Mandatory IFRS adoption and accounting comparability

Stefano Cascino*
Joachim Gassen**

*London School of Economics, United Kingdom
**Humboldt-Universität zu Berlin, Germany

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Stefano Cascino
Department of Accounting
London School of Economics
Houghton Street - WC2A 2AE
London, United Kingdom
Phone: +44(0)20-7955 6457
E-mail: s.cascino@lse.ac.uk

Joachim Gassen
Wirtschaftswissenschaftliche Fakultät
C.A.S.E. - Center for Applied Statistics and Economics
Humboldt-Universität zu Berlin
10099 Berlin, Germany
Phone: +49(0)30-2093 5764
E-mail: gassen@wiwi.hu-berlin.de

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ABSTRACT: The adoption of IFRS by many countries worldwide fuels the expectation that financial accounting might become more comparable across countries. This expectation is opposed to an alternative view that stresses the importance of incentives in shaping accounting information. We provide early evidence on this debate by investigating the effects of mandatory IFRS adoption on the comparability of financial accounting information around the world. Our results suggest that while mandatory adoption of IFRS increases the comparability of some prominent balance sheet line items across countries, it has no clear effect on the cross-country comparability of earnings attributes. To provide a rationale for these mixed findings, we investigate the IFRS measurement and disclosure compliance choices for a hand-collected sample of German and Italian firms. We find that predictable country-, region-, and firm-level incentives continue to shape the outcome of the financial reporting process and thus limit the cross-sectional comparability of financial accounting information. Overall, our results suggest that the mandatory adoption of IFRS has a limited impact on accounting comparability and that accounting information continues to be shaped by both reporting standards and incentives.

I. INTRODUCTION

The mandatory adoption of International Financial Reporting Standards (IFRS) by European listed firms in 2005, accompanied by similar regulatory action worldwide, represents one of the most influential accounting rule changes in history. The switch from a diverse set of domestic GAAPs to a single common set of accounting standards affects thousands of companies that differ in terms of size, ownership structure, capital structure, culture, legal environment, among other characteristics (Schipper 2005). In this paper we investigate whether the adoption of harmonized accounting standards has a material effect on the comparability of financial accounting information provided by firms from different institutional environments.

European policy makers state that the reason for mandating a common set of accounting standards for listed companies is to "level the playing field" for participants in the European capital market by increasing the comparability of financial statements prepared by publicly traded companies across Europe (Regulation (EC) No. 1606/2002, Par. 1). The International Accounting Standard Board (IASB) similarly argues that a single set of high quality global accounting standards will provide financial market participants with comparable financial statements and thereby help them make economic decisions (IASC Foundation, Constitution 2(a)). Increased cross-country comparability is also thought to be the main motivation behind the Securities and Exchange Commission's (SEC) continuing support for convergence and global accounting standards (SEC, 2010) and its proposal to require U.S. firms to file their financial reports based on IFRS (SEC, 2008). To the extent that mandatory adoption of IFRS successfully levels the playing field for market participants by introducing high quality accounting standards across

3

countries, we should observe two first-order effects: an improvement in financial reporting quality (transparency), and an improvement in the cross-sectional comparability of financial accounting information (Hail et al. 2009).

To date, however, the majority of studies on mandatory IFRS adoption primarily investigate only one of the two first-order effects above, namely, changes in financial reporting quality (see Ahmed et al. 2010; Atwood et al. 2010; Beuselinck et al. 2009; Capkun et al. 2008; Garcia et al., 2009; Landsman et al. 2009; Platikanova and Nobes, 2006), as well as second-order capital market consequences (see Beneish et al. 2009; Bruggemann et al. 2009; Daske et al. 2008b; Kosi and Florou 2009; Li 2009; Yu 2009) of the IFRS mandate. Surprisingly little evidence has been produced on the other important first-order effect, that is, on changes in cross-country comparability of accounting information, even though financial reporting comparability is generally considered by policy makers and researchers alike to be vital to investors' decision making and efficient asset allocation. Thus, to our knowledge, this is the first study to explicitly analyze the impact of mandatory IFRS adoption on the cross-country comparability of financial accounting information.

We address our research question using an innovative research design that looks at comparability from three different angles. First, we try to directly observe the impact of mandatory IFRS adoption on the comparability of financial accounting information by analyzing changes in the cross-country variance of balance sheet line items caused by the IFRS mandate. Accounting information can be regarded as more comparable across countries if subsequent to IFRS adoption firms from similar economic environments but different countries exhibit less dispersion in balance sheet line items. To identify the

impact of IFRS adoption, we apply a difference-in-differences analysis similar to Daske et al. (2008b) for a set of 40 non-U.S. countries to control for possible time-invariant sample selection bias.   Second, following prior literature that focuses on earnings attributes as predominant characteristics of accounting information (Francis et al. 2004), we investigate the effect of IFRS adoption on accounting comparability by analyzing the within-industry variance of prominent earnings attributes across countries before and after the IFRS mandate. A decrease in the within-industry variance of earnings attributes across countries subsequent to IFRS adoption would be taken as evidence of increased comparability. We are able to disentangle the effect of mandatory IFRS adoption on the cross-country comparability of earnings attributes using the same methodology as for the first test.

Based on our first two analyses, we find mixed evidence on the effect of mandatory IFRS adoption on comparability. While we document robust increases in the comparability of provisions (excluding provisions for pensions) and intangible assets (excluding goodwill) subsequent to IFRS adoption, we find no evidence of an increase in the comparability of reported goodwill measures. Further, we find no evidence that the comparability of earnings attributes is positively affected by mandatory adoption of IFRS.

Our third test aims to shed light on why mandatory adoption of IFRS might have only a limited impact on the comparability of financial accounting information.   To address this question, we need a high quality firm-level measure of comparability. We employ a set of hand-collected data on the IFRS measurement and disclosure choices of German and Italian firms to directly investigate the firm-, region-, and country-level

determinants of accounting information comparability. Using this sub-sample of countries allows us to dive deeper into their institutional determinants. The selection of these two countries is motivated by the following three factors: (a) they share the same legal origin (code law), (b) at least one of them has a substantial history of voluntary adopters, and (c) they exhibit substantial differences in their respective domestic GAAPs prior to IFRS adoption. Notice that while these two countries share the same legal regime and are of roughly the same economic size, and hence from a bird's eye perspective could be considered rather similar, a closer look reveals significant differences. Italy can be described as a relationship-based system rooted in family-run small and medium-sized enterprises forming pyramidal groups (Aganin and Volpin 2003), with low levels of investor protection, high private benefits of control, high minority shareholder expropriation risk (Zingales 1994), weak legal enforcement (La Porta et al. 1998), highly concentrated ownership (Barca 1995), strong bank orientation, and underdeveloped equity markets (La Porta et al. 1997; Pagano et al. 1998). In contrast, over the last two decades Germany has experienced a series of economic reforms that have pushed the country more towards an arm's length economic system (Leuz and Wüstemann 2004; Baums and Scott 2005; Gassen and Skaife, 2009). In short: these two countries are reasonably similar in terms of auditing and enforcement, so we can expect harmonized standards to have an effect on the comparability of accounting information, but they also provide us with a vector of institutional differences that should give rise to heterogeneity in incentives.

The results of our third test provide clear evidence that a lack of financial accounting comparability subsequent to IFRS adoption can be explained by domestic

GAAP, as well as by other country-, region-, and firm-level factors. We interpret this evidence as indicating that incentives remain important for shaping accounting information even within a set of countries that share a common set of accounting standards.

Taken together, our findings indicate that mandatory adoption of IFRS has only a limited impact on the cross-country comparability of financial accounting information. This limited effect can be identified only for balance sheet line items, and not for earnings attributes. We propose and test some explanations for the limited effect of mandatory IFRS adoption on comparability. Studying the disclosure choices of IFRS adopting firms, we find that they are driven by incentives at the country, region, and firm levels.

Our paper makes four distinct contributions to the growing body of literature that investigates the effects of IFRS adoption. First, we extend previous work that focuses on the overall quality of IFRS adoption (Joos and Lang 1994; Cuijpers and Buijink 2005; Gassen and Sellhorn 2006; Joos and Wysocki 2006; Bradshaw and Miller 2007; Christensen et al. 2008; Hung and Subramanyam 2007; Barth et al. 2008; Daske et al., 2008a, 2008b) by focusing on the effect of mandatory IFRS adoption on the comparability of accounting information. In particular, we complement the findings of Beuselinck et al. (2007), who investigate the comparability of earnings across Europe for the period 1990-2005, by looking at the effects of the *mandatory* adoption of IFRS on accounting comparability using multiple proxies for comparability and analyzing a broader set of countries. Further, we extend concurrent work by Barth et al. (2010), who investigate the impact of IFRS adoption on the "value relevance comparability" with U.S.

GAAP firms by using a broader and more robust set of measures to capture comparability. For instance, rather than analyze the co-movement between accounting and stock market data, we focus largely on accounting data. The reason follows from the fact that measuring comparability across countries using stock market data as a yardstick would require the assumption that stock markets around the globe are equal, and more importantly time-invariant, in how they process (accounting) information, and thus a research design that tests for changes in accounting comparability based on stock market data would result in a joint test of changes in accounting comparability and the validity of the above assumption (Holthausen, 2003). Moreover, our comparability measures aim to capture *cross-country comparability*, while the focus of Barth et al. (2010) is on the narrower concept of comparability with U.S. firms.

Second, we provide additional evidence on the ongoing "standards versus incentives" debate in the accounting literature. Our results show that both forces shape accounting information simultaneously, and support the claim of prior studies that accounting standards alone are not sufficient to achieve fully comparable accounting information.

Third, by looking at comparability from three different angles (line item-, earnings attribute-, and disclosure choice-comparability), we contribute to recent attempts in the literature (De Franco et. al. 2009) to specify empirical constructs intended to capture comparability from the perspective of financial statement users.

Fourth, by testing possible determinants of accounting information heterogeneity, we extend prior work by providing a possible explanation for the limited comparability effects of mandatory IFRS adoption.

The reminder of the paper proceeds as follows. Section 2 provides a discussion of the related literature. Section 3 presents our research design, sample, and results. Finally, Section 4 concludes.

II. RELATED LITERATURE

Comparability, together with relevance and reliability, is a key qualitative characteristic of accounting information. Comparable financial statements are generally believed to facilitate investors' resource allocation and investment decisions (FASB 1980, 2008; IASB 1989, 2008; SEC 2000). Capital market regulators further believe that a common set of accounting standards can lead to improved comparability. The mandatory adoption of IFRS by European listed firms thus aims to enhance comparability (as well as financial reporting quality) across European countries by introducing a single set of high quality accounting standards (Regulation (EC) No. 1606/2002).

However, while comparability of accounting information is considered of paramount importance for facilitating investors' decisions and enhancing efficient asset allocation, to date most studies that investigate the mandatory adoption of IFRS focus on either changes in financial reporting quality or capital market consequences rather than on changes in cross-country comparability. Studies that focus on changes in financial reporting quality include Ahmed et al. 2010; Atwood et al. 2010; Beuselinck et al. 2009; Capkun et al. 2008; Garcia et al., 2009; Landsman et al. 2009; Platikanova and Nobes, 2006. Taken together, the studies so far present an ambiguous picture about the quality effect of mandatory IFRS adoption.

Among the studies that address the capital market consequences of IFRS adoption, Li (2009) shows that the 2005 IFRS mandate by European countries has

reduced firms' cost of capital only in countries with strong enforcement. Kosi and Florou (2009) look at the debt financing consequences of the IFRS mandate and show that IFRS adopters are more likely to issue public rather than private debt. Studies that look at the effects of IFRS on firms' equity ownership include Yu (2009), who shows that the IFRS mandate has increased cross-border equity holdings because of the joint effect of a reduction in foreign investors' information processing costs and a decrease in other barriers such as geographic distance, and Bruggemann et al. (2009), who find evidence of an increase in individual investors' trading activity following IFRS adoption. Finally, Beneish et al. (2009) look at the impact of IFRS on countries' ability to attract foreign capital and find no discernible effect for equity investments while they document a positive effect on debt investments.

An attempt to investigate the capital market consequences of IFRS adoption through the lens of comparability has been recently carried out by DeFond et al. (2009). The idea behind their work is that if IFRS increase comparability and reduce the cost of comparing financial statements prepared under different GAAPs, this should positively affect U.S. mutual fund holdings in foreign firms. DeFond et al. (2009) use two input-based measures that look at the accounting standards followed: the "GAAP heterogeneity measure" captures the decrease in accounting standard heterogeneity in a given industry as a result of IFRS adoption, and the "GAAP peer measure" is computed as the ratio of the number of firms in a given industry using IFRS subsequent to IFRS adoption to the number of firms in the same industry applying local GAAP prior to IFRS introduction. The authors find that the benefit of increased comparability, in terms of size of mutual fund investments, is higher for voluntary than for mandatory adopters; further, for the

latter, discernible effects of improved comparability only obtain in countries with serious implementation processes. A related study that also uses an input-based comparability construct based on accounting method choice is Bradshaw et al. (2009). The authors capture comparability as the difference between a firm's accounting method choices and those of its industry peers and find that firms with atypical accounting methods experience on average larger analyst forecast errors and increased forecast dispersion.

Despite the growing literature on mandatory IFRS adoption, to date no published study has looked at the direct effect of the adoption on comparability. A potential reason for this gap in the literature may be the lack of established proxies for comparability. Indeed, De Franco et al. (2009) recently observe that "*The term comparability in accounting textbooks, in regulatory pronouncements, and in academic research is defined in broad generalities rather than precisely.*" Rather than rely on input-based measures of accounting comparability that are related to standards and accounting method choices, De Franco et al. (2009) propose two measures of financial statement comparability that are firm-specific, output-based, and quantitative that seek to capture comparability from the perspective of financial statement users. The first construct, labeled "accounting comparability", reflects the idea that if the same economic events are accounted for homogeneously by two firms (i.e., the two firms show a similar "mapping" of economic events into financial statements), the two firms should have comparable accounting systems. Empirically, the authors proxy for economic events and the output of financial statements using stock returns and earnings, respectively; the more similar the mapping between earnings and returns across firms, the more comparable the accounting systems. The second construct proposed by De Franco et al. (2009), labeled

"earnings comparability", is based on the co-movement of earnings across firms. The idea is that firms with correlated economic events and similar mappings of these events will in turn exhibit correlated earnings over time.

A few working papers explicitly investigate the impact of IFRS adoption on accounting comparability. Beuselinck et al. (2007) investigate the comparability of earnings across a sample of European companies over the period 1990 to 2005. Measuring earnings comparability using the relation between accruals and cash flows, they generally find increasing earnings comparability over time, while when they look only at 2005 they fail to document a clear and significant impact of mandatory IFRS adoption on earnings comparability.

Following the output-based approach proposed by De Franco et al. (2009), in concurrent work Barth et al. (2010) investigate whether the adoption of IFRS by non-U.S. firms increases the comparability of accounting information with respect to U.S. firms applying U.S. GAAP. The authors operationalize comparability by looking at both "accounting system comparability" and "value relevance comparability." Accounting system comparability is measured as the difference between predicted stock returns based on U.S. GAAP and IFRS pricing multiples: the lower the difference in predicted returns, the higher the level of comparability. Value relevance comparability looks at differences in the value relevance of earnings between U.S. GAAP and IFRS firms: an increase in the homogeneity of value relevance levels subsequent to IFRS introduction indicates higher comparability. The authors document that following IFRS adoption, IFRS firms and U.S. GAAP firms exhibit higher accounting system and value relevance comparability although some differences still persist.

In sum, most of the studies on IFRS adoption focus on accounting quality issues or second order capital market consequences while the evidence on the important first order effect of comparability appears surprisingly scant. Our study aims at filling this gap by studying the mandatory IFRS adoption effects on the cross-country comparability of accounting information and by testing for potential cross-sectional determinants of this comparability.

III. EMPIRICAL ANALYSES

Research Design

This paper investigates whether the mandatory adoption of IFRS has an economically and statistically significant impact on the comparability of financial accounting information across the world. We use three different tests to provide evidence on our research question.

Our view of accounting comparability is similar to that in De Franco et al. (2009). Financial accounting outcomes are regarded as being perfectly comparable whenever firms that face the same economic events provide the same financial accounting information. Firms facing similar economic events (hereafter "economically similar firms") should therefore report similar financial accounting information. Thus, the observed variance in financial accounting information across economically similar firms can be traced backed conceptually to two different sources: variance in the economic events these firms face and less than perfect accounting comparability.

Our first two tests are designed to investigate systematic changes in the variance of financial accounting outcomes over time. An important assumption underlying these tests is that the variance of the economic events that firms face does not change over

time; our test design controls for potential violations of this assumption. The first two tests are based on large samples of firm-year observations from 40 countries, which include 22 IFRS adopting as well as 18 non-adopting countries.[1] We refer to these two groups of countries as "country clusters", that is, we refer to a cluster of IFRS adopting countries and a cluster of non-adopting countries. The IFRS adopting countries adopt IFRS in 2005, while the non-adopting countries do not adopt IFRS during the sample period. The non-adopting countries allow us to investigate the impact of IFRS adoption using a difference-in-differences research design similar to the Daske et al. (2008b) approach. The sample covers the 1998 to 2008 period, but we delete observations pertaining to 2005 to remove adoption year effects. To measure the impact of IFRS adoption on the comparability of financial accounting information, we need to assess the variance of financial accounting information (i.e., line items, earnings attributes) for a set of economically similar firms. We therefore pool firms within each cluster (IFRS adopters and non-adopters) across countries into sub-samples (hereafter "bins"). Our dependent variable is thus given as the standard deviation of our financial accounting information measures within these bins. Our analyses, which are based on multivariate models that include bin-attribute fixed effects and a set of control variables, test whether the variance of financial accounting information subsequent to 2005 for the cluster of IFRS adopting countries exhibits a decrease (higher comparability) after controlling for

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[1] Grouping countries into IFRS adopting and non-IFRS adopting countries is not a trivial task as some countries (e.g., Hong Kong, New Zealand, Peru, the Philippines, and Singapore) have adopted a modified version of IFRS or follow piece-wise adoption strategies. In our paper we follow the classification of Daske et al. (2008b) with the exception of Peru, which we classify as an IFRS adopting country. Classifying Peru as non-adopting would effectively reduce the post-2005 sample size of Peru to zero as nearly every Peruvian firm is classified by Worldscope as applying IFRS subsequent to 2005. Our results are virtually unaffected by this design choice. Also, note that although Hong Kong has the status of Special Administrative Region of the People's Republic of China, for the sake of expositional simplicity we refer to Hong Kong as a country throughout the paper.

contemporaneous changes in the variance of financial accounting information for the cluster of non-adopting countries.

In our first test we estimate the impact of IFRS adoption on the within-cluster variance of three prominent balance sheet line items: goodwill, other intangibles, and provisions (excluding provisions for employee benefits). To identify economically similar firms, we construct our bins based on cluster, industry, size (as measured by quintiles of total assets), and year. For each bin, the standard deviation of the line item under study is our dependent variable. Multivariate tests that include industry and size fixed effects, as well as additional control variables that proxy for potentially changing heterogeneity in the operating and financial environment of the bin's firms, allow us to isolate the treatment effect of mandatory IFRS adoption on the within-cluster variance of balance sheet line items.

The second test follows a similar design, but instead of balance sheet line items it uses a set of earnings attributes that we interpret as prominent summary characteristics of financial accounting information. In particular, following Francis et al. (2004) we investigate the accounting-based measures accrual quality, predictability, persistence, and earnings smoothness as well as the capital market-based attributes conservatism, timeliness, and value relevance.[2] As all of these measures are sample attributes, we calculate them following a cross-sectional approach. We first define a bin by country, industry, and year (at least 10 observations are required for each bin), which yields up to 1,902 earnings attribute measures that can be classified by country, industry, and year. Then, for each measure, we construct bins by cluster, industry, and year and calculate the within-cluster variance for each industry and year. These within-cluster variances of

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[2]   Details of the earnings attribute calculation process can be found in Appendix 1.

earnings attributes, which are measured at the industry, year, and cluster level, represent our dependent variables of interest. Again, we use a multivariate test design to identify the treatment effect of IFRS adoption.

In the third set of tests, we turn our focus to the degree to which adopting firms comply with IFRS, and the determinants of any differences in compliance across firms and countries. To do so, we use a hand-collected sample of accounting and disclosure compliance data of German and Italian IFRS adopting firms to assess comparability at the firm level. While our first two tests are based on large cross-country samples and therefore to some extent sacrifice internal validity for external validity, this "boutique" sample allows us to measure financial accounting information and comparability with higher precision and to unambiguously link this information to the effect of IFRS adoption, leading to a high level of internal validity. Full comparability would imply the same compliance levels across firms. We therefore regard the degree of compliance as an additional dimension of accounting information comparability. Using a classification instrument discussed in Appendix 2, we find significant differences in IFRS measurement and disclosure compliance across German and Italian firms' 2006 annual reports. Since we are able to measures differences in incentives at the firm level, we are able to investigate for our sample of IFRS applying firms whether firm-, region- and country-level incentives explain the differences in disclosure compliance that we document.

Sample Selection

Our first two sets of tests focus on non-financial publicly traded firms from 40 different countries and cover the period 1998 to 2008 (excluding 2005). The sample selection starts with all firms in the Worldscope universe of countries that have more than 100

public firms followed by Worldscope. From this initial sample, we delete all firm-year observations that correspond to voluntarily IFRS adoption; all of our findings are thus based on mandatory adopters. We further delete firm-year observations for which returns data from Datastream are not available, or for which any other data necessary for estimating the line item tests (the *line item sample*) or earnings attributes tests (the *earnings attribute sample*) are absent. This procedure yields a sample of 31,582 firm-year observations for the line item tests and 138,199 firm-year observations for the earnings attributes tests. The reduced sample size for the line item tests is due to Worldscope not providing detailed coverage for smaller and less visible firms in their universe. The results for the line item tests are therefore likely to be biased towards more visible and larger firms. Note that we do not include U.S. data among our sample observations, as we do not have access to Worldscope data for U.S. firms, merging Compustat and Worldscope data is likely to be problematic where special data items are concerned, and we want to mitigate the possibility that our non-adopting control group is dominated by U.S. observations. Descriptive statistics for both samples can be found in Panel A of Table 1 (line items sample) and Panel A of Table 2 (earnings attribute sample).[3]

Our last set of tests requires hand collection of financial reporting and governance data. Given our interest in identifying country- and firm-level determinants of comparability while balancing the data collection costs, we study a sub-sample of German and Italian firms. The sample comprises all Italian IFRS adopters and all German late adopters as well as a matched sample of German firms. The total sample

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[3] Our samples are unbalanced panels. Robustness analyses based on balanced panels (not tabulated) show that our findings are not affected qualitatively by this design choice.

size is 405 observations. Further details about this sample selection procedure are provided in the results section.

Balance Sheet Line Item Tests

To measure the impact of harmonized accounting standards on accounting comparability, our first set of tests investigates financial accounting outcomes that are expected to be directly affected by accounting standards: balance sheet line items. As accounting standards regulate recognition and measurement issues, we expect that our first sets of tests maximize identification of an IFRS treatment effect on accounting comparability.

More specifically, we study the variance of goodwill, other intangible assets, and provisions (excluding provisions for employee benefits), each measured as percentage of total assets, across country clusters (cluster of IFRS adopting countries and cluster of non-adopting countries) before and after IFRS adoption. We select these three line items because (a) their measurement is based on both standards guidance as well as managerial judgment, (b) standards guidance for their recognition and measurement exhibits material heterogeneity across local GAAP regimes, and (c) data for these line items is available from Worldscope.

Accounting for intangibles is likely one of the major changes in financial reporting for countries that adopt IFRS. Under IAS 38, a firm has to recognize intangible assets (both in the case of purchased and internally generated assets) if it is likely that these assets will provide distinguishable future economic benefits to the firm and their cost can be reliably estimated. IFRS 3 requires the capitalization of goodwill acquired in a business combination, but does not permit the recognition of internally generated goodwill. In the process of purchase price allocation, IFRS also mandates the recognition

of a wide variety of intangibles (such as computer software, patents, copyrights, customer and supplier relationships, etc.) whose capitalization is commonly prohibited under local GAAP in many jurisdictions.

As in the case of intangibles, accounting for provisions is also likely to represent a significant change for a large number of countries adopting IFRS. According to IAS 37, a firm must recognize a provision if a present obligation arises as a result of a past event, if payment is probable, and if the amount can be reliably estimated. Compared to IAS 37, many local GAAP regimes' rules imply a broader opportunity for provision recognition, no requirement in terms of discounting, and the possibility of recognizing provisions even before an actual obligation to a third party arises. All standards (IAS 37, IAS 38, and IFRS 3) that are relevant for our line items under study offer additional guidance that aims to ensure homogenous application of the standards in practice.

[Table 1 about here]

Based on the above discussion, we expect firms from countries in the IFRS adopting cluster to exhibit on average lower cross-country variances for goodwill, other intangibles, as well as provisions after IFRS adoption, since adoption of IFRS leads these firms to share common guidance on the recognition and measurement of these items. Table 1, Panel B reports the standard deviation of our balance sheet line items partitioned by country cluster (IFRS adopting versus non-adopting) and period (pre- versus post-2005). The average standard deviation of each partition is calculated for bins formed by industry, size (as measured by quintiles of total assets), and year. GOODWILL captures the total amount of goodwill recognized on the balance sheet, OTH_INTASS captures intangible assets net of goodwill recognized on the balance sheet, and PROVISIONS

captures provisions net of provisions for employee benefits as recognized on the balance sheet; all measures are deflated by total assets. Asterisks indicate significant differences in mean or median values of our dependent variables across the pre-2005 and post-2005 periods. Inverted triangles report significant differences across country clusters (both before and after 2005). It can be seen from the results that the cross-country variance of balance sheet line items changes significantly across the pre- and post-2005 periods. Further, the magnitude of the variance tends to differ across clusters, both before and after 2005. For firms in the non-adopting cluster, both GOODWILL and OTH_INTASS experience an increase in line item variance after 2005. For firms in the IFRS adopting cluster, however, only GOODWILL experiences an increase in variance after 2005; the variance of OTH_INTASS remains stable across periods and the variance of PROVISIONS declines. Taken together, these results provide preliminary evidence that adopting IFRS standards dampens the cross-country variance of provisions.

While one can interpret the univariate findings presented in Panel B as preliminary evidence on the effect of adopting IFRS standards on the cross-country variance of our balance sheet line items, to isolate the effect of IFRS adoption we need to control for the overall time trend and other potential determinants of the reported magnitudes of our balance sheet items. Panel C of Table 1 reports the results of two multivariate models that include such controls. In particular, we estimate the following two models for each of our balance sheet line items:

$$\sigma_{k,j,q,t}\left(LINEITEM_{i,t}\right) = \sum_{j=1}^{9}\sum_{q=1}^{5}\alpha_{9(j-1)+q}INDDUMMY_j * SIZEQ_q + \beta_1 IFRS\_ADOPT_k + \beta_2 POST\_2005_t + \qquad (1)$$
$$\beta_3 IFRS\_ADOPT_k * POST\_2005_t + \varepsilon_{k,j,q,t}$$

$$\sigma_{k,j,q,t}\left(LINEITEM_{i,t}\right) = \sum_{j=1}^{9}\sum_{q=1}^{5}\alpha_{9(j-1)+q}INDDUMMY_j * SIZEQ_q + \beta_1 IFRS\_ADOPT_k + \beta_2 POST\_2005_t +$$

$$\beta_3 IFRS\_ADOPT_k * POST\_2005_t + \beta_4 \mu_{k,j,q,t}\left(\ln(TOTASS_{i,t})\right) + \beta_5 \mu_{k,j,q,t}\left(ROA_{i,t}\right) +$$

$$\beta_6 \mu_{k,j,q,t}\left(MTB_{i,t}\right) + \beta_7 \mu_{k,j,q,t}\left(LEVERAGE_{i,t}\right) + \beta_8 \mu_{k,j,q,t}\left(FREQ\_LOSSES_{i,t}\right) +$$

$$\beta_9 \sigma_{k,j,q,t}\left(\ln(TOTASS_{i,t})\right) + \beta_{10}\sigma_{k,j,q,t}\left(ROA_{i,t}\right) +$$

$$\beta_{11}\sigma_{k,j,q,t}\left(MTB_{i,t}\right) + \beta_{12}\sigma_{k,j,q,t}\left(LEVERAGE_{i,t}\right) + \beta_{13}\sigma_{k,j,q,t}\left(FREQ\_LOSSES_{i,t}\right) + \varepsilon_{k,j,q,t}$$

(2)

where LINEITEM is GOODWILL, OTH_INTASS, or PROVISIONS, respectively, deflated by total assets. The subscripts k, j, q, i, and t denote cluster, industry, size quintile, firm, and year, respectively. INDDUMMY is a set of industry fixed effects. SIZE is a set of size quintile fixed effects, where size is measured by total assets. IFRS_ADOPT is a dummy variable that takes the value of one for observations that correspond to the cluster of IFRS adopting countries. POST_2005 is a dummy variable that takes the value of one for observations subsequent to 2005. $\mu(\alpha)$ indicates the arithmetic mean of α for the sample indicated by the subscript of μ. $\sigma(\alpha)$ indicates the standard deviation of α for the sample indicated by the subscript of σ. ROA is return on assets, calculated by dividing earnings before interest and taxes by beginning-of-fiscal year total assets. MTB is market capitalization divided by book value of equity. LEVERAGE is total debt divided by total assets. FREQ_LOSSES is the frequency of losses, defined as the proportion of the previous five fiscal years in which the firm reported negative earnings.

Since our main independent variables are defined across cluster and time only, in models (1) and (2) above we control for industry and size quintile effects by including industry and size fixed effects. However, as discussed above, an assumption underlying our analysis is that factors (besides the applied accounting standards) that affect the variance of financial accounting information are time-invariant. To address the possibility that this assumption might be violated, in model (2) we also include a set of control variables that potentially influence the variance of balance sheet line items. Because, to our knowledge, prior literature provides no guidance on the determinants of the variance of accounting line items across samples, we select a set of control variables that broadly tries to capture the operating and financial environment of our sample firms. Since the observational unit of our tests is at the cluster, industry, size quintile, and year level, we include the respective level arithmetic means as well as the standard deviations of our control variables in model (2). By including these additional controls in model (2) but

not in model (1), we are able to shed light on how our findings are affected by these additional control variables.

In identifying proxies for firms' operating and financial environment, we draw in part from prior literatures on the determinants of earnings attributes (Dechow and Dichev 2002) and on the recognition of intangible assets (Wyatt 2005; Markarian et al. 2008), and include accounting profitability, market-to-book, leverage, and the frequency of previous fiscal years' losses. Accounting profitability measures operating profitability as well as operating risk. Similarly, market-to-book can be viewed as a proxy for growth options or alternatively financial distress. Under the theory of efficient capital structure choice, low leverage indicates high risk, whereas under the pecking order theory of capital structure choice, high leverage indicates financial distress. The frequency of previous fiscal years' losses is a direct indicator of financial distress. Due to these control variables' nature as "additional" controls, we do not make predictions as to their sign, nor do we discuss their results below.

The results of our multivariate tests using balance sheet line items as our dependent variables are reported in Table 1, Panel C and indicate that our univariate results from Panel B are not driven by unobserved determinants. Our main variable of interest, the interaction of IFRS_ADOPT and POST_2005, is significantly negative for provisions and other intangibles, indicating that firms in IFRS adopting countries experience a significant decline in the variance of these balance sheet line items subsequent to 2005, relative to both the pre-2005 period and the non-adopting control group. We do not find a comparable effect for goodwill. The null result for goodwill makes intuitive sense: purchase price allocation and the associated IFRS accounting

guidance have been criticized as giving arbitrary discretion to management (Ramanna and Watts, 2007), and as such it is not surprising that the guidance does not necessarily produce more comparable financial accounting values. These results remain stable across model specifications. Also, the R^2 statistics indicate reasonable model fit, which is driven to a large extent by the fixed effect components of our models. Taken together, the multivariate results in Panel C are consistent with a positive impact of mandatory IFRS adoption on the comparability of balance sheet line items across IFRS adopting firms.

Earnings Attribute Tests

While balance sheet line items can be expected to be directly influenced to some extent by (changes in) accounting standards, the effect on the central summary measure of accounting performance, namely, earnings, and its attributes is far less obvious. Prior research (Francis et al. 2004) documents that earnings attributes are priced measures of accounting information. It is still an open question, however, as to whether these attributes can unambiguously be linked to earnings or, more broadly, accounting quality. In this paper we do not take a stand on whether or how earnings attributes are related to earnings quality. Rather, we simply take earnings attributes to be financial accounting outcomes that can be used to assess the comparability of accounting information (similar to Beuselinck et al. 2007; De Franco et al. 2009; Barth et al. 2010). If the cross-country variance of within-industry earnings attributes declines after 2005 for firms in the IFRS adopting cluster (controlling for contemporaneous changes in the variance of earnings attributes for firms in the non-adopting cluster), this finding would indicate an improvement in accounting comparability following the IFRS mandate.

To identify a set of earnings attributes suitable for conducting our tests, we closely follow Francis et al. (2004) and use the following seven attributes: accrual quality, persistence, predictability, smoothness, timeliness, conservatism, and value relevance. As we have only three consecutive years of IFRS observations (2006 to 2008), we cannot estimate firm-specific time-series measures of our earnings attributes. We thus estimate our earnings attributes cross-sectionally. We partition the earnings attribute sample into bins defined by country, industry, and year. Industry classifications are based on the first digit of firms' Standard Industrial Classification (SIC) code.[4] For each bin, we require at least ten observations so as to have sufficient data to estimate the earnings attributes measures (see Appendix 1). All measures are coded such that higher values indicate more pronounced attributes (e.g., greater smoothness, longer persistence, higher accrual quality).

To the extent that IFRS adoption affects the variance of earnings attributes across countries, we expect a change across the pre- and post-2005 periods for firms in the IFRS adopting cluster. If firms in the non-adopting cluster experience a similar effect, this would highlight a need to control for other time trends using a difference-in-differences design.

[Table 2 about here]

Table 2, Panel B reports the within-industry and -year standard deviation of our earnings attribute measures across countries partitioned by cluster and by period. Again, asterisks highlight significant differences across pre- and post-2005 periods in the mean and median values of our dependent variables. Inverted triangles indicate significant

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[4]   Our results are not sensitive to this design choice. Additional analyses (not tabulated) in which we group firms according to two-digit SIC codes render similar results.

differences across country clusters (both before and after 2005). It can be seen from the results that there is no discernible time trend in the variance of earnings attributes across countries. For IFRS adopting countries, the variance decreases significantly for two of the seven measures (persistence and smoothness) while it increases significantly for three measures (accrual quality, predictability, and timeliness). For non-adopting countries, the variance decreases significantly for three of the seven measures (persistence, smoothness, timeliness) while it increases for one measure (predictability). Significant differences across country clusters are generally rare. In the pre-2005 period, firms in the IFRS adopting cluster appear to have significantly more heterogeneous accrual quality, while in the post-2005 period they have less heterogeneous predictability and more heterogeneous timeliness compared to their non-adopting counterparts. Taken together, the univariate analysis exhibits no clear effect of IFRS adoption on the within-industry variance of earnings attributes across countries.

In Table 2, Panel C we present results of multivariate analyses that are similar to those for the line items tests. As before, we estimate two multivariate models:

$$\sigma_{k,j,t}\left(EARATT_{c,j,t}\right) = \sum_{j=1}^{9} \alpha_j INDDUMMY_j + \beta_1 IFRS\_ADOPT_k + \beta_2 POST\_2005_t + \tag{3}$$
$$\beta_3 IFRS\_ADOPT_k * POST\_2005_t + \varepsilon_{k,j,t}$$

$$\sigma_{k,j,t}\left(EARATT_{c,j,t}\right) = \sum_{j=1}^{9} \alpha_j INDDUMMY_j + \beta_1 IFRS\_ADOPT_k + \beta_2 POST\_2005_t + \tag{4}$$
$$\beta_3 IFRS\_ADOPT_k * POST\_2005_t + \beta_4 \mu_{k,j,t}\left(\ln\left(TOTASS_{i,t}\right)\right) + \beta_5 \mu_{k,j,t}\left(ROA_{i,t}\right) +$$
$$\beta_6 \mu_{k,j,t}\left(MTB_{i,t}\right) + \beta_7 \mu_{k,j,t}\left(LEVERAGE_{i,t}\right) + \beta_8 \mu_{k,j,t}\left(FREQ\_LOSSES_{i,t}\right) +$$
$$\beta_9 \sigma_{k,j,t}\left(\ln\left(TOTASS_{i,t}\right)\right) + \beta_{10} \sigma_{k,j,t}\left(ROA_{i,t}\right) +$$
$$\beta_{11} \sigma_{k,j,t}\left(MTB_{i,t}\right) + \beta_{12} \sigma_{k,j,t}\left(LEVERAGE_{i,t}\right) + \beta_{13} \sigma_{k,j,t}\left(FREQ\_LOSSES_{i,t}\right) + \varepsilon_{k,j,t}$$

where EARATT is AQ, PERS, PRED, SMOOTH, TIME, CONS, VR, or EA_ALL. The first seven measures stand for accrual quality, persistence, predictability, smoothness, timeliness, conservatism, and value relevance, respectively. These measures are calculated following the method detailed in Appendix 1. EA_ALL represents a variable containing the standard deviations of all earnings attributes, yielding multiple observations for each bin (one for each attribute available). When the models are estimated for EA_ALL, an additional fixed effect

indicating the type of earnings attribute is included in the models. All other variables are as defined for models (1) and (2) above.

Also as before, while model (3) captures the treatment effect of mandatory IFRS adoption without controlling for alternative time-variant sample factors that might impact the variance of earnings attributes, model (4) includes the same set of additional control variables as in model (2) for the line items test to control for the operating and financial environment of the sample firms.

Focusing attention on the interaction between IFRS_ADOP and POST_2005, which isolates the treatment effect of mandatory IFRS adoption on the variance of the earnings attributes across countries within each cluster, we find that across the seven earnings attributes the only one to take a significant coefficient in both models is timeliness. In this case β_3 loads significantly positive, indicating that mandatory adoption of IFRS led to an increase in variance across countries, which is consistent with a decrease in comparability. We also find a negative and significant coefficient on β_3 for predictability in model (4), but we refrain from drawing conclusions from this finding as it does not appear in model (3). When we run the models using EA_ALL, which includes all earnings attributes' standard deviations together with differentiating fixed effects, we find no clear treatment effect of mandatory IFRS adoption.

Taken together, the results of our first two sets of tests suggest that while mandatory IFRS adoption has increased the comparability of some balance sheet line items, it has not increased the comparability of earnings attributes (at least during our sample period). Our third set of tests, which we turn to next, aims to shed some light on why the impact of mandatory IFRS adoption on the comparability of financial accounting information might be limited.

Measurement and Disclosure Compliance Tests

In our prior tests, we find mixed evidence on the effect of mandatory IFRS adoption on accounting comparability: while we document increased comparability of some balance sheet line items, we find no clear effect for earnings attributes. In this section we conduct a series of tests that investigate the cross-country comparability of accounting measurement and disclosure compliance. We argue that the comparability of financial accounting information increases with the level of measurement and disclosure compliance – if every firm were to fully comply with all relevant rules and regulations, different firms' accounting outcomes should be highly comparable, provided that the accounting regulation does not impose artificial barriers to cross-sectional comparability. Accordingly, we take compliance as a firm-level proxy for comparability.

Using a unique data set on the 2006 accounting measurement and disclosure compliance of German and Italian firms that are publicly listed since at least 2004 and that adopted IFRS in 2005 (so-called "late adopters"), we first investigate whether there are significant differences in accounting measurement and disclosure compliance across countries for these firms. To do so, we hand-collect accounting measurement and disclosure compliance data from the group financial reports of all firms that meet our data requirements (136 German and 153 Italian firms). Financial reports for the fiscal year 2006 are either downloaded from the respective stock exchange website or the respective firm investor relation website, while governance data are manually retrieved from the Italian market regulator's (CONSOB) website and corporate governance reports for Italian firms and from the Frankfurt Stock Exchange website and financial reports for German firms. From the 2006 financial reports of these firms, we hand-collect

accounting measurement and disclosure compliance data. To mitigate possible sample selection issues, we also collect compliance data from the group financial reports of German early adopters, so as to replicate our analysis by comparing the Italian firms with a matched sample of 153 German firms (116 of which early adopters).[5] Details on the instrument used to collect the data are presented in Appendix 2.

[Table 3 about here]

Table 3 presents results on accounting measurement compliance in Panel A and disclosure compliance in Panel B. In Panel A, we report stated accounting measurement compliance separately for German late adopters, German matched firms, and Italian firms for the following IFRS standards: IFRS 2 (Share-based Payment), IAS 11 (Construction Contracts), IAS 17 (Leases), IAS 19 (Employee Benefits), IAS 36 (Impairment of Assets), IAS 38 (Intangible Assets), and IAS 39 (Financial Instruments: Recognition and Measurement). While we generally find the stated accounting measurement compliance to be similarly high across countries, we find significant differences with respect to IAS 38 and IAS 39, with German late adopters showing lower compliance than Italian firms. Looking more closely at the detailed response data (not tabulated), we find that German firms tend to expense development costs more often, while they tend not to recognize the fair value of derivative financial instruments on their balance sheets. Because these non-complying measurement choices are both in line with local German GAAP, we conclude that some of the German late adopters "bend" IFRS rules towards local German GAAP. We find a similar result for the German matched sample, although with a somewhat

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[5]   To match German firms to similar Italian firms, we use a propensity score matching procedure and the following logit model:

$$p(ITALY_{t,i} = 1) = p(\sum_{j=1}^{9} \alpha_j INDDUMMY_i + \beta_1 LOG(MKTCAP_{t,i}) + \beta_2 ROA_{t,i} + \beta_3 RETURN_{t,i} + \beta_4 CFO_{t,i}) \cdot$$

lower level of significance. In contrast, the German matched firms exhibit a higher level of IFRS 2 measurement compliance than Italian firms.

In Panel B, we report disclosure compliance scores separately for German late adopters, German matched firms, and Italian firms for the same standards as in Panel A as well as for IAS 33 (Earnings Per Share). Comparing the disclosure compliance scores with the accounting measurement compliance scores, we find that disclosure compliance is significantly lower than measurement compliance (this finding is in line with prior literature; see, e.g., Street and Gray, 2001). Further, we find much more cross-country variance in disclosure compliance. This variance does not lean towards one country, however: Italian firms exhibit significantly higher disclosure compliance for IFRS 2, IAS 33, IAS 36 and IAS 39, while German late adopters score significantly better for IAS 17 and IAS 38. A comparison with the German matched sample provides similar results except that Italian firms' higher scores for IAS 33 and IAS 36 are not significant and the German matched firms show higher disclosure compliance for IAS 11.

Following arguments in prior literature, the overall lower level of disclosure compliance is likely explained by the (perceived) lower level of disclosure enforcement by auditors and regulatory bodies (Hope, 2003). The results on disclosure compliance for IAS 38, which indicate that German firms display greater compliance than Italian firms, may due to German firms providing additional disclosures to compensate for lower measurement compliance (given their reluctance to recognize development costs). Other observed cross-country differences in disclosure behavior might be explained by the tendency of firms to stick to established disclosure behavior based on local GAAP. Also, when comparing German late adopters with Italian late adopters, one has to bear in mind

that German firms faced lower transaction costs for early IFRS adoption. This implies that German late adopters more actively self-selected into not adopting IFRS early compared to Italian firms. As IFRS has been argued to demand an increase in disclosures relative to most local GAAPs (Daske et al., 2008a), we can expect our sample of German firms to be more reluctant to comply with disclosure regulations than an average German public firm. Evidence from the matched sample comparison is consistent with this idea.

We conclude from the 2006 IFRS compliance tests that, even under harmonized accounting standards, accounting information continues to be heterogeneous. In particular, we identify some variation in accounting measurement compliance, as well as more pronounced variation in disclosure compliance, across countries. When we examine the standard deviation of our compliance figures, we additionally find that disclosure compliance exhibits significant *within*-country dispersion.

To investigate the within-country variance of disclosure compliance, which we interpret as evidence of limited accounting information comparability, our last test examines the determinants of disclosure compliance within each country. We perform both a within-country and a pooled-sample analysis on our German and Italian data.

To construct our dependent variable, DSCORE, we average all disclosure scores for the 252 German (136 late adopters and the 116 early adopters studied in the prior analysis) and 153 Italian firms. We estimate country sample and interacted pooled sample versions of the following disclosure compliance determinant model:[6]

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[6]   To address possible omitted variable concerns, we also estimated alternative versions of this model that included leverage, index membership, number of years since the initial public offering, seasoned public offerings (SPO), American Depositary Receipts (ADR), foreign listing, foreign sales, and analyst following as additional independent variables. These additional variables do not change our inferences.

$$DSCORE_i = \sum_{j=1}^{9} \alpha_j INDDUMMY_j + \beta_1 LOG(TOTASS_i) + \beta_2 ROA_i + \beta_3 MTB_i + \tag{5}$$

$$\beta_4 FREQ\_LOSSES_i + \beta_5 INDEP\_BOARD\_D_i + \beta_6 INSTOWN_i +$$

$$\beta_7 GOVOWN_i + \beta_8 FAMBUS_i + \beta_9 BIG4_i + \beta_{10} LD\_REGION_i + \beta_{11} EARLY + \varepsilon_{t,i}$$

where DSCORE is average disclosure compliance, calculated using the instrument presented in Appendix 2. The subscripts i, and j denote firm, and industry. INDDUMMY is a set of first-digit SIC industry dummy variables. TOTASS is total assets. ROA, MTB, and FREQ_LOSSES are as defined before. %INDEP_BOARD_D is a dummy variable for board independence that for the Italian sample is coded one if the number of independent directors divided by the total number of board members is above the mean and zero otherwise, and for the German sample is coded one if the head of the supervisory board was not the former chief executive officer of the respective firm and zero otherwise. INSTOWN is a dummy variable indicating significant institutional ownership in the firm. GOVOWN is a dummy variable indicating whether an Italian governmental body has a stake in the firm. FAMBUS is a dummy variable indicating whether the firm is controlled by a managing family. BIG4 is a dummy variable indicating whether the firm's financial statements have been audited by a dominant audit supplier (PWC, KPMG, Deloitte, or Ernst & Young). LD_REGION is a dummy variable indicating whether the respective German (Italian firm) is domiciled in the eastern regions of Germany (southern regions of Italy). EARLY is a dummy variable indicating whether the firm is an early or late IFRS adopter.

Industry, size (log(TOTASS)), profitability (ROA), growth (MTB), and frequency of losses (FREQ_LOSSES) are included following prior literature (see Healy and Palepu 2001) to account for the operating environment and financing needs of the sample firms. Firms facing greater operating uncertainty and financing needs are likely to face greater incentives to disclose more (so as to reduce external capital providers' information asymmetry), and thus we expect positive signs on growth and frequency of losses. In addition, because larger firms are more visible, they are likely to face greater public demand for disclosure, so we expect a positive coefficient on size. High profitability predicts a rich investment opportunity set, and as such greater external financing needs and hence incentives for more disclosures, but it also predicts increased competition by rivals, and thus increased costs of disclosure (Prencipe 2004). We therefore make no prediction for the sign on profitability.

Next, we include in the model %INDEP_BOARD_D to capture firm governance. Generally, outside members on the board are regarded to be a sign of good governance (Anderson et al. 2004). For Italy, Patelli and Prencipe (2007) provide empirical evidence for a sample of firms listed on the Milan Stock Exchange that voluntary disclosure is positively associated with the percentage of independent board members in companies where a dominant shareholder exists. As we state above, we proxy for board independence using a dummy variable that for the Italian sample is coded one if the number of independent directors divided by the total number of board members is above the mean and zero otherwise, and for the German sample is coded one if the head of the supervisory board was not the former chief executive officer of the respective firm and zero otherwise. The reason for the different basis for measuring board independence is due to the fact that, in Germany, the Corporate Governance Code (*Kodex*) does not mandate information disclosure on directors' independence, and thus we take the presence of a "CEO insider" to be indicative of low board independence. For both countries, we expect a positive relation between %INDEP_BOARD_D and DSCORE.

The variables INSTOWN, GOVOWN, and FAMBUS are included in the model to capture the ownership structure of the firm. As market-based governance is assumed to be weakly developed in Italy (Pagano and Volpin 2005), and not as strong as for Anglo-Saxon countries in Germany (La Porta et al. 2000), institutional ownership is assumed to have an overall positive effect on governance (Gillan and Starks 2003). On the other hand, whether institutional owners need public disclosure to fulfill their governance role is an open question. Following the entrenchment argument (Fan and Wong 2002), it seems possible that institutional owners collaborate with management in withholding

information from outside stakeholders. A very similar argument applies to governmental ownership (Wang and Wong 2008). Thus, we make no prediction on the signs for INSTOWN and GOVOWN. Family-run businesses have an important role both in Germany (Klein, 2000) and in Italy (Aganin and Volpin 2003). As family-controlled enterprises generally face lower demands for public disclosure of financial accounting information, we expect a negative coefficient on FAMBUS. This prediction is in line with previous literature that shows family firms have a tendency to disclose less because of better monitoring of management, a longer investment horizon, and better access to inside information for owners (Chen et al. 2008).

Of course, disclosure compliance is also a matter of external enforcement. While regulatory enforcement is the same for publicly listed German and Italian firms, enforcement by external audits is subject to dispersion of audit quality. In line with prior literature (DeAngelo 1981), we expect the Big4 audit firms to provide higher audit quality and hence greater disclosure compliance enforcement. Thus, we expect a positive relation between BIG4 and DSCORE.

Our next potential determinant of interest is LD_REGION. The Italian business environment has been documented to be geographically diverse (Gerschenkron 1955; Eckaus 1961; Terrasi 1999). In general, the informal institutions that shape the governance environment of Italian society are very different between the northern, central, and southern regions of Italy. Especially in the South, informal governance institutions are influential and can be expected to reduce the demand for formal disclosure compliance. A similar rationale applies to Germany where, subsequent to reunification, a lack of convergence between the less developed East and the more

industrialized West led to considerable disparity in the levels of income, investment, and productivity (Boltho et al. 1999). Thus, we expect both countries to exhibit a negative coefficient on LD_REGION.

Finally, we expect German early adopters to exhibit a higher level of disclosure compliance compared to late adopters as a result of a learning curve effect. Hence, we predict a positive sign on EARLY. A significant positive relation between EARLY and DSCORE may also arise, however, due to omitted variables that drive the incentive for early adoption as well as the incentive to provide more disclosure.

Descriptive statistics for the potential determinants of differences in disclosure compliance as well as the control variables are presented in Panel A of Table 4. Panel B of Table 4 reports correlations among the dependent and independent variables and thus provides univariate results. Disclosure compliance for Italian firms is significantly positively related with size, growth, audit quality, and southern origin. In addition, it is positively related to profitability and institutional ownership. These results can be interpreted as indicating that in Italy, easier access to external financing outweighs proprietary cost arguments and institutional owners increase the demand for public disclosure. For the German sample, disclosure compliance is significantly positively associated with size, independent board members, audit quality, and early IFRS adoption. The correlations between dependent variables are generally low to moderate with the exemption of FAMBUS and GOVOWN, which have a correlation of -0.490.

[Table 4 about here]

Table 4, Panel C presents the multivariate results of model (5). For the Italian sample, all model coefficients except that on FAMBUS are in the predicted direction, and the

coefficients on size, profitability, board independence, audit quality, and geographical origin are significant. These results clearly indicate that in Italy, firm-level incentives influence disclosure compliance. We take special interest in the influence of the geographic origin on disclosure compliance, as it indicates that even within-country geographic regions matter for accounting information. Results for Germany are also in line with our predictions, and the coefficients on size, board independence, audit quality, and early adoption of IFRS are significant, thus providing evidence of firm-level incentives driving disclosure compliance across German firms.

Evidence from the pooled-sample analysis shows that coefficients on size, profitability, and growth are significantly more pronounced for Italy than for Germany. This result indicates that larger, growing, and more profitable firms generally tend to provide more forthcoming disclosures in Italy than in Germany. The impact of high quality auditing on disclosure compliance also appears to be more pronounced in Italy, possibly because Italian audit firms tend to be more heterogeneous in terms of quality than German firms (Ashbaugh and Warfield 2003). Interestingly, while for Italy we find a robust negative impact of the geographical region on disclosure compliance, we do not find a similar effect for Germany. We take this finding as indicating that it is not the overall economic situation of a less developed region that drives differences in disclosure compliance; rather, the relationship-driven institutions that Southern Italy has developed over centuries (and that are unavailable in Eastern Germany) act as an alternative communication device for corporations. Not surprisingly, German firms show overall higher disclosure compliance than Italian firms. Based on the insight from the geographical region results, this finding might be driven by different cultural attitudes

towards compliance in general. Our findings are also in line with the common-held belief that Italian firms tend to "label adopt" IFRS without any serious commitment to transparency because, in a strong insider system like Italy, information asymmetries are mainly resolved via means other than publicly disclosing accounting information. Finally, our results show that early adopters provide better disclosure compliance than late adopters. This result might be driven by learning curve effects or by omitted explanatory variables that influence the IFRS adoption decision as well as the incentives for disclosure compliance.

Taken together, the tests of this section provide a rationale for the mixed findings of the previous sections on the comparability effects of mandatory IFRS adoption: even after adopting a harmonized set of accounting standards, accounting information continues to show cross-country as well as within-country heterogeneity that can be predictably linked to country-, region-, and firm-level incentives that reduce the level of financial accounting information comparability.

IV. CONCLUSION

In this study we examine whether mandatory adoption of IFRS leads to an increase in cross-country comparability of accounting information. Our analyses based on balance sheet line items indicate that comparability increases for other intangibles and provisions but not for goodwill. In contrast, we find no clear impact of mandatory IFRS adoption on the within-industry comparability of earnings attributes across countries. In a third set of tests we explore possible explanations for our mixed findings on the comparability effects of mandatory adoption: even under harmonized accounting standards, country-, region-, and firm-level factors lead to heterogeneous financial accounting information. We

therefore conclude that as long as countries' infrastructures differ, market participants cannot expect fully comparable financial accounting information to obtain. Rather, even when common accounting standards bring financial accounting information from different countries closer together, substantial differences remain. However, these differences appear to be more prominent at the firm level than at the country level.

Our results are subject to some important caveats. First, they are based on a quasi-experiment: our "treatments" countries and clusters are not randomly assigned to our research subjects. While we try to address this concern by using a difference-in-differences approach and by constructing matched samples where feasible, these procedures nonetheless are likely to generate sub-optimal results. Second, our measurement constructs are noisy and thus capture our economic dependent variable of interest (financial accounting information and its cross-sectional comparability) with error. To improve the reliability of our findings, we try to increase the power of our statistical tests by conducting a battery of analyses designed to capture different aspects of our dependent variable.

Third, with respect to external validity, we try to make our results as general as possible by drawing from a large sample of countries for our first two set of tests. However, this large sample evidence might give rise to internal validity concerns. While we try to address these concerns by conducting an additional test that uses high quality hand-collected data, additional research using institutional expertise to investigate the effect of IFRS adoption on comparability in other jurisdictions using similar data seems warranted.

Finally, it is important to note that comparability of financial accounting information as defined in this paper is neither good nor bad *per se*, and thus this paper does not take a stand on whether IRFS adoption improves the quality of financial accounting information. Such a question is likely to be difficult to tackle absent an unambiguous measure of "financial accounting information quality."

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APPENDIX 1: METHODOLOGY TO CALCULATE EARNINGS ATTRIBUTES

This appendix presents the measurement of our seven earnings attributes which are used as dependent variables in our analyses. Our approach closely follows the methodology proposed by Francis et al. (2004) and uses the same set of seven earnings attributes. Francis et al. compute their earnings attributes as firm-specific time-series metrics. But, as we lack long enough time-series data (we have only three consecutive years of IFRS observations available (2006-2008)) and thus cannot estimate firm-specific time-series measures, we follow Leuz et al. (2003) and use a cross-sectional approach to measure our earnings attributes. We construct data cells based on country, year and industry (first digit SIC code based) and require for each cell at least ten observations to compute the respective earnings attribute metric.

A.1 Accrual Quality

Accrual quality is generally considered a synonymous of overall earnings quality. Since Dechow and Dichev (2002), this attribute is measured under the assumption that the role of accruals is to adjust the recognition of cash flows over time, and hence, the more accruals map into cash flow, the higher their quality. While we do not view accrual quality as a "quality" metric, we follow Dechow and Dichev's model by estimating current accruals as a function of past, present, and future cash flows:

$$WCACC_{i,t} = \beta_0 + \beta_1 CFO_{i,t-1} + \beta_2 CFO_{i,t} + \beta_3 CFO_{i,t+1} + \varepsilon_{i,t} \tag{A1}$$

where:

$WCACC_{i,t}$	=	total working capital accrual of firm i at time t (ΔCA_t - ΔCL_t - $\Delta CASH_t$ + $\Delta STDEBT_t$), deflated by total assets
$CFO_{i,t}$	=	operating cash flow of firm i in year t ($NIBE_t$ - TA_t), deflated by total assets
$NIBE_{i,t}$	=	net income before extraordinary items of firm i in year t; deflated by total assets
$TA_{i,t}$	=	$\Delta CA_{i,t}$ - $\Delta CL_{i,t}$ - $\Delta CASH_{i,t}$ + $\Delta STDEBT_{i,t}$ - $DEP_{i,t}$
$\Delta CA_{i,t}$	=	change in current assets of firm i between time $t-1$ and t
$\Delta CL_{i,t}$	=	change in current liabilities of firm i between time $t-1$ and t
$\Delta CASH_{i,t}$	=	change in cash of firm i between time $t-1$ and t
$\Delta STDEBT_{i,t}$	=	change in current debt of firm i between time $t-1$ and t
$DEP_{i,t}$	=	depreciation and amortization expense of firm i at time t

We measure accrual quality as the standard deviation of estimated residuals from model (A1) multiplied by minus one ($AQ = -\sigma(\varepsilon_t)$). High (low) values of AQ correspond to good (poor) accrual quality.

A.2 Persistence

Earnings persistence is regarded as a desirable attribute of earnings information because persistent earnings imply future sustainability. We measure the persistence of earnings with the slope coefficient (β_1) of the following autoregressive (AR1) model:

$$NIBE_{i,t} = \beta_0 + \beta_1 NIBE_{i,t-1} + \varepsilon_{i,t} \tag{A2}$$

Large (small) slope coefficients correspond to good (poor) earnings persistence.

A.3 Predictability

Predictability relates to the way past earnings performance improves the ability of users to forecast future earnings patterns. We measure predictability as the square root of the error variance ($-\sqrt{\sigma^2(\varepsilon_{i,t})}$) from model (A2) multiplied by minus one. Large (small) values of the square root of the error variance imply more (less) predictable earnings.

A.4 Smoothness

Although the desirability of earnings smoothness is controversial in the literature, several studies regard this property as positive since managers might smooth earnings to convey their private information about future earnings levels (Ronen and Sadan, 1981; Demski, 1998). Our smoothness metric is calculated by the ratio of the standard deviation of net income before extraordinary items deflated by lagged total assets divided by the standard deviation of cash flow from operations deflated by lagged total assets. The ratio is multiplied by minus one to ensure that high (low) values of this metric indicate high (low) earnings smoothness.

A.5 Timeliness

The theoretical rationale underlying earnings timeliness is that the role of accounting earnings is to track the change in the market value of equity (economic income). We measure timeliness as the R² from a "reverse regression" of earnings on returns:

$$EARN_{i,t} = \beta_0 + \beta_1 NEG_{i,t} + \beta_2 RET12_{i,t} + \beta_3 NEG_{i,t} * RET12_{i,t} + \varepsilon_{i,t} \qquad (A3)$$

where:

$EARN_{i,t}$	=	net income before extraordinary items of firm *i* at time *t*, deflated by market value of equity of firm *i* at time *t-1*
$RET12_{i,t}$	=	buy and hold return calculated over the fiscal year.
$NEG_{i,t}$	=	dummy variable that equals 1 if $RET12_{i,t} < 0$ and 0 otherwise;

Large (small) values of the square root of the error variance imply more (less) timely earnings.

A.6 Conservatism

As in the case of timeliness, also conservatism concerns the incorporation of publicly available information into accounting earnings. However, earnings conservatism focus on the differential "speed" in the recognition of bad versus good news. Following Basu (1997), we measure earnings conservatism as the incremental slope coefficient of negative returns (β_3) from model (A3). We delete observations with absolute values of the coefficient of one and larger. Also we require at least three firm-year observations with negative returns to estimate model A3.

A.7 Value Relevance

The value relevance of earnings information relates to the ability of earnings to explain stock return variation. To measure the value relevance of earnings we follow the model proposed by Francis and Schipper (1999) and regress returns on the level and change in earnings:

$$RET_{i,t} = \beta_0 + \beta_1 EARN_{i,t} + \beta_2\, \Delta EARN_{i,t} + \varepsilon_{i,t} \tag{A4}$$

where:

$RET_{i,t}$	=	A 15-month buy and hold return of firm i ending three months after the fiscal year end of time t
$EARN_{i,t}$	=	net income before extraordinary items of firm i at time t, deflated by market value of equity of firm i at time t-1
$\Delta EARN_{i,t}$	=	Change in net income before extraordinary items of firm i between t and t-1 deflated by market value of equity of firm i at time t-1

To capture the value relevance of earnings information, we take the R^2 of model (A4). Large (small) values imply more (less) value relevant earnings.

APPENDIX 2: INSTRUMENT FOR IFRS COMPLIANCE TEST

IFRS 2	Applicability	Does the entity utilize share based payments?
	Measurement compliance	Does the entity measure equity instruments at the fair value of goods or services received?
	Disclosure compliance	Is there a general description of the nature and extent of share-based payment arrangements that existed during the period?
		Is there a description of how the fair value of the goods or services received, or the fair value of the equity instruments granted, during the period was determined?
		Does the entity provide detailed information about the effect of share-based payment transactions on the entity's profit or loss for the period and on its financial position?
IAS 11	Applicability	Does the entity have construction contracts?
	Measurement Compliance	Does the entity provide initial recognition / subsequent measurement according to the percentage of completion method?
	Disclosure compliance	Does the entity provide information about the amount of contract revenue recognised?
		Does the entity provide information about the method used to determine revenue?
		Does the entity provide information about the method used to determine stage of completion?
IAS 17	Applicability	Does the entity utilize lease contracts?
	Measurement compliance	Are finance leases recorded as an asset and a liability at the lower of the fair value of the asset and the present value of the minimum lease payments?
	Disclosure compliance	Is the carrying amount of asset disclosed?
		Does the entity provide a reconciliation between total minimum lease payments and their present value?
		Does the entity provide information about the contingent rent recognised as an expense?
IAS 19	Applicability	Is the standard applicable?
	Measurement compliance	Are post employment benefits recognized as the net present value of the future final obligation (actuarial calculation)?
	Disclosure compliance	Does the entity provide a general description of the post employment benefits plan?
		Does the entity provide a description of the methods utilized to calculate any actuarial gain or losses?
		Does the entity provide a reconciliation between the actual and the booked pension liability?
		Does the entity provide a reconciliation between the beginning of the period and the end of the period value of the obligation?

IAS 33	Applicability	Is the standard applicable?
	Disclosure compliance	Does the entity disclose basic EPS?
		Does the entity disclose diluted EPS?
		Does the entity disclose the amounts used as the numerators in calculating basic and diluted EPS, and a reconciliation of those amounts to profit or loss attributable to the parent entity for the period?
		Does the entity disclose the weighted average number of ordinary shares used as the denominator in calculating basic and diluted EPS, and a reconciliation of these denominators to each other?
IAS 36	Applicability	Is the standard applicable?
	Measurement compliance	Does the entity calculate the recoverable amount as value in use or fair value less cost to sell?
		Does the entity perform an yearly impairment test for goodwill (if any)?
	Disclosure compliance	If recoverable amount is value in use, is the basis for determining value in use disclosed (cash flow projections, discount rate, etc.)?
		If recoverable amount is fair value less costs to sell, is the basis for determining fair value disclosed?
		If the recoverable amount is not determined for each individual asset, does the entity provide information about cash generating units?
IAS 38	Applicability	Does the entity present intangible assets in the balance sheet?
	Measurement compliance	Does the entity capitalize any of research costs, start-up costs, advertising costs?
		Does the entity expense internally generated intangible assets?
	Disclosure compliance	Is the useful life or amortisation rate disclosed?
		Is the amortisation method disclosed?
		Does the entity provide a reconciliation of the carrying amount at the beginning and the end of the period?
IAS 39	Applicability	Is the standard applicable?
	Measurement compliance	Is fair value the initial recognition measurement basis for financial assets?
		Is amortized cost the measurement basis for held to maturity investments?
		Is fair value to equity the measurement basis for available for sale financial assets?
		Is fair value to profit and loss the measurement basis for held for trading financial assets?
		Does the entity recognize derivatives on the balance sheet?
	Disclosure compliance	Are methods and assumptions used in estimating fair values disclosed?
		Does the entity provide a description of the enterprise's financial risk management objectives and policies?
		Does the entity provide for each category of hedge (if any): A description of the hedge; which financial instruments are designated as hedging instruments; and the nature of the risks being hedged?

TABLE 1: LINE ITEMS TEST

Panel A: Descriptive Statistics for Line Items Sample

	Cluster of IFRS Adopting Countries						Cluster of Non-Adopting Countries				
	Pre 2005		Post 2005				Pre 2005		Post 2005		
Country	Frequency	Percent	Frequency	Percent	Total	Country	Frequency	Percent	Frequency	Percent	Total
Australia	2,385	76.32	740	23.68	3,125	Argentina	50	83.33	10	16.67	60
Austria	166	64.59	91	35.41	257	Brazil	64	53.33	56	46.67	120
Belgium	291	67.36	141	32.64	432	Canada	425	62.59	254	37.41	679
Denmark	189	67.5	91	32.5	280	Chile	210	79.55	54	20.45	264
Finland	168	53.33	147	46.67	315	China	21	33.33	42	66.67	63
France	1,806	64.62	989	35.38	2,795	India	557	49.91	559	50.09	1,116
Germany	1,503	64.76	818	35.24	2,321	Indonesia	410	52.36	373	47.64	783
Greece	318	59.44	217	40.56	535	Israel	111	81.02	26	18.98	137
Hong Kong	198	48.29	212	51.71	410	Japan	3,243	64.28	1,802	35.72	5,045
Ireland	39	38.24	63	61.76	102	Malaysia	793	66.58	398	33.42	1,191
Italy	534	66.17	273	33.83	807	Mexico	44	61.11	28	38.89	72
Netherlands	618	72.11	239	27.89	857	New Zealand	57	89.06	7	10.94	64
Norway	380	65.4	201	34.6	581	Pakistan	125	86.21	20	13.79	145
Peru	40	97.56	1	2.44	41	South Korea	470	97.31	13	2.69	483
Philippines	43	18.45	190	81.55	233	Switzerland	168	88.89	21	11.11	189
Poland	113	39.79	171	60.21	284	Taiwan	1,268	53.37	1,108	46.63	2,376
Portugal	67	57.76	49	42.24	116	Thailand	84	43.08	111	56.92	195
Singapore	196	57.82	143	42.18	339	Turkey	60	25.42	176	74.58	236
South Africa	250	62.5	150	37.5	400						
Spain	271	72.65	102	27.35	373						
Sweden	630	68.4	291	31.6	921						
United Kingdom	1,648	58.03	1,192	41.97	2,840						
Total	11,853	64.54	6,511	35.46	18,364	Total	8,160	61.73	5,058	38.27	13,218

(TABLE 1 CONTINUED)

Panel B: Within-industry Line item Heterogeneity by Country Cluster and Period

σ (Line Items)	Country Cluster	Time Period	N	Mean	Median
σ (GOODWILL)	Non-Adopters	Pre 2005	223	0.043	0.035
		Post 2005	103	0.066***	0.057***
	IFRS Adopters	Pre 2005	250	0.106▼▼▼	0.101▼▼▼
		Post 2005	114	0.126***,▼▼▼	0.121***,▼▼▼
σ (OTH_INTASS)	Non-Adopters	Pre 2005	223	0.030	0.020
		Post 2005	103	0.046***	0.037***
	IFRS Adopters	Pre 2005	250	0.083▼▼▼	0.076▼▼▼
		Post 2005	114	0.080▼▼▼	0.079▼▼▼
σ (PROVISIONS)	Non-Adopters	Pre 2005	223	0.015	0.011
		Post 2005	103	0.012*	0.010
	IFRS Adopters	Pre 2005	250	0.049▼▼▼	0.047▼▼▼
		Post 2005	114	0.023***,▼▼▼	0.021***,▼▼▼

(TABLE 1 CONTINUED)

Panel C: Multivariate Analysis

Parameter	σ (GOODWILL)				σ (OTH_INTASS)				σ (PROVISIONS)			
	Model (1)		Model (2)		Model (1)		Model (2)		Model (1)		Model (2)	
	Estimate	Pr>|t|	Estimate	Pr>|t|	Estimate	Pr>|t|	Estimate	Pr>|t|	Estimate	Pr>|t|	Estimate	Pr>|t|
IFRS_ADOPT	0.061	0.000	0.058	0.000	0.055	0.000	0.050	0.000	0.035	0.000	0.036	0.000
POST_2005	0.020	0.000	0.021	0.000	0.018	0.000	0.014	0.004	-0.002	0.182	-0.003	0.151
IFRS_ADOPT*POST_2005	0.001	0.869	-0.002	0.748	-0.019	0.001	-0.018	0.005	-0.022	0.000	-0.021	0.000
μ (LOG(TOTASS))			-0.007	0.196			-0.001	0.808			0.004	0.069
μ (ROA)			0.006	0.886			-0.028	0.484			-0.009	0.565
μ (MTB)			0.000	0.643			0.000	0.213			0.000	0.401
μ (LEVERAGE)			0.089	0.007			-0.007	0.833			-0.057	0.000
μ (FREQ_LOSSES)			0.070	0.021			0.065	0.029			-0.008	0.481
σ (LOG(TOTASS))			-0.006	0.469			-0.008	0.289			0.005	0.132
σ (ROA)			0.041	0.043			0.044	0.030			-0.012	0.133
σ (MTB)			0.000	0.607			0.000	0.220			0.000	0.867
σ (LEVERAGE)			-0.083	0.030			-0.045	0.242			0.057	0.000
σ (FREQ_LOSSES)			-0.027	0.439			-0.043	0.219			-0.007	0.596
Industry fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
Size fixed effects	Yes		Yes		Yes		Yes		Yes		Yes	
n (R^2)	690 (0.643)		690 (0.657)		690 (0.497)		690 (0.515)		690 (0.653)		690 (0.669)	

(TABLE 1 CONTINUED)

Notes: The analyses presented in this Table are based on the line items sample reported in Panel A contains 31,582 firm-year observations between 1998 and 2008 (excluding 2005) from 40 countries (22 IFRS adopting and 18 non-adopting countries). All firm-year observations of non-adopting countries where firms voluntarily apply IFRS and all firm-year observations of voluntary adopters of IFRS adopting countries were deleted. Also, firm-year observations are deleted if they do not have returns data from Datastream available, or if they lack any other data necessary for estimating the line item tests or earnings attributes tests. Countries that mandate the adoption of IFRS in 2005 are grouped as the cluster of IFRS adopting countries, while the other countries are grouped under the cluster of non-adopting countries. Each country cluster is split into two groups: (1) firm-year observations which cover the time span from 1998 to 2004 (*Pre 2005*) and (2) firm-year observations which cover the time span from 2006 to 2008 (*Post 2005*). Panel B reports the distributions of the standard deviation of line items derived from subsamples partitioned by industry/year/size quintile (based on total assets) and tests for significant differences across both "Country Cluster" (IFRS Adopters versus Non-Adopters) and "Time Period" (Pre 2005 versus Post 2005). In Panel B, GOODWILL is goodwill (Field 18280), divided by total assets (Field 02999). OTH_INTASS is intangible assets (Field 02649) net of goodwill, divided by total assets. PROVISIONS is provision for risk and charges (Field 03260) net of provisions for pension funds (Field 03261), divided by total assets. $\sigma(\alpha)$ represents the within industry/year/size quintile standard deviation for the variable of interest α. A t-test (Wilcoxon signed rank test) is used to test for differences in means (medians). ***/**/* marks two-sided significance at the 1/5/10% level across "Pre 2005" and "Post 2005" observations. ▼▼▼/▼▼/▼ marks two-sided significance at the 1/5/10% level across observations stemming from the cluster of IFRS adopting countries and the cluster of non-adopting countries. In Panel C, IFRS_ADOPT is a dummy variable indicating whether the respective observation stems from a country which mandates the adoption of IFRS in 2005. POST_2005 is an indicator variable taking the value of one if the respective observation stems from a year subsequent 2005. LOG(TOTASS) is the natural logarithm of total assets. ROA is return on assets calculated by dividing earnings before interest and taxes (Field 18191) by beginning of fiscal year total assets. MTB is market capitalization (Field 08001) divided by book value of equity (Field 03501). LEVERAGE is total debt (Field 03255) divided by total assets. FREQ_LOSSES is frequency of losses defined as the proportion of previous five fiscal years that the firm reported negative earnings. $\mu(\alpha)$ represents the within industry/year/size quintile mean for the variable of interest α. All models in Panel C are estimated using ordinary least squares and industry and size quintile fixed effects. All reported probabilities are two-sided.

TABLE 2: EARNINGS ATTRIBUTES TEST

Panel A: Descriptive Statistics for Earnings Attributes Sample

| Cluster of IFRS Adopting Countries | | | | | Cluster of Non-Adopting Countries | | | | |
| | Pre 2005 | | Post 2005 | | | | Pre 2005 | | Post 2005 | | |
Country	Frequency	Percent	Frequency	Percent	Total	Country	Frequency	Percent	Frequency	Percent	Total
Australia	4,225	53.35	3,695	46.65	7,920	Argentina	320	66.25	163	33.75	483
Austria	273	59.48	186	40.52	459	Brazil	1,250	67.17	611	32.83	1,861
Belgium	527	66.71	263	33.29	790	Canada	5,025	60.45	3,288	39.55	8,313
Denmark	807	72.38	308	27.62	1,115	Chile	747	66.88	370	33.12	1,117
Finland	724	67.92	342	32.08	1,066	China	2,642	39.4	4,063	60.6	6,705
France	4,073	72.01	1,583	27.99	5,656	India	2,046	50.21	2,029	49.79	4,075
Germany	2,535	60.57	1,650	39.43	4,185	Indonesia	1,236	67.28	601	32.72	1,837
Greece	1,423	67.7	679	32.3	2,102	Israel	307	73.44	111	26.56	418
Hong Kong	2,892	57.71	2,119	42.29	5,011	Japan	19,315	65.78	10,050	34.22	29,365
Ireland	353	69.49	155	30.51	508	Malaysia	3,194	57.34	2,376	42.66	5,570
Italy	1,128	64.68	616	35.32	1,744	Mexico	584	69.94	251	30.06	835
Netherlands	893	71.27	360	28.73	1,253	New Zealand	405	77.44	118	22.56	523
Norway	820	64.52	451	35.48	1,271	Pakistan	446	62.73	265	37.27	711
Peru	314	63.82	178	36.18	492	South Korea	3,998	58.23	2,868	41.77	6,866
Philippines	667	64.76	363	35.24	1,030	Switzerland	581	88.84	73	11.16	654
Poland	404	40.04	605	59.96	1,009	Taiwan	3,812	52.85	3,401	47.15	7,213
Portugal	380	73.5	137	26.5	517	Thailand	1,707	60.06	1,135	39.94	2,842
Singapore	1,861	55.34	1,502	44.66	3,363	Turkey	743	60.31	489	39.69	1,232
South Africa	1,709	73.44	618	26.56	2,327						
Spain	667	70.06	285	29.94	952						
Sweden	1,578	63.27	916	36.73	2,494						
United Kingdom	8,113	65.88	4,202	34.12	12,315						
Total	36,366	63.16	21,213	36.84	57,579	Total	48,358	59.98	32,262	40.02	80,620

(TABLE 2 CONTINUED)

Panel B: Within-industry Earnings Attribute Heterogeneity by Country Cluster and Period

σ (Earnings Attributes)	Country Cluster	Time Period	N	Mean	Median
σ (AQ)	Non-Adopters	Pre 2005	45	0.033	0.031
		Post 2005	14	0.038	0.043
	IFRS Adopters	Pre 2005	48	0.037▼	0.036▼
		Post 2005	14	0.045**	0.046**
σ (PERS)	Non-Adopters	Pre 2005	44	0.310	0.312
		Post 2005	21	0.263**	0.280**
	IFRS Adopters	Pre 2005	48	0.295	0.287
		Post 2005	21	0.244**	0.235**
σ (PRED)	Non-Adopters	Pre 2005	44	0.091	0.065
		Post 2005	21	0.139***	0.134***
	IFRS Adopters	Pre 2005	48	0.076	0.069
		Post 2005	21	0.113***,▼▼	0.111***,▼
σ (SMOOTH)	Non-Adopters	Pre 2005	46	0.238	0.228
		Post 2005	21	0.212*	0.211*
	IFRS Adopters	Pre 2005	49	0.233	0.230
		Post 2005	21	0.190***	0.182***
σ (TIME)	Non-Adopters	Pre 2005	46	0.204	0.201
		Post 2005	21	0.167**	0.158**
	IFRS Adopters	Pre 2005	48	0.186	0.190
		Post 2005	21	0.213**,▼	0.215**,▼
σ (CONS)	Non-Adopters	Pre 2005	36	0.394	0.381
		Post 2005	20	0.373	0.372
	IFRS Adopters	Pre 2005	47	0.359	0.358
		Post 2005	19	0.353	0.366
σ (VR)	Non-Adopters	Pre 2005	46	0.201	0.203
		Post 2005	21	0.197	0.202
	IFRS Adopters	Pre 2005	48	0.186	0.188
		Post 2005	21	0.207	0.207

(TABLE 2 CONTINUED)

Panel C: Multivariate Analysis

	σ (AQ)				σ (PERS)			
	Model (3)		Model (4)		Model (3)		Model (4)	
Parameter	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
IFRS_ADOPT	0.004	0.049	0.006	0.277	-0.011	0.441	-0.031	0.415
POST_2005	0.005	0.153	0.005	0.224	-0.043	0.022	-0.029	0.297
IFRS_ADOPT*POST_2005	0.003	0.493	-0.004	0.440	-0.008	0.775	-0.024	0.483
μ (LOG(TOTASS))			0.005	0.431			-0.032	0.416
μ (ROA)			0.077	0.284			0.144	0.746
μ (MTB)			0.000	0.904			0.004	0.061
μ (LEVERAGE)			0.006	0.928			0.358	0.443
μ (FREQ_LOSSES)			0.086	0.081			-0.183	0.556
σ (LOG(TOTASS))			0.008	0.542			0.077	0.359
σ (ROA)			0.035	0.098			-0.040	0.766
σ (MTB)			0.000	0.851			0.000	0.315
σ (LEVERAGE)			0.053	0.419			0.132	0.765
σ (FREQ_LOSSES)			-0.063	0.376			0.231	0.620
Industry fixed effects	Yes		Yes		Yes		Yes	
n (R²)	121 (0.281)		121 (0.387)		134 (0.290)		134 (0.344)	

	σ (PRED)				σ (SMOOTH)			
	Model (3)		Model (4)		Model (3)		Model (4)	
Parameter	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
IFRS_ADOPT	-0.017	0.012	-0.029	0.022	-0.003	0.792	-0.012	0.632
POST_2005	0.045	0.000	0.021	0.023	-0.023	0.067	-0.034	0.064
IFRS_ADOPT*POST_2005	-0.009	0.473	-0.028	0.013	-0.020	0.276	-0.017	0.476
μ (LOG(TOTASS))			0.040	0.003			0.035	0.178
μ (ROA)			0.252	0.086			0.223	0.438
μ (MTB)			0.002	0.032			-0.001	0.725
μ (LEVERAGE)			-0.342	0.027			-0.341	0.273
μ (FREQ_LOSSES)			0.195	0.058			-0.093	0.648
σ (LOG(TOTASS))			0.045	0.105			0.024	0.657
σ (ROA)			0.254	0.000			-0.031	0.721
σ (MTB)			0.000	0.348			0.000	0.933
σ (LEVERAGE)			0.029	0.841			-0.035	0.903
σ (FREQ_LOSSES)			-0.092	0.544			0.379	0.217
Industry fixed effects	Yes		Yes		Yes		Yes	
n (R²)	134 (0.573)		134 (0.796)		137 (0.209)		137 (0.290)	

(TABLE 2 CONTINUED)

Panel C: Multivariate Analysis

	σ (TIME)				σ (CONS)			
	Model (3)		Model (4)		Model (3)		Model (4)	
Parameter	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
IFRS_ADOPT	-0.018	0.112	-0.035	0.227	-0.031	0.161	0.037	0.484
POST_2005	-0.037	0.011	-0.040	0.065	-0.017	0.529	0.047	0.230
IFRS_ADOPT*POST_2005	0.064	0.002	0.072	0.010	0.014	0.710	-0.024	0.632
μ (LOG(TOTASS))			-0.024	0.440			-0.056	0.315
μ (ROA)			0.150	0.670			0.450	0.483
μ (MTB)			0.000	0.988			0.002	0.594
μ (LEVERAGE)			0.080	0.827			0.150	0.826
μ (FREQ_LOSSES)			-0.047	0.845			0.404	0.346
σ (LOG(TOTASS))			-0.002	0.980			-0.079	0.509
σ (ROA)			-0.014	0.892			-0.179	0.339
σ (MTB)			0.000	0.904			0.000	0.693
σ (LEVERAGE)			-0.226	0.501			1.701	0.008
σ (FREQ_LOSSES)			0.141	0.697			-0.178	0.792
Industry fixed effects	Yes		Yes		Yes		Yes	
n (R²)	136 (0.130)		136 (0.143)		122 (0.099)		122 (0.251)	

	σ (VR)				σ (EA_ALL)			
	Model (3)		Model (4)		Model (3)		Model (4)	
Parameter	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
IFRS_ADOPT	-0.014	0.200	-0.049	0.080	-0.012	0.008	-0.019	0.105
POST_2005	-0.003	0.819	0.001	0.952	-0.011	0.082	-0.006	0.482
IFRS_ADOPT*POST_2005	0.024	0.234	-0.002	0.951	0.009	0.285	-0.005	0.635
μ (LOG(TOTASS))			0.016	0.577			0.000	0.970
μ (ROA)			0.467	0.168			0.293	0.040
μ (MTB)			0.001	0.480			0.001	0.070
μ (LEVERAGE)			0.312	0.374			0.046	0.756
μ (FREQ_LOSSES)			0.254	0.278			0.098	0.320
σ (LOG(TOTASS))			0.084	0.166			0.029	0.266
σ (ROA)			-0.027	0.784			0.002	0.958
σ (MTB)			0.000	0.807			0.000	0.584
σ (LEVERAGE)			-0.812	0.013			0.064	0.645
σ (FREQ_LOSSES)			0.057	0.869			0.075	0.613
Industry fixed effects	Yes		Yes		Yes		Yes	
Earnings Attribute fixed effects					Yes		Yes	
n (R²)	136 (0.071)		136 (0.160)		920 (0.762)		920 (0.767)	

(TABLE 2 CONTINUED)

Notes: The analyses presented in this Table are based on the earnings attributes sample reported in Panel A which contains 138,199 firm-year observations between 1998 and 2008 (excluding 2005) from 40 countries (22 IFRS adopting and 18 non-adopting countries) which have more than 100 public firms followed by Worldscope. All firm-year observations of non-adopting countries where firms voluntarily apply IFRS and all firm-year observations of voluntary adopters of IFRS adopting countries were deleted. Also, firm-year observations are deleted if they do not have returns data from Datastream available, or if they lack any other data necessary for estimating the earnings attributes tests or line item tests. Countries that mandate the adoption of IFRS in 2005 are grouped as the cluster of IFRS adopting countries, while the other countries are grouped under the cluster of non-adopting countries. Each country cluster is split into two groups: (1) firm-year observations which cover the time span from 1998 to 2004 (Pre 2005) and (2) firm-year observations which cover the time span from 2006 to 2008 (Post 2005). Panel B reports distributions of the standard deviation of earnings attributes derived from subsamples partitioned by country/industry/year and tests for significant differences across both "Country Cluster" (IFRS Adopters versus Non-adopters) and "Time Period" (Pre 2005 versus Post 2005). Details of the calculation procedure for the earnings attributes can be inferred from Appendix 1. AQ, PERS, PRED, SMOOTH, TIME, CONS and VR are respectively accrual quality, persistence, predictability, smoothness, timeliness, conservatism and value relevance. EA_ALL represents a variable containing the standard deviations of all earnings attributes, yielding multiple observations for each bin (one for each attribute available). $\sigma(\alpha)$ represents the within country/industry/year standard deviation for the variable of interest α. A t-test (Wilcoxon signed rank test) is used to test for differences in means (medians). ***/**/* marks two-sided significance at the 1/5/10% level across "Pre 2005" and "Post 2005" observations. ▼▼▼/▼▼/▼ marks two-sided significance at the 1/5/10% level across observations stemming from the cluster of IFRS adopting countries and the cluster of non-adopting countries. In Panel C, $\mu(\alpha)$ represents the within country/industry/year mean for the variable of interest α. All models in Panel C are estimated using ordinary least squares and industry fixed effects. The model testing for the impact of IFRS adoption on the within industry variance of all earnings attributes together (σ (EA_ALL)) includes also earnings attributes fixed effects. All other variables are as previously defined. All reported probabilities are two-sided.

TABLE 3: IFRS COMPLIANCE TESTS

Panel A: Accounting Measurement Compliance

Germany Late versus Italy

Standard	Germany Late				Italy				t-value	Z-score
	n	Mean	Median	SD	n	Mean	Median	SD		
IFRS 2	15	1.000	1.000	0.000	67	0.925	1.000	0.265	1.09	1.07
IAS 11	20	1.000	1.000	0.000	48	1.000	1.000	0.000	n/a	n/a
IAS 17	75	0.987	1.000	0.115	125	0.992	1.000	0.089	-0.37	-0.36
IAS 19	111	0.991	1.000	0.095	153	0.967	1.000	0.178	1.27	1.27
IAS 36	120	0.950	1.000	0.176	153	0.964	1.000	0.153	-0.70	-0.78
IAS 38	135	0.930	1.000	0.185	152	0.974	1.000	0.138	-2.30**	-2.81***
IAS 39	107	0.898	1.000	0.217	132	0.978	1.000	0.100	-3.77***	-3.90***

Germany Matched versus Italy

Standard	Germany Matched				Italy				t-value	Z-score
	n	Mean	Median	SD	n	Mean	Median	SD		
IFRS 2	51	1.000	1.000	0.000	67	0.925	1.000	0.265	2.01**	1.98**
IAS 11	29	1.000	1.000	0.000	48	1.000	1.000	0.000	n/a	n/a
IAS 17	90	1.000	1.000	0.000	125	0.992	1.000	0.089	0.85	0.84
IAS 19	110	0.991	1.000	0.095	153	0.967	1.000	0.178	1.26	1.26
IAS 36	140	0.979	1.000	0.118	153	0.964	1.000	0.153	0.90	0.92
IAS 38	151	0.950	1.000	0.161	152	0.974	1.000	0.138	-1.36	-1.83*
IAS 39	121	0.936	1.000	0.149	132	0.978	1.000	0.100	-2.61***	-2.70***

(TABLE 3 CONTINUED)

Panel B: Disclosure Compliance

Germany Late versus Italy

Standard	Germany Late				Italy				t-value	Z-score
	n	Mean	Median	SD	n	Mean	Median	SD		
IFRS 2	17	0.559	0.333	0.328	66	0.828	1.000	0.327	-3.03***	-3.23***
IAS 11	21	0.810	1.000	0.249	49	0.673	0.667	0.357	1.59	1.38
IAS 17	120	0.772	1.000	0.343	125	0.613	0.667	0.370	3.48***	3.67***
IAS 19	121	0.607	0.750	0.318	153	0.657	0.750	0.320	-1.27	-1.49
IAS 33	136	0.827	1.000	0.231	153	0.840	1.000	0.273	-0.42	-1.77*
IAS 36	105	0.324	0.333	0.334	152	0.471	0.333	0.403	-3.09***	-2.88***
IAS 38	135	0.877	1.000	0.240	153	0.741	1.000	0.332	3.93***	3.58***
IAS 39	107	0.460	0.500	0.305	131	0.691	1.000	0.384	-5.06***	-5.35***

Germany Matched versus Italy

Standard	Germany Matched				Italy				t-value	Z-score
	n	Mean	Median	SD	n	Mean	Median	SD		
IFRS 2	57	0.681	0.667	0.360	66	0.828	1.000	0.327	-2.37**	-2.66***
IAS 11	29	0.874	1.000	0.226	49	0.673	0.667	0.357	2.71***	2.62***
IAS 17	137	0.815	1.000	0.308	125	0.613	0.667	0.370	4.81***	4.83***
IAS 19	117	0.686	0.750	0.296	153	0.657	0.750	0.320	0.76	0.51
IAS 33	153	0.887	1.000	0.209	153	0.840	1.000	0.273	1.71*	0.76
IAS 36	125	0.517	0.667	0.418	152	0.471	0.333	0.403	0.93	0.81
IAS 38	151	0.929	1.000	0.183	153	0.741	1.000	0.332	6.13***	5.60***
IAS 39	122	0.633	0.500	0.351	131	0.691	1.000	0.384	-1.26	-1.73*

Notes: This Table reports average IFRS measurement and disclosure compliance scores (a value of one indicating full compliance) for the late adopters and matched German samples and for the Italian sample. Firms included in these samples are at least listed since 2004 and have their 2006 group financial reports available either on the respective investor relation section of the respective website or on the respective stock exchange website. The instrument utilized to evaluate the IFRS measurement and disclosure compliance is available in Appendix 2. SD stands for standard deviation. A t-test (Wilcoxon signed rank test) is used to test for differences in means (medians). ***/**/* marks two-sided significance at the 1/5/10% level.

TABLE 4: DETERMINANTS OF DISCLOSURE COMPLIANCE

Panel A: Descriptive Statistics

German 2006 Sample (n=252)

Variable	Mean	SD	25 %	Median	75 %
DSCORE	0.738	0.178	0.640	0.756	0.865
LOG(TOTASS)	12.060	2.037	10.704	11.816	13.037
ROA	0.020	0.137	-0.004	0.035	0.073
MTB	1.968	4.513	1.089	1.695	2.814
FREQ_LOSSES	0.342	0.334	0.000	0.200	0.600
INDEP_BOARD_D	0.591				
INSTOWN	0.361				
GOVOWN	0.048				
FAMBUS	0.194				
BIG4	0.563				
LD_REGION	0.067				
EARLY	0.460				

Italian 2006 Sample (n=153)

Variable	Mean	SD	25 %	Median	75 %
DSCORE	0.678	0.227	0.522	0.700	0.870
LOG(TOTASS)	13.089	1.801	11.807	12.817	14.225
ROA	0.016	0.067	-0.012	0.020	0.049
MTB	2.324	2.822	1.314	1.837	2.615
FREQ_LOSSES	0.344				
INDEP_BOARD_D	0.392				
INSTOWN	0.386				
GOVOWN	0.137				
FAMBUS	0.601				
BIG4	0.863				
LD_REGION	0.033				

(TABLE 4 CONTINUED)

Panel B: Correlations

German 2006 Sample

	A	B	C	D	E	F	G	H	I	J	K	L
A: DSCORE		**0.328**	-0.068	-0.022	0.035	**0.259**	-0.044	0.060	-0.094	**0.293**	0.005	**0.424**
B: LOG(TOTASS)	**0.300**		0.163	0.082	**-0.436**	**0.185**	0.011	**0.284**	0.050	**0.321**	-0.085	0.084
C: ROA	-0.055	**0.140**		0.166	**-0.452**	-0.035	0.035	0.044	0.037	-0.045	-0.076	**-0.177**
D: MTB	0.100	**0.154**	**0.181**		-0.115	-0.042	0.050	0.019	-0.006	0.004	0.109	0.001
E: FREQ_LOSSES	0.023	**-0.459**	**-0.471**	-0.073		-0.016	-0.031	**-0.148**	**-0.161**	-0.065	0.121	**0.199**
F: INDEP_BOARD_D	**0.266**	**0.175**	0.032	0.116	-0.026		-0.030	0.072	-0.081	0.001	0.031	**0.169**
G: INSTOWN	-0.054	0.083	0.039	-0.043	-0.040	-0.030		**-0.129**	**-0.369**	0.129	-0.038	**-0.147**
H: GOVOWN	0.049	**0.233**	0.040	0.086	**-0.138**	0.072	**-0.129**		-0.063	0.122	-0.060	0.018
I: FAMBUS	-0.080	0.059	0.033	-0.047	**-0.172**	-0.081	**-0.369**	-0.063		-0.073	**0.148**	-0.051
J: BIG4	**0.300**	**0.308**	-0.041	0.119	-0.053	0.001	**0.129**	0.122	-0.073		0.045	**0.219**
K: LD_REGION	0.023	-0.098	-0.033	0.006	**0.143**	0.031	-0.038	-0.060	**0.148**	0.045		0.037
L: EARLY	**0.432**	0.026	-0.106	**0.147**	**0.185**	**0.169**	**-0.147**	0.018	-0.051	**0.219**	0.037	

Italian 2006 Sample

	A	B	C	D	E	F	G	H	I	J	K
A: DSCORE		**0.462**	**0.283**	0.112	**-0.227**	0.147	**0.244**	-0.042	0.071	**0.302**	**-0.315**
B: LOG(TOTASS)	**0.439**		0.222	-0.114	**-0.412**	0.072	**0.204**	**0.324**	-0.127	**0.325**	-0.122
C: ROA	**0.284**	**0.311**		0.040	**-0.610**	-0.157	**0.206**	0.065	0.153	0.127	-0.103
D: MTB	**0.190**	0.036	**0.206**		0.046	0.145	**0.169**	-0.012	-0.104	0.019	-0.015
E: FREQ_LOSSES	**-0.199**	**-0.406**	**-0.714**	-0.115		0.035	-0.119	**-0.268**	-0.138	**-0.266**	0.147
F: INDEP_BOARD_D	0.141	0.044	-0.089	0.139	0.036		0.106	0.146	-0.057	-0.108	0.003
G: INSTOWN	**0.239**	**0.228**	**0.208**	**0.260**	-0.122	0.106		-0.004	-0.041	**0.160**	-0.070
H: GOVOWN	-0.040	**0.264**	0.118	0.008	**-0.269**	0.146	-0.004		**-0.490**	**0.159**	0.034
I: FAMBUS	0.085	-0.079	0.135	-0.094	-0.148	-0.057	-0.041	**-0.490**		-0.092	-0.076
J: BIG4	**0.281**	**0.343**	**0.161**	0.034	**-0.236**	-0.108	**0.160**	**0.159**	-0.092		-0.034
K: LD_REGION	**-0.270**	-0.100	-0.098	-0.030	0.133	0.003	-0.070	0.034	-0.076	-0.034	

(TABLE 4 CONTINUED)

Panel C: Multivariate Analyses

Parameter	Predicted Sign	DSCORE					
		Model (5)					
		German Sample		*Italian Sample*		*Pooled Sample*	
		Estimate	Pr > |t|	Estimate	Pr > |t|	Estimate	Pr > |t|
ITALY						-0.531	0.000
LOG(TOTASS)	+	0.027	0.000	0.056	0.000	0.028	0.000
ITALY*LOG(TOTASS)						0.026	0.014
ROA	+/-	0.005	0.955	0.801	0.005	0.009	0.916
ITALY*ROA						0.795	0.003
MTB	+	-0.001	0.601	0.008	0.127	-0.001	0.637
ITALY*MTB						0.010	0.073
FREQ_LOSSES	+	0.053	0.156	0.090	0.115	0.053	0.181
ITALY*FREQ_LOSSES						0.036	0.574
INDEP_BOARD_D	+	0.052	0.010	0.083	0.011	0.055	0.011
ITALY*INDEP_BOARD_D						0.031	0.385
INSTOWN	+/-	-0.014	0.544	0.015	0.659	-0.019	0.434
ITALY*INSTOWN						0.043	0.254
GOVOWN	+/-	-0.041	0.414	-0.055	0.350	-0.019	0.716
ITALY*GOVOWN						-0.076	0.280
FAMBUS	-	-0.034	0.219	0.007	0.859	-0.039	0.183
ITALY*FAMBUS						0.054	0.220
BIG4	+	0.047	0.035	0.140	0.003	0.048	0.037
ITALY*BIG4						0.088	0.063
LD_REGION	-	0.018	0.653	-0.278	0.001	0.021	0.624
ITALY*LD_REGION						-0.306	0.000
EARLY	+	0.104	0.000			0.111	0.000
Industry fixed effects			Yes		Yes		Yes
n (R²)		252 (0.350)		153 (0.466)		405 (0.410)	

Notes: The 2006 German and Italian samples contain observations from the full sample which fulfill the data requirements for estimating the models of Panel C. In Panel C, ITALY is a dummy variable coded one if the respective observation stems from an Italian firm and zero otherwise. %INDEP_BOARD_D is a dummy variable for board independence that, for the Italian sample is coded one if the number of independent directors divided by the total number of board members is above the full sample mean and zero otherwise, and, for the German sample is coded one if the head of the supervisory board has not been the former chief executive officer of the respective firm and zero otherwise. INSTOWN is a dummy variable indicating significant institutional ownership in the firm. GOVOWN is a dummy variable indicating whether a governmental body has a stake in the respective firm. FAMBUS is a dummy variable indicating whether the respective firm is controlled

by a managing family. BIG4 is a dummy variable indicating whether the financial statements of the respective firm have been audited by a dominant audit supplier (Deloitte, Ernst & Young, KPMG, or PWC). LD_REGION is a dummy variable indicating whether the respective German (Italian) firm is domiciled in the eastern regions of Germany (southern regions of Italy). EARLY is a dummy variable indicating whether the firm is an early or a late adopter of IFRS. In Panel A, SD stands for Standard Deviation. In Panel B Pearson (Spearman) correlations are above (below) the diagonal. Bold typeset indicates two-sided significance below the 5 % level. The models of Panel C are estimated using ordinary least squares and industry fixed effects. Probabilities are two-sided.

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