



Compliance with IFRS 3- and IAS 36-required disclosures across 17 European countries: company- and country-level determinants

Martin Glaum , Peter Schmidt , Donna L. Street & Silvia Vogel

To cite this article: Martin Glaum , Peter Schmidt , Donna L. Street & Silvia Vogel (2013) Compliance with IFRS 3- and IAS 36-required disclosures across 17 European countries: company- and country-level determinants, Accounting and Business Research, 43:3, 163-204, DOI: 10.1080/00014788.2012.711131

To link to this article: <http://dx.doi.org/10.1080/00014788.2012.711131>



Published online: 05 Sep 2012.



Submit your article to this journal [↗](#)



Article views: 1756



View related articles [↗](#)



Citing articles: 14 View citing articles [↗](#)

Compliance with IFRS 3- and IAS 36-required disclosures across 17 European countries: company- and country-level determinants

MARTIN GLAUM^{a*}, PETER SCHMIDT^{b,c}, DONNA L. STREET^d and SILVIA VOGEL^a

^a*Justus-Liebig-Universität Giessen, Fachbereich Wirtschaftswissenschaften, Licher Strasse 62, 35394 Giessen, Germany;* ^b*Justus-Liebig-Universität Giessen, Fachbereich Politikwissenschaften, Karl-Glöckner-Str. 21E, 35394, Giessen, Germany;* ^c*International Laboratory of Socio-Cultural Research, National Research University – Higher School of Economics, Moscow, Russia;* ^d*Department of Accounting, University of Dayton, Dayton, OH 45469-2242, USA*

In this study, we analyse compliance for a large sample of European companies mandatorily applying International Financial Reporting Standards (IFRS). Focusing on disclosures required by IFRS 3 *Business Combinations* and International Accounting Standard 36 *Impairment of Assets*, we find substantial non-compliance. Compliance levels are determined jointly by company- and country-level variables, indicating that accounting traditions and other country-specific factors continue to play a role despite the use of common reporting standards under IFRS. At the company level, we identify the importance of goodwill positions, prior experience with IFRS, type of auditor, the existence of audit committees, the issuance of equity shares or bonds in the reporting period or in the subsequent period, ownership structure and the financial services industry as influential factors. At the country level, the strength of the enforcement system and the size of the national stock market are associated with compliance. Both factors not only directly influence compliance but also moderate and mediate some company-level factors. Finally, national culture in the form of the strength of national traditions ('conservation') also influences compliance, in combination with company-level factors.

Keywords: IFRS; compliance; business combinations; cross-national analysis; goodwill; impairment testing

1. Introduction

This study analyses compliance with disclosures required by International Financial Reporting Standard (IFRS) 3 'Business Combinations' and International Accounting Standard (IAS) 36

*Corresponding author. Email: martin.glaum@wirtschaft.uni-giessen.de

'Impairment of Assets' for leading stock-listed companies from 17 European countries. Companies not fully complying with accounting disclosure requirements withhold potentially relevant information from the capital markets. In addition, if non-compliance is intentional, the information presented is likely to be biased. We find substantial non-compliance with disclosures in the areas analysed in 2005 financial statements. In addition to company-specific factors, country-specific factors play an important role in explaining compliance. Our findings thus show that reporting practices continue to differ systematically across Europe despite the adoption of IFRS.

In July 2002, the European Commission (EC) issued a regulation on the application of IAS (EC 1606/2002) requiring listed companies to prepare consolidated statements based on IFRS from 2005 onwards. IFRS have also been introduced in other regions of the world. Over 120 countries now require or permit the use of IFRS (IFRS Foundation 2011). The driving force behind the world-wide accounting convergence based on IFRS is the globalisation of capital markets that has led to an increased demand by investors, analysts, regulators and others for transparent and internationally comparable financial statements. From the perspective of investors, transparent and comparable financial reporting is beneficial because it reduces estimation risk and allows monitoring of company management. From the viewpoint of companies, the benefits enjoyed by investors may ultimately lead to lower cost of capital (Healy and Palepu 2001).

However, whether the introduction of IFRS truly enhances transparency and comparability depends on how the standards are implemented. Recent research indicates that national laws, capital market regulation and oversight, governance structures, as well as other institutions determine the quality of companies' financial reporting at least as strongly as the quality of the reporting standards (Ball *et al.* 2003, Leuz *et al.* 2003, Daske *et al.* 2011). Thus, as Wysocki (2011) notes, as long as national institutions remain influential, it is unlikely that IFRS will be implemented uniformly around the globe. Ball (2006) calls implementation the 'Achilles heel' of IFRS. As he explains,

there are overwhelming political and economic reasons to expect IFRS enforcement to be uneven around the world, including within Europe. ... [M]y major concerns are that investors will be misled into believing that there is more uniformity in practice than actually is the case and that, even to sophisticated investors, international differences in reporting quality now will be hidden under the rug of seemingly uniform standards. (Ball 2006, p. 22)

Nobes (2006) similarly emphasises that differences in enforcement across countries are one reason why it is to be expected that national accounting practices will persist under IFRS. Pope and McLeay (2011) also warn that the potential benefits of IFRS may not accrue because enforcement appears to be weak in some European countries as well as in other parts of the world. Lack of effective oversight and enforcement provides management with undue discretion and ultimately allows for incomplete and biased financial reporting.

In Europe, capital market oversight and accounting enforcement is controlled at the country level. In some countries, such as the UK, the financial statements of listed companies are scrutinised by regulatory bodies such as the Financial Reporting Review Panel and the Financial Services Authority. In other countries where capital markets play a lesser role in financing, enforcement mechanisms are traditionally less developed and until recently enforcement often existed in form only (FEE 2001). Over the past decade, several European countries have enhanced their efforts to oversee financial markets and enforce reporting standards (Christensen *et al.* 2012, Ernstberger *et al.* 2012, Hitz *et al.* 2012). However, according to the Committee of European Securities Regulators (CESR 2007),¹ by 2006 only a minority of EU countries had established enforcement processes satisfying Standard No.1 Enforcement of Standards on Financial

Information in Europe (CESR 2003). Only 10 of 29 countries had installed partial enforcement activities and in eight EU countries enforcement activities did not exist at all.

The International Accounting Standard Board (IASB) is also increasingly stressing not only high-quality globally recognised accounting standards but also the importance of implementation and enforcement. Following an amendment made to the ‘Due Process Handbook’ in 2008 by the IFRS Foundation (2012), the IASB has introduced formalised ‘post implementation reviews’ as part of the ‘life cycle’ for IASB projects. Furthermore, in its recent Strategy Review the IFRS Foundation (2011, paragraph A5) Trustees state that ‘the IFRS Foundation has a vested interest in helping to ensure the consistent application of IFRSs internationally’. The growing concerns of the IFRS Foundation and Trustees regarding enforcement may be linked to, among other things, the continued reluctance of the world’s largest economies including the USA and Japan to adopt IFRS. For example, in early 2012, Securities and Exchange Commission Chair Schapiro explained,

There are some hurdles that have to be passed before we’re going to be comfortable making the ultimate decision about whether to incorporate IFRS into the U.S. reporting regime. . . . Sticking points include the independence of the International Accounting Standards Board and the quality and enforceability of standards. (in Hamilton 2012)

Our study concentrates on companies’ disclosures related to business combinations (‘mergers and acquisitions’) and impairment testing of assets, especially the impairment testing for goodwill. The IFRS for business combinations and for the impairment testing of goodwill are controversial and challenging for preparers (Beattie *et al.* 2007). IFRS 3 requires companies to recognise and measure at fair value all assets acquired and liabilities assumed, including intangible assets and contingent liabilities not previously recognised by the acquirees. To perform the goodwill impairment tests stipulated by IAS 36, companies need to value their operational business units using onerous processes on the basis of forward-looking information (business plans, etc.). At the same time, accounting for business combinations and related disclosures are highly relevant to investors and other users of financial statements. Business combinations often involve large sums of money and can be of strategic importance for firm value. Furthermore, research indicates that a high percentage of combinations fail to meet their operational and financial goals (for an overview, see Sudarsanam 2010). Against this background, the extensive disclosure requirements of IFRS 3 are designed to provide investors, analysts and other users of financial statements with meaningful and transparent information that enables them to evaluate the nature and financial effects of the acquisitions. To this end, IFRS 3 mandates companies to disclose, *inter alia*, the cost of the acquisitions, details about the assets acquired and the liabilities assumed (‘purchase price allocation’), as well as information on the impact the combination has on revenue and profit and loss. Furthermore, IAS 36 requires companies to disclose, among other things, the methodology and the parameters used in their impairment tests. The impairment tests for goodwill are based on management’s subjective and therefore hard-to-verify assumptions and expectations; hence, the IASB concluded that ‘entities should be required to disclose information that assists users in evaluating the reliability of the estimates used by management to support the carrying amounts of goodwill . . . ’²

Amidst the above-described widespread concerns regarding the application and enforcement of IFRS in the EU and elsewhere, our research contributes to the literature by providing systematic empirical evidence on compliance with mandatory disclosures in the previously described areas of the 2005 financial statements of a large sample of European companies.³ Our analysis reveals substantial non-compliance.⁴ Prior studies have also found that companies claiming to apply internationally recognised standards have not fully complied with the disclosure

requirements (Street *et al.* 1999, Street and Bryant 2000, Street and Gray 2001, Glaum and Street 2003, Abdelsalam and Weetman 2007, Hodgdon *et al.* 2008). However, the data used in these studies pertain to periods when the use of internationally recognised standards was mostly voluntary and when the standards themselves were not as highly developed as today. Furthermore, earlier studies often utilised samples from very heterogeneous regions of the world, e.g. Europe, Asia, Africa, including emerging markets. Our study, on the other hand, is based on the 2005 financial statements of 357 companies comprising the premier stock-market indices of 17 European countries. These companies are required by EU regulation or, in the case of Switzerland, the stock-market authority to prepare consolidated statements using IFRS.

Compared to previous studies addressing the determinants of compliance with international standards, we present a more elaborate and insightful model that links compliance with both company-specific and country-specific determinants. First, the results of OLS regression indicate that compliance is determined jointly by company- and country-level variables. The explanatory power of company- and country-level variables is similar, and each group of variables has incremental power over the other. At the company level, the size of companies' goodwill positions, the type of auditor (Big 4 versus non-Big 4), the existence of audit committees, the issuance of equity or bonds and ownership structure are associated with compliance. We also find evidence of industry effects, with companies in the financial services industry displaying below-average compliance. With regard to cross-country differences, controlling for company-specific factors Scandinavian and Anglo-Saxon companies display above-average compliance, whereas companies from Middle-Eastern Europe display below-average compliance. In-depth investigations indicate that the strength of countries' enforcement systems, the importance of the national stock market as well as cultural factors are associated with compliance.

We further contribute to the literature by examining the interactions of country- and company-level factors in order to understand more completely how these factors jointly impact compliance. For example, our results indicate that audit committees have a relatively strong impact on compliance in countries with low levels of enforcement and vice versa. Thus, a substitution effect may exist between the strength of the country-level enforcement system and company-level supervision of the accounting function. At the same time, we find evidence suggesting a complementary relationship between the importance of the national stock market and the impact of audit committees on compliance. Finally, using multigroup structural equation modelling (SEM), we provide evidence suggesting that the levels of our company-level variables, e.g. ownership concentration or the prevalence of audit committees, are influenced by national institutions.

The paper is organised as follows. First, we provide an overview of the institutional background of the introduction of IFRS in Europe and of the reporting standards relevant for the present study (IFRS 3 and IAS 36). Next, we review the literature addressing studies on the determinants of disclosure level and compliance and cross-country studies on the relation between national institutions and financial reporting. We subsequently describe our empirical model and methodology. We then present and discuss the findings from our empirical analysis. The paper closes with a brief conclusion.

2. Institutional background

Our analysis of compliance concentrates on select areas of IFRS, the accounting for business combinations and impairment testing. When the IASB assumed responsibility for setting international standards in 2001, the Board decided that standards developed by its predecessor should be re-examined. As part of its 'improvements project', the IASB placed business combinations on the agenda. Publication of IFRS 3 'Business Combinations' and the associated revision of IAS 36 'Impairment of Assets' in March 2004 marked the completion of the first phase of this

project.⁵ Moving in line with US Generally Accepted Accounting Principles (GAAP), IFRS 3 abolished the pooling-of-interests method and prescribed that all business combinations be accounted for using the purchase method. Under purchase accounting a company acquiring another company recognises the acquiree's assets and liabilities in its consolidated balance sheet. All assets and liabilities are valued at acquisition-date fair values, as if the company had acquired them separately in an 'asset deal'. Applying the purchase method thus requires identifying all assets and liabilities and estimating their fair values, including those of self-generated intangible assets as well as contingent liabilities that the acquired company does not recognise in its own balance sheet. IAS 36 (revised) also followed the main tenets of US GAAP by prescribing an onerous process for impairment testing of assets, particularly for goodwill arising from acquisitions.⁶

IFRS 3 and IAS 36 are complex standards that brought far-reaching changes for European companies, particularly those first adopting IFRS in 2005. In a survey of UK finance directors, audit committee chairs and audit partners, intangible assets and goodwill emerged as the most controversial of 51 financial reporting and auditing issues (Beattie *et al.* 2007). Complicating the situation, given the standards were published in March 2004, companies had relatively little time to modify their accounting systems for implementation of IFRS 3 and IAS 36 in their first mandatory IFRS reports.

A review by CESR (2007) concludes that reporting for business combinations and impairment testing were problem areas for compliance in companies' first mandatory IFRS statements. In a report on goodwill impairment disclosures of leading UK companies in their 2007 financial reports, the UK Financial Reporting Council concluded that over half of the reviewed disclosures were 'uninformative' and that there was opportunity for companies to 'refine their disclosures' (FRC 2008). Reports of the German Financial Reporting Enforcement Panel (FREP) that was established in 2005 indicate that business combinations and goodwill impairment testing over recent years have consistently been the areas of accounting that led to the highest number of accounting errors by German stock-listed companies (FREP 2011).

Although the IASB believed its new reporting requirements would improve transparency, IFRS 3 and the revision of IAS 36 faced strong criticism from practitioners and other observers. This criticism focused on the complexity of the standards and heavy reliance on fair value accounting (Wüstemann and Duhr 2003, Hommel *et al.* 2004). The German FREP also argued in its 2009 activity report 'that the scope and complexity of IFRS is the main driver for the errors that have been found' (FREP 2010, p. 9).

3. Literature review

We examine the determinants of compliance with IFRS disclosure requirements by European listed companies. Previous research in this area is limited, and has not led to an established theory of compliance or, conversely, of non-compliance with disclosure requirements. Theoretical frameworks in accounting are generally based on the implicit assumption that all company actions are legitimate (Harris and Bromiley 2007).⁷ Non-compliance, on the other hand, means that in their financial statements companies fail to fully provide the information required by pertinent reporting standards.

Non-compliance can occur because of unintentional neglect, for example if management overlooks particular requirements. A second cause can be misinterpretation of disclosure rules if, for example, managers erroneously conclude that certain rules do not apply or do not compel them to disclose information. Third, managers may knowingly and intentionally fail to comply with the rules. Research on restatements of accounting errors by US companies mandated by the U.S. Securities and Exchange Commission (SEC) indicates that errors are systematically associated with certain company characteristics (DeFond and Jiambalvo 1991, Dechow *et al.*

1996, Palmrose and Scholz 2004, Harris and Bromiley 2007). This suggests that non-compliance in the form of accounting errors is not only the result of random, unintentional errors or misinterpretation. Instead, the evidence is consistent with the view that accounting errors are a result of managers responding to their environmental and economic incentives (DeFond and Jiambalvo 1991).

Restatement studies focus on accounting errors that influence earnings. Furthermore, to our knowledge these studies have been confined to the US environment. Therefore, this literature provides little guidance on the driving forces of compliance or non-compliance with disclosure requirements in an international context.⁸ Thus, we draw on two additional areas of literature to identify possible determinants of compliance or non-compliance with IFRS disclosure requirements by European companies. First, we turn to studies dealing with disclosure. The theoretical literature in this field considers why companies voluntarily extend or, conversely, restrict disclosure. From these studies, we derive factors that potentially motivate companies to either fully comply with IFRS mandated disclosures or withhold some required information.

The disclosure literature is based on a microeconomic perspective. Therefore, to also gain an understanding of factors shaping the demand and supply of disclosure on the level of national economies (macroeconomic factors), we refer to cross-country studies on the relation between national institutions and financial reporting inspired by the work of La Porta *et al.* (1998).

3.1 Disclosure studies

From a theoretical perspective, financial reporting can be interpreted as an element of corporate governance that serves, among other things, to reduce information asymmetries between company management and investors and between different types of investors (Healy and Palepu 2001). Timely, transparent and reliable information reduces investors' estimation risks and allows capital-market participants to better evaluate management's decision-making. This, in turn, should lead to increased liquidity of shares, reduced volatility and ultimately lower cost of capital. However, disclosure is not costless; therefore, complete disclosure usually is not optimal. First, there are the direct costs of collecting, processing and publishing information. Second, indirect costs can arise if the information in question is proprietary or if there is the threat of litigation. However, the relationship between the threat of litigation and disclosure practices may be complex. Fear of litigation may actually induce management to disclose *more* information (Skinner 1994). Furthermore, whether litigation is a rationale for disclosing or withholding information is likely to depend on the legal environment, i.e. on the probability of legal action and on the severity of its consequences (Bushman and Piotroski 2006). Third, agency considerations may influence disclosure level. For example, managers may be disinclined to make disclosures that would harm their reputation or provide capital-market participants with close scrutiny of their actions (Leuz and Wysocki 2008).

Empirical studies document a positive association between disclosure level and liquidity of firms' shares (Welker 1995, Healy *et al.* 1999, Leuz and Verrecchia 2000). Other studies indicate that there may also be a direct link between disclosure and the cost of capital, i.e. the level of disclosure may be negatively related to the cost of capital (Botosan 1997, Sengupta 1998, Botosan and Plumlee 2002, Hail 2003). As far as the introduction of IFRS is concerned, Daske and Gebhardt (2006) document that the quality of disclosure has increased substantially for German, Austrian and Swiss companies as a result of the adoption of IFRS. Glaum *et al.* (forthcoming) confirm this result for a sample of German companies and furthermore show that the increase in the quality of companies' notes has been associated with an improvement in the accuracy of financial analysts' forecasts.

Numerous studies address the determinants of voluntary disclosure (for overviews, see Ahmed and Courtis 1999, Street and Gray 2001, Archambault and Archambault 2003). Their findings generally indicate that size and listing status are significantly associated with disclosure level. Findings regarding the relationship between disclosure level and other corporate characteristics (e.g. leverage, profitability, stock ownership dispersion, industry, country of domicile, type of auditor) are mixed. Shalev (2009) specifically investigates the level of disclosure related to business combinations for a sample of US companies. He finds that the level of disclosure decreases with abnormal levels of the purchase price allocated to goodwill. His findings also suggest that companies withhold potentially relevant information from investors and that investors do not fully incorporate the differences in disclosure level in their information set.

While most disclosure studies address voluntary disclosures, our study addresses compliance with IFRS-required disclosures. Most closely related to our research are studies focusing on compliance with internationally recognised standards. Based on an analysis of the 1998 disclosures of 82 companies claiming to comply with IAS, Street and Bryant (2000) identify significant non-compliance. Focusing on disclosures identified as problematic by Street and Bryant (2000), Street and Gray (2001) examine compliance with a subset of IAS disclosures for 279 companies claiming to comply with IAS in 1998. Street and Gray find a significant positive association between compliance and having a US listing/filing or a non-regional listing, being in the Commerce and transportation industry, referring exclusively to the use of IAS in the policy footnote, being audited by a Big 5+2 firm and being domiciled in China or Switzerland. They find a significant negative association with being headquartered in France, Germany or other Western European countries and compliance.

Glaum and Street (2003) examine compliance by companies listed on the 'New Market', a now defunct segment of the Frankfurt Exchange. New Market companies were required to prepare IAS or US GAAP statements. Based on an assessment of 100 IAS and 100 US GAAP annual reports, Glaum and Street (2003) find that the average compliance level of New Market companies in 2000 financials is significantly lower for those applying IAS compared to those applying US GAAP. Compliance with IAS and US GAAP is positively related to being audited by a Big 5 firm, being cross-listed in the USA and references to International Standards of Auditing or US Generally Accepted Auditing Standards in the audit opinion.

Hodgdon *et al.* (2008) examine compliance with IAS disclosures in 1999 and 2000 annual reports for 89 companies. They also report that compliance levels vary considerably, with companies on average providing only 68% of the required disclosures. They additionally find that compliance is positively related to accuracy of earnings forecasts made by analysts.

The studies cited above represent periods when the use of international standards was in most instances voluntary. More recent work by Cascino and Gassen (2011) and Verriest *et al.* (forthcoming) addresses IFRS compliance for companies that are mandated to apply IFRS in the EU and other parts of the world. Using a large data-set representing 29 countries, Cascino and Gassen (2011) find that the comparability of financial statements does not significantly improve after IFRS adoption. To explore possible reasons for this finding, the authors collect data for IFRS compliance for a subset of companies from two countries, Germany and Italy. They document heterogeneous compliance and find that compliance levels, in particular for Italian companies, are related to size, profitability, growth, corporate governance characteristics and being audited by a Big 4 auditor.⁹

Verriest *et al.* (forthcoming) investigate the relationship between companies' corporate governance and their disclosure choices with regard to the first-time adoption of IFRS in 2005. Based on data for a sample of large European companies, they find substantial heterogeneity regarding the level of detail disclosed on companies' restatements from local GAAP to IFRS and for compliance with certain high-level disclosure items (cash flow statement, segment reporting, earnings

per share, etc.). They further find that companies with stronger corporate governance tend to provide better disclosure quality and, in particular, comply more completely with IFRS mandated disclosures than companies with weaker governance.

3.2 *Studies on national institutions and financial reporting*

Several papers analyse the relationship between countries' institutional settings and characteristics of financial reporting (for reviews, see Leuz 2010, Wysocki 2011). For example, cross-country studies by Ball *et al.* (2000, 2003), Bushman and Piotroski (2006) and Leuz *et al.* (2003) show that national legal systems and other environmental characteristics influence attributes of financial reporting. Daske *et al.* (2008) analyse the economic effects of mandatory IFRS introduction in Europe and other parts of the world linking these effects to institutional environments. Using data from 26 countries, they show that first-time IFRS adoption is associated with an increase of market liquidity and valuations. They also provide evidence, albeit weaker, that cost of capital may have decreased. However, the benefits of IFRS introduction occurred only in countries with strict enforcement regimes.

Turning to cross-country studies more directly related to disclosure, Jaggi and Low (2000) and Hope (2003a) examine the impact of legal systems and national cultures on disclosure level. Based on data from six countries, Jaggi and Low (2000) find that companies from common law countries have a higher disclosure level than companies from code law countries. Furthermore, they find that national culture does not have a significant influence on disclosures in common law countries. For companies in code law countries, the results are not fully conclusive. Hope's study is based on a larger sample of companies from 39 countries. In contrast to Jaggi and Low (2000), Hope finds that disclosure levels are determined jointly by legal origins and national culture.

Ding *et al.* (2005) develop two measures of differences between national GAAP and IFRS. 'Divergence' exists when both national GAAP and IFRS cover a specific accounting area but prescribe different treatments (for similar approaches see Bae *et al.* 2008 and Siciliano 2011). 'Absence' exists when the respective national accounting system does not cover a specific accounting area regulated by IFRS. Ding *et al.* (2005) relate their measures to the distinction between code- and common-law countries and measures for national culture. Their findings indicate that national culture measures are more strongly related to 'divergence' and 'absence' than countries' legal origin.

Hope (2003b) investigates, based on a firm-level sample from 22 countries, the relation between the degree of enforcement of accounting standards, disclosure level and the precision of financial analysts' earnings forecasts. He finds that both disclosure level and degree of enforcement are positively related to earnings forecast precision. Bushman *et al.* (2004) develop a model of corporate transparency based on data for 46 countries and examine whether transparency is influenced by legal systems and other national institutional factors. Using factor analysis they identify two factors, financial and governance transparency. Financial transparency is higher in countries with low state ownership of enterprises and banks and low risk of state expropriation of firms' wealth. Governance transparency is higher in countries with a common law tradition and high judicial efficiency.

Francis *et al.* (2005) examine the interplay between incentives for voluntary disclosure, disclosure level and cost of capital. Based on data representing 34 countries, they find that companies in industries with high external financing needs have high levels of voluntary disclosure. Furthermore, disclosure level is negatively associated with cost of capital. Both results hold after controlling for cross-country differences in legal and financial systems. In another paper, Francis *et al.* (2008) focus on voluntary adoption of IFRS by private companies in 56 countries. They find that

IFRS adoption is influenced by company- and country-level factors. Company-level incentives are relatively more important than country-level factors in countries with high economic development and strong institutions. In less developed countries, country-level factors are more important than company-level incentives.

For 40 countries Hail and Leuz (2006) analyse the relationship between national legal systems, securities regulation, disclosure and cost of capital. Among other things, they find that companies from countries with more extensive disclosure requirements, stronger regulation and stricter enforcement enjoy a lower cost of capital.

Finally, Frost *et al.* (2006) examine the relationship between disclosure at the level of stock exchanges and the development of these markets in terms of market capitalisation, number of listed companies and transaction volume. Based on data for 50 exchanges worldwide, they find that the strength of the disclosure system (disclosure rules, monitoring and enforcement) is positively related to market development, after controlling for other institutional factors.

4. Model and research methodology

4.1 Model

Given that no established theory of compliance with mandatory disclosures exists, our research is exploratory and model-generating (Jöreskog 1993, Bushman *et al.* 2004, Ding *et al.* 2007). Our fundamental proposition is that IFRS compliance is a function of both company- and country-level determinants. This proposition is based on economic reasoning (Holthausen 2009), prior theoretical work and the empirical research discussed above (Ball *et al.* 2000, 2003, Hope 2003b, Leuz *et al.* 2003, Bushman *et al.* 2004, Francis *et al.* 2005, Francis and Wang 2008) which provides evidence that the quality of financial reporting is jointly determined by reporting standards, incentives faced by management, and enforcement and capital-market supervision. Hence, we develop and test a model that comprises variables capturing company-specific reporting incentives and country-specific variables relating to legal, economic and cultural environments. Next, we explain both types of variables.

4.1.1 Company-level variables

Accounting for business combinations and goodwill impairment testing under IFRS is complex and onerous, requiring valuation skills traditionally not available in many companies' accounting departments. Our expectations are that companies will focus strongly on and devote more resources to these areas of accounting if they undertook significant combinations in 2005 or have highly material goodwill positions from prior combinations (Shalev 2009). In our model, we thus include the number of combinations disclosed (COMBINATIONS) for 2005 and the ratio between goodwill and total assets (GOODWILL). For both we expect a positive correlation with compliance.

While 2005 marked the first year that IFRS was mandatory for listed European companies, some adopted IFRS earlier. For example, in Germany some companies started using internationally recognised standards in the first half of the 1990s. Companies may need time to learn to apply, and possibly fully comply with, new reporting rules (Cuijpers and Buijing 2005, Daske 2005). We therefore expect compliance to be higher for seasoned users in comparison to those adopting IFRS for the first time in 2005. Thus, our model includes the variable SEASONED. Based on the accounting policy footnote, SEASONED is coded 1 for companies that prepared IFRS statements prior to 2005 and 0 for others.

In the enforcement of financial reporting standards, auditors play a pivotal role. Prior research suggests that large, globally operating 'Big 4' firms provide audits of a higher quality level than

smaller, regionally oriented auditors (De Angelo 1981). Given their size, the Big 4 can invest more in training and in audit systems, are less dependent on individual clients and have stronger incentives to protect their reputation (e.g. Francis and Wang 2008, Boone *et al.* 2010). In a similar vein, prior studies have found a positive association between compliance and being audited by the Big 4 (or previously Big 5) firms (Street and Bryant 2000, Street and Gray 2001, Glaum and Street 2003; also see Cascino and Gassen 2011). We thus expect compliance with IFRS disclosures to be higher for companies audited by Big 4 firms. AUDITOR is an indicator variable coded 1 for clients of the Big 4; 0 is assigned to other companies.¹⁰

Several studies have identified company size as a determinant of compliance with international standards (Cooke 1989, 1991, Ahmed and Courtis 1999, Street and Bryant 2000, Street and Gray 2001, Glaum and Street 2003, Leventis and Weetman 2004, Cascino and Gassen 2011). Larger companies tend to have more resources designated to accounting departments than smaller companies, allowing for a higher quality of financial reporting. Furthermore, some disclosure costs are fixed so that the cost decreases per unit of size (Lang and Lundholm 1993). Larger firms may also be exposed to more political pressure and public scrutiny than smaller firms (Watts and Zimmerman 1990) and thus have stronger incentives to comply fully with pertinent disclosure requirements. Accordingly, we expect a positive association between size and compliance. We measure SIZE as an index based on rankings of companies on four dimensions: total assets, turnover, number of employees and market capitalisation.

Cross-listings on US stock exchanges are another factor that has been shown to be associated with compliance with international standards in previous research (Street and Bryant 2000, Hope 2003a). Companies that list their shares in the USA voluntarily 'opt out' of their local financial reporting regime and subject themselves to the strong securities regulation and the strict public and private enforcement system of the US capital market (e.g. Hail and Leuz 2009, Wysocki 2010). Accordingly, we expect higher compliance for companies that are cross-listed in the USA. US_LIST is coded 1 for US-listed companies (NYSE or NASDAQ); other companies are coded 0.

As explained above, disclosure is a mechanism to mitigate information asymmetries in capital markets and to lower cost of capital (Healy and Palepu 2001). The cost of capital is most important to companies that need external financing because they have potentially profitable investment projects but only limited internal financial resources (Francis *et al.* 2005). Consequently, we expect companies tapping the capital markets through seasoned equity offerings (SEOs) or bond issues to be particularly concerned about the quality of their financial reporting and, therefore, their compliance with IFRS disclosure requirements (Lang and Lundholm 1993). CAPITAL is an indicator variable coded 1 for companies with SEOs or bond issues in 2005 or 2006 and 0 for other companies. We expect a positive association between CAPITAL and compliance.

Information asymmetries and agency problems arise because of the separation of ownership and control (Jensen and Meckling 1976). Agency problems are more pronounced if ownership is widely dispersed because small investors have little power and little incentive to monitor company management. To alleviate these problems, companies with widely dispersed ownership may disclose more information (Hossain *et al.* 1994, Chau and Gray 2002, Abdelsalam *et al.* 2007, Chen *et al.* 2008). Larger shareholders have the power to actively monitor the company's management and have an incentive to exercise their control rights because they can internalise the benefits of these efforts (Shleifer and Vishny 1986; also see DeFond and Jiambalvo 1991, Dechow *et al.* 1996). However, if single shareholders holdings become too large, they may dominate the company and try, especially in environments where minority investors are not well protected by law, to expropriate 'outside' investors. A dominant shareholder may have little interest in disclosure (Fan and Wong 2002, Leuz and Wysocki 2008). The above suggests that an inverted U-shaped relationship may exist between ownership concentration and disclosure quality and

hence compliance with disclosure requirements (Moreck *et al.* 1988, La Porta *et al.* 1998, Ding *et al.* 2007). In our model, we include the variable CLOSELY_HELD that indicates the percentage of equity shares controlled by strategic investors such as families, foundations or institutional investors. We use CLOSELY_HELD², i.e. the squared percentages, to test for the expected inverted U-shaped relationship and introduce CLOSELY_HELD to control for a possible linear association.

Over the past years, an intense discussion has taken place in the literature suggesting that certain elements of companies' corporate governance have an important influence on the quality of reporting (La Porta *et al.* 2000, Bushman *et al.* 2001, Eng and Mak 2003, Verriest *et al.* forthcoming). This pertains, in particular, to audit committees, i.e. specialised committees of the board of directors that comprise, *inter alia*, accounting experts who oversee the companies' internal financial reporting processes and coordinate communication between the board of directors, company management and the auditor with regard to financial reporting. Following the Sarbanes-Oxley Act of 2002, US companies must maintain audit committees, and research by Klein (2002), Krishnan (2006) and Xie *et al.* (2003) suggests that audit committees have a positive influence on the quality of companies' financial reporting. At the time of the introduction of IFRS, European companies were not required to establish audit committees. However, a substantial number had done so voluntarily (Collier and Zaman 2005).¹¹ We include an indicator variable AUDIT_COM coded 1 for companies that had voluntarily established an audit committee by 2005 (the year of our investigation) and 0 for all other companies. Based on the previously cited studies, we expect the existence of an audit committee to be associated with a higher degree of compliance with IFRS-required disclosures.

A further factor that could determine disclosure practices is the industry in which a company operates. Previous research yields mixed results with respect to industry (Ahmed and Courtis 1999, Archambault and Archambault 2003). In our study, industry differences could arise because in some industries it may be more complex and costly to identify and value the assets and liabilities of acquired companies or to conduct goodwill impairment tests. Furthermore, in reaction to new and challenging demands such as IFRS reporting requirements, companies may develop common industry practices to legitimise their behaviour ('mimetic isomorphism', DiMaggio and Powell 1983). We categorise our sample companies into three industry groupings manufacturing, financial services (banks, insurance companies, real estate companies) and other services.¹²

4.1.2 Country-level variables

Previous compliance studies identify significant country effects (Street and Bryant 2000, Street and Gray 2001). However, no established pattern has emerged as to which countries exhibit higher or lower compliance. Furthermore, several European countries are not considered in these studies as prior to 2005 national law required them to prepare consolidated accounts based on national standards (e.g. the UK and Ireland). The 17 countries represented in our study differ greatly in terms of their accounting traditions. Ernst & Young's assessment of the 2005 reports of European companies concludes that the first mandatory IFRS statements retain 'a strong national identity', and that:

[M]any companies appear to have adopted IFRS in a way that minimises as far as possible changes in the form of financial reporting that they applied under their previous national GAAPs. As a result, the financial statements of, for example, a French retailer look and feel more similar to those of a French manufacturer than to those of a Dutch or UK retailer . . . (Ernst & Young 2006, pp. 6–7)

Kvaal and Nobes (2010) find that European companies tend to continue accounting practices that were required or common practice under their national GAAP before the introduction of IFRS

(also see Nobes 2006). We expect IFRS compliance to be related to the ‘distance’ between national systems and IFRS (Ashbaugh and Pincus 2001, Ding *et al.* 2007). More precisely, it is easier to comply with IFRS if companies are familiar with preparing and publishing similar information under national standards prior to IFRS adoption. Conversely, compliance may be more challenging and hence at a lower level for companies based in countries where reporting requirements were different or non-existent under national standards. Following Ding *et al.* (2007), we measure DIFFER between national standards and IFRS with an index based on the measures ‘Absence’ and ‘Divergence’.¹³

Second, the countries in our sample differ with regard to capital-market supervision and the rigour with which accounting standards are enforced (CESR 2007). It is likely that the rigour of the national enforcement system has a systematic impact on compliance levels. Numerous cross-country studies use an enforcement index based on La Porta *et al.* (1998) to approximate and compare national enforcement systems (e.g. Leuz *et al.* 2003, Bushman *et al.* 2004, Francis *et al.* 2005, Burgstahler *et al.* 2006). We employ an updated version of the La Porta index developed and tested by Djankov *et al.* (2008).¹⁴ We expect compliance to be positively associated with the strength of the national enforcement systems (ENFORCE).¹⁵

Prior studies indicate that the quality of financial reporting is also related to the development of capital markets (Leuz *et al.* 2003, Frost *et al.* 2006, Francis *et al.* 2008). Vibrant capital markets create a demand for decision-useful financial information. Furthermore, management is monitored more intensively in countries with more developed markets, thereby strengthening compliance. S-MARKET is an index of measures for the size and activity level of national stock markets (see Table 2). We expect a positive relation between both S-MARKET and compliance.

Finally, accounting systems are influenced by societal values and norms. Gray (1988) links the development of national accounting systems to cultural values and other environmental factors. He discusses how accounting values and, ultimately, accounting practices are related to dimensions of national culture as developed by Hofstede (1981), in particular to ‘uncertainty avoidance’ and ‘individualism’. In line with Gray (1988), Salter and Niswander (1995) show that measures of national culture help explain cross-country differences in accounting practices, in particular with regard to disclosure level. Hope (2003a), based on a sample comprising 39 countries, also finds that cultural values are related to disclosure level and Ding *et al.* (2005) show that cultural values are a determinant of differences between national GAAP and IFRS.

Previous studies of national culture and accounting are mostly based on data from Hofstede (1981). However, this data set is derived from an empirical study undertaken in the late 1960s and early 1970s; hence, it is questionable whether Hofstede should be used to explain national patterns in managerial behaviour in the twenty-first century (Borg *et al.* 2010). Thus, in our analysis, we rely on data for 2004 from the European Social Survey (2004) based on the methodology of the Schwartz Value Inventory.¹⁶ According to Schwartz (1994, 2007), one of the dimensions of universal human values is ‘openness versus conservation’. In open societies, individuals emphasise independent thought and action; they welcome change and follow their interests in unpredictable ways. Members of conservation societies, on the other hand, emphasise restriction, order and tradition; they resist change and prefer to preserve the status quo.¹⁷ We expect cultural values to have been an important factor determining whether managers welcomed the introduction of IFRS in 2005 and were ready to implement the potentially far-reaching changes it brought to financial reporting – or whether they remained attached to their respective national accounting tradition and resisted change. Based on these considerations, we expect a negative association between the variable CONSERV and compliance with IFRS disclosures.

4.2 Research methodology

Figure 1 summarises our model. We propose that the company variables COMBINATIONS, GOODWILL, SEASONED, AUDITOR, SIZE, US_LIST, AUDIT_COM, CAPITAL, CLOSELY_HELD and INDUSTRY influence compliance with IFRS disclosures regarding business combinations and impairment testing (relationship 1). We further propose that compliance is influenced by the country-level factors DIFFER, ENFORCE, S-MARKET and CONSERV (relationship 2).

We follow a stepwise approach in our analysis (see for examples Francis *et al.* 2008, and Gaio 2010). We address relationship (1) by analysing determinants of compliance at the company level using OLS regression; at this stage, simple indicator variables are used to control for country effects. Next, we run a model where the country indicator variables are substituted with indicator variables for countries' legal traditions based on La Porta *et al.* (1998). The work of these authors suggests that legal traditions are important in the development of capital market regulation and other institutions that in turn influence the development of national financial systems (also see Leuz 2010). The classification of countries according to their legal origins has been utilised by various accounting researchers (Ball *et al.* 2000, Hope 2003a, Leuz *et al.* 2003, Bushman and Piotroski 2006). Using legal origin country classes instead of country indicators reduces the number of variables in our regression model and increases degrees of freedom. Furthermore, it allows us to investigate whether country effects are driven by historical, legal or cultural traits shared by countries comprising the respective groups.

Next, we jointly test the impact of company-level and our specific country-level predictors on compliance (relationships 1 and 2 in Figure 1). Our model is based on the assumption that the country variables are independent and exogenous. In reality, however, stock markets, financial reporting systems, enforcement mechanisms and other national institutions evolve jointly over time and complex interrelationships exist between them (Leuz 2010). We therefore carefully check for multicollinearity and estimate model variants where each of the country variables enters our regression equations separately. We furthermore employ interaction terms between company- and country-level variables to test for possible moderation effects, i.e. to investigate whether the impact of company-level variables on compliance is influenced by country-level

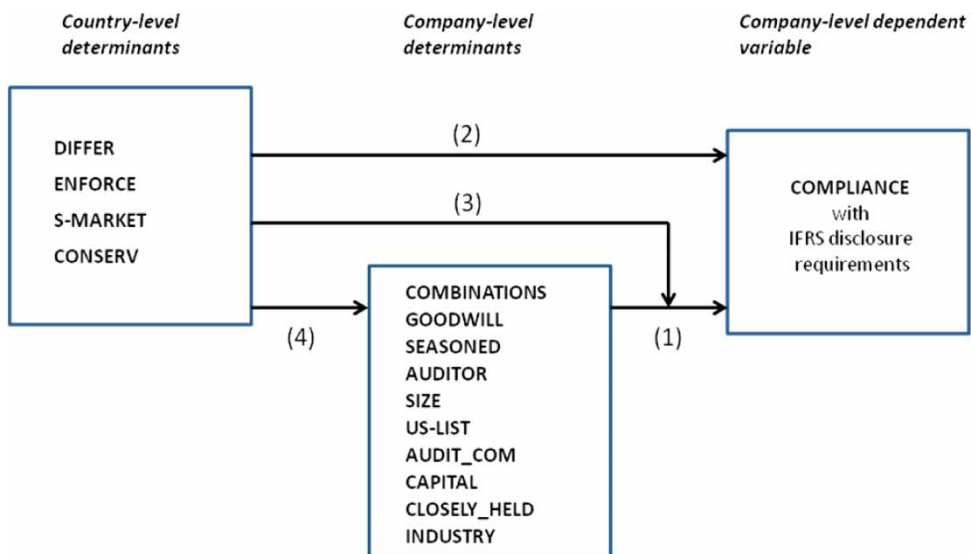


Figure 1. Country- and company-level determinants of compliance with IFRS-required disclosures regarding business combinations and impairment testing.

variables (relationship 3). Finally, as indicated by relationship (4) in Figure 1, it is possible, indeed likely, that company characteristics, e.g. size, ownership structure, foreign stock exchange listings, are mediated by national legal systems and other economic, political and cultural institutions (La Porta *et al.* 1998, 2006, 2008, Leuz and Wysocki 2008, Wysocki 2010). Therefore, following Feskens and Hox (2010), we lastly apply multigroup SEM to test whether the same structural model is applicable across different countries.

5. Data

5.1 Sample

Our study is based on an assessment of disclosures related to business combinations and impairment testing of assets, in particular goodwill, provided by leading European companies in 2005 IFRS statements.¹⁸ According to the Thomson Financial M&A database, in 2005 these countries accounted for a transaction volume of €615 billion, or 95% of all European acquisitions. Within each country we focus on companies comprising the premier segment of the respective stock-market indices as of 31 December 2005, yielding a potential sample of 461.¹⁹ Companies using US GAAP (22), using other national standards or providing accounts for periods of other than 1 year for various reasons (7), with year-ends not included in the time span between 31 December 2005 and 31 March 2006 (24), and/or not providing English-language reports (18) are eliminated. An inspection of the reports of the remaining companies identified 33 that neither reported acquisitions in 2005 nor had goodwill from previous combinations, yielding a final sample of 357. Table 1 illustrates the sample distribution over countries and industries.

5.2 Dependent variable

Data for our dependent variable were collected via a comprehensive assessment of business combinations and impairment testing footnote disclosures provided in the 2005 consolidated financial statements of our sample of leading European companies (for descriptive statistics see Glaum

Table 1. Distribution of sample companies by country and industry.

Country	Stock market index	Manufacturing	Services	Financial services	Total
Austria	ATX	11	0	5	16
Belgium	BEL 20	10	3	3	16
Czech Republic	PX index	4	1	1	6
Denmark	OMXC 20	10	2	2	14
Finland	OMXH 25	16	4	1	21
France	CAC 40	24	5	5	34
Germany	DAX 30	14	2	5	21
Hungary	BUX	4	1	1	6
Ireland	ISEQ 20	7	4	3	14
Italy	S&P/MIB	17	2	14	33
Luxembourg	LuxX	4	0	0	4
The Netherlands	AEX	9	6	3	18
Poland	WIG 20	7	2	4	13
Spain	IBEX 35	17	5	6	28
Sweden	OMXS 30	14	2	4	20
Switzerland	SMI	12	1	5	18
UK	FTSE 100	43	13	19	75
Total		223	53	81	357

Table 2. Independent variables: description and data sources.

Variable	Description	Source of data
Panel A: Company-level variables		
COMBINATIONS	Number of business combinations reported in year 2005	Hand-collected, 2005 footnotes
GOODWILL	Ratio between goodwill and total assets year end 2005	Hand-collected, 2005 balance sheets
SEASONED	Indicator variable equal to 1 for companies that prepared IFRS statements prior to 2005; 0 for others	Hand-collected, accounting policy footnotes
AUDITOR	Indicator variable coded 1 for clients of Big 4 auditing firms; 0 for others	Hand-collected, 2005 financial reports
SIZE	Index of factors measuring size: total assets, number of employees, market capitalisation; the index is the mean of the ranks of the sample companies on the measures	Total assets, employees: hand-collected 2005, financial reports; market capitalisation: Datastream
US_LIST	Indicator variable coded 1 for companies cross-listed at US stock exchanges; 0 for others	Websites of New York Stock Exchange and NASDAQ
AUDIT_COM	Indicator variable coded 1 for companies with audit committees; 0 for others	Hand-collected, annual reports, company websites
CAPITAL	Indicator variable coded 1 for companies with SEOs or bond issues in 2005 or 2006; 0 for others	Hand-collected, 2005 and 2006 footnotes
CLOSELY_HELD	Percentage of equity shares closely held by strategic investors (families, foundations, institutional investors)	Datastream/Worldscope
COUNTRY	Companies' country of origin	Composition of stock market indices 31 December 2005
INDUSTRY	Companies' major industry affiliation	Thomson ONE Banker
Panel B: Country-level variables		
DIFFER	Index (mean) of factors measuring 'distance' between national GAAP and IFRS: absence (national GAAP does not cover areas of accounting regulated by IFRS), divergence (national GAAP and IFRS prescribe different accounting treatments); high values indicate a high distance between national GAAP and IFRS	Ding <i>et al.</i> (2007), for countries not covered by Ding <i>et al.</i> (2007), absence and divergence constructed following methodology of Ding <i>et al.</i> (2007)
ENFORCE	Index of public enforcement aggregating whether suspect corporate transactions can lead to fines or jail sentences for wrongdoers or approving bodies; high values indicate a high intensity of public enforcement	Djankov <i>et al.</i> (2008)

(Continued)

Table 2. Continued.

Variable	Description	Source of data
S-MARKET	Year 2005 index of factors measuring size of national stock markets: ratio of total market capitalisation of listed domestic companies to GDP; ratio of number of listed domestic companies to population in millions; ratio of market turnover to GDP; index is the mean of the ranks of the countries on the measures	World Bank website
CONSERV	Dimension of national culture, measuring the degree to which individuals in a given society emphasise independent thought and welcome change ('openness') or emphasise restriction and resist change (conservation); data is for year 2004; high values indicate a high degree of conservation	European Social Survey website

et al. 2007). Following Cooke (1989, 1991, 1992), Glaum and Street (2003), Street and Bryant (2000) and Street and Gray (2001), we developed a checklist comprising all required disclosures for business combinations and impairment testing from IFRS 3 and IAS 36. A few disclosures were eliminated as it is not possible through an outside review to determine whether the disclosures are applicable for a given company. Our final checklist includes 100 items.²⁰

More specifically, our checklist assesses compliance with disclosures associated with,

- Business combinations
- Combinations during the reporting period (IFRS 3, paragraphs 66–70), e.g. the cost of acquisitions, descriptions of the components of that cost, information about the purchase price allocation, the assets, liabilities and contingent liabilities of the acquiree, revenue and profit/loss of the combined entity 'as though the acquisition date for all business combinations effected during the period had been the beginning of that period'
- Equivalent information pertaining to combinations after the balance sheet date but before the financials are authorised for issue (IFRS 3, paragraphs 66–70)
- Financial effects of gains, losses, error corrections and other adjustments recognised during the year relating to combinations effected in the current or previous periods (IFRS 3, paragraphs 72–73)
- Changes in the carrying amount of goodwill during the period (IFRS 3, paragraphs 74–75)
- Impairment of assets
- Impairment losses and reversals of losses recognised during the period (IAS 36, paragraphs 126–128)
- Segment information about impairment losses/reversals of losses recognised during the year (IAS 36, paragraph 129)
- Individually material goodwill impairment losses (IAS 36, paragraph 130), e.g. events and circumstances that led to impairment losses, nature of asset/description of cash-generating unit (CGU), details of estimation of recoverable amount
- Impairment losses or reversals of losses that are not individually material (IAS 36, paragraph 131), e.g. main classes of assets affected, events and circumstances that led to impairment losses

- Estimates used to measure recoverable amounts of CGUs containing goodwill (IAS 36, paragraphs 134–136), e.g. basis for estimation of recoverable amounts, key assumptions for estimation of value in use/fair value less costs to sell

Each checklist item was coded as disclosed (1), not disclosed (0) or not applicable. As with all disclosure/compliance indices, we acknowledge that coding is based in part on judgment. However, great care was taken to minimise errors. Our analysis of the business combination and impairment disclosures was based on a detailed and clearly labelled checklist. Each annual report, including the introductory material and especially the financial statements and applicable footnotes, was reviewed completely to minimise the possibility that companies were penalised for non-applicable disclosures or that disclosures were overlooked due to being provided outside the primary footnotes focused on business combinations, goodwill and impairment testing. To illustrate the latter, required impairment disclosures are at times found in the segment disclosure footnote. Companies were always given the benefit of doubt when it was not possible to determine whether a disclosure was applicable (such items were coded as not applicable). Overall, this approach is likely to result in an upward bias of our compliance index and will tend to work against us by lowering significance levels in estimations of the determinants of compliance.

Initially, one of the principle researchers with considerable expertise in analysing IFRS/IAS disclosures for compliance and another of the principle researchers (the primary coder) independently reviewed the same set of annual reports. For each annual report, any coding discrepancies were discussed and fully resolved. After 25 annual reports had been separately analysed and then fully agreed, the coders began to work independently. However, the coders continued to discuss and resolve instances where the appropriate coding was initially unclear. Additionally, the primary coder reviewed key disclosure areas a second time for all annual reports and ran several accuracy checks, i.e. checking that all items in each reconciliation totalled the appropriate amount and so on.

The disclosure index COMPLIANCE is calculated by dividing the number of checklist disclosures provided by the number of applicable disclosures.²¹ Following the most common practice in the literature, all items are equally weighted. Some studies apply weightings, e.g. based on analysts' opinions; however, studies using both weighted and unweighted indices generally yield similar results (Chow and Wong-Boren 1987, Zarzeski 1996, Hodgdon *et al.* 2008). For companies with multiple combinations or recognising multiple goodwill impairments, separate data were collected for each case and an unweighted average of the data sets is used to calculate the dependent variable.

In 2005, 241 (67.5%) sample companies report combinations. IFRS 3, paragraph 67, requires companies to disclose detailed information on material combinations during the period. For individually immaterial transactions, companies are only required to report in aggregate (paragraph 68). One hundred sixty-seven companies (47%) report on individual acquisitions (299 in total). Thirty-eight of these companies also report in aggregate on 'other', usually minor combinations. An additional 74 companies provide only aggregate disclosures for combinations. Furthermore, 347 (97.2%) of the companies report goodwill from combinations undertaken in 2005 or in earlier years.

We acknowledge that based on a third-party-assessment of companies' financial statements we cannot infer the ultimate cause of inadequacies in disclosures, i.e. we cannot ascertain whether they are the result of unintentional neglect, misinterpretations of disclosure rules or intention. In addition, while we have taken great care not to penalise companies for missing disclosures that may not be applicable or material, we cannot gauge how relevant the missing disclosures would have been to capital-market participants and other financial statement users. However, to the extent that non-compliance as measured by our index is due to random neglect or relates to details that are not highly relevant to financial statement users, we expect this to work against our attempts to identify significant relationships to company-level or country-level determinants of compliance.

5.3 Independent variables

Table 2 defines our independent variables and for each indicates the data source. Data for most company-specific variables are hand-collected from annual reports. Data for the country-level variables are from public sources or from prior empirical studies.

5.4 Descriptive statistics and correlations

Table 3 presents descriptive statistics for the dependent and independent variables. Panel A reports the mean, standard deviation, median, minimum and maximum for the dependent variable COMPLIANCE. The mean compliance level is 73% (median: 75%). Twelve companies provide all required disclosures. The minimum compliance level is exhibited by two companies providing only 12% of the disclosures required by IFRS.²²

Compliance with business combination disclosures was often lacking for cost of the combinations, purchase price allocations, i.e. classes of acquired assets, liabilities and contingent liabilities, acquisition-related pro-forma performance figures and explanations concerning the recognition of goodwill or badwill. Compliance was also problematic for impairment test disclosures. For example, several companies with goodwill did not disclose the method used to test goodwill for impairment. For companies that did report the method, in many cases required details of the tests, such as the planning period, the long-term growth rate or the discount rate, were also not presented.

Table 3 also reports details for country- and auditor-subsamples of our year-2005 data set. We find that audit quality is not uniform. Clients of the Big 4 firms have a mean/median compliance level of 73%/76%, while the mean/median compliance level of non-Big 4 audit clients is 67%/66%. By country, the highest average COMPLIANCE is displayed by Swiss companies, with a mean/median of 85%/89%; the standard deviation of 0.11 is also the lowest by country. Other countries with above-average compliance are the UK, Ireland, Denmark, Sweden and Finland. The lowest average compliance is for Austrian (mean/median 56%/54%) and Spanish (mean/median 57%/53%) companies. Other countries with below-average results are Luxembourg, Italy, Hungary, Poland and the Czech Republic. Thus, descriptive statistics indicate IFRS compliance among European blue-chips may be influenced by country effects, with Anglo-Saxon and Scandinavian companies exhibiting higher compliance and, among others, companies from Central European countries displaying below-average compliance.

A concern could be that the findings from our 2005 data reflect temporary problems that companies experienced with the new rules for business combinations and impairment testing in the first year of mandatory IFRS application and that compliance is much higher in subsequent years. Hence, we test the robustness of our findings by collecting data for a select set of companies for 2007, the third year of mandatory IFRS application. We include countries with diverse average levels of compliance and from different legal origin country groups (see La Porta *et al.* 1998), namely, France, Ireland, Poland and Switzerland. The four countries account for 79 companies in the original sample (22.1%). However, only 72 remained independent and published IFRS statements. The mean compliance level in 2007 for French companies is 76% (2005: 73%); 78% for Irish companies (2005: 78%), 62% for Polish companies (2005: 62%) and 86% for Swiss companies (2005: 85%). The mean compliance level for all 72 companies in 2007 is 77% (2005: 75%); the correlation between 2005 and 2007 compliance is 0.676 ($p < 0.001$).²³ Thus, we conclude that, although compliance levels have improved somewhat, the findings for 2007 are remarkably similar to those for 2005, indicating that the non-compliance reported for 2005 is not merely a short-term, transitory phenomenon.

Table 3. Descriptive statistics for dependent and independent variables.

		Mean	Standard deviation	Median	Minimum	Maximum
Panel A: Dependent variable (level of compliance)						
COMPLIANCE		0.728	0.177	0.750	0.120	1.00
<i>By Country</i>						
Austria		0.563	0.137	0.539	0.333	0.837
Belgium		0.739	0.170	0.789	0.454	1.000
Czech Republic		0.582	0.191	0.607	0.238	0.807
Denmark		0.809	0.154	0.856	0.533	1.000
Finland		0.799	0.157	0.833	0.375	0.966
France		0.730	0.151	0.732	0.318	0.962
Germany		0.761	0.117	0.792	0.550	1.000
Hungary		0.603	0.191	0.519	0.444	0.894
Ireland		0.784	0.140	0.788	0.500	1.000
Italy		0.646	0.162	0.647	0.235	1.000
Luxembourg		0.579	0.270	0.608	0.222	0.879
The Netherlands		0.727	0.164	0.745	0.454	1.000
Poland		0.621	0.206	0.636	0.120	0.892
Spain		0.569	0.177	0.528	0.320	1.000
Sweden		0.817	0.142	0.857	0.360	0.966
Switzerland		0.849	0.114	0.888	0.558	1.000
UK		0.798	0.150	0.818	0.363	1.000
<i>By industry</i>						
Manufacturing		0.753	0.170	0.789	0.222	1.000
Other services		0.761	0.141	0.797	0.320	0.986
Financial services		0.639	0.189	0.651	0.120	1.000
<i>By auditor</i>						
Big 4		0.733	0.177	0.760	0.129	1.000
Non-Big 4		0.667	0.151	0.661	0.333	0.933
	<i>N</i>	Mean	Standard deviation	Median	Minimum	Maximum
Panel B: Company-level independent variables						
<i>Non-dichotomous</i>						
GOODWILL	357	0.111	0.139	0.050	0	0.672
COMBINATION	357	2.450	3.563	1.000	0	41
SIZE:						
Total assets (in million €)	357	78257.454	211221.750	11240.000	50.530	1343090.720
Number of employees	354	45703.310	66945.198	21509.500	74.000	517665.000

(Continued)

Table 3. Continued.

		Mean	Standard deviation	Median	Minimum	Maximum
Turnover (in million €)	276	13023.174	25205.524	5346.470	50.350	259003.660
Market capitalisation (in million €)	353	16222.547	25646.127	7012.190	19.040	186236.000
CLOSELY_HELD	332	26.723	23.544	20.000	0.000	80.000
<i>Dichotomous</i>		=0	=1			
SEASONED (1 = seasoned user of IFRS)	357	273	84			
AUDITOR (1 = audited by Big 4)	357	10	347			
US_LIST (1 = US cross-listed)	357	293	64			
AUDIT_COM (1 = audit committee established)	357	60	297			
CAPITAL (1 = SEO or bonds in 2005/2006)	357	193	164			
INDUSTRY	357	See Table 1				

Country	DIFFER		S-MARKET			ENFORCE	CONSERV
	Absence	Divergence	Market capitalisation of listed companies (% of GDP)	Listed domestic companies per one million people	Market turnover (% of GDP)		
Austria	34	36	40.8	12.029	1.9	0	-0.18
Belgium	22	32	76.8	16.221	57.9	0.5	0.06
Czech	22	27	30.8	3.519	1.4	0	0.11
Denmark	31	21	69	32.841	28.5	0.25	-0.27
Finland	22	31	107.1	25.522	38.2	1	-0.07
France	21	34	81.9	11.516	10.1	0.5	-0.08
Germany	18	34	43.7	8.003	4.8	0	-0.09
Hungary	31	47	29.6	4.361	2.2	1	0.31
Ireland	0	34	56.8	176.667	2.6	1	0.30
Italy	27	37	44.9	64.663	4.9	1	NA
Luxembourg	27	24	137.2	85.393	0.7	0	0.12
The Netherlands	10	25	93.7	10.846	34.4	1	-0.10
Poland	34	36	30.9	6.497	0.9	0	0.43
Spain	28	29	85	75.392	9.0	0	0.20
Sweden	10	26	110.4	28.381	20.6	0	-0.43
Switzerland	40	38	252.1	37.903	1.6	0.25	-0.12
UK	0	35	136.1	41.275	10.4	1	0.05

Note: All variables as defined in Table 2; NA, not available.

Table 4. Correlation coefficients.

	COMPLIANCE	GOODWILL	COMBINATION	SEASONED	AUDITOR	SIZE	US_LIST	AUDIT_COM	CAPITAL	CLOSELY_HELD	DIFFER	S-MARKET	ENFORCE	CONSERV
COMPLIANCE	1	0.368***	0.016	0.016	0.125**	-0.068	0.069	0.206***	0.011	-0.254***	-0.274***	0.288***	0.172***	-0.184***
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
GOODWILL	0.304***	1	0.282***	-0.075	-0.021	-0.258***	0.060	0.177***	-0.122**	-0.078	-0.126**	0.098*	0.061	-0.142**
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
COMBINATION	0.079	0.168***	1	-0.010	0.015	-0.019	0.051	0.032	0.020	-0.069	-0.006	0.034	-0.065	-0.102*
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
SEASONED	0.032	-0.102*	-0.044	1	-0.106**	-0.118**	-0.127**	0.055	-0.048	0.081	0.350***	-0.324***	-0.336***	-0.192***
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
AUDITOR	0.121**	0.005	-0.050	-0.106**	1	0.177***	0.085	-0.076	0.054	-0.114**	-0.038	0.083	0.103*	0.069
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
SIZE	-0.056	-0.209***	-0.054	-0.131**	0.161***	1	0.325***	0.112**	0.398***	-0.212***	-0.042	0.031	0.054	-0.137**
	357	357	357	357	357	357	357	357	357	353	357	357	357	324
US_LIST	0.089*	0.020	0.002	-0.127**	0.085	0.330***	1	0.111**	0.062	-0.317***	-0.200***	0.185***	0.175***	-0.008
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
AUDIT_COM	0.236***	0.152***	0.015	0.055	-0.076	0.111**	0.111**	1	0.129**	-0.147***	-0.278***	0.162***	0.054	-0.173***
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
CAPITAL	0.015	-0.099*	0.039	-0.048	0.054	0.415***	0.062	0.129**	1	-0.094*	-0.063	-0.081	0.012	-0.105*
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
CLOSELY_HELD	-0.306***	-0.104*	-0.055	0.112**	-0.100*	-0.209***	-0.299***	-0.150***	-0.088	1	0.322***	-0.317***	-0.182***	0.131**
	332	332	332	332	332	332	332	332	332	332	332	332	332	300
DIFFER	-0.248***	-0.192***	-0.042	0.454***	-0.042	-0.099*	-0.203***	-0.278***	-0.087*	0.343***	1	-0.555**	-0.431***	-0.056
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
S-MARKET	0.276***	0.177***	0.053	-0.417***	0.105**	0.128**	0.190***	0.160***	-0.065	-0.314***	-0.561***	1	0.428***	0.089
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
ENFORCE	0.176***	0.109**	-0.001	-0.345***	0.100†	0.061	0.175***	0.057	0.021	-0.205***	-0.409***	0.458***	1	0.197***
	357	357	357	357	357	357	357	357	357	332	357	357	357	324
CONSERV	-0.218***	-0.129**	-0.088	-0.089	0.064	-0.154***	0.002	-0.189***	-0.177**	0.177***	0.102*	-0.184***	0.197***	1
	324	324	324	324	324	324	324	324	324	300	324	324	324	324

Note: Spearman rank correlation coefficients are shown in the upper right, Pearson correlations in the lower left; correlations based on country-level variables are computed without companies (four cases) from Luxembourg; all variables as defined in Table 2 *** (**, *) denotes significance at the 1% (5%, 10%) level.

Table 3 Panel B summarises information on company-specific independent variables. SIZE is an index based on three measures; we report descriptive statistics for all measures. Panel C reports on the country-level independent variables. For variables constructed as indices, we report data for the underlying measures.²⁴

Table 4 presents pairwise correlation coefficients for the dependent variable and independent variables. Correlations between the dependent variable and the independent variables indicate that COMPLIANCE is related to GOODWILL (importance of goodwill), AUDITOR, US_LIST, AUDIT_COM, CLOSELY_HELD and all four country-level variables. The pairwise relationships between the independent company variables are mostly very modest, with the exception of SIZE on the one hand and US_LIST and CAPITAL on the other hand (Spearman rank correlation coefficients: 0.325 and 0.398, respectively). Our country variables are also correlated with each other, the highest correlation coefficient being for DIFFER and S-MARKET (Spearman rank correlation coefficient: 0.555). In our regression analysis, we therefore check for the possible influence of multicollinearity by inspecting variance inflation factors (VIF).

6. Determinants of disclosure compliance: empirical analysis

6.1 Basic model: company-level variables and country indicator variables

In Table 5, we present results for the estimation of three model variants. In Model 1 compliance is explained solely by the company-level variables. Model 2 only includes country indicator-variables, and Model 3 comprises both company-level and country indicator-variables. Model 3 can be stated as follows:

$$\begin{aligned} \text{COMPLIANCE} = & \alpha + \beta_1 \text{COMBINATIONS} + \beta_2 \text{GOODWILL} + \beta_3 \text{SEASONED} \\ & + \beta_4 \text{AUDITOR} + \beta_5 \text{SIZE} + \beta_6 \text{US_LIST} + \beta_7 \text{AUDIT_COM} \\ & + \beta_8 \text{CAPITAL} + \beta_9 \text{CLOSELY_HELD} + \beta_{10} \text{CLOSELY_HELD}^2 \\ & + \sum_{j=11}^{12} \beta_j \text{INDUSTRY} + \sum_{k=13}^{28} \beta_k \text{COUNTRY} + \varepsilon \end{aligned}$$

We report two sets of results for Model 3, one including and one excluding the variable CLOSELY_HELD. The latter is reported since Worldscope does not report data for this variable for 25 sample companies.²⁵ Unless otherwise stated, all models are estimated using SPSS (Version 19). For each independent variable, Table 5 reports regression coefficients (β) and t -values.

With 24.1% and 22.9%, respectively, the R^2 s of Model 1 and Model 2 are similar. In other words, the explanatory power of company-level variables and country indicator variables is about the same.²⁶ The R^2 of the fully developed Model 3 is 35.1% (with CLOSELY_HELD); thus, both company-level variables and country indicator variables have incremental explanatory power over the other. The F -value of Model 3 is 7.395 (7.863 without CLOSELY_HELD) and is significant at $p < 0.001$, indicating that the model is well specified overall.²⁷ To check for multicollinearity, we inspect VIFs for the independent variables and find that multicollinearity is not an issue; all VIFs are much lower than the critical value of 10 (Gujarati 1995, p. 328). For example, for Model 3, with the exception of two country indicator variables (UK and Italy), all VIFs are between 1 and 2. The highest VIF is 4.148 for the country variable UK: the second highest is 3.162 for Italy.

Turning to the estimation results for Model 3 (with CLOSELY_HELD) in more detail, GOODWILL ($t = 2.063$; $p = 0.040$) is significantly positively associated with COMPLIANCE. Holding everything else constant, a 10% increase in the ratio of goodwill to total assets is associated, on average, with a 13.8% increase in the compliance index. AUDITOR is also positively associated with COMPLIANCE ($t = 2.558$; $p = 0.011$). A switch from one of the non-Big 4 to one of the Big 4 firms, on average and other things being equal, is connected with an economically meaningful increase in compliance of 12.8%. We also find a positive association between

Table 5. Determinants of compliance with IFRS disclosures: company-level variables and country indicator variables.

Independent variables	Model 1: Company-level variables only		Model 2: Country-level variables only		Model 3: Company- and country-level variables			
	β	t	β	t	With CLOSELY_HELD		Without CLOSELY_HELD	
					β	t	β	t
Intercept	0.487	5.946***	0.752	19.113***	0.459	5.024***	0.541	5.572***
<i>Company-level variables</i>								
COMBINATIONS	0.000	0.139			0.001	0.509	0.001	0.248
GOODWILL	0.203	2.870***			0.182	2.895***	0.138	2.063**
SEASONED	0.039	1.842*			0.036	1.262	0.033	1.124
AUDITOR	0.149	2.880***			0.125	2.494**	0.128	2.558**
SIZE	0.005	0.655			0.005	0.679	0.001	0.089
US_LIST	-0.004	-0.169			-0.005	-0.247	-0.004	-0.182
AUDIT_COM	0.073	3.007***			0.055	2.261**	0.060	2.406**
CAPITAL	0.025	1.291			0.043	2.395**	0.046	2.456**
CLOSELY_HELD	-0.001	-2.751***					-0.000	-0.668
CLOSELY_HELD ²	-0.000	-2.131**					-0.000	-1.878*
<i>Industry indicator variables</i>								
MANUFACTURE	-0.014	-0.517			0.030	0.111	-0.006	-0.265
FINANCIAL	-0.101	-3.064***			-0.095	-3.120***	-0.117	-3.639***
<i>Country indicator variables</i>								
AUSTRIA			-0.188	-3.378***	-0.127	-2.165**	-0.125	-2.065**
BELGIUM			-0.012	-0.212	0.043	0.819	0.025	0.458
CZECH			-0.169	-2.245**	-0.120	-1.661*	-0.131	-1.764*
DENMARK			0.053	0.905	0.127	2.317**	0.103	1.809*
FINLAND			0.046	0.872	0.076	1.553	0.044	0.879
FRANCE			-0.021	-0.443	-0.007	-0.168	-0.021	-0.474
GERMANY			0.007	0.141	0.019	0.357	-0.003	-0.048
HUNGARY			-0.148	-1.971*	-0.085	-1.094	-0.099	-1.251
IRELAND			0.024	0.415	0.089	1.687*	0.053	0.954
ITALY			-0.105	-2.176**	-0.014	-0.312	-0.027	-0.571
LUXEMBOURG			-0.529	-3.265***	-0.155	-1.867*	-0.360	-2.307**

(Continued)

Table 5. Continued.

Independent variables	Model 1: Company-level variables only		Model 2: Country-level variables only		Model 3: Company- and country-level variables			
					With CLOSELY_HELD		Without CLOSELY_HELD	
	β	t	β	t	β	t	β	t
POLAND			-0.120	-2.000**	-0.015	-0.259	-0.009	-0.149
SPAIN			-0.178	-3.578***	-0.112	-2.475**	-0.116	-2.438**
SWEDEN			0.066	1.253	0.100	2.075**	0.073	1.488
SWITZERLAND			0.109	1.960*	0.135	2.405**	0.129	2.198**
UK			0.042	0.968	0.092	2.389**	0.065	1.587
N	332		332		357		332	
Adjusted R^2	0.241		0.229		0.334		0.351	
F	9.766***		7.152***		7.863***		7.395***	

Notes: The table presents results of OLS regression estimations of the following model:

$$\text{COMPLIANCE} = \alpha + \beta_1 \text{COMBINATIONS} + \beta_2 \text{GOODWILL} + \beta_3 \text{SEASONED} + \beta_4 \text{AUDITOR} + \beta_5 \text{SIZE} + \beta_6 \text{US_LIST} + \beta_7 \text{AUDIT_COM} + \beta_8 \text{CAPITAL} + \beta_9 \text{CLOSELY_HELD} + \beta_{10} \text{CLOSELY_HELD}^2 + \sum_{j=11}^{12} \beta_j \text{INDUSTRY}_j + \sum_{k=13}^{28} \beta_k \text{COUNTRY}_k + \varepsilon.$$

Panel A presents estimation results for a model variant that only comprises company-level variables (Model 1); Panel B presents estimation results for a model variant that only comprises country indicator-variables (Model 2), and Panel C presents estimation results for the full model (Model 3). All variables are as defined in Table 2.

*10% level of significance.

**5% level of significance.

***1% level of significance.

AUDIT_COM and compliance ($t = 2.406$; $p = 0.017$). On average, and other things being equal, compliance levels are 6% higher in companies that have voluntarily established audit committees. We acknowledge, however, that our analysis cannot ascertain whether the audit committees actually *cause* the higher levels of compliance. An alternative explanation for our finding is that companies whose top management is aware of the need for high quality reporting and compliance are also more likely to establish audit committees. We furthermore find that the coefficient for CAPITAL is significantly positive ($t = 2.456$; $p = 0.015$). In other words, companies that tap the capital markets in either the current or in the subsequent reporting period exhibit a higher level of compliance. At 4.6%, the difference is non-trivial.

Finally, in accordance with expectations, we find an inverted U-shaped relationship between CLOSELY_HELD and COMPLIANCE; the coefficient of the squared term CLOSELY_HELD² is negative and significant at 10% ($t = -1.878$). In other words, compliance is highest for companies with a moderate level of ownership concentration. This finding is in line with the literature that generally assumes that ownership structures where investors own larger blocks of shares but do not fully control companies are most effective in terms of monitoring management and alleviating agency problems (Morck *et al.* 1988, La Porta *et al.* 1998).²⁸ However, the economic significance of CLOSELY_HELD is very small. An increase in the proportion of shares held by strategic investors by 10 percentage points is associated with only a 0.3% change in the compliance index (100×0.00003).

Companies are categorised into three broad industry groups: manufacturing, financial services and other services. Thus, the model includes two industry dummies, excluding the industry with the median compliance (other services). In line with the results from the descriptive statistics, belonging to FINANCIAL services is associated with significantly below-average COMPLIANCE ($t = -3.639$; $p < 0.001$). On average and other things being equal, companies in the financial services industry display a level of compliance that is 11.7% lower than that of other services companies (the benchmark industry). A possible explanation is that purchase price allocations and subsequent goodwill impairment tests are more complex in the financial industry than in other sectors of the services industry. Another explanation could be that the implementation of IFRS in 2005 was generally more challenging for banks, insurers and real-estate companies, possibly because of the widespread usage of fair values under IAS 39 and the far-reaching disclosure requirements for financial instruments. Accordingly, financial services companies had relatively less time and fewer resources at their disposal to address the disclosure requirements of IFRS 3 and IAS 36.

Our sample represents 17 countries; thus, we include 16 indicator (dummy) variables in our model, excluding the Netherlands as the country with the median compliance (Hardy 1993). The β -coefficients on the COUNTRY dummies indicate the relative differences between the average compliance in the respective countries and in Dutch companies, controlling for the other independent variables. In Model 3 with CLOSELY_HELD, several countries are significantly negatively associated with COMPLIANCE: Austria ($t = -2.065$; $p = 0.040$), the Czech Republic ($t = -1.764$; $p = 0.079$), Luxembourg ($t = -2.307$; $p = 0.022$) and Spain ($t = -2.438$; $p = 0.015$).²⁹ The coefficients for the country indicator variables for Switzerland ($t = 2.198$; $p = 0.029$) and Denmark ($t = 1.809$; $p = 0.071$) are significantly positive, indicating greater compliance.

We find that our ownership structure variable CLOSELY_HELD interacts with the country variables. Estimation results from Model 3 without CLOSELY_HELD indicate being headquartered in Ireland ($t = 1.687$; $p = 0.092$), Sweden ($t = 2.075$; $p = 0.039$) and the UK ($t = 2.389$; $p = 0.017$) is significantly positively associated with COMPLIANCE. However, when CLOSELY_HELD is included in the model, the indicator variables for these three countries lose their significance. This interaction is not surprising since previous research (e.g. La Porta *et al.* 1999) indicates that ownership concentration differs across nations. The interaction

between CLOSELY_HELD and economic, legal and cultural environment is later addressed in more detail.

Contrary to expectations, COMBINATIONS, the number of business combinations undertaken in the reporting period, does not have a discernable effect on COMPLIANCE. This may be because there is not much variance in COMBINATION. The number of transactions undertaken in 2005 was small for most companies. Of the 241 companies reporting combinations, 55.2% reported one or two transactions. For 90%, the number was between one and six.³⁰ The regression estimate for SEASONED has the expected positive sign, but the value is not significantly different from zero in Model 3.³¹ A reason for the rather weak result may be that the new IFRS rules for business combinations and impairment testing were published in 2004 leaving all companies little time for implementation before application in 2005. Hence, prior IFRS experience may have had little value.

We also do not find a significant association between SIZE and COMPLIANCE, although the regression estimate has the expected positive sign. This is contrary to prior research that relatively consistently finds a positive association. However, our sample comprises large 'blue chip' companies all of which are likely to have highly developed accounting expertise and reporting systems and, where necessary, the resources to draw on external support for projects such as the implementation of new accounting standards. Finally, against expectations we do not find a significant relationship between COMPLIANCE and US_LIST (being cross-listed in the USA).

6.2 Legal origin model

The 17 countries comprising our sample represent diverse historical, cultural, social, economic and institutional environments (e.g. Hope 2003a, Ding *et al.* 2005, Maijoor and Vanstraelen 2006, Jackson and Deeg 2008). To analyse country effects further, we next estimate a model where we substitute the COUNTRY indicator variables with the classification of legal origin defined by La Porta *et al.* (1998). In line with prior research, we distinguish the following legal origin classes: English (the UK and Ireland), French (the Netherlands, Belgium, France, Spain, Luxembourg and Italy), Germanic (Germany, Austria and Switzerland), Scandinavian (Denmark, Finland and Sweden), and Central European (the Czech Republic, Hungary and Poland).³²

Table 6 reports the results of the estimation. While the adjusted R^2 of 0.291 is lower than the 0.351 for the above discussed Model 3 (with CLOSELY_HELD, see Table 5), the F -statistic (9.498; $p < 0.001$) is higher indicating an improved fit of the overall equation. The highest F -value for the legal origin model excludes CLOSELY_HELD. This may be due to the lower number of variables and the higher number of observations. Also, as mentioned above, ownership structures differ across countries and these differences may be systematically influenced by legal origins (La Porta *et al.* 1999).

Consistent with our findings for Model 3, the results from the legal origin model (with CLOSELY_HELD) indicate that GOODWILL ($t = 2.764$; $p = 0.006$), AUDITOR ($t = 3.063$, $p = 0.002$), AUDIT_COM ($t = 2.089$, $p = 0.038$), and CLOSELY_HELD² ($t = -2.338$; $p = 0.020$) influence COMPLIANCE. In addition, we find a significant positive association between being a SEASONED IFRS user and COMPLIANCE ($t = 1.1880$; $p = 0.061$). We also find indications of a positive association with SIZE. Without CLOSELY_HELD, SIZE is significant at the 10% level ($t = 1.779$). With CLOSELY_HELD, however, the significance level does not make the 10% cutoff ($t = 1.173$). Similarly, CAPITAL, a variable that is highly significant in our core model, is significant at the 10% level only in the model version without CLOSELY_HELD and drops below the 10% threshold once

Table 6. Determinants of compliance with IFRS disclosures: legal origin model.

Independent variables	Without CLOSELY_HELD		With CLOSELY_HELD	
	β	t	β	t
Intercept	0.382	4.517***	0.446	5.054***
<i>Company-level variables</i>				
COMBINATIONS	0.001	0.286	0.000	0.066
GOODWILL	0.232	3.578***	0.191	2.764***
SEASONED	0.050	1.838*	0.052	1.880*
AUDITOR	0.158	3.128***	0.155	3.063***
SIZE	0.013	1.779*	0.009	1.173
US_LIST	0.000	0.005	-0.007	-0.279
AUDIT_COM	0.041	1.721*	0.051	2.089**
CAPITAL	0.031	1.707*	0.029	1.558
CLOSELY_HELD			-0.001	-1.366
CLOSELY_HELD ²			-0.000	-2.338**
<i>Industry indicator variables</i>				
MANUFACTURE	-0.009	-0.367	-0.013	-0.514
FINANCIAL	-0.082	-2.628***	-0.097	-2.967***
<i>Legal origin country groups</i>				
English origin	0.081	2.286**	0.067	1.849*
French origin	-0.041	-1.253	-0.030	-0.878
Scandinavian origin	0.087	2.469**	0.072	2.001**
Middle-European	-0.063	-1.515	-0.042	-0.994
N		357		332
Adjusted R^2		0.269		0.291
F		10.359***		9.498***

Notes: The table presents results of OLS regression estimations of the following model:

$$\text{COMPLIANCE} = \alpha + \beta_1 \text{COMBINATIONS} + \beta_2 \text{GOODWILL} + \beta_3 \text{SEASONED} + \beta_4 \text{AUDITOR} + \beta_5 \text{SIZE} + \beta_6 \text{US_LIST} + \beta_7 \text{AUDIT_COM} + \beta_8 \text{CAPITAL} + \beta_9 \text{CLOSELY_HELD} + \beta_{10} \text{CLOSELY_HELD}^2 + \sum_{k=13}^{16} \beta_k \text{LaPorta COUNTRY GROUPS} + \sum_{k=13}^{16} \beta_k \text{LaPorta COUNTRY GROUPS} + \varepsilon$$

LaPorta COUNTRY GROUPS are indicator variables, based on the La Porta *et al.* (1998) legal origin classification; the country groups are defined as follows: English, UK and Ireland; French, the Netherlands, Belgium, France, Spain, Luxembourg, and Italy; Scandinavian, Denmark, Finland, and Sweden; Middle-Eastern Europe, Czech Republic, Hungary, and Poland; Germanic (benchmark group, not included in model), Germany, Austria, and Switzerland. All other variables are as defined in Table 2.

*10% level of significance.

**5% level of significance.

***1% level of significance.

CLOSELY_HELD is included. The results for INDUSTRY are consistent with Model 3 and indicate that being in the financial services sector is significantly negatively associated with COMPLIANCE ($t = -2.967$; $p = 0.003$).

The legal origin group with the median compliance (Germanic) is excluded. In the model including CLOSELY_HELD, English ($t = 1.849$; $p = 0.065$) and Scandinavian ($t = 2.001$, $p = 0.046$) companies have significant positive associations with COMPLIANCE. Without CLOSELY_HELD, the significance level for these two country groups is higher (the coefficient for the English legal origin country group is now significant at $p < 0.05$).³³

6.3 Company- and country-level determinants of compliance

The findings from the legal origin model indicate that compliance with IFRS-required disclosures is driven not only by idiosyncratic country effects but also by common historical and legal traits

shared by similar groups of countries. However, using simple indicator variables for individual countries or country groups does not inform us which contextual variables are responsible for the observed country differences. In the following we therefore test the impact of specific country-level predictors on compliance. We again follow a stepwise approach. We first test a model that includes our four country-level variables DIFFER (difference between national GAAP and IFRS), ENFORCE (strength of national enforcement system), S-MARKET (size of national stock market), CONSERV (cultural openness versus conservation) together with those company-level variables that have been shown to be significantly associated with COMPLIANCE in the previous analyses (GOODWILL, SEASONED, AUDITOR, AUDIT_COM, CAPITAL, CLOSELY_HELD and FINANCIAL).

Results are reported in Panel A of Table 7.³⁴ With the exception of the linear term CLOSELY_HELD, all company-level variables retain their significance in the new model variant. Generally, the significance levels are even higher than in Model 3. More precisely, GOODWILL, SEASONED, AUDITOR and FINANCIAL are all significant at the 1% level; AUDIT_COM and CAPITAL are significant at the 5% level.

Turning to the country-level variables, three of the four variables have a significant association with COMPLIANCE. In line with expectations as well as the bivariate correlation analysis, ENFORCE is positively associated with COMPLIANCE ($t = 1.914, p = 0.057$). This finding is consistent with the notion that stricter and more rigorous national enforcement systems promote higher levels of compliance. We also find a positive association between S-MARKET, i.e. the size of national stock markets, and COMPLIANCE ($t = 2.121, p = 0.035$). In larger markets, there may be stronger competition between companies and more rigorous monitoring of company management by portfolio managers and financial analysts and thus a stronger demand for high-quality financial reporting.

Furthermore, as predicted, the estimated coefficient of CONSERV is negative and is significant at the 5% level ($t = 1.979, p = 0.049$). Other things being equal, compliance is lower in countries with a value system focused more on conservation as measured by the 'openness versus conservation' dimension of the European Social Survey (Schwartz 2007). In countries that place more value on conservation, managers (and auditors) may be more strongly bound to their accounting traditions and thus less willing to accept the far-reaching changes in financial reporting, including the extensive disclosure requirements that accompanied the introduction of IFRS. On a more general level, our result corresponds with earlier studies that indicate that the level of disclosure and of the transparency of financial reporting in general is influenced by national cultures (e.g. Salter and Niswander 1995, Zarzeski 1996, Hope 2003a).

Finally, our analysis does not confirm the expected relationships between COMPLIANCE and DIFFER. A possible reason for this may be that the overall difference between IFRS and national reporting standards may not be an appropriate proxy for differences between IFRS and national rules in our specific areas of interest, i.e. disclosures related to business combinations and impairment testing. Another reason may be that IFRS 3 and IAS 36 were published in 2004 and thus were new in 2005 for all companies, regardless of whether they were based in countries with national accounting systems very close to, or very different to, IFRS.

In the next step of our analysis, we analyse whether company- and country-level variables interact, that is whether our country-level variables moderate the influence of the company-level variables (relationship 3 in Figure 1). We retain all variables that are significant in the previous model and add cross-level interaction terms. Thus, the new model includes seven company-level variables (GOODWILL, SEASONED, AUDITOR, AUDIT_COM, CAPITAL, CLOSELY_HELD² and FINANCIAL), three country-level variables (ENFORCE, S-MARKET and CONSERV) and 21 interaction terms between country- and company-level variables.³⁵ As reported in Table 7, Panel B, the R^2 of this model is 0.351, the F -value of 6.215 is highly

Table 7. Determinants of compliance with IFRS disclosures: company- and country-level variables.

	Panel A		Panel B		Panel C	
	Firm-level (significance) and country-level		Firm-level (significance), country-level (significance) and firm × country		Firm-level (significance), country-level (significance) and firm × country (significance)	
	β	t	β	t	β	t
Intercept	0.432	4.945***	0.428	6.783***	0.411	7.342***
GOODWILL	0.190	2.638***	0.159	2.151**	0.170	2.456**
SEASONED	0.068	2.756***	0.065	2.766***	0.072	3.178***
AUDITOR	0.149	3.025***	0.139	2.848***	0.143	3.041***
AUDIT_COM	0.055	2.066**	0.000	0.016		
CAPITAL	0.040	2.097**	0.050	2.599***	0.050	2.748***
CLOSELY_HELD	0.000	-1.287				
CLOSELY_HELD ²	-0.000	-2.332**	-0.000	-2.181**	-0.000	-2.622***
FINANCIAL	-0.109	-4.492***	-0.130	-5.013***	-0.124	-5.306***
DIFFER	0.000	-0.194				
ENFORCE	0.052	1.914*	0.047	1.693*	0.037	1.616
S-MARKET	0.008	2.121**	0.014	3.448	0.016	4.686***
CONSERV	-0.105	-1.979**	-0.062	-1.042		
ENFORCE × GOODWILL			-0.102	-0.380		
ENFORCE × SEASONED			-0.337	-4.410***	-0.369	-5.511***
ENFORCE × AUDITOR			0.317	0.809		
ENFORCE × AUDIT_COM			-0.181	-2.427**	-0.208	-3.279***
ENFORCE × CAPITAL			0.064	1.170		
ENFORCE × CLOSELY_HELD ²			-0.000	-1.653*	-0.000	-2.017**
ENFORCE × FINANCIAL			-0.104	-1.443		
STOCKMARKET × GOODWILL			-0.018	-0.457		
STOCKMARKET × SEASONED			0.021	2.535**	0.024	3.176***
STOCKMARKET × AUDITOR			-0.025	-0.965		
STOCKMARKET × AUDIT_COM			0.020	2.260**	0.020	3.001***
STOCKMARKET × CAPITAL			-0.005	-0.696		
STOCKMARKET × CLOSELY_HELD ²			-0.000	-0.041		

(Continued)

Table 7. Continued.

	Panel A		Panel B		Panel C	
	Firm-level (significance) and country-level		Firm-level (significance), country-level (significance) and firm \times country		Firm-level (significance), country-level (significance) and firm \times country (significance)	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
STOCKMARKET \times FINANCIAL			0.005	0.564		
CONSERV \times GOODWILL			-0.139	-0.255		
CONSERV \times SEASONED			0.311	2.058**	0.386	2.785***
CONSERV \times AUDITOR			-0.405	-0.665		
CONSERV \times AUDIT_COM			-0.078	-0.544		
CONSERV \times CAPITAL			0.190	1.736*	0.178	1.953**
CONSERV \times CLOSELY_HELD ²			-0.000	-0.496		
CONSERV \times FINANCIAL			-0.111	-0.774		
<i>N</i>	300		300		300	
Adjusted <i>R</i> ²	0.305		0.351		0.366	
<i>F</i>	11.952***		6.215***		12.484***	

Notes: The table presents results of OLS regression estimations of variants of the following model:

COMPLIANCE = $\alpha + \beta_1$ GOODWILL + β_2 SEASONED + β_3 AUDITOR + β_4 AUDIT_COM + β_5 CAPITAL + β_6 CLOSELY_HELD + β_7 CLOSELY_HELD² + β_8 DIFFER + β_9 ENFORCE + β_{10} S-MARKET + β_{11} CONSERV + \sum COUNTRY – LEVEL VARIABLES \times COMPANY – LEVEL VARIABLES + ε . All variables are as defined in Table 2.

*10% level of significance.

**5% level of significance.

***1% level of significance.

significant but noticeably lower than for the model without interaction terms presented in Panel A of Table 7. Most of the additive variables retain their significance, the exceptions being AUDIT_COM and CONSERV. In addition, seven interaction terms are significant.

ENFORCE interacts significantly with three company-level variables, SEASONED, AUDIT_COM and CLOSELY_HELD². In all three cases, the coefficients on the interaction terms are negative and significant. In other words, experience with IFRS by companies that voluntarily adopted IFRS before 2005 has a particularly strong (weak) impact on compliance in countries with a relatively weak (strong) public enforcement system. Similarly, the significant coefficient of the interaction term ENFORCE \times AUDIT_COM indicates that audit committees have a relatively strong impact on compliance in countries with low levels of enforcement and vice versa. In other words, a substitution effect appears to exist between the strength of the country-level enforcement system and company-level supervision of the accounting function. Third, in environments with weak public enforcement, the ownership structure impacts compliance more than in environments with a more rigorous public enforcement system. This is in line with the existing literature on national institutions (La Porta *et al.* 1998, Leuz and Wysocki 2008).

The size of national stock markets (S-MARKET) interacts with SEASONED and with AUDIT_COM. Both interactions have significantly positive coefficients. Thus, *ceteris paribus*, prior experience with IFRS has a strong influence on compliance in countries with large stock markets whereas its impact is weaker in countries with relatively small stock markets. Furthermore, there appears to be a complementary relationship between the size of national stock markets and the impact of audit committees on compliance.

We also find interactions between our cultural value variable CONSERV and the company-level variables SEASONED and CAPITAL. CONSERV by itself is not significant in the extended model that includes the cross-level interaction terms. However, CONSERV appears to have a reinforcing influence on SEASONED. In other words, the positive effect of SEASONED on compliance is greater if companies are domiciled in countries where the value system emphasises conservation. An intuitive interpretation is that managers in countries with strong conservation traditions need more time to accustom themselves to the new reporting rules than managers in societies that are more open to change and innovation. Furthermore, the coefficient of the interaction term CONSERV \times CAPITAL is positive. Thus, the positive effect of capital measures (SEOs, bond issues) on compliance with IFRS is more pronounced in countries that value conservation; it has less impact on compliance in countries more open to change and innovation.

Finally, to reduce the complexity of the model and increase degrees of freedom, we estimate a further variant of our regression model that only comprises those variables that were significant in the last step. The results are presented in Panel C of Table 7. Our findings are stable; only the coefficient of ENFORCE that was marginally significant in the previous model now drops just below the 10% significance level ($t = 1.616$, $p = 0.107$).

6.4 Extensions and robustness checks

In the following, we report on extensions and robustness checks of our main investigations. First, we consider explicitly that our sample companies come from different countries and that national environments may influence the company characteristics and their impact on compliance (see Figure 1). The hierarchical nature of country- and company-level variables would ideally call for a multi-level regression approach that explicitly takes the nested model structure into account (Dong 2009, Hox 2010). According to Meuleman and Billiet (2009), however, multi-level regression ideally requires samples with a minimum of 40 groups (in our case: countries). Our data comprises only 17 countries, some with a small number of observations. Accordingly, the power of tests conducted with multilevel regression is likely to be low, making it difficult to

detect country effects at conventional significance levels, i.e. the likelihood of type-2 errors is rather high. As a consequence, we run our main tests using OLS regression and apply multilevel regression only as a robustness test.

More precisely, we estimate a multilevel regression model that comprises the significant company-level variables and all four country-level variables, i.e. a model equivalent to the one presented in Panel A of Table 7. The model is tested using maximum likelihood estimation with SPSS's MIXED procedure (see Peugh and Enders 2005). To obtain robust results, bootstrapping is used to estimate coefficients and standard errors (Feskens and Hox 2010). The results (not tabulated) confirm our findings from the OLS regression. The estimated regression coefficients are very similar for all company- and country-level variables,³⁶ and with one exception all the variables that are significant in the OLS regression are also significant in the multilevel regression.³⁷ Overall, the results from the multilevel regression thus confirm that our findings from the OLS regression are not unduly influenced by the hierarchical relationship of country- and company-level variables in our model.

The previously discussed OLS regressions and the multilevel regression address the direct impact of company- and country-level variables on compliance (relationships (1) and (2) in Figure 1) and possible moderation effects of company-level variables by the country-level determinants (relationship (3) in Figure 1). However, we have not yet tested whether mediation takes place, that is, whether the country-level variables indirectly influence compliance through their effect on the company-level variables (relationship (4) in Figure 1). Because of the limited number of countries, we cannot use multilevel regression to test for mediation effects. Therefore, following Feskens and Hox (2010), we apply multigroup SEM.

Multigroup SEM tests whether a given model is invariant across groups or whether the regression coefficients, the intercepts or the mean levels of the predictors differ significantly across groups (in our case: countries). The test of differences in the mean levels of the predictors addresses whether the country-level factors mediate the level of the independent company-level variables. We sort companies into quintiles based on our four country-level variables DIFFER, ENFORCE, S-MARKET and CONSERV. For each of the four sets of quintiles, we run a set of hierarchical regression tests, based on a model that includes those company-level variables that were significant in the preceding OLS and multilevel analyses.³⁸ Starting with an unconstrained model where all parameters can vary across the country groups, we add restrictions by setting model parameters equal across groups (nested model comparisons). Constraining the model may reduce the fit. However, fixing coefficients across groups reduces the number of parameters to be estimated and increases degrees of freedom. The unconstrained model and the constrained more parsimonious model are then compared by setting the number of freedoms gained in relation to the difference between the chi-squares of the models. If the chi-square statistic does not indicate a significant difference, one can conclude that the model is invariant across groups (Byrne 2009).

The estimations of the multigroup SEM are conducted using AMOS version 17 (Arbuckle 2007). We are particularly interested in the effect of the restriction of the equality of 'structural means' of all company-level factors across all country groups. The results (not tabulated) suggest that mediation effects do take place, that is, the means of the company-level variables appear to be influenced by all four contextual variables. We cannot detect clear-cut effects for all combinations of country- and company-level factors. However, supporting our results from the multilevel regression, the detailed results indicate that, *inter alia*, ENFORCE interacts with CLOSELY_HELD. More precisely, for countries belonging to the quintiles with relatively low values for public enforcement, ownership concentration is rather high, on average, whereas it is much lower in countries with high scores on ENFORCE. A relationship also appears to exist between ENFORCE and SEASONED. There is a tendency for the proportion of early

adopters of IFRS to be higher (lower) in countries with higher (lower) intensities of public enforcement. Another relationship exists between S-MARKET and AUDIT_COM; hence, there appears to be a positive correlation between the size of national stock markets and the prevalence of audit committees.

Lastly, we test whether the main results of our investigation are robust against changes in the structure of our empirical model. We first consider whether our results are sensitive to the operationalisation of SIZE by substituting our index with the individual measures for total assets, turnover or market capitalisation. This has no significant effect on our findings. We also amend our model by control variables used in prior studies that yielded mixed results. We consider whether including return on assets or leverage has a systematic influence on compliance. Both variables are insignificant. Furthermore, theoretically it is not clear whether the relationships between compliance and the independent variables are linear. Therefore, as an alternative to our OLS regressions we also perform rank-order regressions. For the dependent and all continuous independent variables, we construct ranks that are transformed into percentiles. Companies with the lowest attributes thus receive the value 0 and companies with the highest attributes the value 1. With this procedure, OLS regression does not lead to distorted estimators as long as the relationships between the dependent and independent variables are monotonic (Cooke 1998). Again, the essential findings of our analysis are not changed.

7. Summary and conclusions

Our study examines compliance for a large sample of European companies mandatorily applying IFRS. Focusing on disclosures required by IFRS 3 'Business Combinations' and IAS 36 'Impairment of Assets', we identify substantial non-compliance. Our in-depth analysis indicates that compliance simultaneously is determined by company- and country-specific factors, thereby providing evidence that accounting traditions and other country-specific factors continue to play an important role in compliance despite the use of common reporting standards. At the company level, we identify the importance of goodwill positions, prior experience with IFRS (seasoned user), type of auditor, the existence of audit committees, the issuance of equity shares or bonds in the reporting period or in the subsequent period, ownership structure, and industry (financial services) as influential factors impacting compliance. At the country level, we provide evidence that the strength of the enforcement system and the size of the national stock market play important roles in compliance. Both country-level factors not only directly influence compliance but also moderate and mediate some company-level factors. Finally, we also provide evidence that national culture in the form of the strength of national traditions (conservation) impacts compliance in combination with company-level factors.

Our research has implications for capital market participants. For investors, analysts and other users, our findings confirm concerns that the implementation of IFRS may be uneven, thereby, impeding interpretation and comparability of financial statements. Second, our results should alert the management of the European 'blue chips' comprising our sample to the problem of compliance with accounting and disclosure requirements. If financial statements are incomplete and potentially biased, financial reporting cannot be effective in reducing information asymmetries. Hence, investors face uncertainties and, as a consequence, companies' cost of capital will be high. Third, our research should encourage audit firms, in particular the Big 4, to intensify efforts to provide uniformly high audit quality globally. Since investors cannot directly observe the quality of auditors' reviews of financial statements, they rely on their reputations (Moizer 1997). An auditor's reputation, however, can easily be tainted if financial statements that have received unqualified audit opinions are later found to omit relevant IFRS disclosures. Finally, our results should give a signal to supervisory authorities that more effort is necessary to

effectively and consistently enforce accounting and disclosure standards across Europe if the introduction of IFRS is to bring the expected benefits to investors and other users.

Finally, we acknowledge certain limitations of our study. While our results appear robust against alternative variable and model specifications, they should be interpreted with caution owing to limitations imposed by the methodology and data available. The data underlying our index are based partly on subjective judgement. However, great care was taken to minimise the likelihood of errors. Second, while we concentrate on compliance with IFRS disclosures, an examination of compliance with recognition and measurement would make a substantial contribution to the literature. However, a meaningful evaluation of recognition and measurement is impossible without access to company-internal, private information. Third, our model is based on the assumption that our country variables are independent and exogenous. We acknowledge that in reality complex relationships exist between the size of capital markets, the strength of enforcement mechanisms as well as other national institutions that evolve jointly over time (Leuz 2010). Thus, while we carefully check for the presence of multicollinearity, the findings with regard to the country-level variables should be interpreted with caution. Lastly, in recent years European countries have made efforts to strengthen capital market supervision and enforcement of accounting standards (Christensen *et al.* 2012, Ernstberger *et al.* 2012, Hitz *et al.* 2012). Future research is needed to investigate whether these measures have been successful in improving compliance with IFRS.

Acknowledgements

We are grateful to the editor and two anonymous reviewers as well as to Andreas Barckow, Holger Himmel, Allan Hodgson, Dennis Jullens, Andreas Mackenstedt and Bill Rees. We also appreciate comments on earlier versions of this paper from participants at the EAA Conference in Rotterdam as well as from workshop participants at the Vienna University of Economics and Business, the University of Glasgow and at the Financial Reporting Review Panel in London. Peter Schmidt gratefully acknowledges support from the Higher School of Economics (HSE), Basic Research Programme (International Laboratory for Sociocultural Research), Moscow.

Notes

1. From 1 January 2011 onwards, CESR has been replaced by the European Securities and Markets Authority; for details, see www.esma.europa.eu.
2. IFRS 36, paragraph BC205.
3. See Beattie *et al.* 2008 and Ernst and Young (2006) for practice-based surveys of smaller samples.
4. To ensure that our findings regarding non-compliance in 2005 financial statements do not merely reflect transitory implementation problems pertaining only to the first year of IFRS application, we also collect data for a select group of companies for 2007. The findings for 2007 are very similar to those for 2005, indicating that non-compliance is not a temporary phenomenon.
5. During phase two, the IASB considered implementation issues arising from application of the purchase method. The phase was completed with publication of a revised IFRS 3 in January 2008.
6. In general, goodwill is the excess of the cost of an acquisition over the sum of the fair values of the assets acquired less the liabilities assumed, taking into account deferred taxes.
7. For instance, there is a substantial established literature on earnings management (e.g. Healy and Wahlen 1999, Ronen and Yaari 2008). However, earnings management is usually defined as comprising practices within the limits of accounting standards or laws.
8. Studies on companies that disclose weaknesses in internal control following section 404 of the Sarbanes-Oxley act are also confined to the US environment. These studies find that firms with serious control problems are mostly relatively young and small (e.g. Doyle *et al.* 2007). In contrast, our sample comprises large European blue chip companies.
9. Cascino and Gassen (2011) also find evidence suggesting that IFRS compliance levels may differ systematically within countries. More precisely, they find that companies located in the South of Italy exhibit compliance levels significantly lower than those of companies domiciled in Northern Italy.

10. Some sample companies are audited by two firms (for example, this is mandatory in France). For a company audited jointly by one of the Big 4 and by one of the non-Big 4, we assume that the audit procedures of the large firm dominate and code AUDITOR as 1. Thus, when AUDITOR is coded as 0, the audit is done only by non-Big 4 firms, even if the audit is conducted jointly.
11. The 8th EU directive on auditing was changed in May 2006. The directive mandates EU member states to implement legislation that generally requires stock-listed companies to establish audit committees. For details, see Article 41 of EU Directive 2006/43/EC of 17 May 2006.
12. As a robustness check, we also estimate our models with an industry classification based on first-digit SIC codes. Our findings remain essentially the same.
13. We expect compliance with disclosure requirements regarding business combinations and impairment testing to be related to the overall differences between IFRS and national GAAP. This expectation is justified if one of the following holds: (1) the overall measure DIFFER proxies for differences between IFRS and national disclosure requirements in our specific areas of interest (i.e. business combinations and impairment testing) and (2) the quality of the footnote disclosures in our area of interest is affected by the overall differences between IFRS and national reporting standards and thus the challenges faced by companies when adopting the new international standards. Furthermore, it is not feasible to construct a meaningful measure for differences between IFRS and national GAAP with regard to business combinations and impairment testing disclosures because for our sample companies most national GAAPs did not require specific, detailed disclosures of this nature prior to 2005.
14. The data underlying the original La Porta *et al.* (1998) index relates to the 1980s and early 1990s and thus should not be used to assess enforcement in 2005.
15. Measurement of the effectiveness of the enforcement of financial reporting standards in national capital markets is controversial. Like the earlier La Porta *et al.* (1998) index, the index developed by Djankov *et al.* (2008) measures the enforcement of financial reporting standards only indirectly; it was actually designed to measure the legal protection of minority shareholders against expropriation by corporate insiders (“anti-self dealing index”). Preiato *et al.* (2012) construct alternative enforcement indices for different years based on cross-country data related to the regulation of auditors and to characteristics of national financial reporting enforcement bodies. As a robustness test we also estimate our models with their index for the year 2005 and find that the results are qualitatively very similar to those we obtain when using the enforcement measure of Djankov *et al.* (2008). We also get similar results when, in a further test, we employ GOVERN, a measure that is based on the World Bank’s Worldwide Governance Indicators (Kaufmann *et al.* 2008) and indicates the effectiveness of countries’ governments, their regulatory quality and their ‘rule of law’.
16. For details of the European Social Survey, see <http://www.europeansocialsurvey.org/index.php>.
17. Conceptually, the ‘conservation’ dimension of the Schwartz Value Survey combines elements from Hofstede’s dimensions ‘uncertainty avoidance and ‘individualism’. As a robustness check, we estimate our model with data for these two Hofstede dimensions. Our findings are qualitatively very similar. For a comparison of the Hofstede’s culture dimensions and the Schwartz Value Survey, see Hofstede and McCrae (2004).
18. For years ending 31 December 2005 and later, European listed companies are required to prepare consolidated accounts based on IFRS. Thus companies with year-ends earlier than 31 December tended to postpone IFRS adoption until 2006. When referring to 2005, we are referencing the first year of mandatory IFRS adoption. For example, for a 31 March 2006 financial year-end company the 2006 report is used in our analysis.
19. Where possible, we include dual-listed companies in the country where they are domiciled and eliminate them from other sub-samples. In a very few cases, however, companies are listed on exchanges outside their home country without being included in their home country index. For instance, one FTSE 100 company is legally domiciled in Switzerland and is not included in the SMI index. Such companies voluntarily submit themselves under the regulatory framework of the country of listing. Therefore, we include these companies in the primary country where they are listed (in our example, the company is included in the UK sub-sample).
20. A copy of the disclosure checklist is available on request from the authors.
21. For goodwill impairment testing, companies are required to disclose information on estimates used to measure recoverable amounts of CGUs containing goodwill and describe how they estimate ‘value in use’ or ‘fair value less costs to sell’ of CGUs containing significant goodwill. Some companies with material goodwill balances did not present information concerning the basis on which the CGUs recoverable amount was determined. In these instances, we estimate how many disclosure items should have been presented. This is challenging since a different number of disclosures apply depending

- on whether companies determine recoverable amounts on the basis of ‘value in use’ or ‘fair value less costs to sell’. Of the sample companies presenting the required information, approximately 95% used value in use; the other 5% used fair value less costs to sell. Thus, we use a weighted average of the number of required disclosures under these two alternatives to gauge non-compliance.
22. As suggested by the descriptive statistics, companies fully complying with the disclosure requirements mostly come from Anglo-Saxon and Northern European countries. These companies also have in general undertaken fewer acquisitions than the other sample companies. On the other side of the spectrum, a total of 16 companies provide less than 40% of the required disclosures. Most of these companies are domiciled in Eastern or Southern Europe, or in Austria, and a relatively high number of them are in the financial sector. Furthermore, companies with below average disclosure levels tend to have lower goodwill positions than average and higher proportions of closely held equity share capital. Regarding other company characteristics, we do not identify clear univariate patterns.
 23. We measure compliance with IFRS disclosure requirements pertaining to acquisitions and impairment testing. Since not all companies undertake acquisitions every year and since the transactions themselves are not identical, disclosure compliance levels are not expected to be completely identical over time.
 24. The data for our national culture variable CONSERV is from the European Social Survey 2004. Italy is not covered in the European Social Survey 2004. We therefore lose our 27 Italian observations in the analysis of country-level determinants of compliance.
 25. Additionally, some companies issue different classes of equity shares, and CLOSELY_HELD can differ across classes. For companies with multiple share classes, we use the ownership data for the most important class of voting shares; this may produce measurement error. However, information is not always available for minor classes, thereby precluding computation of weighted averages. In most countries, multiple share classes are rare or non-existent, but they are more frequent in some countries (e.g. Sweden).
 26. In Table 5, Models 1 and 2 are estimated with the 332 observations for which complete data is available in order to ensure that the results are comparable to the results for our fully specified model 3 (with CLOSELY_HELD). If we estimate models 1 and 2 with the full sample of 357 observations (i.e. without the variable CLOSELY_HELD in Model 1), the estimation results for all other variables are very similar.
 27. In a robustness check, we also estimate our model with censored regression (using MPLUS, Version 6) rather than OLS to take into consideration that our dependent variable COMPLIANCE is defined only for values between 0 and 1. The results are qualitatively the same as those from the OLS estimations.
 28. The linear term CLOSELY_HELD is not significant in the fully specified Model 3. Thus, we can assume that the maximum of the quadratic term is at CLOSELY_HELD = 0. Since we mean-centered CLOSELY_HELD, this implies that, *ceteris paribus*, the maximum level of compliance is given when strategic investors hold about 27% of equity.
 29. Caution should be exercised in interpreting the result for Luxembourg as it is based on only four companies.
 30. Eleven companies reported more than 10 business combinations in 2005; the maximum number of transactions reported was 41. In order to check whether outliers bias our results, we estimate two alternative model variants. In the first variant, we wincorise COMBINATIONS at the value of 10, in the second equation we recode COMBINATIONS as $\ln(1 + \text{number of acquisitions})$. However, COMBINATION remains insignificant in both model variants, and all other results are qualitatively unaffected.
 31. SEASONED is significant at the 10% level in Model 1, i.e. the model without country indicator variables. Recent research on the economic consequences of the introduction of IFRS has found it helpful to distinguish between three groups of companies, (i) early adopters, i.e. SEASONED adopters in our terminology, (ii) late adopters, i.e. companies that reside in countries where early adoption was allowed but decided to wait until IFRS became mandatory (‘resisters’), and (iii) mandatory adopters, i.e. companies domiciled in countries not allowing early adoption (e.g. Christensen *et al.* 2008, Daske *et al.* 2008, 2011, Capkun *et al.* 2012). Based on this research, in an additional investigation we replace our country indicator variables with an indicator variable that is 1 for all companies domiciled in countries that allowed early adoption and 0 for all companies domiciled in countries that did not allow early adoption (Capkun *et al.* 2012). When we estimate the model, the indicator variable for countries allowing early adoption is not significant. The other results are similar to those for Model 1, i.e. the model that only includes company-level variables (see Table 5). The exception is the result for the coefficient of SEASONED. While this coefficient is significant at the 10% level in

- Model 1, it now loses its significance. Furthermore, we do not find a significant difference between the average levels of compliance of early adopters, late adopters, and mandatory adopters (ANOVA: $F = 0.627, p = 0.535$).
32. Central European countries (Czech Republic, Hungary and Poland) are not addressed by La Porta *et al.* (1998). Given their common history as former Soviet-bloc transition countries, we group them into one country class.
 33. It should be noted that the number of observations for the Central European sub-sample is relatively small (Czech Republic: 6, Hungary: 6 and Poland: 13).
 34. To further address the possibility of multicollinearity, especially between our four country variables, we again inspect the VIFs. All VIFs are low (the highest being 2.249 for DIFFER), indicating that multicollinearity does not appear to be a problem. In addition, we run our model four more times, each time including only one of the four country variables. The results for the model variants that include ENFORCE, S-MARKET and CONSERV confirm the results for the full model, i.e. the coefficients for the three variables have the same signs as in the full models, and they are significant. When we include DIFFER as the only country-level variable, in contrast to the full model, the estimator turns out significantly negative ($t = -2.639, p < 0.01$), suggesting DIFFER now picks up some of the variance that in the full model is explained by the other three country variables. In accordance with our expectations, the negative coefficient indicates that companies that reside in countries with large differences between traditional local GAAP and IFRS tend to have lower levels of compliance than companies that reside in countries where differences between traditional local GAAP and IFRS are smaller.
 35. By construction, the interaction terms are highly correlated with the single variables from which they are formed. To preclude multicollinearity, we orthogonalise the interaction terms. That is, we regress the interaction terms on the single variables from which the interaction terms are constructed and use the residuals as 'pure' interaction effects in our regression analysis. Inspection of the VIFs of the estimation of our model with all interaction terms reveals that most VIFs are very moderate, and that all are lower than the critical value of 10 (Gujarati 1995, p. 328).
 36. For example, the estimated coefficients for the four country-level variables in the OLS regression (see Table 7, Panel A) and in the multilevel regression are as follows: DIFFER: 0.000 and 0.001; ENFORCE: 0.046 and 0.052; S-MARKET: 0.009 and 0.008; and CONSERVATION: -0.097 and -0.105 .
 37. The exception is the coefficient of the country-level variable ENFORCE. This variable is significant at the 10% level in the OLS regression (see Table 7, Panel A), but misses the 10% significance level in the multilevel regression ($p = 0.120$).
 38. We exclude AUDITOR from the equation because of the small number of observations for clients of non-Big 4 firms. Thus, our multigroup SEM tests are based on the following model: $\text{COMPLIANCE} = \alpha + \beta_1\text{GOODWILL} + \beta_2\text{SEASONED} + \beta_3\text{AUDIT_COM} + \beta_4\text{CAPITAL} + \beta_5\text{CLOSELY_HELD}^2 + \beta_6\text{FINANCIAL} + \varepsilon$.

References

- Abdelsalam, O.H. and Weetman, P., 2007. Measuring accounting disclosure in a period of complex changes: the case of Egypt. *Advances in international accounting*, 20, 75–104.
- Abdelsalam, O.H., Bryant, S.M. and Street, D.L., 2007. An examination of the comprehensiveness of corporate internet reporting by London-listed companies. *Journal of international accounting research*, 6 (3), 1–33.
- Ahmed, K. and Curtis, J.K., 1999. Associations between corporate characteristics and disclosure levels in annual reports: a meta-analysis. *British accounting review*, 31 (1), 35–61.
- Arbuckle, J.L., 2007. *AMOS 16.0 user's guide*. Chicago: SPSS.
- Archambault, J.J.A. and Archambault, M.E., 2003. A multinational test of determinants of corporate disclosure. *International journal of accounting*, 38 (2), 173–194.
- Ashbaugh, H. and Pincus, M., 2001. Domestic Accounting Standards, International Accounting Standards, and the predictability of earnings. *Journal of accounting research*, 39 (3), 417–434.
- Bae, K.H., Tan, H. and Welker, M., 2008. International GAAP differences: the impact on foreign analysts. *Accounting review*, 83 (3), 593–628.
- Ball, R., 2006. International Financial Reporting Standards (IFRS): pros and cons for investors. *Accounting and business research*, 36 (Special issue), 5–27.
- Ball, R., Kothari, S.P. and Robin, A., 2000. The effect of international institutional factors on properties of accounting earnings. *Journal of accounting and economics*, 29 (1), 1–51.

- Ball, R., Robin, A. and Wu, J.S., 2003. Incentives versus standards: properties of accounting income in four East Asian countries. *Journal of accounting and economics*, 36 (1–3), 235–270.
- Beattie, V., Fearnley, S. and Hines, T., 2007. *The nature and outcome of auditor-client interactions*. Working paper, University of Glasgow.
- Beattie, V., Fearnley, S. and Hines, T., 2008. *Briefing: auditor/company interactions in the 2007 UK regulatory environment*. London: Institute of Chartered Accountants in England and Wales (ICAEW).
- Boone, J.P., Khurana, I.K. and Raman, K.K., 2010. Do the big 4 and the second-tier firms provide audits of similar quality? *Journal of accounting and public policy*, 29 (4), 330–352.
- Borg, I., Groenen, P.J.F., Jehn, K.A., Bilsky, W. and Schwartz, S.H., 2010. *Embedding the organizational culture profile into Schwartz Universal Value Theory using multidimensional scaling with regional restrictions*. Research report, Erasmus University.
- Botosan, C.A., 1997. Disclosure level and the cost of equity capital. *Accounting review*, 72 (3), 323–349.
- Botosan, C.A. and Plumlee, M., 2002. A re-examination of disclosure level and expected cost of equity capital. *Journal of accounting research*, 40 (1), 21–41.
- Burgstahler, D., Hail, L. and Leuz, C., 2006. The importance of reporting incentives: earnings management in European private and public firms. *Accounting review*, 81 (5), 983–1016.
- Bushman, R.M. and Piotroski, J.D., 2006. Financial reporting incentives for conservative accounting: the influence of legal and political institutions. *Journal of accounting and economics*, 42 (1–2), 107–148.
- Bushman, R.M., Engel, E., Milliron, J. and Smith, A., 2001. *An analysis of the relation between stewardship and valuation roles of earnings*. Working Paper, University of Chicago.
- Bushman, R.M., Piotroski, J. and Smith, A.J., 2004. What determines corporate transparency? *Journal of accounting research*, 42 (2), 207–252.
- Byrne, B., 2009. *Structural equation modeling with Amos: basic concepts, applications and programming*. New York/London: Psychology Press/Taylor and Francis.
- Capkun, V., Collins, D.W. and Jeanjean, T., 2012. *Does adoption of IAS/IFRS deter earnings management?* [online]. Working paper, HEC Paris, University of Iowa, and ESSEC Business School. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1850228 [Accessed 30 June 2012].
- Cascino, S. and Gassen, J., 2011. Comparability effects of mandatory IFRS adoption [online]. Working paper. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1402206 [Accessed 30 June 2012].
- CESR, 2003. *Standard no. 1 on financial information: enforcement of standards on financial information in Europe* [online]. Ref. 03–073. Available from: http://www.esma.europa.eu/system/files/03_073.pdf [Accessed 30 June 2012].
- CESR, 2007. *CESR's review of the implementation and enforcement of IFRS in the EU* [online]. Ref. 07-352. Available from: http://www.esma.europa.eu/system/files/07_352.pdf [Accessed 30 June 2012].
- Chau, G.K. and Gray, S.J., 2002. Ownership structure and corporate voluntary disclosure in Hong Kong and Singapore. *International journal of accounting*, 37 (2), 247–265.
- Chen, S., Chen, X. and Cheng, Q., 2008. Do family firms provide more or less voluntary disclosure? *Journal of accounting research*, 46 (3), 499–536.
- Chow, C.W. and Wong-Boren, A., 1987. Voluntary financial disclosure by Mexican corporations. *Accounting review*, 62 (3), 533–541.
- Christensen, H.B., Lee, E. and Walker, M., 2008. *Incentives or standards: what determines accounting quality changes around IFRS adoption?* [online]. Working paper, University of Chicago and University of Manchester. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1013054 [Accessed 30 June 2012].
- Christensen, H.B., Hail, L. and Leuz, C., 2012. *Mandatory IFRS reporting and changes in enforcement* [online]. Working Paper, University of Chicago. Available from: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2017160 [Accessed 30 June 2012].
- Collier, P. and Zaman, M., 2005. Convergence in European corporate governance: the audit committee concept. *Corporate governance: an international review*, 13 (6), 753–768.
- Cooke, T., 1989. Disclosure in the corporate annual reports of Swedish companies. *Accounting and business research*, 19 (74), 113–124.
- Cooke, T., 1991. An assessment of voluntary disclosure in annual reports of Japanese corporations. *International journal of accounting*, 26 (3), 174–189.
- Cooke, T., 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.

- Cooke, T., 1998. Regression analysis in accounting disclosure studies. *Accounting and business research*, 28 (3), 209–224.
- Cuijpers, R. and Buijink, W., 2005. Voluntary adoption of non-local GAAP in the European Union: a study of determinants and consequences. *European accounting review*, 14 (3), 487–524.
- Daske, H., 2005. Properties of analysts' earnings forecasts in the process of transition towards International Financial Reporting Standards. In: H. Daske, ed. *Adopting international financial reporting standards in the European Union – empirical essays on the causes, effects and economic benefits*. Frankfurt am Main: University of Frankfurt am Main, 84–134.
- Daske, H. and Gebhardt, G., 2006. International Financial Reporting Standards and perceptions of disclosure quality. *Abacus*, 42 (3–4), 461–498.
- Daske, H., Hail, L., Leuz, C. and Verdi, R.S., 2008. Mandatory IFRS reporting around the world: early evidence on the economic consequences. *Journal of accounting research*, 46 (5), 1085–1142.
- Daske, H., Hail, L., Leuz, C. and Verdi, R.S., 2011. *Adopting a label: heterogeneity in the economic consequences of IFRS adoptions*. Working paper, University of Chicago.
- De Angelo, L., 1981. Auditor size and audit quality. *Journal of accounting and economics*, 3 (3), 189–199.
- Dechow, P.M., Sloan, R.G. and Sweeney, A.P., 1996. Causes and consequences of earnings manipulation: an analysis of firms subject to enforcement actions by the SEC. *Contemporary accounting research*, 13 (1), 1–36.
- De Fond, M.L. and Jiambalvo, J., 1991. Incidence and circumstances of accounting errors. *Accounting review*, 66 (3), 643–655.
- Di Maggio, P.J. and Powell, W., 1983. The iron cage revisited: institutional isomorphism and collective rationality in organizational fields. *American sociological review*, 48 (2), 147–160.
- Ding, Y., Jeanjean, T. and Stolowy, H., 2005. Why do national GAAP differ from IAS? the role of culture. *The international journal of accounting*, 40 (4), 325–350.
- Ding, Y., Hope, O.K., Jeanjean, T. and Stolowy, H., 2007. Differences between domestic accounting standards and IAS: measurement, determinants and implications. *Journal of accounting and public policy*, 26 (1), 1–38.
- Djankov, S., La Porta, R., Lopez-De-Silanes, F. and Shleifer, A., 2008. The law and economics of self-dealing. *Journal of financial economics*, 88 (3), 430–465.
- Dong, M., 2009. *How to correctly estimate firm-level and country-level effects in cross-sectional analysis of international accounting issues? A simulation study on corporate disclosure*. Working paper, University of Lausanne.
- Doyle, J., Ge, W. and McVay, S., 2007. Accruals quality and internal control over financial reporting. *Accounting review*, 82 (5), 1141–1170.
- Eng, L. and Mak, Y., 2003. Corporate governance and voluntary disclosure. *Journal of accounting & public policy*, 22 (4), 325–345.
- Ernst & Young, 2006. *IFRS: observations on the implementation of IFRS*. London: Ernst & Young.
- Ernstberger, J., Stich, M. and Vogler, O., 2012. Economic consequences of accounting enforcement reforms: the case of Germany. *European accounting review*, 21 (2), 217–251.
- European Social Survey, 2004. *ESS data, Norwegian social science data services* [online]. Available from: <http://ess.nsd.uib.no/ess/round2/> [Accessed 30 June 2012].
- Fan, J. and Wong, T., 2002. Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of accounting and economics*, 33 (3), 401–425.
- FEE: Fédération des Experts Comptables Européens, 2001. *Discussion paper on enforcement of IFRS within Europe*. Brussels.
- Feskens, R. and Hox, J., 2010. Multilevel structural equation modeling for cross-cultural research: exploring resampling methods to overcome small sample size problems. In: E. Davidov, P. Schmidt and J. Billiet, eds. *Cross-cultural analysis*. London: Taylor & Francis, chapter 12, 341–358.
- Francis, J.R. and Wang, D., 2008. The joint effect of investor protection and Big 4 audits on earnings quality around the world. *Contemporary accounting research*, 25 (1), 157–191.
- Francis, J.R., Khurana, I. and Pereira, R., 2005. Disclosure incentives and effects on cost of capital around the world. *Accounting review*, 80 (4), 1125–1162.
- Francis, J.R., Khurana, I., Martin, X. and Pereira, R., 2008. The role of firm-specific incentives and country factors in explaining voluntary IAS adoptions: evidence from private firms. *European accounting review*, 17 (2), 331–360.
- FRC, 2008. *Review of goodwill impairment disclosures*. London: Financial Reporting Council.

- FREP, 2010. *Annual activity report. German Financial Reporting Enforcement Panel* [online]. Berlin. February 4. Available from: http://www.frep.info/docs/jahresberichte/2009/2009_tb_pruefstelle_eng.pdf [Accessed 30 June 2012].
- FREP, 2011. *Annual activity report. German Financial Reporting Enforcement Panel* [online]. Berlin. January 20. Available from: http://www.frep.info/docs/jahresberichte/2010/2010_tb_pruefstelle_en.pdf [Accessed 30 June 2012].
- Frost, C.A., Gordon, E. and Hayes, A.F., 2006. Stock exchange disclosure and market development: an analysis of 50 international exchanges. *Journal of accounting research*, 44 (3), 437–483.
- Gaio, C., 2010. The relative importance of firm and country characteristics for earnings quality around the world. *European accounting review*, 19 (4), 693–738.
- Glaum, M. and Street, D.L., 2003. Compliance with the disclosure requirements of Germany's new market: IAS versus US GAAP. *Journal of international financial management and accounting*, 14 (1), 64–100.
- Glaum, M., Street, D.L. and Vogel, S., 2007. *Making acquisitions transparent: an evaluation of M&A-Related IFRS disclosures by European companies in 2005*. Frankfurt am Main: Fachverlag Moderne Wirtschaft.
- Glaum, M., Baetge, J., Grothe, A. and Oberdörster, T., forthcoming. Introduction of International Accounting Standards, disclosure quality and accuracy of analysts' earnings forecasts. *European accounting review*.
- Gray, S., 1988. Towards a theory of cultural influence on the development of accounting systems internationally. *Abacus*, 24 (1), 1–15.
- Gujarati, D.N., 1995. *Basic econometrics*. 3rd ed. New York: McGraw-Hill.
- Hail, L., 2003. The relationship between voluntary annual report disclosures and firm characteristics in Switzerland. *Die unternehmung*, 57 (4), 273–290.
- Hail, L. and Leuz, C., 2006. International differences in the cost of equity capital: do legal institutions and securities regulation matter? *Journal of accounting research*, 44 (3), 485–531.
- Hail, L. and Leuz, C., 2009. Cost of capital effects and changes in growth expectations around U.S. cross-listings. *Journal of financial economics*, 93 (3), 428–454.
- Hamilton, J., 2012. SEC's Schapiro says she regrets loss in investor-access battle [online]. *Businessweek*, 6 January. Available from: <http://www.businessweek.com/news/2012-01-06/sec-s-schapiro-says-she-regrets-loss-in-investor-access-battle.html> [Accessed 30 June 2012].
- Hardy, M.A., 1993. *Regression with dummy variables*. Thousand Oaks: Sage.
- Harris, J.D. and Bromiley, P., 2007. Incentives to cheat: the influence of executive compensation and firm performance. *Organization science*, 18 (3), 350–367.
- Healy, P.M. and Palepu, K.G., 2001. Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature. *Journal of accounting and economics*, 31 (1–3), 405–440.
- Healy, P.M. and Wahlen, J.M., 1999. A review of the earnings management literature and its implications for standard setting. *Accounting horizons*, 13 (4), 365–383.
- Healy, P., Hutton, A. and Palepu, K., 1999. Stock performance and intermediation changes surrounding sustained increases in disclosure. *Contemporary accounting research*, 16 (3), 485–520.
- Hitz, J.M., Ernstberger, J. and Stich, M., 2012. Enforcement of accounting standards in Europe: capital-market-based evidence for the two-tier mechanism in Germany. *European accounting review*, 21 (2), 253–281.
- Hodgdon, C., Tondkar, R.H., Harless, D.W. and Adhikari, A., 2008. Compliance with IFRS disclosure requirements and individual analysts' forecast errors. *Journal of international accounting, auditing & taxation*, 17 (1), 1–13.
- Hofstede, G., 1981. *Culture's consequences: comparing values, behaviors, institutions and organizations across nations*. Thousand Oaks, CA: Sage.
- Hofstede, G. and McCrae, R.R., 2004. Personality and culture revisited: linking traits and dimensions of culture. *Cross-cultural research*, 38 (1), 52–88.
- Holthausen, R.W., 2009. Accounting standards, financial reporting outcomes and enforcement. *Journal of accounting research*, 47 (2), 447–458.
- Hommel, M., Benkel, M. and Wich, S., 2004. IFRS 3 business combinations: Neue Unwägbarkeiten im Jahresabschluss. *BetriebsBerater*, 59 (23), 1267–1273.
- Hope, O.K., 2003a. Firm-level disclosures and the relative roles of culture and legal origin. *Journal of international financial management and accounting*, 14 (3), 218–248.
- Hope, O.K., 2003b. Disclosure practices, enforcement of accounting standards and analysts forecast accuracy: an international study. *Journal of accounting research*, 41 (2), 235–272.

- Hossain, M., Tan, M.L. and Adams, M., 1994. Voluntary disclosure in an emerging capital market: some empirical evidence from companies listed on Kuala Lumpur Stock Exchange. *International journal of accounting*, 29 (4), 334–351.
- Hox, J.J., 2010. *Multilevel analysis: techniques and applications*. 2nd ed. Mahwah, NJ: Lawrence Erlbaum Associates.
- IFRS Foundation, 2011. *Who we are and what we do* [online]. Available from: <http://www.ifrs.org/NR/rdonlyres/F9EC8205-E883-4A53-9972-AD95BD28E0B5/0/WhoWeAre2012MarchEnglish.pdf> [Accessed 30 June 2012].
- IFRS Foundation, 2012. *Invitation to comment IASB and IFRS interpretations committee due process handbook* [online]. Available from: <http://www.ifrs.org/NR/rdonlyres/1220D8A2-E764-45C2-98E4-EB69C4AF2690/0/DueProcess.pdf> [Accessed 24 July 2012].
- Jackson, G. and Deeg, R., 2008. From comparing capitalisms to the politics of institutional change. *Review of international political economy*, 15 (4), 680–709.
- Jaggi, B. and Low, P., 2000. Impact of culture, market forces, and legal system on financial disclosures. *International journal of accounting*, 35 (4), 495–519.
- Jensen, M.C. and Meckling, W.H., 1976. Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of financial economics*, 3 (4), 305–360.
- Jöreskog, K.G., 1993. Testing structural equation models. In: K.A. Bollen and J.S. Long, eds. *Testing structural equation models*. Newbury Park, CA: Sage, 294–317.
- Kaufmann, D., Kraay, A. and Mastruzzi, M., 2008. *Governance matters VIII: aggregate and individual governance indicators 1996–2008*. The world bank, development research group, macroeconomics and growth team, policy research working paper 4978, Washington, DC.
- Klein, A., 2002. Audit committee, board of director characteristic and earnings management. *Journal of accounting and economics*, 33 (3), 375–400.
- Krishnan, J., 2006. Audit committee quality and internal control: an empirical analysis. *Accounting review*, 80 (2), 649–675.
- Kvaal, E. and Nobes, C.W., 2010. International differences in IFRS policy choice. *Accounting and business research*, 40 (2), 173–187.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A. and Vishny, R.W., 1998. Law and finance. *Journal of political economy*, 106 (6), 1113–1155.
- La Porta, R., Lopez-De-Silanes, F. and Shleifer, A., 1999. Corporate ownership around the world. *Journal of finance*, 54 (2), 471–517.
- La Porta, R., Lopez-De-Silanes, F., Shleifer, A. and Vishny, R.W., 2000. Agency problems and dividend policies around the world. *Journal of finance*, 55 (1), 1–33.
- La Porta, R., Lopez-De-Silanes, F. and Shleifer, A., 2006. What works in securities laws? *Journal of finance*, 61 (1), 1–32.
- La Porta, R., Lopez-De-Silanes, F. and Shleifer, A., 2008. The economic consequences of legal origins. *Journal of economic literature*, 46 (2), 285–332.
- Lang, M.H. and Lundholm, R., 1993. Cross-sectional determinants of analysts ratings of corporate disclosure. *Journal of accounting research*, 31 (2), 246–271.
- Leuz, C., 2010. Different approaches to corporate reporting regulation: how jurisdictions differ and why. *Accounting and business research*, 40 (3), 1–28.
- Leuz, C. and Verrecchia, R., 2000. The economic consequences of increased disclosure. *Journal of accounting research*, 38 (3), 91–124.
- Leuz, C. and Wysocki, P.D., 2008. *Economic consequences of financial reporting and disclosure regulation: a review and suggestions for future research* [online]. Available from: <http://ssrn.com/abstract=1105398> [Accessed 30 June 2012].
- Leuz, C., Nanda, D.J. and Wysocki, P.D., 2003. Earnings management and investor protection: an international comparison. *Journal of financial economics*, 69 (3), 505–527.
- Leventis, S. and Weetman, P., 2004. Voluntary disclosures in an emerging capital market: some evidence from the Athens Stock Exchange. *Advances in international accounting*, 17, 227–250.
- Maijor, S.J. and Vanstraelen, A., 2006. Earnings management within Europe: the effects of member state audit environment, audit firm quality and international capital markets. *Accounting and business research*, 36 (1), 33–52.
- Meuleman, B. and Billiet, J., 2009. A Monte Carlo sample size study: how many countries are needed for accurate multilevel SEM? *Survey research methods*, 3 (1), 45–58.
- Moizer, P., 1997. Auditor reputation: the international empirical evidence. *International journal of auditing*, 1 (1), 61–74.

- Morck, R., Shleifer, A. and Vishny, R., 1988. Management ownership and market valuation: an empirical analysis. *Journal of financial economics*, 20 (1–2), 293–315.
- Nobes, C.W., 2006. The survival of international differences under IFRS: towards a research agenda. *Accounting and business research*, 36 (3), 233–245.
- Palmrose, Z.V. and Scholz, S., 2004. The circumstances and legal consequences of non-GAAP reporting: evidence from restatements. *Contemporary accounting research*, 21 (1), 139–180.
- Peugh, J.L. and Enders, C.K., 2005. Using the SPSS mixed procedure to fit cross-sectional and longitudinal multi-level-models. *Educational and psychological measurement*, 65 (5), 717–741.
- Pope, P.F. and McLeay, S.J., 2011. The European IFRS experiment: objectives, research challenges and some early evidence. *Accounting and business research*, 41 (3), 233–266.
- Priato, J.P., Brown, P.R. and Tarca, A., 2012. Mandatory adoption of IFRS and analysts' forecasts: how much does enforcement matter? [online]. UNSW Australian School of Business Research Paper. Available from: <http://ssrn.com/abstract=1499625> [Accessed 30 June 2012].
- Ronen, J. and Yaari, V., 2008. *Earnings management: emerging insights in theory, practice, and research*. New York: Springer.
- Salter, S.B. and Niswander, F., 1995. Cultural influence on the development of accounting systems internationally: a test of Gray's [1988] theory. *Journal of international business studies*, 26 (2), 379–397.
- Schwartz, S.H., 1994. Are there universal aspects in the content and structure of values? *Journal of social issues*, 50 (4), 19–45.
- Schwartz, S.H., 2007. Value orientations: measurements, antecedents and consequences across nations. In: R. Jowell, C. Robert, R. Fitzgerald and G. Eva, eds. *Measuring attitudes cross-nationally, Lessons from the European Social Survey*. London: Sage, 169–203.
- Sengupta, J.K., 1998. Efficiency distribution and the cost frontier. *Applied stochastic models and data analysis*, 14 (1), 67–76.
- Shalev, R., 2009. The information content of business combination disclosure level. *Accounting review*, 84 (1), 239–270.
- Shleifer, A. and Vishny, R.W., 1986. Large shareholders and corporate control. *Journal of political economy*, 94 (3), 461–488.
- Siciliano, G., 2011. *IFRS and accounting comparability*. Working paper, Duke University.
- Skinner, D.J., 1994. Why firms voluntarily disclose bad news. *Journal of accounting research*, 32 (1), 38–60.
- Street, D.L. and Bryant, S.M., 2000. Disclosure level and compliance with IASs: a comparison of companies with and without U.S. listings and filings. *International journal of accounting*, 35 (3), 305–329.
- Street, D.L. and Gray, S.J., 2001. *Observance of International Accounting Standards: factors explaining non-compliance by companies referring to the use of IAS*. London: ACCA.
- Street, D.L., Gray, S.J. and Bryant, S.M., 1999. Acceptance and observance of International Accounting Standards: an empirical study of companies claiming to comply with IASs. *International journal of accounting*, 43 (1), 11–48.
- Sudarsanam, S., 2010. *Creating value from mergers and acquisitions*. 2nd ed. Harlow: Prentice Hall.
- Verriest, A., Gaeremynck, A. and Thornton, D.B., forthcoming. The impact of corporate governance on IFRS adoption choices. *European accounting review*.
- Watts, R. and Zimmerman, J., 1990. Positive accounting theory: a ten year perspective. *Accounting review*, 65 (1), 131–156.
- Welker, M., 1995. Disclosure policy, information asymmetry, and liquidity in equity markets. *Contemporary accounting research*, 11 (2), 801–827.
- Wüstemann, J. and Duhr, A., 2003. Geschäftswertbilanzierung nach dem exposure draft ED 3 des IASB – entobjektivierung auf den Spuren des FASB? *BetriebsBerater*, 58 (5), 247–253.
- Wysocki, P., 2011. New institutional accounting and IFRS. *Accounting and business research*, 41 (3), 309–328.
- Wysocki, P.D., 2010. Corporate compensation policies and audit fees. *Journal of accounting and economics*, 49 (1–2), 155–160.
- Xie, B., DaDalt, P.J. and Davidson, W., 2003. Earnings management and corporate governance: the roles of the board and the audit committee. *Journal of corporate finance*, 9 (3), 295–316.
- Zarzeski, M.T., 1996. Spontaneous harmonization effects of culture and market forces on accounting disclosure practices. *Accounting horizons*, 10 (1), 18–37.