

Of the studies that examine compliance in the first year of IFRS adoption only, one focuses on *Goodwill and goodwill impairment testing*, one on *Business combinations*, one on *Share-based payments* and one on *Financial instruments*. The remaining six studies focus on *Multiple* *topics*. Of these, five examine compliance with the mandatory disclosure requirements of a large number of standards (six or more accounting standards) while only one examines compliance with two accounting standards (IFRS 3 and IAS 36).

We observe significant differences between countries. For instance, firms from Brazil and Nigeria seem to exhibit lower compliance scores compared to firms from Greece or other European countries, although the former two countries adopted IFRS later. Only one study examines the market consequences of compliance in the year of IFRS adoption: Tsalavoutas and Dionysiou (2014) show that compliance is positively related to market values. Overall, given the relatively small number of studies that focus exclusively on the first year of adoption, it is unlikely that the findings we report about non-compliance across all studies we review are driven by transitional effects.

Of the 60 studies that focus on periods after the first year of adoption (F2), 33 are longitudinal studies. Of these, sixteen employ sample firms from larger and developed markets and of these sixteen, eleven specifically focus on the larger firms in these markets (*B1*). There are few studies that employ smaller firms from large and developed markets.

Further, six of the 33 longitudinal studies, provide evidence of statistically significant improvement in compliance over time and one study documents no statistically significant improvement. Ten studies indicate an improvement but do not test whether this is statistically significant. Finally, 16 studies do not report compliance levels across the different years examined, but amalgamate scores for the entire period.

3.7 Research instrument (G1 – G4)

The criterion *Research instrument* is included to capture the types of instruments used to measure compliance. Disclosure checklists, against which information provided in companies' annual reports is scored manually, are the most common instrument for measuring compliance, used by all studies but one (classified as *Other* (G4)). Fifty-five studies employ a self-constructed disclosure checklist (G1), eight a disclosure checklist developed by audit firms (G2) and six a disclosure list used by a previous academic study (G3). Given the prevalence of self-constructed disclosure checklists, a discussion of validity and reliability of the instruments is pertinent. We provide this in section 3.9 below, following a discussion of the scoring methods employed.

3.8 Scoring method (H1 – H7)

The way compliance scores are computed can differ significantly. We use the criterion *Scoring method* to capture and portray the variety of methods used. Below we discuss the following methods: *Cooke's method* (H1), *Cooke's adjusted* (H2), *PC method* (H3), *item by item* (H4), and *counting items* (H5).

Cooke's method computes compliance as the ratio of the total number of items disclosed to the maximum possible number of disclosure items. Items considered as non-applicable to a particular firm are excluded from the computation. This method is the most widely applied, by 46 studies. Thirty-six studies apply it alone (H1) and 10 combine it with an additional method (H6 or H7). Instead of a simple binary choice, Cooke's adjusted is computed based on the completeness of the disclosure, i.e. the level of detail provided. It considers whether an item is fully, partially or not at all disclosed. Obviously, this method can be very subjective. Four studies have used it alone (H2) while one has used it in combination with another method.

The PC method is relevant only when the index is divided into sections/categories, for example for standards or topics. This applies to all 26 studies with the attribute *Multiple topics* (E1) and to some with the attribute *Goodwill and goodwill impairment testing* (E2) (e.g. Mazzi et al. (2017) is not relevant here because the authors combine the relevant items from IFRS 3 and IAS 36 in one category). The researcher first calculates the compliance ratio for each standard/topic separately, then adds these individual scores and divides them by the total number of standards/topics. This approach gives equal weight to each standard/topic and avoids the swamping of fewer but more important disclosure items by more trivial, but more frequent ones (the main limitation associated with Cooke's method).[28] Two studies have used this method alone (H3), eight in combination with Cooke's method (H6) and one in combination with another method (H7).

Another common scoring method, used by 11 studies, examines compliance with each item mandated by the accounting standard separately; we name it "item by item" method (H4). Although this approach does not provide a compliance score at the firm-year level, it provides insights into which particular items companies in a given sample disclose.

Three studies follow a *Counting items* approach (H5), which does not express compliance as a percentage but simply calculates the total number of items for which relevant information is disclosed.

We classify the remaining six studies as *Other* (H8). Mazzi et al. (2017) employ three scoring methods: Cooke's method; a second method whereby the compliance levels resulting from Cooke's method are transformed to accommodate country differences, and the 'SAIDIN' index method, which weights each disclosure item by the percentage of firms in the sample that do not comply with the item (as a result, more common (rare) applicable disclosures receive lower (higher) weights). Devalle, Rizzato and Busso (2016) employ Cooke's method, SAIDIN, the PC method and a PC weighted method (which incorporate the weights from the SAIDIN index in the calculation of compliance scores under the PC method). Further, Lazar and Velte (2018) employ the PC weighted method, along with Cooke's adjusted method. Additionally, two studies measure compliance by using a binary indicator/dummy variable. In

[28] See Tsalavoutas et al. (2010) for a detailed discussion of the differences between these two scoring methods. Tsalavoutas et al. (2010; footnote 4) also refer to an alternative weighted disclosure index methodology which attaches a weighting (value) to each disclosure item, based on the item's perceived importance. We have not been able to identify any studies that apply this method and fall within the scope of our review.

Acar and Ozkan's (2017) study, this indicates the presence (or not) of *all* mandatory disclosure requirements relating to IAS 37, and Arimany, Fitó, Moya, and Orgaz (2018) measure the disclosure (or not) of a mandatory operating leases note to the financial statements. Finally, Bova and Pereira (2012) employ an externally produced compliance score.

Overall, there is a significant variation of techniques used to measure compliance. The level of compliance reported, as well as the inferences drawn, can differ substantially depending on the method used, as is apparent when two or more methods are used concurrently. This suggests that when only one method is used the results may be significantly biased. However, only a small proportion of studies (11) employ multiple methods for robustness purposes.

3.9 Validity and reliability (I1 – I6)

The scoring process involves judgment during at least two key stages: when developing the disclosure list and when scoring firms. The first relates to content validity of the research instrument, i.e., the adequacy of the instrument to measure the concept of interest (i.e., compliance). The second relates to the reliability of the research instrument, i.e. how well compliance is measured in terms of precision, stability and consistency. Thus, this criterion allows us to draw conclusions as to how (and if) the studies assure the validity and reliability of the research instruments they employ.

Surprisingly, only 17 studies explicitly refer to validity and reliability (I1). Eleven studies document a validity test (I2), and eight a reliability test only (I3). Thirty-three studies make no reference to either test (33/70) (I4). For Arimany et al. (2018), with their binary/indicator variable, a content validity test is not applicable and we have classified this study as I5. Finally, for the one study using an externally calculated score (Bova & Pereira, 2012) neither test is applicable (hence I6). The relative proportion of studies which do not perform a validity or reliability test is decreasing over time, which suggests that the studies are becoming methodologically more robust.

Of the 28 studies which explicitly consider validity (I1 and I2), 14 employ a self-constructed research instrument (G1) and use the following methods to ensure its validity. In two studies, the authors checked the disclosure checklist against disclosure checklists prepared by one or more Big 4 audit firm. In eleven studies the checklist was reviewed by a party independent of its construction – typically either a member of the research team, or a professional accountant. One study compared the instrument against checklists prepared by audit firms and used in prior literature.

Validity is taken as a given attribute in eight studies that employed research instruments constructed by Big 4 audit firms (G2) and in six studies that drew on instruments from previously published studies (G3).

Finally, the 26 studies that performed a reliability test (I1, I3 and I5) applied the following process: The authors and/or an independent expert score a small sample of annual reports independently. Subsequently, the scorers compare the findings. If differences are significant, the areas that resulted in such differences are discussed and resolved before coding continues for the remaining annual reports. Only Arimany et al. (2018) examine whether or not a firm discloses an item, by contacting each firm in the sample directly.

3.10 Materiality (K1 and K2)

An inherent limitation of the disclosure index method relates to the subjective judgement involved over whether a disclosure requirement is not complied with by, or not applicable/relevant to, a specific company. This is the case irrespective of the scoring method employed. To minimise the risk of identifying an item as non-compliance when it is in fact not applicable, Cooke (1992) recommends a thorough reading of the complete annual report prior to scoring. If a company discusses a specific topic or event, it can be assumed that the relevant disclosure items in the checklist are applicable. For example, if a company reports a value of inventories on the balance sheet, the disclosure requirements in IAS 2 are applicable. This is standard practice, and all studies included in this review either explicitly state, or imply, that they have followed this process.

Standard setters are critical of companies' box-ticking (rather than judgment-based) approach to compliance with disclosure requirements. The IASB increasingly emphasises that management must use their judgement in determining and disclosing *relevant* and *material* information. The Basis of Conclusions (30C) in the revised IAS 1 (2014) explicitly states that a company does not need to disclose information that is designated as 'shall be disclosed' if this information is not material.

In general, therefore, very careful judgement is required in the data collection/scoring process, since absent information may indicate either non-compliance, or information deemed immaterial or irrelevant. However, judgement regarding the relevance of disclosures may differ between management and the audit firm on the one hand, and financial statement users, and enforcers on the other hand (especially since no clear guidance is provided by the latter on materiality thresholds.)

We therefore examined the research design section of the studies we reviewed for reference to a materiality threshold. We found that only 10, and mostly recent, studies (since 2013) employed a materiality threshold at the stage of sample selection and/or scoring. For example, Bepari, Rahman, and Mollik (2014) deem as material reported goodwill greater than five percent of company total assets. Only where this threshold is met are the related disclosure requirements considered applicable. A similar approach is taken by Tsalavoutas et al. (2014) for disclosures relating to impairment testing. One may therefore argue that studies that do not incorporate a materiality threshold introduce bias, by counting as non-compliance what should in fact be considered not applicable.

Four further studies, which examine the determinants of compliance (D2 & D3), report significant correlations between materiality and compliance levels. Specifically, Glaum et al. (2013), Bepari and Molik (2014), and Lazar and Velte (2018) introduce goodwill intensity and the existence of goodwill impairment as determinants in their multivariate analysis. Goh et al. (2016) control for the proportion of shares under option schemes in the context of share-based payment. The significant impact of materiality on compliance further supports the importance and consideration of materiality in such studies.

3.11 Sample composition (L1 – L4)

In the empirical archival accounting and finance literature, it is common for financial companies to be excluded from analysis because of differences in financial statement items and in applicable regulations. However, financial companies tend to be large and economically important. Since disclosures can have important market consequences, the lack of evidence relating to the financial sector is a significant omission from the literature. Our last criterion therefore reflects the extent to which studies include financial companies.

We find that 30 of the 70 studies include financial firms (L1), 32 do not (L2) and six remain silent (L4). Only two studies focus exclusively on financial institutions (L3) and examine compliance with disclosure requirements relating to *Multiple topics* (E1): Ajili and Bouri (2018) employ a global sample of Islamic Banks and Zureigat (2015) draws on a sample of financial institutions listed in Saudi Arabia. Of the 30 studies which include financial firms (L1), only 13 separately report compliance scores for firms in the financial industry or include a categorical variable explicitly controlling for financial institutions in multivariate analysis. Therefore, only limited evidence on the compliance levels of financial firms is available.

Interestingly, only one of these 13 studies examine compliance with financial instruments, which are of particular importance to the financial sector. Nine studies examine *Goodwill and goodwill impairment testing*, one relates to the presentation of financial statements, and two have been classified by us under *Multiple topics*. (Among all 26 *Multiple topic* studies (E1), only ten state explicitly that they include financial firms.)

The above suggests that there is a large research gap in the examination of financial companies' compliance with IFRS disclosure requirements, in particular for developed countries and for topics/standards which are of particular importance to these firms.

4 Answers to the questions explored, avenues for future research and policy implications

4.1 Answers to the questions explored and avenues for future research

Having described, summarised and analysed the research on compliance with IFRS mandatory disclosure studies for the post-2005 period, Table 4 now outlines the answers to the three research questions addressed in this review, while mapping the attributes of the relevant literature.

TABLE 4 ABOUT HERE

First, overall, it appears that the vast majority of companies do not comply with all mandated disclosure requirements, and that there are considerable differences between firms, accounting standards and countries. Studies draw on data from 2014 or earlier, with the exception of five studies which include later data, up until 2016. Longitudinal studies tend to report increasing compliance levels. Countries studied, and the timing of such studies, are likely to reflect, *inter alia*, the date of adoption of IFRS, but also ontological and epistemological preferences in research cultures. There is scope, therefore, for future research to draw on data from more recent periods and from countries that have not been examined previously.

Second, studies investigating compliance with a combination of IFRS (*Multiple topics*, E1) are generally limited to developing economies and/or developed but smaller stock markets. Therefore, compliance with standards such as IAS 2, 8, 10, 20, 21, 27 (now IFRS 10), 28, 31 (now IFRS 11), and IFRS 4-7 has yet to be investigated for larger, developed markets. A lack of evidence is also noted for other key areas, including leasing, post-retirement benefits and share-based payments, since, although the respective standards have been included in several multi-topic studies, reported compliance scores have mostly been aggregated rather than presented for each standard. Future research could examine compliance with new standards. For example, IFRS 9 Financial Instruments and IFRS 15 Revenue from Contracts with Customers came into force in 2018, and IFRS 16 Leases is applicable for periods starting on or after 1 January 2019. No published research exists, to date, on compliance with these standards' disclosure requirements.

Third, a common characteristic of most studies is that they focus on larger and non-financial firms. Thus, evidence for smaller listed firms, which have different incentives in terms of financial reporting decisions and arguably fewer resources to devote to financial reporting, is sparse. Also, a lack of evidence for financial firms suggests additional avenues for future research.

Fourth, only 10 out of 70 studies investigate potential market consequences arising from compliance levels with mandatory disclosure requirements. The need for further evidence is reflected in recent calls for research on the economic consequences of mandatory disclosure levels (Abdullah et al., 2015; Leuz & Wysocki, 2016; Mazzi et al., 2017). More evidence is also required on potential associations between compliance levels and equity, or variables relating to debt markets (e.g., current or future returns, market values, share price liquidity, trading volume, access to and choice of debt markets, cost of private or public debt). Such investigations would also support standard setters' work on the decision usefulness and relevance of financial statements.

Fifth, with regard to the determinants of compliance, we note that being audited by a Big 4 firm is consistently positively associated with mandatory disclosure levels; however, for developed markets there is limited evidence on the effect of specific corporate governance mechanisms or corporate governance quality. The role of board members in financial reporting decisions and quality may also provide avenues for future research in such markets.

Sixth, we note that with the exceptions of Mazzi, Slack, and Tsalavoutas (2018) and Glaum et al. (2013), multi-country studies do not explore country characteristics (e.g., culture, corruption levels) as potential determinants of compliance, although such characteristics have been traditionally linked with companies' financial reporting behaviour and quality (Ball, Robin, & Wu, 2003; Bushman, Piotroski, & Smith, 2004; Hope, 2003; Leuz, Nanda, & Wysocki, 2003). Recent IFRS related literature therefore calls for such evidence (Akman, 2011; Houqe & Monem, 2016; Lourenço, Rathke, Santana, & Branco, 2018).

Seventh, although there is broad consistency in the data collection method employed, the way compliance scores are computed differs significantly among studies, and few use multiple methods to ensure robustness. We also note that the level of compliance reported, as well as the inferences drawn, differ with the scoring method used. We therefore recommend, for future studies, the use of several scoring methods in combination.

Eighth, we note that the literature has placed more emphasis on the validity of the research instrument employed than on its reliability. We suggest that the rigour of future research could be increased if both types of checks were conducted.

Ninth, we note that only 10, and mostly recent, studies incorporated a materiality threshold. We therefore recommend that future studies consider a materiality threshold for disclosures.

This is particularly relevant for periods after 2014, when the revised IAS 1 came into force, which places greater emphasis on materiality.

An additional avenue for future studies that does not arise directly from the findings of the present paper relates to surveys conducted by the European Securities and Markets Authority (ESMA) and many national regulatory bodies. Such bodies frequently conduct surveys on compliance with accounting standards requirements and typically give rise to recommendations for improvement. Identifying the effect (if any) of such monitoring activities could be an additional focus for future research.

Finally, the knowledge gaps identified above suggest opportunities for different types of future research, including replication studies that draw on different settings, time periods and topics, as well as studies that advance the field methodologically and theoretically. Also, interdisciplinary research and evidence provided by other research methods, such as behavioural experiments and interviews, would be beneficial to investigate preparers' judgement and decision-making processes – both as stand-alone studies and in combination with quantitative compliance research.

4.2 Policy implications

In January 2013, the IASB hosted a public Disclosure Forum to debate the issue of disclosure overload. Participants included academics as well organisations that had previously undertaken or commissioned work on disclosure in financial reporting (see EFRAG, 2012; ICAS & NZICA, 2011). In May 2013, the IASB issued a Feedback Statement about this event and, in July 2013, the chairman of the IASB, Hans Hoogervorst, presented a speech entitled 'Breaking the boilerplate', in which he outlined '10 good proposals to make disclosures more effective' (Hoogervorst, 2013). Since then, FASB and EFRAG, among others, have also expressed concern about the proliferation of mandated disclosures, and called for better communication in financial reporting. It has been argued that because standards introduce disclosure requirements with the words 'shall disclose' and 'at a minimum', companies view disclosures mandated by accounting standards as disclosures that must be provided, without considering a materiality threshold. This results in a compliance exercise with extensive, and arguably unnecessary, disclosures (IASB, 2017, p. 83). However, our review suggests that this is unlikely, given the generally low compliance levels (and high standard deviation of non-compliance levels). Further, it appears that firms selectively 'swamp' users with trivial disclosures that are not costly to provide, but do not comply where proprietary information is required to be communicated. Thus, the evidence brings to light a challenge for one of the goals of the IFRS Foundation, i.e., to develop enforceable standards.[29]

This lack of compliance and the difficulty in enforcing IFRS have been highly contentious and have been among the SEC's arguments against the implementation of IFRS for US companies.[30] The IASB acknowledges that there are too many disclosure requirements, and that many lack clarity. Its recent Discussion Paper on the 'Principles of Disclosures' therefore aims, inter alia, to 'assist the Board to improve disclosure requirements in Standards' (IASB, 2017, p. 4). The present paper identifies disclosure requirements that appear to be problematic, i.e., where non-compliance is relatively high, and which necessitate improvement. However, the varying levels of compliance across countries lend support to the argument that accounting standards themselves are only part of the problem. A contributing factor may also be the standards' translatability, and the timing and quality of translations (see e.g. Abd-Elsalam & Weetman, 2003; Evans, Baskerville, & Nara, 2015). Further, financial reporting behaviour is also likely to vary because of the influence of different cultural and institutional characteristics.

[29] http://www.ifrs.org/about-us/who-we-are/
[30] https://www.sec.gov/spotlight/globalaccountingstandards/ifrs-work-plan-final-report.pdf

In the 2017 Discussion Paper (IASB, 2017, para. 4.18, p. 41), the IASB also proposes a more principles-based general disclosure standard and the reduction of specific requirements. The findings of prior research, as summarised in the present paper, do not lend support to this proposal. Instead, they support alternative recommendations by the New Zealand Accounting Standards Board. These propose two tiers of disclosure requirements: entities would (i) provide mandatory summary information, subject only to a materiality judgement (tier 1 disclosures); and (ii) assess whether additional information is required, depending on the relative importance of the item or transaction to the entity and the degree of judgement required in accounting for the item or transaction (tier 2 disclosures) (cited in IASB, 2017, p. 85). Effectively, this approach may go some way towards clarifying what a company 'should disclose' and what, specifically, is required 'at a minimum' by the standards. Such an approach has been frequently discussed and demanded by various stakeholders. Apart from preparers, such clarification would also assist regulators and enforcement bodies in assessing whether a company is complying with a disclosure requirement, or whether the disclosures are in fact necessary (c.f., Tsalavoutas et al., 2014, p. 19-20).[31] Thus, improvement in consistency and comparability of mandatory disclosures across companies and countries would be likely.

5 Conclusions

In the EU (and elsewhere), the mandatory adoption of IFRS in 2005 was met with scepticism. It was suggested that many factors would provide 'motives' and 'opportunities' for non-uniform application (Nobes, 2006). One key area of concern was that of (non-)compliance.

Accounting standards are only one element of the 'financial reporting chain' within a country (Damant, 2006, p. 30). Cultural and institutional factors (such as enforcement mechanisms) affect how accounting is practiced and how accounting information is perceived.

[31] http://www.accaglobal.com/content/dam/acca/global/PDF-technical/financial-reporting/tech-tp-farsig14.pdf

Such factors differ significantly across jurisdictions (Ball, 2006; Larson & Street, 2004; Nobes, 2006; Schipper, 2005; Soderstrom & Sun, 2007; Zeff, 2007).

In this review paper, we collate evidence from 70 studies that examine compliance with IFRS mandatory disclosure requirements for periods after 2005. Our review indicates high levels of non-compliance in the majority of countries examined. The vast majority of studies (55/70) evaluate disclosures from firms in a single country and focus mostly on small markets or less developed economies. The remaining studies (15/70) evaluate firm disclosures from more than one country and mainly examine the largest firms listed in EU member states. The firm characteristics most commonly associated with compliance levels include firm size, audit firm size, leverage and corporate governance characteristics. Our review highlights the lack of evidence for (i) smaller firms from developed markets (ii) financial firms, (iii) the effect of corporate governance characteristics on compliance, and (iv) the market effects of compliance levels. We provide suggestions on how future research can address this lack of evidence and provide insights for future developments in accounting standard setting. Further, we highlight a number of research design issues and suggest that future studies should be more methodologically robust by: (i) employing alternative scoring methods, (ii) performing, when relevant, validity and reliability tests, and (iii) considering materiality.

As is the case with every study, the present review is also subject to several caveats. First, while the SLR method may be more rigorous than a traditional literature review, it nevertheless requires subjective judgement to interpret the findings. Other researchers may interpret the results differently. Further, our data collection ends in February 2019. More recent empirical studies may be available, which should be included in future reviews.

Appendix A: List of studies used to identify the studies covered in this review

	References	No. of Citations*
1	Wallace, R. S. O., Naser, K., & Mora, A. (1994). The relationship between the comprehensiveness of corporate annual reports and firm characteristics in Spain. *Accounting and Business Research, 25*(97), 41-53.	997
2	Wallace, R. S. O., & Naser, K. (1995). Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the stock exchange of Hong Kong. *Journal of Accounting and Public Policy, 14*(4), 311-368.	877
3	Cooke, T. E. (1992). The impact of size, stock market listing and industry type on disclosure in the annual reports of Japanese listed corporations. *Accounting and Business Research, 22*(87), 229-237.	855
4	Ahmed, K., & Nicholls, D. (1994). The impact of non-financial company characteristics on mandatory disclosure compliance in developing countries: The case of Bangladesh. *Journal of Accounting Education and Research*, 29(1), 62-77.	517
5	Akhtaruddin, M. (2005). Corporate mandatory disclosure practices in Bangladesh. *The International Journal of Accounting, 40*(4), 399-422.	381
6	Glaum, M., & Street, D. L. (2003). Compliance with the disclosure requirements of Germany's new market: IAS versus US GAAP. *Journal of International Financial Management & Accounting, 14*(1), 64-100.	367
7	Street, D. L., & Bryant, S. M. (2000). Disclosure level and compliance with IASs: A comparison of companies with and without US listings and filings. *The International Journal of Accounting, 35*(3), 305-329.	346
8	Lopes, P. T., & Rodrigues, L. L. (2007). Accounting for financial instruments: An analysis of the determinants of disclosure in the Portuguese stock exchange. *The International Journal of Accounting, 42*(1), 25-56.	319
9	Street, D. L., & Gray, S. J. (2002). Factors influencing the extent of corporate compliance with International Accounting Standards: Summary of a research monograph. *Journal of International Accounting, Auditing and Taxation, 11*(1), 51-76.	300
10	Abd-Elsalam, O. H., & Weetman, P. (2003). Introducing International Accounting Standards to an emerging capital market: Relative familiarity and language effect in Egypt. *Journal of International Accounting, Auditing and Taxation, 12*(1), 63-84.	288
11	Street, D. L., Gray, S. J., & Bryant, S. M. (1999). Acceptance and observance of International Accounting Standards: An empirical study of companies claiming to comply with IASs. *The International Journal of Accounting, 34*(1), 11-48.	265
12	Street, D. L., & Gray, S. J. (2001). *Observance of international accounting standards: Factors explaining non-compliance*: Certified Accountants Educational Trust.	226
13	Al-Shammari, B., Brown, P., & Tarca, A. (2008). An investigation of compliance with International Accounting Standards by listed companies in the Gulf Co-Operation Council member states. *The International Journal of Accounting, 43*(4), 425-447.	218
14	Ali, M. J., Ahmed, K., & Henry, D. (2004). Disclosure compliance with national accounting standards by listed companies in South Asia. *Accounting and Business Research, 34*(3), 183-199.	212
15	Patton, J., & Zelenka, I. (1997). An empirical analysis of the determinants of the extent of disclosure in annual reports of joint stock companies in the Czech Republic. *European Accounting Review, 6*(4), 605-626.	210
16	Craig, R., & Diga, J. (1998). Corporate accounting disclosure in ASEAN. *Journal of International Financial Management & Accounting, 9*(3), 246-274.	193
17	Naser, K., & Nuseibeh, R. (2003). Quality of financial reporting: evidence from the listed Saudi nonfinancial companies. *The International Journal of Accounting, 38*(1), 41-69.	173
18	Tower, G., Hancock, P., & Taplin, R. H. (1999). A regional study of listed companies' compliance with International Accounting Standards. *Accounting Forum, 23*(3), 293-305.	135

19	Aljifri, K. (2008). Annual report disclosure in a developing country: The case of the UAE. *Advances in Accounting, 24*(1), 93-100.	130
20	Evans, T. G., & Taylor, M. E. (1982). Bottom line compliance with the IASC: A comparative analysis. *The International Journal of Accounting*, *18*(1), 115-128.	122
21	Owusu-Ansah, S., & Yeoh, J. (2005). The effect of legislation on corporate disclosure practices. *Abacus*, *41*(1), 92-109.	121
22	Tai, B., Au-Yeung, P., Kwok, M., & Lau, L. (1990). Non-compliance with disclosure requirements in financial statements: The case of Hong Kong companies. *The International Journal of Accounting*, *25*(2), 99-112.	110
23	Al-Akra, M., Eddie, I.A., & Ali, M.J. (2010). The influence of the introduction of accounting disclosure regulation on mandatory disclosure compliance: Evidence from Jordan. *The British Accounting Review, 42*(3), 170-186.	110
24	Hassan, O. A., Giorgioni, G., & Romilly, P. (2006). The extent of financial disclosure and its determinants in an emerging capital market: The case of Egypt. *International Journal of Accounting, Auditing and Performance Evaluation*, *3*(1), 41-67.	103
25	Peng, S., Tondkar, R. H., van der Laan Smith, J., & Harless, D. W. (2008). Does convergence of accounting standards lead to the convergence of accounting practices? A study from China. *The International Journal of Accounting*, *43*(4), 448-468.	103
26	Ali, M. J. (2005). A synthesis of empirical research on international accounting harmonization and compliance with International Financial Reporting Standards. *Journal of Accounting Literature*, *24*, 1-52.	93
27	Tsalavoutas, I. (2011). Transition to IFRS and compliance with mandatory disclosure requirements: What is the signal? *Advances in Accounting*, *27*(2), 390-405	75
28	Abdelsalam, O. H., & Weetman, P. (2007). Measuring accounting disclosure in a period of complex changes: The case of Egypt. *Advances in International Accounting, 20,* 75-104.	73
29	Tsalavoutas, I., Evans, L., & Smith, M. (2010). Comparison of two methods for measuring compliance with IFRS mandatory disclosure requirements. *Journal of Applied Accounting Research, 11*(3), 213-228.	71
30	Nobes, C. W. (1990). Compliance by US corporations with IASC standards. *The British Accounting Review, 22*(1), 41-49.	65
31	Cairns, D. (2001). International accounting standards survey 2000. London: David Cairns.	56
32	Abayo, A. G., Adams, C. A., & Roberts, C. B. (1993). Measuring the quality of corporate disclosure in less developed countries: The case of Tanzania. *Journal of International Accounting, Auditing and Taxation, 2*(2), 145-158.	52
33	Ahmed, J.U., & Karim, A.K.M. (2005). Determinants of IAS disclosure compliance in emerging economies: Evidence from exchange listed companies in Bangladesh. Working paper	49
34	Solas, C. (1994). Financial reporting practice in Jordan: An empirical test. *Advances in International Accounting, 7*(1), 43-60.	45
35	Frost, C. A., & Ramin, K. P. (1997). Corporate financial disclosure: A global assessment. In F. D. S. Choi (Eds.), *International Accounting and Finance Handbook*,(3rd Ed): John Wiley & sons, Inc.	44
36	Al-Shiab, M. (2003). *Financial consequences of IAS adoption: The case of Jordan.* PhD Thesis. Newcastle University.	43
37	Owusu-Ansah, S. (2000). Noncompliance with corporate annual report disclosure requirements in Zimbabwe. *Research in Accounting in Emerging Economies*, *4*(14), 289-305.	38
38	Sucher, P., & Alexander, D. (2002). *IAS Issues of Country, Sector and Audit Firm Compliance in Emerging Economies*: Centre for Business Performance, Institute of Chartered Accountants in England & Wales.	31
39	Vlachos, C. (2001). *An empirical investigation of the financial disclosure practices of Cypriot and Greek companies.* PhD Thesis. Middlesex University.	26

40	Owusu-Ansah, S. (1998). *The adequacy of corporate mandatory disclosure practices on emerging markets: A case study of the Zimbabwe stock exchange.* PhD Thesis. Middlesex University.	20
41	Samaha, K., & Stapleton, P. (2009). Firm-specific determinants of the extent of compliance with International Accounting Standards in the corporate annual reports of companies listed on the Egyptian Stock Exchange: A positive accounting approach. *Afro-Asian Journal of Finance and Accounting*, *1*(3), 266-294.	20
42	Chatham, M.D. (2008). Assessing the extent of compliance with International Accounting Standards. *Journal of International Business Research*, *7*(1), 61-90	17
43	Gebhardt, G., & Heilman, A. (2004). Compliance with German and International Accounting Standards in Germany: Evidence from cash flow statements. In C. Leuz, D., Pfaff, & A., Hopwood (Eds.), *The economics and politics of accounting: International perspectives on research, trends, policy and practice*. Oxford University press.	16
44	Samaha, K., Khlif, H., & Dahawy, K. (2016). Compliance with IAS/IFRS and its determinants: A meta-analysis. *Journal Accounting Business and Management-International*, *23*(1), 41-63.	2
	Total number of citations.	8,514
	Total number of citations after elimination of duplicates.	3,970

*As of 19 February 2019. Note: As the full bibliographical detail is provided above and the articles themselves are not the focus of our review, only eight of these references are included in the reference list at the end of this article.

Appendix B: Details of the 70 studies covered in this review (*For explanation of the acronyms in this table, please see Table 2*)

Study	Period	Index filter	Country	RQ	First year of adoption	Research instrument	Scoring method	Validity/ reliability	Materiality	Sample composition	Mean/ Median compliance score; Range	No firms/ Obs.	Key determinants & other Findings	ABS rank; ABDC rank; Scopus indexed
Multiple topics														
Bova & Pereira (2012)	2005	NM	Kenya	D & MC	No	Kenya's Financial Reporting Awards	Other	N/A	No reference	Inc	71%/79%; 0-100%	75/75	(-): - (+): Leverage, size, foreign owners/Higher shares turn over	2; A; Yes
Glaum, Schmidt, Street, & Vogel (2013)	2005	Yes	17 EU Countries	D	Yes	Self-constructed	PC	No/yes	No reference	Inc	73%; 12-100%	357/357	(-): Ownership concentration (+): Goodwill intensity, big 4, Audit committee	3; A; Yes
Tsalavoutas (2011)	2005	No	Greece	D	Yes	Self-constructed	PC & Cooke's	Yes/yes	No reference	Exc	79%/78%; 50-95%	153/153	(-): ΔEARN(+):Big 4, ΔBVE	2; B; Yes
Tsalavoutas & Dionysiou (2014)	2005	No	Greece	MC	Yes	Self-constructed	PC & Cooke's	Yes/yes	No reference	Exc	79%/78%; 50-95%	139/139	NA/compliance is value relevant	2; C; Yes
Verriest, Gaeremynck, & Thornton (2013)	2005	Yes	15 EU Countries	D	Yes	Self-constructed	Counting items	No/no	No reference	Inc	14 out of 15; 6-15	223/223	(-): MB, ΔLOCALGAAP-IFRS (+): Corporate governance, ΔEARN	3; 4*; Yes
Ballas & Tzovas (2010)	2006	No	Greece	D	No	Self-constructed	Cooke's	No/no	No reference	Exc	63%/64%; 34-89%	32/32	(-): - (+): Listing	2; C; Yes

Cascino & Gassen (2015)	2006	No	Germany and Italy	D	No	Self-constructed	Cooke's	No/no	No reference	Inc	German firms 67%/69%; Italian firms 68%/70%	289/289	German firms: (-): - (+): Size, independent board, big 4, Gov. ownership Italian firms: (-): Gov. ownership, region (+): Size, ROA, MB, losses frequency, independent board, big 4	4; A*; Yes
Alanezi & Albuloushi (2011)	2007	No	Kuwait	D	No	Self-constructed	Cooke's	Yes/yes	No reference	Exc	72%; 48-96%	68/68	(-): ROE, family member on board (+): Leverage, audit committee presence	2; C; Yes
Abdullah, Evans, Fraser, & Tsalavoutas (2015)	2008	No	Malaysia	D & MC	No	Self-constructed	PC & Cooke's	Yes/yes	No reference	Exc	84%/85%; 53-98%	221/221	(-): % family members, % board accounting profession (+): % independent directors, No board meeting, /Compliance is not value relevant	3; B; Yes
Alfraih (2016)	2010	No	Kuwait	D	No	Self-constructed	Cooke's	No/no	No reference	Exc	70%; 41-91%	134/134	(-): CEO duality (+): Size, board size, board diversity, family members on the board, multiple directorships,	1; C; No
Amiraslani, Iatridis, & Pope (2013)	2010	Yes	25 EU countries	D	No	Self-constructed	PC & Cooke's	Yes/yes	Yes	Exc	Medians only: PPE 86%; goodwill 82%; other intangibles 77%	324/324	(-): -(+): Goodwill impairment intensity, size leverage, big 4	(-)

André, Dionysiou, & Tsalavoutas (2018)	2010	Yes	16 EU Countries	MC	No	Tsalavoutas (2011)	PC & Cooke's	Yes/yes	Yes	Exc	84%/86%; 25-86%	373/373	NA/Compliance is value relevant and increases analysts' accuracy	2; A; Yes
Dawd (2018)	2010	No	Kuwait	D	No	Self-constructed	Cooke's	Yes/yes	No reference	Exc	58%; 31-72%	51/51	(-): - ROE (+): -	2; C; Yes
Dawd & Charfeddine (2019)	2010	No	Kuwait	C	No	Self-constructed	Cooke's	Yes/yes	No reference	Exc	58%/60%	51/51	NA/profitability is negatively related to the level of compliance	-; C; Yes
Devalle, Rizzato, & Busso (2016)	2010	Yes	Italy	D	No	KPMG (2013)	PC, Cooke's, SAIDIN PC weighted	Yes/yes	Yes	Inc	73%/74%; 47-94%	189/189	(-): % of financial costs on revenue (+): -	2; B; Yes
Juhmani (2017)	2010	No	Bahrain	D	No	Self-constructed	Cooke's	No/no	No reference	NM	81%; 61-94%	41/41	(-): CEO duality (+): Board independence, big 4	2; C; Yes
Santos, Ponte, & Mapurunga (2014)	2010	No	Brazil	D	Yes	Self-constructed	PC & Cooke's	No/yes	No reference	Exc	24%; 0-45%	366/366	(-): -(+): Size, big 4	-; -; Yes
Tsalavouta, André, & Dionysiou (2014)	2010	Yes	24 Countries Across the world	D	No	Tsalavoutas, Evans and Smith (2010)	PC & Cooke's	Yes/yes	Yes	Exc	83%/85%; 25-100%	544/544	(-): Impairment (+): US listing, audit enforcement	(-)
Che Azmi & English (2016)	2011	Yes	Malaysia	C	No	KPMG 2012, PricewaterhouseCoopers 2012, EY	Item by item	Yes/no	No reference	Exc	-	18/18	low compliance with both current and future impact disclosures in IAS 17, IAS 38 and IAS 37	2; B; Yes
Demir & Bahadir (2014)	2011	No	Turkey	D	No	Self-constructed	Cooke's	No/no	No reference	Exc	79%/79%; 64-92%	168/168	(-): Leverage (+): big 4	1; C; No
Bagudo, Manaf, & Ishak (2016)	2012	No	Nigeria	D	Yes	Self-constructed	Cooke's	No/no	No reference	Inc	61%; 19-92%	154/154	(-): - (+): Size, Leverage, big 4	-; C; No
Appiah, Awunyo-Victor, Mireku, &	2008-2012	No	Ghana	D	No	Self-constructed	PC	No/yes	No reference	Inc	87%; 51-99%	31/147	(-): Age, leverage (+): Size, big4	-; C; No

Ahiagbah. (2016)														
Zureigat (2015)	2008-2012	No	Saudi Arabia	D	No	KPMG (2012)	Cooke's	Yes/no	No reference	FF	63%; 38- 94%	-/176	(-): - (+): size, leverage, big 4, auditor experience	-; C; Yes
Khamees (2018)	2010-2013	No	Jordan	MC	No	Horani (2016)	Cooke's	Yes/no	No reference	Inc	79%/80%; 46-97%	190/-	NA/compliance moderates the relation between current returns and expected earnings and intensifies the relation between current returns and unexpected earnings	-; C; Yes
Ajili & Bouri (2018)	2010-2014	No	Across the world (IB)	D	No	Self-constructed	Cooke's	No/no	No reference	FF	68%/70%; 23-89%	90/232	(-): Leverage, age, Shariah Board of well performing firms (+): Size, ROE, subsidiary, Shariah Board	1; B; Yes
Wang (2018)	2006, 2010, 2014	Yes	Australia	C	No	Deloitte (2006) and KPMG (2006)	Cooke's	Yes/no	No reference	Exc	2006: 90% 2010: 92% 2014:91%	112/336		2; B; Yes
Goodwill and goodwill impairment														
Carlin & Finch (2011)	2006	Yes	Australia	C	No	Self-constructed	Item by item	No/no	No reference	Inc	-	200/200	-	1; B; Yes
Carlin, Finch, & Ford (2008)	2006	Yes	Australia	C	No	Self-constructed	Item by item	No/no	No reference	Inc	-	200/200	-	-; C; No
Carlin, Finch, & Laili (2009)	2006	Yes	Malaysia	C	Yes	Self-constructed	Item by item	No/no	No reference	Inc	-	36/36	-	-; C; No
Khairi (2008)	2006	No	Singapore	C	No	Self-constructed	Item by item	No/no	No reference	Inc		192/192	70% of the firms are fully compliant	-; C; No

Carlin, Finch, & Khairi (2010)	2005-2007	No	Singapore	C	No	Self-constructed	item by item	No/No	No reference	Inc	-	168/504	key disclosures are missing, although compliance improves over time	2; B; Yes
Carlin & Finch (2010)	2006-2007	Yes	Australia	C	No	Self-constructed	Item by item	No/no	No reference	Inc	-	50/100	-	2; B; Yes
Baboukardos & Rimmell (2014)	2008	No	Greece	MC	No	Deloitte (2009)	PC & Cooke's	Yes/no	Yes	Exc	49%/44%; 12-100%	76/76	NA/Goodwill is value relevant only when compliance with goodwill disclosures is high	3; B; Yes
D'alauro (2013)	2006-2008	No	UK and Italy	D	No	Self-constructed	Counting items	No/no	No reference	Inc	5/6 out of 10; 0-10	-/110	-	-; -; Yes
Florio, Lionzo, & Corbella (2018)	2006-2008	No	Italy	D	No	Self-constructed	Cooke's	No/yes	Yes	Exc	66%/66%; 31-96%	86/277	(-): - Size (+): material business combination, big 4	2; A; Yes
Hartwig (2015)	2005 2008	No	Sweden Netherlands	D	No	Self-constructed	Cooke's	No/no	No reference	Inc	Sweden: 2005: 56%, 2008: 61.6% Netherlands: 2005: 43%, 2008: 63	-/472	Sweden: (-): Financials (+): Size Netherlands: (-): Leverage, financials (+): Most recent year	2; C; Yes
Bepari & Mollik (2014)	2006-2009	Yes	Australia	D	No	Self-constructed	Cooke's	No/no	No reference	Inc	54% ; 0-100%	-/911	(-): - (+): Big 4, goodwill intensity, ROE, goodwill impairment, accounting and finance expertise on board	2; C; Yes
Bepari, Rahman, & Mollik (2014)	2006-2009	Yes	Australia	D	No	Self-constructed	Cooke's	No/no	Yes	Inc	61%; 0-100%	-/916	(-): - (+): Big 4, goodwill intensity, ROE, crisis	2; B; Yes

Finch, Khairi, & Laili (2013)	2010	Yes	Malaysia	C	No	Self-constructed	Cooke's adjusted	Yes/yes	No reference	Inc	77%/81%; 31%-100%	20/20		-; C; No
Guthrie & Pang (2013)	2005-2010	No	Australia	C	No	Self-constructed	Item by item	No/no	No reference	Inc	-	287/1435	-	2; B; Yes
Camodeca, Almici, & Bernardi (2013)	2007-2011	Yes	UK	C	No	Self-constructed	Item by item	No/no	No reference	Exc	-	85/340	-	-; C; Yes
Mazzi, Andrè, Dionysiou, & Tsalavoutas (2017)	2008-2011	Yes	16 European Countries	D & MC	No	Self-constructed	Cooke's, SAIDIN & other	Yes/yes	Yes	Exc	82%/83%; 33-100%	214/831	(-): Material business combination occurrence (+):Goodwill intensity, impairment loss, size /Compliance lowers the cost of equity capital	3; A; Yes
Mazzi, Slack, & Tsalavoutas (2018)	2008-2011	Yes	16 EU countries	D	No	Mazzi, Andrè, Dionysiou and Tsalavoutas (2017)	Cooke's	Yes/yes	Yes	Exc	same as Mazzi et al. (2017)	222/779	(-): Hierarchy, Embeddedness, Material business combination occurrence, (+):Mastery, Goodwill intensity, impairment loss, size, audit strength, divergence	3; B; Yes
Rahman, Mohamed, Laili, & Khairi (2018)	2010-2012	Yes	Malaysia	D	No	Self-constructed	Cooke's	No/no	No reference	Inc	69%/75%; 0-100%	50/150	(-): - (+): Size, EPS, big 4	-; C; No
Lazar & Velte (2018)	2010-2015	Yes	Germany	D	No	Self-constructed	Cooke's adjusted PC adjusted	No/no	No reference	Exc	67%; 10-100% 2010: 59%, 2011: 65%; 2012: 69%; 2013: 70%; 2014: 66%; 2015: 72%	25/150	(-): Goodwill intensity (+): ROA; goodwill impairment	2; C; Yes

Financial Instruments														
Bamber, McMeeking, & Petrovic (2018)	2007	Yes	UK	C	Yes	Self-constructed	Cooke's	No/yes	Yes	Exc	95%/96%; 69-100%	58/58	compliance is positively related to the number of words related to financial instruments	3; A; Yes
Tahat, Dunne, Fifield, & Power (2016)	2006-2007	Yes	Jordan	MC	No	Self-constructed	Cooke's	No/yes	No reference	Exc	pre- IFRS 7: 32%/28%; 13- 70% post-IFRS 7: 52%/49%; 21-85%	70/70	-/compliance is value relevant	2; B; Yes
Tauringana & Chithambo (2016)	2007-2009	No	Malawi	D	No	Self-constructed	Cooke's	No/no	No reference	Inc	40%/43%; 12-64/%	13/39	(-): - (+): proportion of non-executives, size, leverage	2; C; No
Tahat, Mardini, & Haddad (2018)	2005-2012	No	Qatar	C	No	Self-constructed	Cooke's	No/yes	No reference	Inc	38%/35;7-89%	-/282	-/compliance improves over time	-; C; No
Agyei-Mensah (2017b)	2011-2013	No	Ghana	D	No	Tauringana and Chithambo (2016)	Cooke's	Yes/no	No reference	NM	53%; 42-68%	30/90	(-): - (+): proportion of non-executives	2; C; No
Tahat, Mardini, & Power (2017)	2013-2014	No	Jordan	D	No	Self-constructed	Cooke's	Yes/yes	No reference	Inc	52%; 12-95%	82/164	(-): (+): -Size, big 4, proportion of independent directors, presence of audit committee	-; C; Yes
Agyei-Mensah (2017a)	2013-2015	No	Botswana and Ghana	D	No	Tauringana and Chithambo (2016)	Cooke's	Yes/no	No reference	NM	Botswana firms: 63%; 52-78% Ghanian firms: 53%; 42-68%	-/174	Botswana (-): (+): institutional ownership Ghana (-): (+): proportion of non-executives	2; C; No

Business Combinations														
Lucas & Lourenço (2014)	2008	Yes	17 EU Countries	D	No	Self-constructed	Cooke's adjusted	No/no	No reference	NM	85%/88%; 38-100%	302/302	(-): French/civil law country (+): Leverage, ROA, cross listed, common law country	2; C; Yes
Taplin, Zhao, & Brown (2014)	2009	No	China	C	No	Self-constructed	Item by item	No/no	No reference	Inc	-	344/344	Key disclosures are missing	3; A; Yes
Nakayama & Salotti (2014)	2010	No	Brazil	D	Yes	Self-constructed	Cooke's	Yes/no	No reference	Inc	85%/88%; 38-100%	40/40	(-): - (+): Big 4, relative size	-; -; Yes
Souza & Borba (2016)	2010-2013	No	Brazil	MC	No	Self-constructed	Cooke's	No/no	No reference	Inc	29%; 7-66%	-/102	NA/Compliance is value relevant	-; -; Yes
Related party transactions														
ElKelish (2017)	2010-2012	No	UAE	D	No	KPMG (2011)	Cooke's adjusted	Yes/yes	No reference	Inc	12%/10%; 2-31%	108/242	(-): - board size (+): Size, leverage, competition, ownership concentration	2; B; Yes
Sellami & Fendri (2017)	2012-2014	No	South Africa	D	No	Self-constructed	Cooke's	Yes/yes	No reference	Exc	77%/ 50-100%	120/345	(-): Ownership concentration, (+): Proportion of independent directors sitting on the audit committee, proportion of accounting and finance or industry experts on the audit committee, proportion of independent directors and the firm's size	2; B; Yes

Agyei-Mensah (2019b)	2013-2016	No	Ghana	D	No	KPMG (2016)	Cooke's	Yes/no	No reference	NM	26%; 6-55%	30/120	(-): - (+): gender diversity on audit committees, independent members in audit committee, ownership concentration	-; C; Yes
Income Tax														
Ebrahim & Fattah (2015)	2007	No	Egypt	C	No	Self-constructed	Counting items	No/No	No reference	Exc	3.35/4 out of 5	116/116	(-): size (+): institutional ownership, international affiliated auditor, foreign board member, family board member	3; B; Yes
Lopes (2014)	2008 2012	Yes	Portugal	D	No	Self-constructed	Cooke's	No/no	No reference	Exc	2008: 46%; 7-93% 2012: 55%; 0-98%	-/87	2008: (-): - (+): ROE, big 4 2012: (-): Leverage, growth in profit (+): Big 4	-; -; Yes
Mgammal, Bardai, & Ismail (2018)	2010-2012	No	Malaysia	D	No	Self-constructed	Cooke's	No/no	No reference	Exc	22%; 3-71%	286/888	(-): - (+): Size	2; C; No
Presentation of financial statements														
Rahman & Hamdan (2017)	2009	No	Malaysia	D	No	Self-constructed	Cooke's	Yes/yes	No reference	Exc	93%/93%; 83-100%	105/105	(-): - (+): Size	2; C; Yes
Alrawahi & Sarea (2016)	2013	No	Bahrain	D	No	Self-constructed	Cooke's	Yes/no	No reference	Inc	83%; 77-94%	36/36	(-): - (+): Big 4, ROE	1; C; Yes
Decommission costs														
Abdo, Mangena, Needham, & Hunt (2018)	2014/2015	No	UK	C	No	Self-constructed	Cooke's	No/yes	No reference	Exc	63%; 0-100%	68/68	Certain disclosures are missing	3; B; Yes

Exploration costs													
Abdo (2016)	2006-2014	Yes	Canada, Hong Kong, Ireland, UK, Fortune Index	C	No	Self-constructed	Item by item	No/no	No reference	Exc	-	118	16% of sampled firms do not specify method of accounting treatment (AIM listed). IFRS 6 has had some success in harmonising accounting treatments of exploration and evaluation expense	2; B; Yes
Intangible assets													
Agyei-Mensah (2019a)	2016	Yes	Ghana	D	No	KPMG (2016)	Cooke's	Yes/no	No reference	NM	61%; 50-70%	110/110	(-): - (+): big 4, leverage, intangible intensive industry	2; C; No
Operating leases													
Arimany, Fito, Moya, & Orgaz (2018)	2005-2011	Yes	UK and Spain	D	No	Self-constructed	Other	NA/Yes	No reference	Exc	-	194/1358	(-): - (+): Size, ROE, media coverage, UK firms	1;- ; No
Provisions													
Acar & Ozkan (2017)	2005-2010	No	Turkey	D	No	Self-constructed	Other	No/No	No reference	Exc	32%/0%; 0-100%	-/1078	(-): - (+): ownership concentration, board size	1; C; Yes

Share-based payment														
Goh, Joos, & Soonawalla (2016)	2005	Yes	France	D & MC	Yes	Self-constructed	Cooke's adjusted	No/no	No reference	Inc	61%/62%	136/136	(-): - CEO ownership, proportion of total shares under option (+): Size, US listing % of shares owned by UK or US firms, annual report in English/ compliance improves value relevance of option expense	2;B; Yes

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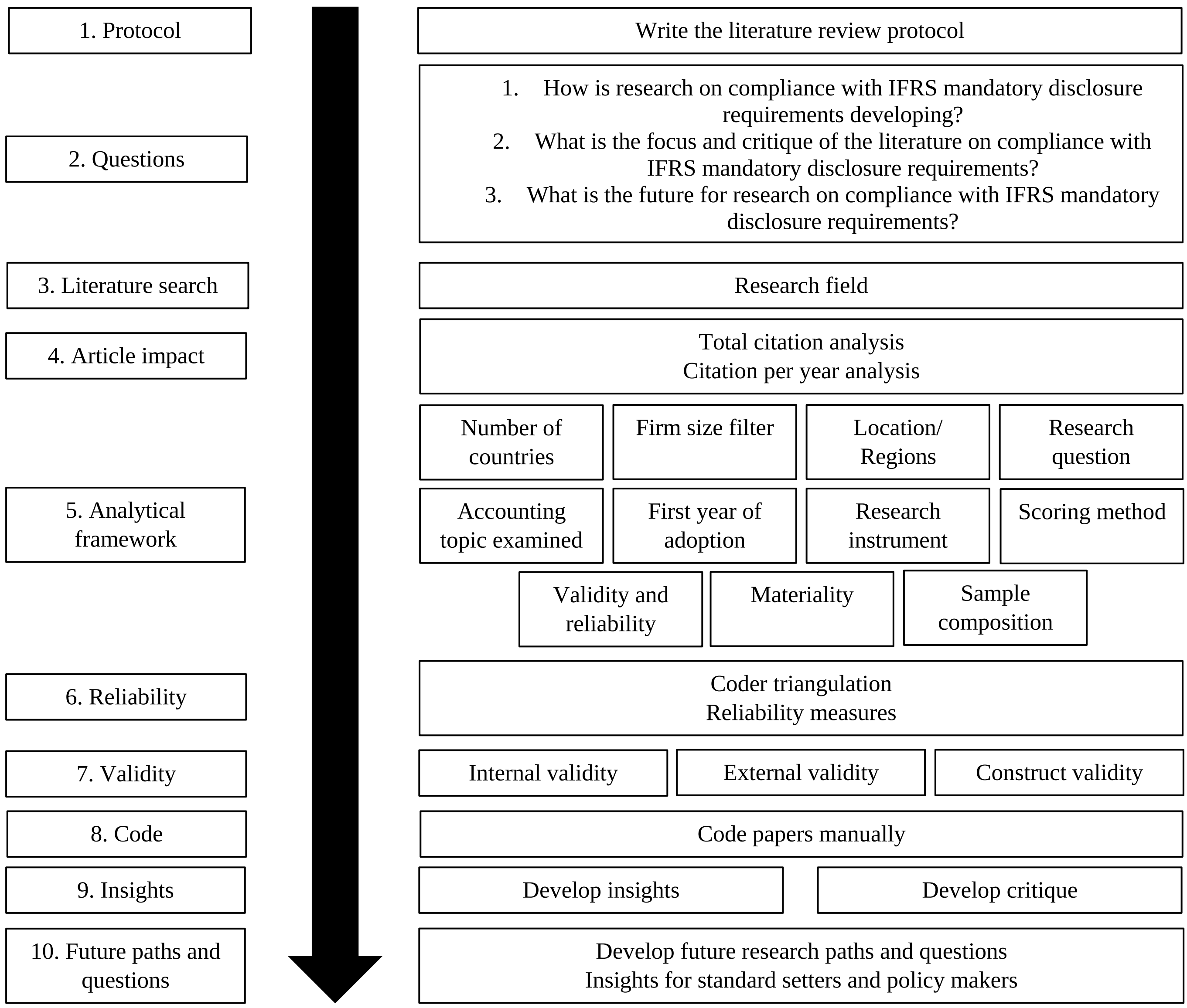
Figure 1: The Structured Literature Review process adopted in the present paper.



Adapted from Massaro et al. (2016).

Figure 2: The process employed to identify articles for review

Stage 1	39 relevant studies reviewed by/discussed in Ali (2005), Ali et al. (2004), Samaha et al., (2016), Tsalavoutas (2011), Tsalavoutas et al. (2010), plus these five studies	44 studies
Stage 2	Using the software Publish or Perish, identification of studies citing the 44 studies identified in Stage 1	3,970 unique citations from a total of 8,514
Stage 3	Elimination of studies identified in Stage 2 that met one or more of the following conditions: 1. The study uses the term compliance to signify that IFRS were the standards followed by the sample firms but does not measure compliance with mandatory disclosure requirements 2. The study does not quantify compliance 3. Sample companies covered by the study report under IFRS on a *voluntary* basis. 4. The study focuses on disclosures recommended but not mandated by IFRS 5. Non-IFRS mandatory disclosure requirements are studied 6. Research instruments include both mandatory and voluntary disclosures and the results are provided on an aggregate level 7. The study employs firms with financial year-ends prior to 2005 8. The study examines companies' compliance with the Management Commentary disclosure requirements (excluded because the publication of a Management Commentary is voluntary) 9. The study is not indexed in the 2018 Academic Journal Guide (2018 AJG hereafter), the Australian Business Deans Council Journal Quality list (ABDC hereafter), or in Scopus. 10. We also excluded Tsalavoutas et al. (2010)	57 studies
Stage 4	Using the software Publish or Perish, identification of studies citing the 57 studies identified in Stage 3	910 unique citations from a total of 1,335
Stage 5	Repeat the process followed in Stage 3 for papers identified in Stage 4	13 studies
Stage 6	Using the software Publish or Perish, identification of studies citing the 13 studies identified in Stage 5	38 citations, relating to 37 studies
Stage 7	Repeat the process followed in Stage 3 for papers identified in Stage 6	0 studies
	Studies reviewed in this study: the pool of studies identified in Stages 3, 5 and 7	70 studies

Figure 3: Number of relevant single- and multi-country studies

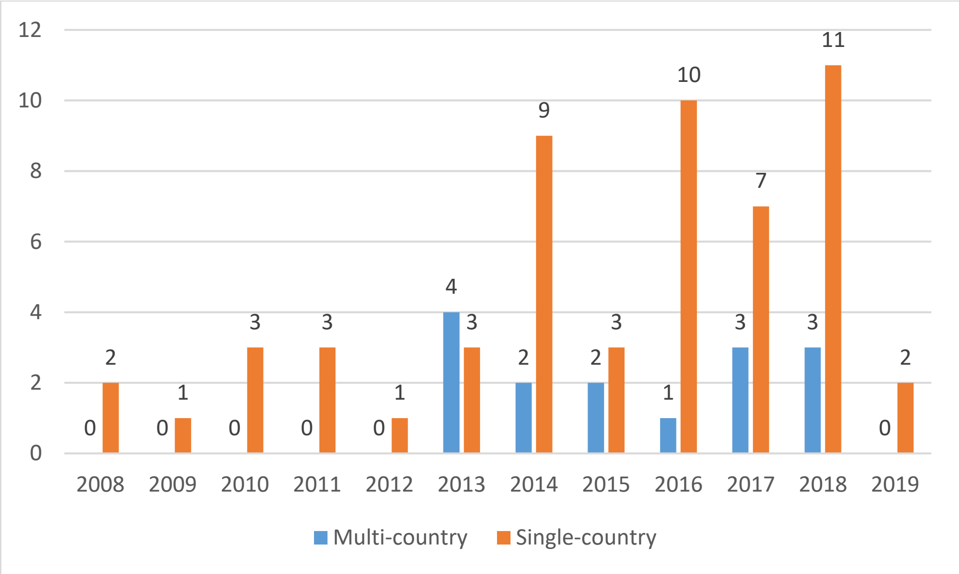
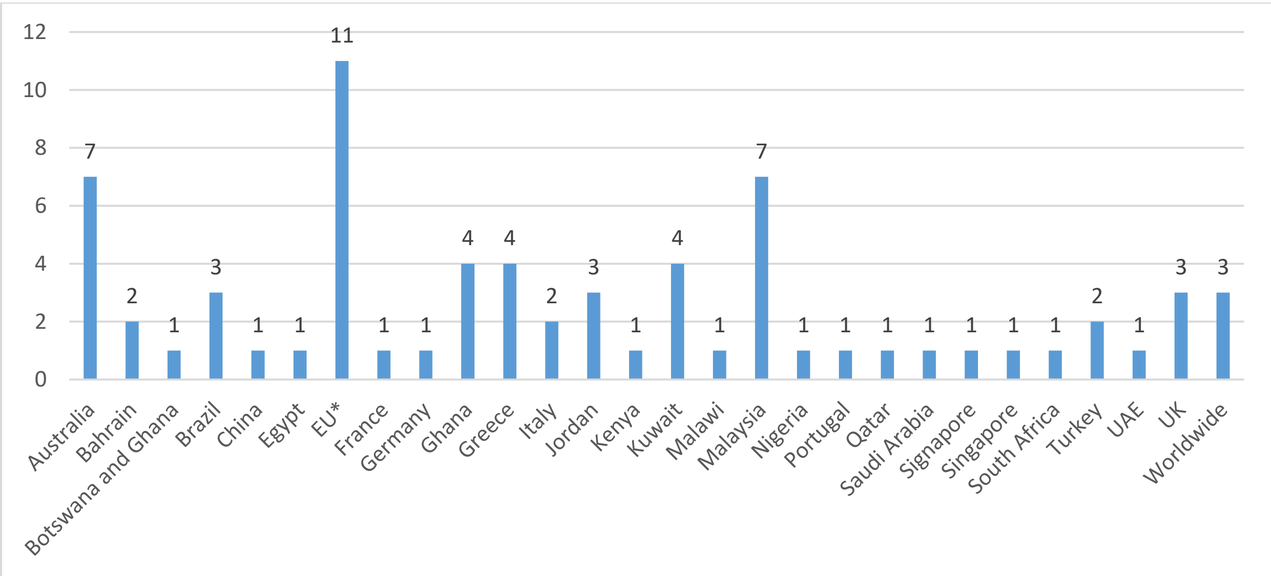


Figure 4: Number of relevant studies per country.



*EU refers to studies which focus on multiple EU countries.

Figure 5: Number of studies focusing on *Multiple topics* (E1) by research question and publication year.

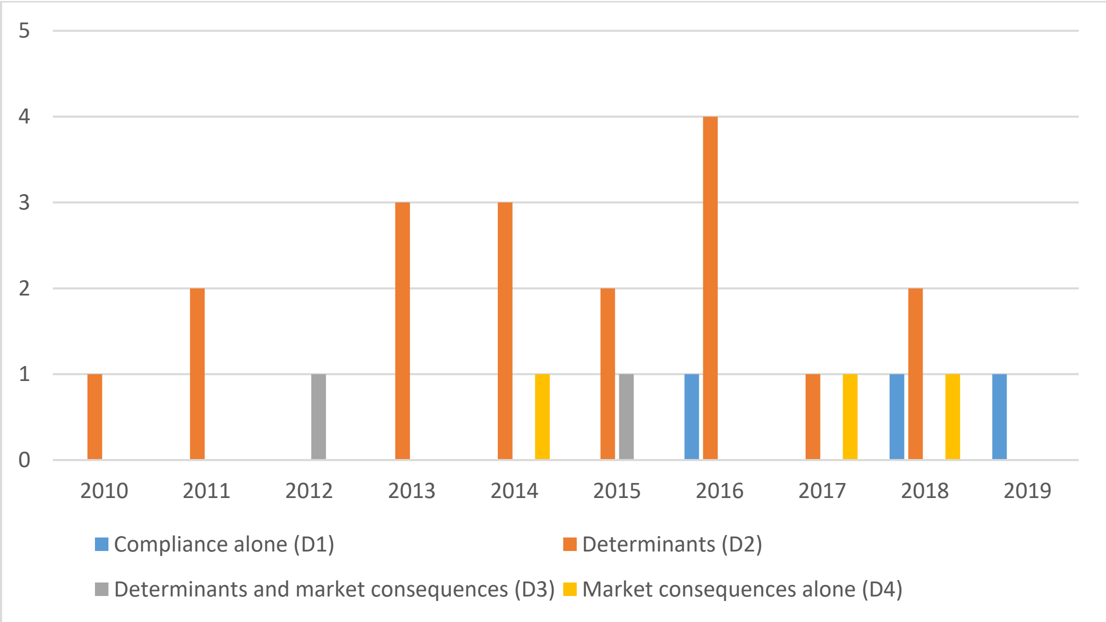


Figure 6: Number of studies focusing on *Goodwill and goodwill impairment testing* (E2) by research question and publication year

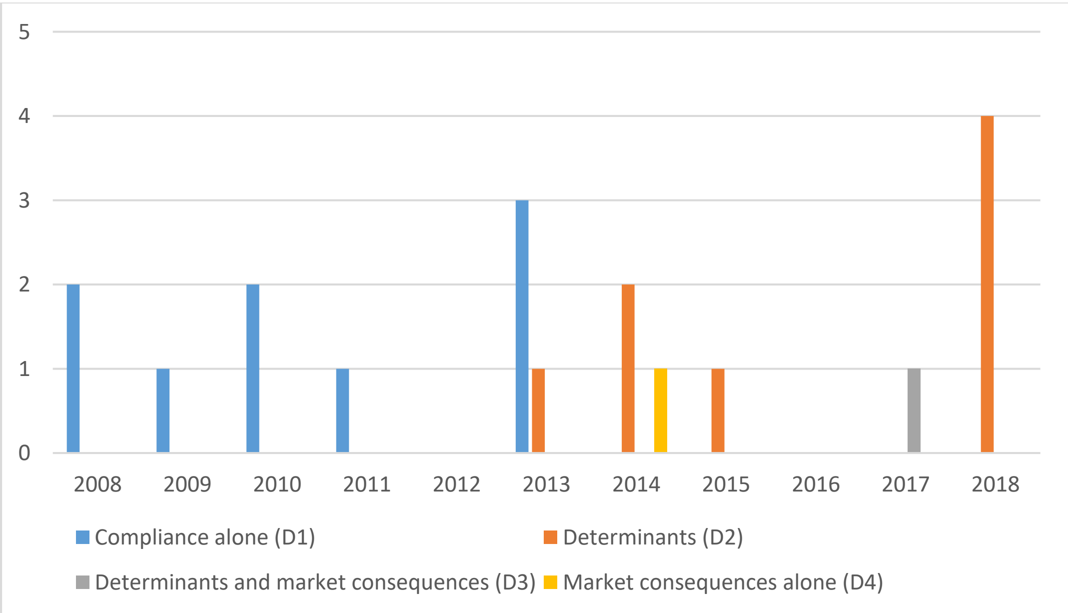


Table 1: Indicative impact of articles reviewed.

Reference	Article	
Panel A: Top ten articles based on total Google Scholar citations.		**Google Scholar Citations***
Glaum et al. (2013)	Compliance with IFRS 3- and IAS 36-required disclosures across 17 European countries: company- and country-level determinants	165
Cascino & Gassen (2015)	What drives the comparability effect of mandatory IFRS adoption?	134
Bova & Periera (2012)	The determinants and consequences of heterogeneous IFRS compliance levels following mandatory IFRS adoption: Evidence from a developing country	111
Carlin & Finch (2011)	Goodwill impairment testing under IFRS: a false impossible shore?	109
Verriest et al. (2013)	The Impact of Corporate Governance on IFRS Adoption Choices	88
Tsalavoutas (2011)	Transition to IFRS and compliance with mandatory disclosure requirements: What is the signal?	75
Carlin & Finch (2010)	Resisting compliance with IFRS goodwill accounting and reporting disclosures: Evidence from Australia.	61
Amiraslani et al. (2013)	Accounting for asset impairment: a test for IFRS compliance across Europe	51
Tsalavoutas & Dionysiou (2014)	Value relevance of IFRS mandatory disclosure requirements	51
Baboukardos & Rimmell (2014)	Goodwill under IFRS: relevance and disclosures in an unfavourable environment	43
Panel B: Top ten articles based on citations per year (CPY)		**CPY***
Cascino & Gassen (2015)	What drives the comparability effect of mandatory IFRS adoption?	33.5
Glaum et al. (2013)	Compliance with IFRS 3- and IAS 36-required disclosures across 17 European countries: company- and country-level determinants	27.5
Bova & Periera (2012)	The determinants and consequences of heterogeneous IFRS compliance levels following mandatory IFRS adoption: Evidence from a developing country	15.9
Verriest et al. (2013)	The Impact of Corporate Governance on IFRS Adoption Choices	14.7
Carlin & Finch (2011)	Goodwill impairment testing under IFRS: a false impossible shore	13.6
Tsalavoutas & Dionysiou (2014)	Value relevance of IFRS mandatory disclosure requirements	10.2
Mazzi et al. (2017)	Compliance with goodwill-related mandatory disclosure requirements and the cost of equity capital	9.5
Tsalavoutas (2011)	Transition to IFRS and compliance with mandatory disclosure requirements: What is the signal?	9.4
Baboukardos & Rimmell (2014)	Goodwill under IFRS: relevance and disclosures in an unfavourable environment	8.6
Amiraslani et al. (2013)	Accounting for asset impairment: a test for IFRS compliance across Europe:	8.5

*As of 19 February 2019.

Table 2: Results of analysis based on 11 criteria.

A	**Number of countries**		**F**	**First year of adoption**	
A1	Single country	55	F1	Yes	10
A2	Two countries	5	F2	No	60
A3	Five countries	1		*Total*	70
A4	More than five countries	9			
	Total	70	**G**	**Research instrument**	
			G1	Self-constructed	55
B	**Firm size filter**		G2	Audit firms' samples	8
B1	Yes	28	G3	Prior literature	6
B2	No	41	G4	Other	1
B3	NM	1		*Total*	70
	Total	70			
			H	**Scoring method**	
C	**Location/Regions**		H1	Cooke's	36
C1	Europe	23	H2	Cooke's adjusted	4
C2	Asia	24	H3	PC method	2
C3	Oceania/Australia	7	H4	Item by item	11
C4	Africa	10	H5	Counting items	3
C5	South America	3	H6	PC and Cooke's	8
C6	Worldwide	3	H7	Other	6
	Total	70		*Total*	70
D	**Research question (RQ)**		**I**	**Validity & reliability**	
D1	Compliance alone	18	I1	Yes/Yes	17
D2	Determinants	42	I2	Yes/No	11
D3	Determinants and market consequences	4	I3	No/Yes	8
D4	Market consequences alone	6	I4	No/No	32
	Total	70	I5	NA/Yes	1
			I6	N/A	1
E	**Accounting topic examined**			*Total*	70
E1	Multiple topics	26			
E2	Goodwill and goodwill impairment testing	19	**K**	**Materiality**	
E3	Financial instruments	7	K1	Yes	14
E4	Business combinations	4	K2	No reference	56
E5	Related party transactions	3		*Total*	70
E6	Income tax	3			
E7	Presentation of financial statements	2	**L**	**Sample composition**	
E8	Other	6	L1	Financial firms included (Inc)	30
	Total	70	L2	Financial firms excluded (Exc)	32
			L3	Financial firms alone (FF)	2
			L4	Not mentioned (NM)	6
				Total	70

Adapted from Dumay et al. (2016) and Guthrie et al. (2012).

Table 3: Frequency of accounting standards examined and frequency of low compliance.

Accounting standard	No. of studies examining compliance with this standard	No. of studies examining compliance with this standard and present compliance score	Frequency of low compliance (i.e. mean lower than 75%)	Percentage of studies presenting evidence of low compliance	Studies reporting low compliance (Appendix B provides the means to identify settings and time periods associated with low compliance scores)
IAS 17	9	6	6	100%	Abdullah et al. (2015), Cascino & Gassen (2015), Dawd (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 21	7	3	3	100%	Dawd (2018), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 28	6	3	3	100%	Dawd (2018), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 31	5	3	3	100%	Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 37	10	5	5	100%	Dawd (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014), Wang (2018)
IAS 39	1	1	1	100%	Cascino & Gassen (2015)
IAS 41	2	2	2	100%	Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IFRS 6	4	2	2	100%	Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IFRS 8	4	2	2	100%	Dawd (2018), Santos et al. (2014)
IFRS 7	12	7	6	86%	Agyei-Mensah (2017a, 2017b), Dawd (2018) Tahat et al. (2017, 2016), Tauringana & Chithambo (2016)
IAS 36	22	13	11	85%	Abdullah et al. (2015), Baboukardos & Rimmel (2014), Bepari and Mollik (2015) Bepari et al. (2014), Cascino and Gassen (2015), Dawd (2018), Hartwig (2015), Rahman et al. (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 12	7	6	5	83%	Lopes (2014), Mgammal et al. (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 19	8	6	5	83%	Abdullah et al. (2015), Cascino & Gassen (2015), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 40	9	5	4	80%	Dawd (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IFRS 5	10	5	4	80%	Dawd (2018), Santos et al. (2014), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 23	8	4	3	75%	Dawd (2018), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 14	5	3	2	67%	Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 8	6	3	2	67%	Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 24	12	7	4	57%	Agyei-Mensah (2019), Dawd (2018), ElKelish (2017), Santos et al. (2014)
IFRS 2	11	7	4	57%	Cascino and Gassen (2015), Dawd (2018), Goh et al. (2016), Santos et al. (2014)

Table 3 continued

Accounting standard	No. of studies examining compliance with this standard	No. of studies examining compliance with this standard and present compliance score	Frequency of low compliance (i.e. mean lower than 75%)	Percentage of studies presenting evidence of low compliance	Studies reporting low compliance (Appendix B provides the means to identify settings and time periods associated with low compliance scores)
IFRS 3	19	11	6	55%	Dawd (2018), Florio et al. (2018), Santos et al. (2014), Souza and Borba (2016), Tsalavoutas (2011), Tsalavoutas & Dionysiou (2014)
IAS 2	8	5	2	40%	Dawd (2018), Santos et al. (2014),
IAS 38	16	10	4	40%	Agyei-Mensah (2018), Cascino & Gassen (2015), Dawd (2018), Santos et al. (2014)
IAS 11	5	3	1	33%	Cascino and Gassen (2015)
IAS 16	11	6	2	33%	Dawd (2018), Santos et al. (2014)
IFRS 1	5	3	1	33%	Santos et al. (2014)
IAS 10	9	4	1	25%	Santos et al. (2014)
IAS 18	9	4	1	25%	Santos et al. (2014)
IAS 27	8	4	1	25%	Santos et al. (2014)
IAS 33	10	5	1	20%	Santos et al. (2014)
IAS 1	12	7	0	0%	-
IAS 20	2	2	0	0%	-
IAS 32	6	3	0	0%	-
IAS 7	8	4	0	0%	-
IAS 30	1	0	0	-	-
IFRS 12	1	0	0	-	-
IFRS 13	1	0	0	-	-
IFRS 4	2	0	0	-	-

Table 4 Research questions and summary of key findings

Attributes (as summarised in Table 2)	1. How is research on compliance with IFRS mandatory disclosure requirements developing?	2. What is the focus and critique of the literature on compliance with IFRS mandatory disclosure requirements?	3. What is the future for research on compliance with IFRS mandatory disclosure requirements?
Number of countries (A1 – A4)	Studies which employ firms from more than one country were published more recently, starting from 2013.	The majority of prior studies examine compliance in a single country (55/70).	There is a lack of evidence on compliance with IFRS mandatory disclosure requirements for more recent periods and for many economies across the world. More research also is needed on country characteristics as key determinants of compliance levels.
Firm size filter (B1 – B3)	The number of studies that employ a size filter and focus on larger firms is increasing.	The majority of the studies (41/70) do not employ a firm size filter and mostly sample from smaller or developing markets. Studies that adopt a firm size filter tend to focus on larger firms and employ sample firms from more developed markets and from more than one country.	There is a lack of evidence relating to smaller firms from developed or large markets. This is particularly important since studies which examine the determinants of compliance show that firm size has a significant positive impact on compliance.
Location/Regions (C1 – C6)	There is increasing interest in Asian and EU firms. Most research on Oceania/Australia focuses on goodwill; the first "multiple topic" study was published only recently (Wang, 2018).	Among European countries, Greece and the UK have been extensively covered, although only the Greek studies examine compliance with several standards.	Future research could focus on Canada, for which we have no studies to date.
Research question (D1 – D4)	The first study exploring market consequences of compliance was published in 2012. Likewise, corporate governance or ownership characteristics as factors that drive compliance were first explored in a study published in 2012.	There is extensive focus on the determinants of compliance. The most common determinants examined are firm size, corporate governance measures and leverage. The most common approach employed to examine market consequences is to examine the association between compliance scores and equity market values.	There is almost no evidence for the effect of proprietary costs on compliance. Also, the effect of compliance on debt markets has not been examined, nor have other market consequences, i.e. the informativeness of earnings or synchronicity.
Accounting topic examined (E1 – E9)	Studies focusing on goodwill have advanced, since 2013, from exploring compliance alone to examining determinants and market consequences of compliance.	Focus is primarily on multiple topics and on goodwill.	Future research should report compliance scores for each standard separately, in order to allow identification of areas of low compliance. There is a lack of evidence on compliance with key

	Studies focusing on individual topics other than goodwill have been published since 2014.		areas such as leasing (IAS 17) (now IFRS 16), post-retirement benefits (IAS 19), share-based payments (IFRS 2), provisions and contingent liabilities (IAS 37), and investments in associates and joint ventures (i.e., IAS 28, IAS 31 (now IFRS 11)).
First year of adoption (F1 – F2)		The main focus has been sample periods subsequent to the first year of adoption, or of first year and subsequent years of adoption (60 studies). The majority of these studies (33 studies) are longitudinal. Most show that compliance improves over time.	Longitudinal studies employing smaller firms from large and developed markets are limited.
Research instrument (G1 – G5) & Validity and reliability (I1 – I6)	The relative proportion of studies which do not perform a validity or reliability test is decreasing over time.	Studies employ primarily self-constructed research instruments. Only a small number of studies explicitly refer to both a validity and a reliability test.	Future research should perform and explicitly state what measures were taken to ensure robustness of the findings.
Scoring method (H1 – H8)	The SAIDIN index method has been introduced more recently (i.e., 2016) – other methods are well established.	There is considerable diversity in scoring methods, although Cooke's and the PC Method remain highly popular.	Since inferences can differ substantially, depending on the method used, future research could employ multiple scoring methods to ensure robustness of findings.
Materiality (K1 and K2)	Studies filtering for materiality have only been published since 2013.	Prior literature makes limited use of materiality thresholds. Studies which employ materiality thresholds find significant correlation between materiality and compliance levels.	Future research should consider materiality as a potential determinant in the research design and/or sample selection.
Sample composition (L1 – L3)	Studies focusing on financial firms alone have been published since 2015 and examine compliance with multiple accounting standards.	No clear pattern, given the almost equal numbers of studies which include financial firms and those that exclude them.	Studies focusing on financial institutions alone are scarce. This provides an opportunity for future research, which could examine the market consequences of compliance for financial institutions.