Does mandatory IFRS adoption improve information comparability?

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Does Mandatory IFRS Adoption Improve Information Comparability?

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Abstract  
This study examines whether the mandatory adoption of International Financial Reporting Standards (IFRS) in the European Union significantly improves information comparability in 17 European countries. We employ three proxies—the similarity of accounting functions that translate economic events into accounting data, the degree of information transfer, and the similarity of the information content of earnings and of the book value of equity—to measure information comparability. Our results suggest that mandatory IFRS adoption improves cross-country information comparability by making similar things look more alike without making different things look less different. Our results also suggest that both accounting convergence and higher quality information under IFRS are the likely drivers of the comparability improvement. In addition, we find some evidence that cross-country comparability improvement is affected by firms’ institutional environment.

Keywords  
IFRS adoption, information comparability, institutional environment

INTRODUCTION  
Demand for internationally comparable accounting information has increased significantly in recent years due to rapid growth in cross-country investment. One reflection of this trend is the widespread adoption of International Financial Reporting Standards (IFRS), including the mandatory adoption of IFRS in the European Union (EU) in 2005. Because mandatory IFRS are some of the most important financial reporting regulations in recent years, many studies have examined the various effects of their adoption (e.g., Capkun et al. 2008; Daske et al. 2008; Armstrong et al. 2010; Horton and Serafeim 2010; Clarkson et al. 2011). However, to the best of our knowledge, the effect of IFRS adoption on cross-country information comparability has not been thoroughly examined, although better comparability has been commonly cited as one of the main benefits of IFRS adoption. The purpose of this study is, thus, to provide more empirical evidence on this issue.

Information comparability is “the quality of information that enables users to identify similarities
in and differences between two sets of economic phenomena” (Financial Accounting Standards Board [FASB] 1980, 9; International Accounting Standards Board [IASB] 2010, A36). The Financial Accounting Standards Board further states that “greater comparability of accounting information, which most people agree is a worthwhile aim, is not to be attained by making unlike things look alike any more than by making like things look different” (FASB 1980, 42). These statements assert that there are two equally important facets of information comparability: the similarity facet, which indicates whether firms engaged in similar economic activities report similar accounting amounts, and the difference facet, which indicates whether firms engaged in different economic activities report dissimilar accounting amounts. Because improvement in one facet of comparability does not automatically lead to improvement in the other facet, the overall benefit of IFRS adoption on cross-country information comparability is contingent on whether adoption improves both facets of comparability, or at least improves one without impairing the other.

It is intuitively appealing that mandatory IFRS adoption improves the similarity facet of cross-country information comparability, and some empirical evidence from prior studies is consistent with this intuition (e.g., Ashbaugh and Pincus 2001; Chi 2009; Barth et al. 2011; DeFond et al. 2011). However, our view is that more research is required before a firm conclusion can be drawn, as prior studies either use input-based comparability measures, such as accounting rule variability and the number of accounting rules used on an announcement date (e.g., Chi 2009; DeFond et al. 2011), or rely on samples of voluntary adopters that likely have different reporting incentives from those of mandatory adopters (e.g., Ashbaugh and Pincus 2001; Barth et al. 2011). More importantly, the effect of IFRS adoption on the difference facet of cross-country comparability has not been addressed at all. This facet of comparability is important for mandatory IFRS adoption because “an overemphasis on uniformity may reduce comparability by making unlike things look alike” (IASB 2010, A36). For example, if IFRS allow fewer accounting choices than local accounting standards, then their adoption could force firms to treat different economic transactions in a more similar way, thus, diminishing the difference facet of comparability.1 In this study, we test the effect of IFRS adoption on both facets of cross-country information comparability.

Following previous comparability studies (e.g., Bradshaw et al. 2009; Barth et al. 2011; DeFond et al. 2011; De Franco et al. 2011), we refer to firms in the same industry as similar firms and those in different industries as different firms.2 We compare the cross-country information comparability of the similarity facet among similar firms from different countries, and we compare the cross-

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1 As an example, some local accounting standards allow firms to use the acquisition method for acquisitions and the pooling method for mergers. However, IFRS allow only the acquisition method for all business combinations that are not under common control. As such, firms are forced to account for acquisitions and mergers in the same way.

2 The underlying logic is that firms in the same industry have similar operational properties and face similar economic shocks, whereas firms in different industries may have different operational properties and face different industry-specific shocks. This definition is also supported by the common practice of analysts using firms in the same industry as benchmarks when analyzing a firm’s financial statements.
country information comparability of the difference facet among different firms from different countries, across the pre- and post-IFRS periods. Because increased cross-country comparability after IFRS, if any, could be affected by accounting convergence and/or higher quality financial information under IFRS than under local accounting standards, we also examine the two facets of within-country comparability to identify the possible drivers underlying the comparability improvement. As IFRS adoption generally reduces firms’ accounting choices (e.g., Ashbaugh and Pincus 2001; Hoogendoorn 2006), an increase in both cross- and within-country comparability would suggest that both accounting convergence and higher quality information are the underlying drivers, whereas only an increase in cross-country comparability would suggest that convergence is the likely driver.

We employ three proxies for information comparability. The first is the similarity of accounting functions measure developed by De Franco et al. (2011). With this approach, accounting is essentially the mapping of economic transactions to financial statements, and information comparability can be defined as the similarity of firms’ accounting functions that translate economic transactions into accounting data. The second proxy is the degree of information transfer, as measured by the association between the earnings surprise of an announcing firm and the contemporaneous stock price movements of other firms. The intuition underlying this measure is that an earnings announcement by a firm conveys information that has not previously been publicly available, and investors can abstract such information and adjust stock prices for other firms with comparable accounting. The third proxy is the similarity of the information content of earnings (ICE) and the information content of the book value of equity (ICBV), as measured by the long-window association between stock price and earnings and the book value of equity. Because ICE and ICBV capture the extent to which accounting earnings and the book value of equity reflect a firm’s economic performance, firms that engage in similar economic activities should have a similar ICE and ICBV if their accounting systems are comparable.

To test our research questions, we use data from 17 European countries in which listed firms must use IFRS to prepare their consolidated financial statements since 2005. We find that the comparability of accounting information for similar firms from different countries is significantly greater in the post-IFRS period (2005–2007) than in the pre-IFRS period (2002–2004), using all of the three comparability measures. However, using the measure of the similarity of accounting functions and information transfer, we find that there are no discernible comparability changes

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3 De Franco et al. (2011) also develop another comparability measure that captures the similarity of two firms’ economic events and accounting functions at the same time. Because we examine whether IFRS adoption improves the similarity of accounting functions, we do not use that measure here.

4 We summarize comparability measures for each test in Figure 1.

5 As explained in “Similarity of ICE and ICBV” in Section III, the similarity of ICE and ICBV measure is not applicable for the sample of different firms from different countries and the sample of similar firms from the same country.
among different firms from different countries across the two periods. Further, the comparability change in the similarity facet is greater than that in the difference facet. These results, thus, suggest that IFRS adoption improves the similarity facet of cross-country information comparability without discernibly impairing the difference facet of comparability. For within-country analysis, we find that the similarity facet of comparability increases for the accounting function measure, but not for the information transfer measure. However, the increase in the similarity facet of within-country comparability does not statistically differ from that of cross-country comparability using both measures. We, thus, interpret our results as consistent with the view that both accounting convergence and information quality play an important role in the observed IFRS effects.

As a supplemental test, we examine whether the improvement in the similarity facet of cross-country comparability is affected by firms’ institutional environment. We classify a firm’s institutional environment by the common law versus code law origin of the legal system in its home country, because a country’s legal origin can proxy for a variety of institutional features, such as financial reporting incentives and the effectiveness of legal enforcement. We find that among similar firms from countries with the same legal origin, nearly all of the comparability measures increase after IFRS adoption. However, among similar firms from countries with different legal origins, only one comparability measure increases. Overall, these results provide some evidence that the institutional environment in the home countries of firms influences the effect of IFRS adoption on information comparability.

This study contributes to the literature by providing empirical evidence on the association between mandatory IFRS adoption and information comparability. We address the impact of IFRS adoption on both the similarity and difference facets of comparability, whereas previous comparability studies address only the former. Our results suggest that mandatory IFRS adoption has an overall benefit in enhancing investors’ ability to compare firms with similar fundamentals without discernibly reducing their ability to distinguish firms with different fundamentals. This study also extends the literature on the importance of institutions by documenting that IFRS adoption is more likely to improve comparability among firms with similar institutional environments. All of the findings may have practical implications for regulators and investors in countries considering IFRS adoption.

Section II discusses the literature and the differences between our study and previous studies. Section III describes the information comparability measures employed, and Section IV presents the empirical tests and their results. Section V presents supplemental and sensitivity tests, and Section VI concludes.
MOTIVATION AND LITERATURE REVIEW

Globalization in the last two decades has significantly increased the economic interaction among countries, which, in turn, has created demand for more internationally comparable accounting information. There are several potential benefits associated with enhanced information comparability. For example, both the FASB and the International Accounting Standards Board argue that more comparable information enables global markets to operate with less friction. Several studies also suggest that greater information comparability facilitates international transactions and minimizes exchange costs (e.g., Turner 1983; Weber 1992; Choi et al. 1999).

The importance of comparable financial information in the global economy has led to growing research interest in information comparability. De Franco et al. (2011) develop two measures of accounting comparability and test their construct validity. They also use U.S. data to examine the benefits of comparability, finding that comparability is positively associated with analyst following and forecast accuracy, and negatively associated with forecast optimism and dispersion. Bradshaw et al. (2009) examine the association between accounting method variability (as a proxy for information comparability) and analyst characteristics using U.S. data, finding that a lower level of information comparability is associated with greater analyst forecast error and dispersion.

Several recent studies examine issues related to accounting comparability resulting from IFRS adoption. Using data from 26 countries from 1995 to 2006, Barth et al. (2011) find that the value relevance of earnings and equity book value is more comparable among non-U.S. firms after the application of the International Accounting Standards than when local accounting standards were used. Beuselinck et al. (2007) investigate the determinants of earnings comparability as proxied by the association between accruals and cash flows for the period 1990–2005 using data from 14 EU countries, finding that the association is not affected by mandatory IFRS adoption. DeFond et al. (2011) examine the benefits of increased accounting uniformity as a proxy for comparability, using data from 14 European countries. They find that foreign mutual fund ownership increases among mandatory adopters in countries with strong implementation credibility. Li (2010) cites enhanced comparability as the likely mechanism behind the cost of equity reduction in the EU after IFRS adoption. Wu and Zhang (2010) find an increased use of relative performance evaluation based on foreign peer firms’ accounting information among European firms in the post-IFRS period.

Our study differs from these recent studies in two important ways. First, we address both the similarity and difference facets of comparability, whereas the previous studies only address issues related to the former. Second, we examine a different research question and, thus, use different...
comparability measures, sample periods, and sample firms. For example, whereas we examine the relation between comparability and mandatory IFRS adoption in 17 European countries, Barth et al. (2011) examine the comparability of mandatory and voluntary non-U.S. IFRS adopters and U.S. firms. Beuselinck et al. (2007) rely on a non-price-related comparability measure and data from the year of switch only (2005), whereas we use three price-related measures and three post-IFRS years of data.7 Li (2010) and DeFond et al. (2011) use input-based and non-firm-specific comparability measures, whereas we employ output-based and firm-specific measures.8

SAMPLES AND COMPARABILITY MEASURES

Initial Sample
We collect data on listed firms in Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom from the Worldscope database. The number of firms included in the Worldscope database for each country is presented in Table 1, Panel A. We exclude financial, insurance, and real estate firms (SIC codes 6000–6999) from the sample because they have special operating properties and are subject to additional regulations. We also exclude firms that adopted IFRS before 2005 and firms that do not report consolidated financial statements from the sample. Finally, we restrict the sample to firms with a fiscal year ending in December to ensure that each firm has the same sample period. Table 1, Panel B, summarizes the sample selection procedure and the final sample size.

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7 Price-related comparability measures capture comparability from the perspectives of both investors and analysts. Because investors and analysts together are likely to be the largest groups using reported accounting information to make investment decisions, it is important to examine comparability from their perspectives.

8 Following De Franco et al. (2011), we classify comparability measures that are computed using reported accounting data into the output-based category, and those that are based on accounting methods or accounting policies into the input-based category. For the dichotomy of firm-specific and non-firm-specific, measures that are computed using firm-level data are classified into the category of firm-specific, and those computed using industry- or country-level data are classified into the category of non-firm-specific.
Comparability Measures and Related Samples Similarity of Accounting Functions

This comparability measure was developed by De Franco et al. (2011), who argue that accounting is essentially the mapping of economic transactions to financial statements, and that accounting comparability can, thus, be defined as the similarity of accounting functions to translate economic transactions into accounting data. We first estimate each firm’s accounting function by applying the following equation:

\[
\text{ROA}_i = \alpha_i \cdot \text{net income}_i / \text{total assets}_i + \beta_i \cdot \text{RET}_i + \epsilon_i,
\]

(1)

where \(\text{ROA}_i\) is the return on assets (an accounting performance measure) of firm \(i\) in period \(t\), and is calculated as net income divided by total assets, and \(\text{RET}_i\), a proxy for economic events, is the stock return of firm \(i\) in period \(t\). The coefficients \(\alpha_i\) and \(\beta_i\) represent the estimated accounting function of a firm. Using semiannual data, we estimate each firm’s accounting function in the pre- and post-IFRS periods separately.
The similarity of accounting functions of firm \( i \) and firm \( j \) is then computed as follows. First, we translate firm \( i \)'s economic activity into accounting ROA using its own accounting function \((\alpha_i, \beta_i)\) and the corresponding firm \( j \)'s accounting function \((\alpha_j, \beta_j)\) for each semiannual year. Thus, we obtain the two expected ROAs, \( E(\text{ROA})_i^t \) and \( E(\text{ROA})_j^t \), and the absolute value of their difference for each semiannual year. This process yields six absolute value ROA differences for the pre-IFRS period (2002–2004) and six differences for the post-IFRS (2005–2007) period. Second, we translate firm \( j \)'s economic activity into accounting ROA using its own accounting function \((\alpha_j, \beta_j)\) and firm \( i \)'s accounting function \((\alpha_i, \beta_i)\), and obtain the two expected ROAs, \( E(\text{ROA})_j^t \) and \( E(\text{ROA})_i^t \), and the absolute value of their difference for each semiannual year. Similarly, there are six differences for the pre-IFRS period and six differences for the post-IFRS period. Third, we calculate the mean of the 12 differences in the pre-IFRS period (post-IFRS period) as the proxy for the information comparability of firms \( i \) and \( j \) in the pre-IFRS period (post-IFRS period). We multiply the mean by \(-1\) so that a higher value represents greater comparability.

To generate a sample for a test of the similarity facet of cross-country comparability, we form pairs of firms from the same industry, based on the three-digit SIC code, but different countries. We rank the firms in each industry based on their total assets in 2006. For the largest firm, we choose a foreign firm with the closest total assets as its pair. We also require the ratio of the smaller value of total assets to the larger value in a pair to be greater than 50 percent. This procedure generates 133 pairs of firms. To form a sample to test the difference facet of cross-country comparability, we form pairs from different industries and countries. We require one firm in the pair to be a manufacturing firm (one-digit SIC code of 2 or 3) and the other to be a service firm (one-digit SIC code of 7 or 8). For each manufacturing firm, we choose a service firm in a different country that is closest in terms of total assets. The ratio of the smaller value of total assets to the larger value must be greater than 50 percent. This procedure results in 148 pairs of firms. We employ the same procedure to form pairs from the same country, and generate 61 pairs of similar firms and 125 pairs of different firms.

**Degree of Information Transfer**

Previous studies have found associations between the information released by announcing firms and the returns of other firms in the same industry and country. For example, such information transfer has been documented with respect to the news in the earnings announcements (Firth 1976; Foster 1981; Clinch and Sinclair 1987; Han and Wild 1990; Hramnath 2002), stock split

\[ E(\text{ROA})_i^t = \alpha_i + \beta_i \text{RET}_i \] \[ E(\text{ROA})_j^t = \alpha_j + \beta_j \text{RET}_j \]

\[ E(\text{ROA})_j^t = \alpha_j + \beta_j \text{RET}_j \] \[ E(\text{ROA})_i^t = \alpha_i + \beta_i \text{RET}_i \]

\[ E(\text{ROA})_j^t = \alpha_j + \beta_j \text{RET}_j \] \[ E(\text{ROA})_i^t = \alpha_i + \beta_i \text{RET}_i \]

\[ E(\text{ROA})_j^t = \alpha_j + \beta_j \text{RET}_j \] \[ E(\text{ROA})_i^t = \alpha_i + \beta_i \text{RET}_i \]

Because we assume that similar (different) firms face similar (different) economic shocks and have similar (different) operational properties, we use the three-digit SIC code to define similar firms to ensure that these firms are fundamentally similar, and use the one-digit SIC code to define different firms to ensure that they are fundamentally different.

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\( E(\text{ROA})_i^t - E(\text{ROA})_j^t \) and \( E(\text{ROA})_j^t - E(\text{ROA})_i^t \)
announcements (Tawatnuntachai and D'Mello 2002), management earnings forecasts (Baginski 1987; Han et al. 1989), and corporate security offerings (Szewczyk 1992). Such transfers occur because an announcement by a firm conveys information that has not previously been publicly available, and the stock market responds by reevaluating the value of non-announcing firms and adjusting their share prices accordingly. An important condition for information transfer through earnings announcements is comparable accounting earnings. If earnings are not comparable, then an earnings announcement by a firm is of little value in predicting the value of other firms, resulting in a low degree of information transfer. As such, the degree of information transfer reflects the level of information comparability.

We measure an earnings surprise for an announcing firm as the difference between reported earnings and ex ante expected earnings. The ex ante expected earnings are proxied by the mean analyst earnings forecast in the month immediately before the earnings release, which is obtained from the I/B/E/S database. We calculate the abnormal stock returns of a non-announcing firm in the three days around the earnings release of the announcing firm (Day −1 to Day +1) using the following model:

\[ U_{it} = \text{RET}_{it} - (\alpha_i + \beta_i \text{RET}_{mt}), \]  

(2)

where \( U_{it} \) is the abnormal stock return of firm \( i \) on day \( t \), and \( \text{RET}_{it} \) and \( \text{RET}_{mt} \) are the stock return of firm \( i \) and the market return of firm \( i \)’s domestic market on day \( t \), respectively. We estimate the coefficients \( \alpha_i \) and \( \beta_i \) separately for each fiscal year using data from Day −185 to Day −6, where Day 0 is the earnings announcement date of the announcing firm. The cumulative abnormal return of a non-announcing firm is the sum of its abnormal returns on the three days surrounding the earnings release date of the announcing firm. To reduce the cross-sectional correlation of prediction errors across clusters of non-announcing firms, we follow Baginski (1987) and use the mean cumulative abnormal return of all of the non-announcing firms in the empirical analyses.

To form a sample to test the similarity facet of cross-country comparability, we first identify all of the industries at the three-digit SIC code level that contain at least two firms from different countries. We rank the firms in each industry by their earnings announcement dates. To qualify as an announcing firm, the firm’s earnings announcement window (Day −1 to Day +1) must not overlap with that of any other firm, to avoid the situation of non-announcing firms reacting to more than one earnings announcement on the same day. Each announcing firm is paired with all similar foreign firms with later earnings announcement dates that are of a similar size to the announcing firm (a ratio of the smaller total asset value to the larger value of greater than 50

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12 Only annual earnings surprises are used in this test because the data on announcement date for semiannual or quarterly earnings are not available for most sample firms.

13 The market return indices for Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, The Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, and the United Kingdom are ATX, BEL, OMXC, OMXH, CAC, DAX, Athex, Ireland SE, MIB, LUX, AEX, OXB, PSI, IBEX, MX Stockholm, Swiss Market, and FTSE, respectively.
percent). This approach yields 744 pair-year observations. To form a sample to test the difference facet of cross-country comparability, we match each announcing firm in the manufacturing sector with all of the foreign service firms with later earnings announcements and similar total assets, and vice versa. This sample contains 910 pair-year observations. For the two within-country samples, we implement the same procedure to form pairs within the same country, resulting in 195 and 630 pair-year observations for the tests of the similarity facet and difference facet of within-country comparability, respectively.

**Similarity of ICE and ICBV**

We employ the Ohlson (1995) model, in which a firm’s market value is regressed on net income and equity book value, to test if ICE and ICBV are similar for two sets of firms:

\[
MV_i = \beta_0 + \beta_1 NI_i + \beta_2 BV_i + \beta_3 D_x + \beta_4 D_x^* NT_i + \beta_5 D_x^* BV_i + \epsilon_i
\]

(3)

where \(MV_i\) is the total market value of equity at the end of the fiscal year, \(NI_i\) is the net income,\(^{14}\) and \(BV_i\) is the book value of equity.\(^{15}\) These three variables are scaled by the number of outstanding common shares. The variable \(D^x\) is an indicator where \(x\) equals 1 when it is a country indicator, and 2 when it is an industry sector indicator. A significant \(\beta_4\) and \(\beta_5\) indicate that firms from different sets have a different ICE and ICBV, respectively, and, thus, a low degree of information comparability.

To examine the similarity facet of cross-country information comparability, we estimate Equation (3) within each industry, as determined by three-digit SIC code, for every possible combination of two countries in the pre- and post-IFRS periods separately. We assign an ICE (ICBV) comparability score of 1 if \(\beta_4\) (\(\beta_5\)) is insignificant (defined as a two-tailed p-value of more than 5 percent), and 0 otherwise. We require at least three firms in an industry in a given country to ensure that there are at least 18 observations in each regression. This process yields 210 regressions and, hence, 210 comparability scores for ICE and ICBV in the pre- and post-IFRS periods, respectively.

For the difference facet of within-country comparability analysis, we estimate Equation (3) using a set of firms from the manufacturing sector (one-digit SIC code of 2 or 3) and the other set of firms from the service sector (one-digit SIC code of 7 or 8), for every possible combination within a country in the pre- and post-IFRS periods separately. This results in 64 comparability scores for ICE and ICBV in each period. To estimate Equation (3), the sample firms must differ on only one of the industry sector or country dimensions captured by indicator \(D^x\). Thus, this approach is not applicable to test either the difference facet of cross-country comparability, because sample firms are from different industry sectors and countries, or to test the similarity facet of within-country comparability.

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\(^{14}\) In the Worldscope database, net income is defined as earnings (revenues less operating costs, depreciation, interest, taxes, and other expenses) less preferred dividends for non-U.S. firms.

\(^{15}\) We use annual data to estimate Equation (3) because data on the semiannual book value of equity are missing for most sample firms in the Worldscope database.
comparability, because sample firms are from both the same industry and the same country. Our comparability measures for each test are summarized in Figure 1.

RESULTS

Results Using the Similarity of Accounting Functions Measure

We perform multivariate Regression (4) for four samples: similar firms from different countries, different firms from different countries, similar firms from the same country, and different firms from the same country:
Comp_t = \beta_0 + \beta_1 IFRS_t + \beta_2 TA_Ratio_i + \beta_3 Com_Code_i + \beta_4 Listing_i + ID_i, \quad \quad (4)

where Comp_t is the comparability of pair i in period t, and IFRS_t is an indicator that equals 1 if t is the post-IFRS period, and 0 otherwise. A significant \beta_1 indicates that information comparability changes between the pre- and post-IFRS periods. The variable TA_Ratio_i is the ratio of the smaller value of total assets to the larger value of the two firms in a pair in 2006. Com_Code_i is an indicator that equals 1 when the home countries of the two firms in the pair have different legal origins, and 0 otherwise, and Listing_i is an indicator that equals 1 if the two firms in a pair are both listed on at least one of the same stock exchanges, and 0 otherwise. These variables control for differences in firm size, institutional environment, and stock listing between the two firms, all of which may affect firms’ reporting incentives and, hence, the comparability of their accounting information. These variables are all winsorized at the top and bottom 1 percent. ID_i is an industry indicator of a pair. For within-country analysis, we exclude Com_Code_i and Listing_i because they take the same value for all of the observations. For difference facet of comparability analysis, ID_i is excluded because each of the pairs consists of one manufacturing firm and one service firm. Following the discussion and practices in prior studies (e.g., Gow et al. 2010; DeFond et al. 2011), we adjust the standard errors by country clusters in the within-country analyses.

Table 2, Panel A, presents descriptive statistics for the four samples. The mean and median of Comp between cross-country similar and different firms, within-country similar and different firms, cross- and within-country similar firms, and cross- and within-country different firms do not statistically differ except that the mean of cross-country similar firms is smaller than that of cross-country different firms (results are not tabulated).\textsuperscript{16} Panel B reports the regression results. For the two cross-country analyses, the coefficient of IFRS_i (\beta_i) is positive and significant for the sample of similar firms (coefficient of 0.474, p < 0.01), but is close to 0 (0.009) and statistically insignificant for the sample of different firms.\textsuperscript{17} We also compare the coefficient of IFRS between the samples of similar and different firms. We combine these two samples, and include an indicator for the observations from the sample of similar firms (Similar_Firm) and its interaction with IFRS in Equation (4). We find that the coefficient on the interaction is positive and significant (coefficient of 0.465, p < 0.01). These results, thus, suggest that there is a significant improvement in the similarity facet, but not in the difference facet of cross-country comparability in the post-IFRS period.

\textsuperscript{16} Seven pairs of firms have extremely small comparability values, mainly in the pre-IFRS period. When these pairs are excluded from the sample of cross-country similar firms, the mean comparability of the sample becomes similar to those of the other samples. When we estimate Equation (4) using the reduced sample, the coefficient of IFRS remains positive and significant (coefficient of 0.119, p < 0.001), and significantly greater than that of the sample of cross-country different firms.

\textsuperscript{17} We follow Milton (1986) to estimate a minimum sample size necessary to reach a t-value of 2.00 and 1.68 for the samples used in the tests of the similarity of accounting functions and information transfer measures where the result for the variable of interest is insignificant. We find that all of our sample sizes are greater than their corresponding minimum sample sizes based on a t-value of 2.00.
### TABLE 2

#### Results of the Tests Using the Similarity of Accounting Functions Measure

**Panel A: Descriptive Statistics for the Variables in the Various Samples**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sample of Similar Firms from Different Countries</th>
<th>Sample of Different Firms from Different Countries</th>
<th>Sample of Similar Firms from the Same Country</th>
<th>Sample of Different Firms from the Same Country</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>Mean</td>
<td>Median</td>
<td>Minimum</td>
</tr>
<tr>
<td>Compₜ₀</td>
<td>296</td>
<td>-0.282</td>
<td>-0.038</td>
<td>-2.950</td>
</tr>
<tr>
<td>IFRSₜ₀</td>
<td>296</td>
<td>0.500</td>
<td>0.500</td>
<td>1.000</td>
</tr>
<tr>
<td>TA_Ratioₜ₀</td>
<td>296</td>
<td>0.810</td>
<td>0.838</td>
<td>0.500</td>
</tr>
<tr>
<td>Comp_Codeₜ₀</td>
<td>296</td>
<td>0.459</td>
<td>0.600</td>
<td>0.000</td>
</tr>
<tr>
<td>Listingₜ₀</td>
<td>266</td>
<td>0.035</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>

**Panel B: Regression Results**

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cross-Country Analysis</th>
<th>Within-Country Analysis</th>
<th>Pooled Sample Analysis</th>
<th>Cross- and Within-Country Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Firms</td>
<td>Different Firms</td>
<td>Similar Firms</td>
<td>Different Firms</td>
</tr>
<tr>
<td>Intercept</td>
<td>-0.680</td>
<td>-0.109</td>
<td>-0.446</td>
<td>-4.653</td>
</tr>
<tr>
<td></td>
<td>(-1.332)</td>
<td>(-1.248)</td>
<td>(-1.027)</td>
<td>(-1.313)</td>
</tr>
<tr>
<td></td>
<td>0.474***</td>
<td>0.009</td>
<td>0.655*</td>
<td>0.720</td>
</tr>
<tr>
<td></td>
<td>(2.698)</td>
<td>(0.969)</td>
<td>(1.924)</td>
<td>(1.347)</td>
</tr>
<tr>
<td>Similar_Firmₜ₀</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IFRSₜ₀ * Similar_Firmₜ₀</td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IFRSₜ₀ * Cross_Countryₜ₀</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA_Ratioₜ₀</td>
<td>-0.470</td>
<td>0.055</td>
<td>0.132</td>
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<td></td>
<td>(-1.684)</td>
<td>(0.657)</td>
<td>(1.318)</td>
<td>(1.119)</td>
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<tr>
<td>Com_Codeₜ₀</td>
<td>-0.143*</td>
<td>0.007</td>
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</tr>
<tr>
<td></td>
<td>(-1.703)</td>
<td>(0.768)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
For the two within-country analyses, the coefficient on IFRS is 0.655 and marginally significant for similar firms, and 0.720 but insignificant for different firms. We combine the samples of cross- and within-country similar firms, and include an indicator for the observations from the cross-country sample (Cross_Country) and its interaction with IFRS in the model. We find that the coefficient on the interaction is insignificant, suggesting that the effect of IFRS adoption on the similarity facet of cross-country comparability is similar to that of within-country comparability.

Results Using the Information Transfer Measure

The regression model using the measure of information transfer is as follows:

\[
|\text{NAF\_CAR}_it| = \beta_0 + \beta_1 |\text{AF\_UE}_it| + \beta_2 \text{IFRS}_t + \beta_3 |\text{AF\_UE}_it| \times \text{IFRS}_t + \beta_4 \text{AF\_Size}_i + \beta_5 \text{AF\_Analyst}_i + \beta_6 \text{AF\_Loss}_i + \text{ID}_i,
\]

where \(|\text{NAF\_CAR}_it|\) is the average absolute value of the cumulative abnormal returns of all the non-announcing firms within the three-day earnings release window of an announcing firm, and \(|\text{AF\_UE}_it|\) is the absolute value of the unexpected earnings per share of the announcing firm, scaled by its stock price at the beginning of the fiscal year.\(^{18}\) We use the absolute value of these two

\(^{18}\) NAF and AF in the variable names denote Non-Announcing Firms and Announcing Firms, respectively.
variables because information transfer can be positive or negative. A positive transfer takes place when a positive (negative) earnings surprise for an announcing firm indicates an unexpected improvement (deterioration) in market conditions, which positively (negatively) affects the stock prices of similar firms. A negative information transfer occurs when a positive (negative) earnings surprise for an announcing firm represents an increased (decreased) market share for that firm, which negatively (positively) affects the stock prices of similar firms (Kim et al. 2008). The indicator \( IFRS \) equals 1 if \( t \) is a post-IFRS year, and 0 if it is a pre-IFRS year. We include the logarithm of total assets in U.S. dollars of the announcing firm (\( AF_{\text{Size}} \)) in the model because previous studies find that the earnings surprises of larger firms affect the stock prices of similar firms more than those of smaller firms (e.g., Atiase 1985; Firth 1996). The variable \( AF_{\text{Analysts}} \) is the number of one-year-ahead earnings forecasts issued and revised for the announcing firm, controlling for the intensity of analyst activity. In addition, we include \( AF_{\text{Loss}} \) in the model to indicate whether the announcing firm is reporting a loss, as prior studies find that losses are less informative than profits (e.g., Hayn 1995). The industry indicator \( ID \) is also included in the cross- and within-country analysis for similar firms. Further, we adjust standard errors by country clusters based on the announcing firm’s country in all of the four analyses.

Our variable of interest is the interaction between the absolute value of the unexpected earnings of the announcing firm and the indicator for the post-IFRS period (\( |AF_{\text{UE}}| \times IFRS \)). The coefficient on this interaction (\( \beta_3 \)) indicates whether information comparability differs across the pre- and post-IFRS periods. The descriptive statistics for the variables for the four samples are summarized in Table 3, Panel A. We winsorize all of the variables at the top and bottom 1 percent. As Panel A shows, the mean absolute values of the cumulative abnormal return of the non-announcing firms range from 0.023 to 0.028, and are all greater than zero.

\[^{19}\text{The Worldscope database provides accounting data in both the local currency and U.S. dollars.}\]
## TABLE 3
Results of the Tests Using the Information Transfer Measure

### Panel A: Descriptive Statistics for the Variables in the Various Samples

<table>
<thead>
<tr>
<th></th>
<th>n</th>
<th>Mean</th>
<th>Median</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Std. Dev.</th>
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<tbody>
<tr>
<td>Sample of Similar Firms from Different Countries</td>
<td>[NAF__CARE]</td>
<td>744</td>
<td>0.025</td>
<td>0.018</td>
<td>0.000</td>
<td>0.170</td>
</tr>
<tr>
<td></td>
<td>[AF_UEd]</td>
<td>744</td>
<td>0.237</td>
<td>0.016</td>
<td>0.000</td>
<td>2.420</td>
</tr>
<tr>
<td></td>
<td>IFRS_{d}</td>
<td>744</td>
<td>0.472</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>AF_{Size}_{d}</td>
<td>744</td>
<td>2.726</td>
<td>2.692</td>
<td>1.199</td>
<td>5.033</td>
</tr>
<tr>
<td></td>
<td>AF_{Analyst}</td>
<td>744</td>
<td>6.742</td>
<td>5.000</td>
<td>1.000</td>
<td>30.000</td>
</tr>
<tr>
<td></td>
<td>AF_{Loss}</td>
<td>744</td>
<td>0.181</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Sample of Different Firms from Different Countries</td>
<td>[NAF__CARE]</td>
<td>910</td>
<td>0.023</td>
<td>0.021</td>
<td>0.005</td>
<td>0.065</td>
</tr>
<tr>
<td></td>
<td>[AF_UEd]</td>
<td>910</td>
<td>0.201</td>
<td>0.016</td>
<td>0.000</td>
<td>2.232</td>
</tr>
<tr>
<td></td>
<td>IFRS_{d}</td>
<td>910</td>
<td>0.488</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>AF_{Size}_{d}</td>
<td>910</td>
<td>2.782</td>
<td>2.759</td>
<td>1.160</td>
<td>4.372</td>
</tr>
<tr>
<td></td>
<td>AF_{Analyst}</td>
<td>910</td>
<td>7.158</td>
<td>5.000</td>
<td>1.000</td>
<td>32.000</td>
</tr>
<tr>
<td></td>
<td>AF_{Loss}</td>
<td>910</td>
<td>0.188</td>
<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
</tr>
<tr>
<td>Sample of Similar Firms from the Same Country</td>
<td>[NAF__CARE]</td>
<td>155</td>
<td>0.028</td>
<td>0.019</td>
<td>0.000</td>
<td>0.128</td>
</tr>
<tr>
<td></td>
<td>[AF_UEd]</td>
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<td>IFRS_{d}</td>
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<td>0.000</td>
<td>0.000</td>
<td>1.000</td>
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<tr>
<td></td>
<td>AF_{Size}_{d}</td>
<td>155</td>
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<td>2.629</td>
<td>0.890</td>
<td>4.512</td>
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<td>AF_{Analyst}</td>
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<td>39.000</td>
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<td>AF_{Loss}</td>
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<td>0.170</td>
<td>0.000</td>
<td>0.000</td>
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<tr>
<td>Sample of Different Firms from the Same Country</td>
<td>[NAF__CARE]</td>
<td>630</td>
<td>0.025</td>
<td>0.020</td>
<td>0.001</td>
<td>0.106</td>
</tr>
<tr>
<td></td>
<td>[AF_UEd]</td>
<td>630</td>
<td>0.239</td>
<td>0.020</td>
<td>0.000</td>
<td>2.227</td>
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<td>IFRS_{d}</td>
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<td>1.000</td>
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<td>2.684</td>
<td>1.085</td>
<td>4.194</td>
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<td>AF_{Analyst}</td>
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<td>1.000</td>
<td>28.000</td>
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<td>AF_{Loss}</td>
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<td>0.000</td>
<td>0.000</td>
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### Panel B: Regression Results

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<tr>
<th>Variables</th>
<th>Cross-Country Analysis</th>
<th>Within-Country Analysis</th>
<th>Pooled Sample Analysis</th>
</tr>
</thead>
<tbody>
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<td>Similar Firms</td>
<td>Different Firms</td>
<td>Similar Firms</td>
</tr>
<tr>
<td>Intercept</td>
<td>0.010 (0.272)</td>
<td>0.033*** (11.200)</td>
<td>0.039 (1.027)</td>
</tr>
<tr>
<td>[AF_UEd]</td>
<td>0.000 (0.069)</td>
<td>0.000 (0.354)</td>
<td>0.000 (0.144)</td>
</tr>
<tr>
<td>IFRS_{d}</td>
<td>−0.002 (−1.468)</td>
<td>−0.004 (−1.385)</td>
<td>−0.008 (−1.413)</td>
</tr>
<tr>
<td>Similar_{Firm}</td>
<td>0.001 (1.089)</td>
<td>0.000 (0.000)</td>
<td>0.000 (0.000)</td>
</tr>
<tr>
<td>Variables</td>
<td>Cross-Country</td>
<td>Within-Country</td>
<td>Pooled Sample</td>
</tr>
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<td>Analysis</td>
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<td>Analysis</td>
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<tr>
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<td>Similar Firms</td>
<td>Different Firms</td>
<td>Similar Firms</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(AF_{UEA}) * [IFRS_]</td>
<td>0.001**</td>
<td>0.001</td>
<td>0.007</td>
</tr>
<tr>
<td></td>
<td>(2.430)</td>
<td>(0.484)</td>
<td>(1.554)</td>
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<tr>
<td>(AF_{UEA}) * [Similar Firm_]</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(AF_{UEA}) * [Cross Country_]</td>
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<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>(IFRS_) * [AF_{UEA}]</td>
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<td>0.002</td>
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<td>(1.334)</td>
<td>(1.439)</td>
<td>(1.334)</td>
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<tr>
<td>(IFRS_) * [AF_{UEA}] * [Similar Firm_]</td>
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<td></td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(AF_{Size}) *, (AF_{Analyst}) *, (AF_{Loss}) *</td>
<td>0.001</td>
<td>-0.005***</td>
<td>-0.099</td>
</tr>
<tr>
<td></td>
<td>(0.210)</td>
<td>(8.658)</td>
<td>(1.156)</td>
</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>(AF_{Size}) * [IFRS_]</td>
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<td></td>
<td></td>
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<tr>
<td>(AF_{Size}) * [Cross Country_]</td>
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<tr>
<td>Observations</td>
<td>744</td>
<td>910</td>
<td>195</td>
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<tr>
<td>Adj. R²</td>
<td>0.046</td>
<td>0.154</td>
<td>0.029</td>
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</tbody>
</table>

* *, **, *** indicate significance at the 0.10, 0.05, and 0.01 levels, respectively, two-sided.

This table presents the results for the tests using the information transfer measure. Panel A presents the descriptive statistics for the variables in the multivariate test. All of the variables are winsorized at the top and bottom 1 percent. Panel B presents the regression coefficients (t-statistics in parentheses). The standard errors are clustered at the announcing firm’s country level. The base model is as follows:

\[
\text{[NFA\_CAR]}_t = \beta_0 + \beta_1 [AF_{UEA}] + \beta_2 [IFRS] + \beta_3 [AF_{UEA}] [IFRS] + \beta_4 [AF_{Size}] + \beta_5 [AF_{Analyst}] + \beta_6 [AF_{Loss}] + \epsilon
\]

For analysis using a combined sample of similar and different cross-country firms, the model includes an indicator, Similar Firm, and its two- and three-way interactions with IFRS and [AF_{UEA}]. For analysis using a pooled sample of cross- and within-country similar firms, the model includes an indicator, Cross Country, and its two- and three-way interactions with IFRS and [AF_{UEA}].

Variable Definitions:
- \([NFA\_CAR]_t\) = average absolute value of the cumulative abnormal return of all of non-announcing firms within the three-day earnings release window of the announcing firm;
- \([AF_{UEA}]_t\) = absolute value of the unexpected earnings per share of the announcing firm, scaled by its stock price at the beginning of the fiscal year;
- \([IFRS]_t\) = an indicator that equals 1 if \(t\) is a post-IFRS year, and 0 if \(t\) is a pre-IFRS year;
- \([AF_{Size}]_t\) = size of the announcing firm, measured by the logarithm of total assets in U.S. dollars;
- \([AF_{Analyst}]_t\) = number of one-year-ahead earnings forecasts issued and revised for the announcing firm;
- \([AF_{Loss}]_t\) = indicator of whether the announcing firm is reporting a loss;
- \([Industry]\_t\) = an industry indicator of a pair;
- \(Similar\_Firm\_t\) = an indicator that equals 1 if the announcing and the non-announcing firms are similar firms, and 0 if they are different firms; and
- \(Cross\_Country\_t\) = an indicator that equals 1 if the announcing and the non-announcing firms are from different countries, and 0 if they are from the same country.
Table 3, Panel B, reports the regression results. For cross-country analysis, the coefficient $\beta_3$ on the variable of interest ($|AF\_UE_\text{it}| \times IFRS_t$) is positive and significant ($p < 0.05$) for the sample of similar firms with a coefficient of 0.001, but insignificant for the sample of different firms. Similar to the measure of accounting functions similarity, we pool the two samples and include an indicator for the observations from the sample of similar firms ($Similar\_Firm$) and its interaction with $|AF\_UE_\text{it}| \times IFRS_t$ in the model to test the equality of $\beta_3$ across the similar and different firms.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Cross-Country Analysis</th>
<th>Within-Country Analysis</th>
<th>Pooled Sample Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Similar Firms</td>
<td>Different Firms</td>
<td>Similar Firms</td>
</tr>
<tr>
<td>$</td>
<td>AF_UE_\text{it}</td>
<td>\times IFRS_t$</td>
<td>0.001**</td>
</tr>
<tr>
<td></td>
<td>(2.430)</td>
<td>(0.484)</td>
<td>(1.554)</td>
</tr>
<tr>
<td>$</td>
<td>AF_UE_\text{it}</td>
<td>\times Similar_Firm$</td>
<td>0.007</td>
</tr>
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<td>(1.252)</td>
<td>(0.091)</td>
<td>(0.676)</td>
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<tr>
<td>$</td>
<td>AF_UE_\text{it}</td>
<td>\times Cross_Country$</td>
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<td>(1.334)</td>
<td>(0.389)</td>
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<td>$IFRS_t \times</td>
<td>AF_UE_\text{it}</td>
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<td>(1.459)</td>
<td>(0.389)</td>
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<td>0.003**</td>
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<td>(0.954)</td>
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<td>0.003</td>
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<td>(0.389)</td>
</tr>
<tr>
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<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Observations</td>
<td>744</td>
<td>910</td>
<td>195</td>
</tr>
<tr>
<td>Adj. $R^2$</td>
<td>0.046</td>
<td>0.154</td>
<td>0.029</td>
</tr>
</tbody>
</table>

* ** *** Indicate significance at the 0.10, 0.05, and 0.01 levels, respectively, two-sided.

This table presents the results for the test using the information transform measure. Panel A presents the descriptive statistics for the variables in the multivariate test. All of the variables are winsorized at the top and bottom 1 percent. Panel B presents the regression coefficients (t-statistics in parentheses). The standard errors are clustered at the announcing firm’s country level.

The base model is as follows:

$$\text{NAP\_CAR}_t = \beta_0 + \beta_1|AF\_UE_\text{it}| + \beta_2 IFRS_t + \beta_3 |AF\_UE_\text{it}| \times IFRS_t + \beta_4 AF\_Size_\text{it} + \beta_5 AF\_Analyses_\text{it} + \beta_6 AF\_Loss_\text{it} + ID_\text{it}.$$  

For analysis using a combined sample of similar and different cross-country firms, the model includes an indicator, $Similar\_Firm$, and its two- and three-way interactions with $IFRS_t$ and $|AF\_UE_\text{it}|$. For analysis using a pooled sample of cross- and within-country similar firms, the model includes an indicator, $Cross\_Country$, and its two- and three-way interactions with $IFRS_t$ and $|AF\_UE_\text{it}|$.

Variable Definitions:

- $|AF\_CAR_\text{it}| = \text{average absolute value of the cumulative abnormal return of all of non-announcing firms within the three-day earnings release window of the announcing firm}$
- $|AF\_UE_\text{it}| = \text{absolute value of the unexpected earnings per share of the announcing firm, scaled by its stock price at the beginning of the fiscal year}$
- $IFRS_t = \text{an indicator that equals 1 if } t \text{ is a post-IFRS year, and 0 if } t \text{ is a pre-IFRS year}$
- $AF\_Size_\text{it} = \text{size of the announcing firm, measured by the logarithm of total assets in U.S. dollars}$
- $AF\_Analyses_\text{it} = \text{number of one-year-ahead earnings forecasts issued and revised for the announcing firm}$
- $AF\_Loss_\text{it} = \text{an indicator of whether the announcing firm is reporting a loss}$
- $ID_\text{it} = \text{an industry indicator of a pair}$
- $Similar\_Firm = \text{an indicator that equals 1 if the announcing and the non-announcing firms are similar firms, and 0 if they are different firms}$
- $Cross\_Country = \text{an indicator that equals 1 if the announcing and the non-announcing firms are from different countries, and 0 if they are from the same country}$
We find that the coefficient on $IFRS_i \times |AF_{UE}it| \times Similar\_Firm$ has a value of 0.003 and is significant ($p < 0.05$), which suggests that IFRS adoption increases cross-country information transfer more for similar firms than for different firms.

For within-country analysis, the coefficient $\beta_3$ on $|AF_{UE}it| \times IFRS_i$ is insignificant for both the sample of similar firms and the sample of different firms. However, the result from the test that examines the equality of $\beta_3$ between the cross-country and within-country similar firms shows that the coefficient on the variable of interest ($IFRS_i \times |AF_{UE}it| \times Cross\_Country$) is insignificant, suggesting that change in information transfer does not statistically differ between these two samples. Thus, the results using the information transfer measure are generally consistent with those using the similarity of accounting functions measure.

**Results Using the Similarity of ICE and ICBV Measure**

For the ICE and ICBV measures, we conduct tests for similar firms across countries and for different firms within the country. The descriptive statistics for the variables used in Equation (3) for these two samples are summarized in Table 4, Panel A. We winsorize all of the variables at the top and bottom 1 percent. Table 4, Panel B, presents the aggregate results from estimating Equation (3).

We perform a t-test to compare the mean comparability scores for ICE and ICBV across the pre- and post-IFRS periods. Table 4, Panel C, reports the results. For the sample of cross-country similar firms, the mean comparability scores for ICE and ICBV in the post-IFRS period are 0.890 and 0.862, respectively, indicating that among the 210 regressions of Equation (3), about 89.0 (86.2) percent show that the information content of earnings (book value of equity) does not statistically differ between the two sets of similar firms from two different countries. The 0.890 score for ICE is marginally greater than the corresponding pre-IFRS period score 0.829 ($p = 0.06$), and the 0.862 score for ICBV is significantly greater than the pre-IFRS period score of 0.748 ($p < 0.01$). This again suggests that IFRS adoption increases the similarity facet of cross-country information comparability. However, for the sample of different firms from the same country, the mean comparability scores for ICE and ICBV in the post-IFRS period (0.688 and 0.688) are not significantly different from the corresponding scores in the pre-IFRS period (0.594 and 0.625).

**Summary of Results**

Our comparability measures consistently indicate a significant improvement in the similarity facet, but an indiscernible change in the difference facet of cross-country information comparability after mandatory IFRS adoption. Further, the comparability improvement in the similarity facet is consistently greater than that in the difference facet. Together, these results suggest that IFRS adoption is, on the whole, beneficial, because it makes similar things look more alike without
making different things look discernibly less different.

We also find some evidence of improvement in the similarity facet of within-country comparability. Importantly, our results show that there is no statistical difference between the similarity facet of comparability improvement in the cross-country sample and that in the within-country sample. Together, these results suggest that IFRS adoption improves information comparability among similar firms from different countries, as well as similar firms within the same country. As IFRS adoption generally reduces accounting choices for European firms (Hoogendoorn 2006), our results are consistent with the view that IFRS adoption improves information comparability via both accounting convergence and higher quality information.

SUPPLEMENTAL AND SENSITIVITY TESTS

Supplemental Tests for the Impact of Institutional Environment on Information Comparability

These supplemental tests examine whether the impact of IFRS adoption on the similarity facet of cross-country information comparability is influenced by a firm’s institutional environment. On one hand, the importance of institutional factors to a firm’s reporting incentives suggests that the comparability improvement resulting from IFRS adoption will be greater among firms from countries with similar institutional environments than among firms from countries with different institutional environments (e.g., Ball et al. 2003; Ball and Shivakumar 2005; Burgstahler et al. 2006). On the other hand, because countries with similar institutional environments usually had similar local accounting standards in the pre-IFRS period, the comparability improvement may be smaller among firms from these countries. We, thus, view this as an empirical question.

We classify a firm’s institutional environment according to the origins of the legal system in its home country. For the tests using the accounting function measure, we form two samples. The first (second) sample includes all pairs of two similar firms from countries with the same (different) legal origin(s). We drop the variable Com_Code from Equation (4), and estimate the modified model for the two samples. Our results, presented in Table 5, Panel A, show that cross-country information comparability increases after IFRS adoption for both samples. We also test the equality of comparability improvement across the two samples by pooling the two samples and including an indicator for the observations from the first sample and its interaction with IFRS. We find that the comparability improvement does not statistically differ between the two samples.20

For the information transfer measure, we pair an announcing firm’s earnings surprise with the average cumulative abnormal return of similar firms from countries with the same (different) legal origin(s) to the home country of the announcing firm in the first (second) sample. We find that the cross-country information transfer increases significantly in the post-IFRS period for the first

20 Our results could be affected by the enforcement changes accompanied with IFRS adoption. For example, the EU passed the Transparency Directive in 2004 to establish disclosure requirements and facilitate IFRS compliance.
sample, but not for the second sample. These results are reported in Table 5, Panel B.

For the ICE and ICBV measure, the first (second) sample includes all of the comparability scores estimated using the two sets of firms from countries with the same (different) legal origin(s). We compare the mean comparability scores across the pre- and post-IFRS periods in the two samples. We find that for ICE, there is no significant change in the mean comparability score across the two periods. For ICBV, however, the mean comparability score is significantly higher in the post-IFRS period than in the pre-IFRS period for the first sample with the same legal system origin, but not for the second sample. Table 5, Panel C, reports these results.

Overall, we find consistent evidence for enhanced cross-country information comparability among firms from countries with similar institutional environments. However, the results for firms from different institutional environments are mixed. Although the results using the measure of accounting function similarity suggest an improved comparability, the results using the other two measures suggest the opposite. This provides some evidence that the institutional environment in the home countries of firms is an important determinant of their information comparability.

**Sensitivity Tests**

We perform several sensitivity tests to assess the robustness of our results. First, because unusual accounting choices could be reflected in financial statements due to the anticipation of, and the transition to, IFRS during 2004 and 2005, we exclude these two years by defining the pre-IFRS period as 2002–2003 and the post–IFRS period as 2006–2007. The untabulated results based on the new sample periods are similar to those of the main tests.

Second, our results on the comparability improvement may be driven by increased similarity of firms’ responses to economic shocks. To address this possibility, we examine whether there is a significant increase in firms’ responses to economic shocks. Specifically, we compute the stock return correlation between two sets of similar firms from different countries for the pre- and post-IFRS periods separately. Because firms in the same industry face similar economic shocks, their stock returns should be correlated if they react to economic shocks in similar ways. A significantly higher mean correlation of stock return in the post-IFRS period than in the pre-IFRS period would suggest that there is an increase in the similarity of firms’ responses to economic shock after mandatory IFRS adoption. We find that the mean correlation is significantly lower in the post-IFRS period (0.134) than in the pre-IFRS period (0.314), suggesting that firms’ responses to economic shocks become less similar in the post-IFRS period. This, in turn, suggests that the similarity of firms’ responses to economic shocks is unlikely to be the driver of improved information comparability in the post-IFRS period.
Third, because level regressions can be subject to econometric problems, we use a returns model to compare ICE across the pre- and post-IFRS periods. In our return model, annual stock returns are regressed on earnings scaled by price, a loss indicator, a country indicator, and the interaction between earnings and the country indicator. We run the regression for every possible combination of two countries in an industry in the pre- and post-IFRS periods separately, and assign a comparability score of 1 if the coefficient on the interaction term is insignificant, and 0 otherwise. We find that the mean comparability score in the post-IFRS period (0.990) is significantly higher than that in the pre-IFRS period (0.945), which is consistent with the finding from the level model that IFRS adoption improves the similarity facet of cross-country information comparability.

Fourth, because all of our comparability measures are based on equity price, we use a non-price-based comparability measure to examine the similarity facet of cross-country information comparability. Following Beuselinck et al. (2007), we assume that earnings comparability is affected by the timely recognition of losses by a firm’s accounting system. We use the following modified model from Ball and Shivakumar (2005) to determine the comparability scores for every possible combination of two countries in an industry in the pre- and post-IFRS periods separately:

\[
ACC_t = \beta_0 + \beta_1 CF_{jt} + \beta_2 NegCF_{jt} + \beta_3 CF_{jt} \times NegCF_{jt} + \beta_4 D + \beta_5 D \times CF_{jt} + \beta_6 D \times NegCF_{jt} + \beta_7 D \times CF_{jt} \times NegCF_{jt} + \varepsilon_{jt}, \quad (6)
\]

where ACC is accruals, defined as net income minus operating cash flow, and CF is operating cash flow. Both are scaled by the average total assets. NegCF is an indicator of a negative CF, and D is a country indicator. The coefficient on the last item (\(\beta_7\)) indicates whether the accounting systems in the two countries recognize losses in accounting accruals in a similar fashion. We assign a comparability score of 1 if \(\beta_7\) is insignificant, and 0 otherwise. We find that the mean comparability score in the post-IFRS period (0.861) is significantly higher than that in the pre-IFRS period (0.764). This result is consistent with the findings from those equity price-based comparability measures that cross-country information comparability improves for similar firms after mandatory IFRS adoption.

CONCLUSION

One of the most commonly mentioned benefits of IFRS adoption is the improvement in cross-country information comparability. This study provides empirical evidence for this posited benefit using data from 17 European countries that adopted IFRS in 2005. We use three proxies for information comparability. The first is the similarity with which two firms translate economic events into their financial statements. The second is the degree of information transfer, and the third is the similarity of the information content of earnings and of the book value of equity.

Overall, our results are consistent with the view that mandatory IFRS adoption improves information comparability across countries. In particular, our results indicate a significant increase in the similarity facet of cross-country comparability in the post-IFRS period. However, we do not
find such improvement in the difference facet of cross-country comparability, which implies that the mandatory IFRS adoption is not sufficient to achieve a full enhancement in comparability in the EU. Our results also suggest that both accounting convergence and higher quality accounting information are likely to be the mechanisms underlying the observed comparability improvement in the similarity facet. Further, our results suggest that comparability improvement is more likely to occur among firms from similar institutional environments than among firms from different institutional environments.

REFERENCE


