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## The Trade-off between Accounting Comparability and Representational Faithfulness with Mandatory IFRS Adoption

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### **Abstract:**

*In this paper, I examine the impact of the mandatory adoption of International Financial Reporting Standards (IFRS) on accounting comparability and representational faithfulness. I document empirically that both cross-country and within-country accounting comparability increase while representational faithfulness decreases with mandatory IFRS adoption. Inconsistent with my prediction, I find that the impact of IFRS adoption on within-country comparability is not conditional on the flexibility of the local accounting standards relative to IFRS. Moreover, the results suggest that while all firms experience decreases in representational faithfulness, firms with higher quality local accounting standards than IFRS experience fewer decreases in representational faithfulness than firms with lower quality local accounting standards than IFRS. Overall, my results provide evidence of a trade-off between improved cross-country accounting comparability and reduced representational faithfulness among all adopters of IFRS. The empirical evidence from this study shall be of interest to policy and accounting standard setters.*

**Keywords:** Accounting comparability, representational faithfulness, trade-off, mandatory IFRS adoption

### **1. Introduction**

In this paper, I examine the impact of the mandatory adoption of International Financial Reporting Standards (IFRS) on accounting comparability and the representational faithfulness of accounting information. The motivation for my study is to investigate whether the improvement in accounting comparability from mandatory IFRS adoption comes at the “cost” of reduced representational faithfulness.

The faithful representation of the underlying economic phenomena of the reporting entity (hereafter, used interchangeably with accounting quality or quality) and accounting comparability (hereafter, used interchangeably with comparability) are both desirable qualitative characteristics of financial information (FASB 2010). Nevertheless, the conceptual framework considers comparability to be of secondary importance relative to representational faithfulness. That is, greater comparability is preferable, provided the accounting information is faithfully representative of the underlying economic phenomena.

Consistent with FASB and prior literature (Lang, Maffett, and Owens 2010), I view accounting comparability as the situation where firms apply the same accounting methods to the same or similar economic phenomena. As envisioned in the conceptual framework, when the financial information is faithfully representative of the underlying economic phenomena, comparability enhances the decision usefulness of accounting information. Also, consistent with the conceptual framework’s treatment of comparability as a qualitative characteristic of secondary importance, accounting comparability does not enhance the decision usefulness of accounting information, when it results in substantial declines in representational faithfulness.

The adoption of IFRS is likely to improve cross-country accounting comparability. The concern, however, is that the adoption might cause accounting quality to decrease. This is because local accounting standards might have developed to reflect the unique underlying economics of the country and IFRS might not fit a specific country’s cultural and economic environment, thus reducing the ability of the accounting system to faithfully represent the underlying economics. Therefore, with mandatory IFRS adoption, firms could achieve improved comparability while sacrificing quality.

IFRS adoption might have a different impact on within-country comparability than cross-country comparability. The impact of IFRS adoption on within-country comparability is conditional on the flexibility of the local standards relative to IFRS. If the pre-IFRS local accounting standards offer more flexibility than the IFRS, the adoption of IFRS will likely improve within-country comparability. If the pre-IFRS local accounting standards offer less flexibility than the IFRS, the adoption of the IFRS will likely reduce within-country accounting comparability.

My sample for most tests is approximately 3,000 – 6,000 firm-year observations over the period of 2000 to 2009. I measure accounting comparability as the degree of difference between matched firms’ return on equity (ROE) that is not explained by differences in economic indicators. I measure representational faithfulness as accruals quality estimated by the modified Dechow and Dichev model. I find that both cross-country and within-country comparability increases for all adopters, but representational faithfulness decreases with the adoption of IFRS. Inconsistent with my prediction, however, I do not find that the flexibility of local

accounting standards significantly impacts the change in within-country comparability following IFRS adoption. Moreover, the results suggest that while all firms experience decreases in representational faithfulness, firms with higher quality local accounting standards than IFRS experience fewer decreases in representational faithfulness than firms with lower quality local accounting standards than IFRS. Overall, my results provide evidence of a trade-off between improved cross-country accounting comparability and reduced representational faithfulness among all adopters of IFRS.

My study makes several contributions to the accounting literature. First, my study examines whether a trade-off exists between cross-country accounting comparability and representational faithfulness with mandatory IFRS adoption. Although some studies examine the impact of IFRS adoption on accounting quality or comparability distinct from one another (Ahmed, Neel, and Wang 2013; Chen, Tang, Jiang, and Lin 2010; Lang et al. 2010), no study has examined how IFRS adoption impacts accounting quality and comparability for the same firm at the same time. By examining both characteristics of accounting information together, I provide further evidence of the impact of the adoption of IFRS on the properties of financial reporting.

Second, my study examines how IFRS adoption impacts within-country accounting comparability. The impact of IFRS adoption on within-country and cross-country accounting comparability could be different due to the impact of the flexibility of the pre-IFRS local accounting standards relative to IFRS. My study is the first to provide evidence on this matter.

Finally, I introduce alternative and refined comparability measures. Existing measures developed by De Franco, Kothari, and Verdi (2011) in the U.S. market and modified by Lang et al. (2010) in the international setting might not be suitable for all settings. These papers measure comparability as the difference in the relationship between earnings/price (E/P) and returns, which could be influenced by many nonaccounting factors. My measures differ from those measures in that I control for the impact of differences in nonaccounting factors (e.g., performance) on differences in firms' ROE, so that the remaining difference reflects accounting method choices.

The rest of the paper is organized as follows: section 2 provides a review of the prior literature and develops my hypotheses. Section 3 includes a discussion of my proxy construction and the construct validity test of my comparability measures, and section 4 discusses the research design. Section 5 provides the data and sample selection process and descriptive statistics. While Section 6 provides results for the empirical analysis, section 7 concludes the paper.

## 2. Literature Review and Hypotheses Development

Ball (2006) warns that there is no established theory on assessing the advantages and disadvantages of adopting a single set of global accounting standards. However, the widespread agreement is that financial reporting quality and comparability are determined by the overall institutional factors of the country where firms reside and of the country where firms file their financial reports, as well as industry and firm level factors, such as business model, operating cycle, and financial reporting incentives (Hail, Leuz, and Wysocki 2009). Moreover, the accounting system is a complementary component of the country's overall institutional system (Ball 2001; Soderstrom and Sun 2007). Because of the interdependent nature of the country's accounting system, its institutional setting, and the firm level reporting incentives, it is difficult to predict how changing a country's financial reporting standards, one element of the overall institutional factors, will impact financial reporting of the firm and its informational environment.

### 2.1. Impact of Mandatory IFRS Adoption on Accounting Quality

Many studies examine the effects of mandatory IFRS adoption on accounting/earnings quality and other related economic consequences. Landsman, Maydew, and Thornock (2012) find that abnormal return volatility at annual earnings announcements increases in countries that mandated IFRS adoption relative to countries that maintain domestic accounting standards. Moreover, they find that the increases in abnormal return volatility are concentrated in code law versus common law origin countries.

Chen et al. (2010) use a sample from 15 EU countries from the years 2000 to 2007 to examine the effects of mandatory IFRS adoption on accounting quality measured as managing earnings toward targets, the magnitude of absolute discretionary accruals, and accruals quality. The authors find a decrease in managing earnings toward targets before versus after IFRS adoption. In addition, they find that absolute discretionary accruals are significantly lower in the mandatory adoption period than in the nonmandatory adoption period. Finally, they find a significant increase in accruals quality estimated by the cross-sectional Dechow and Dichev model. Unfortunately, this study does not utilize control samples to tease out the confounding effects of concurrent changes in economic and other institutional factors around the world.

A recent study by Ahmed et al. (2013) also examines the impact of mandatory IFRS adoption on accounting quality from a sample of 21 treatment and 12 control countries. They measure accounting quality as earnings smoothing, the aggressiveness of accruals reporting, and timeliness of loss recognition. Their findings suggest that earnings quality decreases with mandatory IFRS adoption. They report that IFRS adoption results in smoother earnings, more aggressive reporting of accruals and a reduction in timeliness of loss recognition relative to gain recognition. Further, they show that the decreases in accounting quality are more pronounced for strong law countries.

### 2.2. Impact of Mandatory IFRS Adoption on Accounting Comparability

Beuselinck, Joos, and Van de Meulen (2007) examine comparability of earnings quality for 14 EU countries from 1990-2005. They find that the accruals/cash flow association has become less negative over time, suggesting higher earnings quality. Interestingly, they find that there are more cross-country variations in the accruals/cash flows association in 2005 than in earlier periods, which implies less comparability in quality with IFRS adoption. The results from this study shed some light on the effects of mandatory IFRS adoption on comparability of earnings quality, but the study does not examine accounting comparability directly.

Cascino and Gassen (2015) examine whether incentives or accounting standards shape accounting outcomes by examining the effects of IFRS adoption on the comparability of financial statements in Germany and Italy, two code law European countries. They begin by examining two earnings attributes, asymmetric timeliness and earnings smoothness, in the pre- and post-2005 periods both within and across the two countries. They find weak evidence that these earnings attributes are different across countries in the pre-2005 period, but these differences between countries tend to disappear after 2005.

They also investigate a nonearnings attribute of accounting information: the level of intangible assets reported between firms in these two countries in the pre- and post-2005 periods. They find a significant IFRS adoption effect: the German firms report a significantly lower level of intangible assets than the Italian firms in the pre-IFRS period, but those differences diminish in the post-IFRS period. Lastly, using hand collected data from 2006 annual reports, they document that the level of compliance of IFRS measurement and disclosure is not comparable across firms and countries.

Recently, Lang et al. (2010) examined changes in cross-country financial statement comparability around mandatory IFRS adoption using the two comparability measures developed by De Franco et al. (2011). The first comparability measure is the comparability of the mapping of returns into earnings between two firms from the same industry but different countries, and the second comparability measure is the co-movement of earnings between two firms in the same industry but different countries. They find that these two measures capture different aspects of accounting information in the international setting than in the U.S. setting. Specifically, they find that earnings co-movement is negatively associated with analyst forecast accuracy, and positively associated with forecast dispersion and bid-ask spread. This is in direct contrast with the findings in the De Franco et al. (2011) study. Although they find similar properties regarding the accounting comparability measure to those in the De Franco et al. (2011) study, surprisingly, they find that mandatory IFRS adopters experience less comparability improvement relative to a control sample of nonadopters. The findings in the study are suggestive that the metrics used in De Franco et al. (2011) might not be ideal in certain situations.

Lastly, Wang (2014) as well as Yip and Young (2012) study cross-border information transfers to infer the comparability of financial statement information. Wang finds that mandatory IFRS adoption paired with contemporaneous regulatory changes improve earnings comparability. Yip and Young find that IFRS adoption improves cross-country information comparability but the improvements are mostly observed in firm-pairs with the same country legal origin. Their findings suggest that financial reporting incentives and legal enforcement play an important role in achieving comparability following the mandatory IFRS adoption.

### 2.3. Hypothesis Development

As discussed in the literature review section, prior studies suggest that reported financial statement numbers are the outcome of the economic events or transactions that occurred during the reporting period, and the accounting standards used to prepare the financial statements. On one hand, the adoption of IFRS should induce comparable accounting information. This is because a single set of accounting standards eliminates multiple accounting methods that were permitted under domestic accounting standards.

On the other hand, however, properties of accounting information are impacted by multiple factors, including the underlying economic environment, managerial incentives, and institutional factors. Moreover, IFRS is generally considered to be a set of principle-based standards issued with relatively little implementation guidance. According to Schipper (2005), even if accounting standards are identical, financial reporting practices will not be identical if the implementation guidance is not the same.

In summary, because of the financial reporting incentives and complementary nature of accounting standards relative to other institutional factors, it is not clear how changes in accounting standards alone will affect accounting comparability (Ahmed et al. 2013; Chen et al. 2010; Hail et al. 2009). If, as suggested by prior literature, properties of accounting numbers are primarily driven by reporting incentives, the adoption of IFRS might not lead to improved accounting comparability. However, prior studies also suggest that harmonizing accounting standards leads to harmonized accounting outcomes (Cascino and Gassen 2015; Joos and Lang 1994). Following this line of thinking, I argue that IFRS adoption will likely increase the comparability of financial statements across countries. Thus, my first hypothesis is as follows:

- H1: There is an increase in cross-country accounting comparability after mandatory IFRS adoption.

While cross-country accounting comparability is expected to increase with IFRS adoption, the impact of IFRS adoption on within-country comparability is likely to be conditional on the flexibility of the pre-IFRS local standards relative to IFRS if firms' reporting incentives and the enforcement mechanisms stay the same after the adoption.

Flexibility can result from alternatives in accounting methods allowed by the standard, as well as lack of requirement for, and/or lack of clear guidance on, reporting of an economic phenomenon. If the pre-IFRS local standards are more flexible than IFRS, e.g., they have less clear requirements for, or more alternatives on how to account for intangible assets than IFRS, firms may account for intangible assets in various ways prior to IFRS adoption and IFRS adoption will likely lead to increased comparability within the country.

On the other hand, if the pre-IFRS standards offer less flexibility than IFRS, adoption of IFRS might lead to lower within-country comparability. However, within-country comparability might stay the same even if IFRS allows more alternatives, because firms might stay with their pre-existing accounting method if that method is also allowed under IFRS. Following this discussion, my second hypothesis is as follows:

- H2: Changes in within-country accounting comparability following mandatory IFRS adoption are conditional on the flexibility of the pre-IFRS local accounting standards relative to IFRS.

IFRS adoption is likely to decrease representational faithfulness for firms in countries with high-quality local GAAP prior to IFRS adoption and vice versa for firms in countries with low quality pre-IFRS accounting standards. For example, if the U.K. GAAP is

higher quality than IFRS and the German GAAP is lower quality than IFRS, when both countries adopt IFRS, the financial reporting quality for the U.K. firms will decrease, and the financial reporting quality for the German firms will increase.

Alternatively, local GAAPs might be more faithfully representative of the underlying economic phenomena than IFRS because local GAAPs have evolved to fit their unique cultural and economic environments. Thus, the impact of IFRS adoption on representational faithfulness is an empirical question. Following this discussion, my third hypothesis is:

- H3. Changes in representational faithfulness following mandatory IFRS adoption are conditional on the quality of the pre-IFRS local accounting standards relative to IFRS.

The goal of the IASB is to promote a single set of accounting standards to increase both cross-country accounting comparability and quality. With IFRS adoption, while firms across countries experience increases in cross-country comparability, some countries' accounting quality might decrease and some might increase depending on the quality of the pre-IFRS local standards compared with that of IFRS. Thus, there might be a trade-off between improvement in accounting comparability and decreases in representational faithfulness for firms in countries with higher quality pre-IFRS local standards. Thus, my last hypothesis is as follows:

- H4: The trade-off between cross-country accounting comparability and representational faithfulness is conditional on the quality of the pre-IFRS local accounting standards relative to IFRS.

### 3. Proxy Construction and Construct Validity Test

At a conceptual level, accounting comparability refers to the concept wherein firms apply the same accounting methods to the same or similar economic events or transactions. Following prior literature (Cascino and Gassen 2015; Joos and Lang 1994; Land and Lang 2002), I derive my proxy for comparability from ROE. Different from prior studies, however, I do not assume that convergence in the magnitude of ROE implies comparability in accounting practices. Instead, I propose that if two firms have comparable accounting practices, the difference in the magnitude of their ROE will more likely be explained by the differences in their economic performance than if the two firms have noncomparable accounting practice

#### 3.1. Accounting Comparability Proxies (CCAC and WCAC)

ROE is a function of the economic performance of the firm, its accounting choices, and a random component:

$$ROE_{it} = \beta_{0i} + \beta_1 EconomicTransactions_{it} + \beta_2 AccountingChoices_{it} + \varepsilon_{it} \quad (1)$$

Since I am interested in estimating the proxy for accounting choices, I control for the impact of economic transactions on ROE, and the residual term of the equation is my proxy for accounting choices.

To calculate comparability, I first calculate the difference in ROE between firm *i* and firm *m*, where firm *i* and *m* are in the same industry, same year, and with the same fiscal year end, but headquartered in different countries:

$$ROE_{imt} = ROE_{it} - ROE_{mt} \quad (2)$$

where  $ROE_{imt}$  stands for difference in ROE between firm *i* and its matched firm *m* from the same industry but different country, and  $ROE_{it}$  and  $ROE_{mt}$  stand for ROE of firm *i* and its matched firm *m*, respectively.

Next, I tease out the effect of the underlying economics on the difference in the matched firms' return on equity,  $ROE_{imt}$ . I choose four variables that have been used in the prior literature as the primary drivers of economic performance: gross domestic products per capita (GDP), market return (RET), past year's market return (LRET), and market value of equity (MVE). I use difference in country GDP per capita to tease out the impact of economy wide growth/contraction on ROE. I use RET, LRET, and MVE to proxy for firm performance and other characteristics including economic risks (Sloan 1996). After controlling for differences in economy, industry, and firm level performance and characteristics, the differences in ROE between two similar firms reflect differences in accounting choices. Specifically, I run the following regression by firm-year:

$$ROE_{imt} = \beta_{0it} + \beta_1 GDP_{imt} + \beta_2 RET_{imt} + \beta_3 LRET_{imt} + \beta_4 MVE_{imt} + \varepsilon_{it} \quad (3)$$

where  $GDP_{imt}$  stands for differences in annual GDP per capita between countries where firm *i* and its matched firm reside.  $RET_{imt}$  is calculated as the difference in the firm level annual returns,  $LRET_{imt}$  is the difference in the firm level lagged annual returns, and  $MVE_{imt}$  is the difference in log of market value of equity between the two firms. My first firm-year measure of cross-country accounting comparability (CCAC1) is -1 times the absolute value of the firm-year average of the residual term,  $\varepsilon_{it}$ . My second measure of cross-country comparability for firm *i* (CCAC2) in year *t* is -1 times the standard deviation of the firm-year residual term for the year. Larger values of CCAC1 and CCAC2 indicate higher accounting comparability.

To calculate within country accounting comparability (WCAC), I replace  $ROE_{mt}$  in Eq. (2) with matched firms from the same industry, same year, same fiscal year end, and same country. I then re-estimate regression (3) without  $GDP_{imt}$ . WCAC1 and WCAC2 are calculated the same way as CCAC1 and CCAC2, respectively.

#### 3.2. Representational Faithfulness Proxy (AQ)

I use accruals quality to proxy for representational faithfulness. This is because I focus on the representational faithfulness aspect of accounting quality. Representational faithfulness is about a complete, neutral, and free-from-error depiction of the underlying economic phenomena that firms purport to represent (FASB, 2010). Accruals is the mechanism that maps reported earnings (which is a combination of the underlying economics and accounting methods) into cash flows (which is the underlying economics), thus reflecting the degree of faithful representation of the accounting methods of the firm.

Consistent with prior studies (Ahmed et al. 2013; Francis, LaFond, Olsson, and Schipper 2005), I use the following cross-sectional modified Dechow and Dichev (McNichols 2002) model to estimate accruals quality:

$$TCA_{it} = \beta_{0i} + \beta_{1i} CFO_{it-1} + \beta_{2i} CFO_{it} + \beta_{3i} CFO_{it+1} + \beta_{4i} \Delta REV_{it} + \beta_{5i} PPE_{it} + v_{it} \quad (4)$$

where  $TCA_{it}$  is total current working capital accruals and is calculated as  $\Delta CA_{it} - \Delta CL_{it} - \Delta CASH_{it} + \Delta STD_{it}$  in year  $t$  for firm  $i$ .  $\Delta CA_{it}$ ,  $\Delta CL_{it}$ ,  $\Delta CASH_{it}$ , and  $\Delta STD_{it}$  are changes in current assets (wc02201), current liabilities (wc03101), cash (wc02001), and short term debt (wc03051) between year  $t-1$  and year  $t$ , respectively.  $CFO_{it}$  is firm  $i$ 's cash flows from operations (wc04860) in year  $t$ .  $\Delta REV_{it}$  is firm  $i$ 's change in revenues (wc01001) between year  $t-1$  and year  $t$ , and  $PPE_{it}$  is firm  $i$ 's gross value of property, plant, and equipment (wc02301) in year  $t$ . All these variables are scaled by average total assets.  $v_{it}$  is the classic error term. I measure accruals quality as -1 times the absolute value of the one-year residual term ( $v_{it}$ ) from the model (Demerjian, Lewis, Lev, and McVay 2013). Larger values of  $AQ$  indicate higher accruals quality.

I do not calculate accruals quality ( $AQ$ ) as the standard deviation of the residuals from year  $t-4$  to  $t$  because doing so would require more time-series data than are available, and because doing so would result in  $AQ$  being calculated across the local (before 2004) and IFRS (from 2005) accounting regimes. I acknowledge that  $AQ$  for 2004 and 2005 still suffer the two-accounting regime problem in that,  $CFO_{it+1}$  for 2004 is recorded under IFRS, while  $CFO_{it-1}$  for 2005 is recorded under local standards. I do keep observations for these 2 years because of low data availability. The resulting measurement error would only bias against finding the desirable results.

### 3.3. Pre-IFRS Local GAAP Flexibility and Quality Proxies (*PreF* and *PreAQ*)

Hypotheses 2 and 3 posit that changes in within-country comparability and accounting quality following the IFRS adoption are conditional on the flexibility (*PreF*) and quality (*PreAQ*) of the local accounting standards relative to those of IFRS. Flexibility refers to the extent of legitimate alternatives the set of accounting standards allows and other alternatives resulting from no requirement for, or lack of clear guidance on, financial reporting. Quality of local accounting standards is the extent of representational faithfulness of the local accounting standards relative to IFRS.

*PreF* is derived from the Bae, Tan, and Welker (2008) study which examines the impact of international GAAP differences on foreign analysts. The authors first identify a list of 21 important accounting rules based on a review of the past literature, and then measure the differences between local GAAPs in each of the 21 accounting rules. I measure *PreF* based on the differences between local GAAPs and IFRS in the 21 rules as coded by Bae et al. A country is given 1 point if its local standard is different from IFRS in one of the rules. *PreF* is the total points a country received. *PreF* ranges from 0 to 21. Table 1, column (4) presents the scoring information for countries selected for this study.

There are a few limitations for *PreF*. First, the 21 accounting rules may not capture all important aspects of accounting standards. Second, the measurement is based on differences in the rules between local standards and IFRS at the end of 2001. It does not take into consideration rules coming into effect between 2001 and 2004. Finally, by construction, *PreF* captures the degree of flexibility of local standards relative to IFRS. This means all local standards examined are either equally flexible as IFRS or more flexible than IFRS, but no local standards can be less flexible than IFRS. As discussed in the hypothesis development section pertaining to hypothesis 2, some local standards might be less flexible than IFRS and changes in within-country comparability after the adoption might be different for this group than for the group that is more flexible than IFRS. Due to this limitation of the proxy construction, I am not able to investigate how countries with less flexible local standards would react to the adoption in terms of within-country comparability. However, this might not be a big concern because these 21 accounting rules were rules that were actually in practice before countries adopted IFRS, which suggest that all local standards are indeed likely to be more flexible than IFRS.

I develop *PreAQ*, which is derived on the difference between the country level accounting quality in the pre-IFRS period and the average IFRS accounting quality in the postadoption period, as the proxy for pre-IFRS local accounting standards quality. Specifically, I first calculate the average  $AQ$  for each country over the preadoption period (*CPreAQ*). Next, I calculate the average  $AQ$  for all IFRS firms in the post-IFRS period (*IFRSAQ*). *PreAQ* is coded 1 if *CPreAQ* is greater than *IFRSAQ*, and 0 otherwise. Columns (1) to (3) of Table 1 present the scoring information for *PreAQ*.

Country	<i>IFRSAQ (1)</i>	<i>CPreAQ (2)</i>	<i>PreAQ (3)</i>	<i>PreF (4)</i>
Argentina	-0.038	-0.059	0	14
Australia	-0.038	-0.045	0	4
Belgium	-0.038	-0.032	1	13
Brazil	-0.038	-0.010	1	11
Canada	-0.038	-0.034	1	5
China	-0.038	-0.052	0	9
Denmark	-0.038	-0.040	0	11
Finland	-0.038	-0.034	1	15
France	-0.038	-0.027	1	12
Germany	-0.038	-0.044	0	11
Greece	-0.038	-0.037	1	17
India	-0.038	-0.080	0	8
Ireland	-0.038	-0.031	1	1
Japan	-0.038	-0.017	1	9
Korea (South)	-0.038	-0.033	1	6
Malaysia	-0.038	-0.052	0	8
Mexico	-0.038	-0.015	1	1
Netherlands	-0.038	-0.035	1	4
Norway	-0.038	-0.037	1	7
Pakistan	-0.038	-0.022	1	4
Philippines	-0.038	-0.030	1	10
Portugal	-0.038	-0.028	1	13
Singapore	-0.038	-0.033	1	0
Sri Lanka	-0.038	-0.005	1	0
Sweden	-0.038	-0.033	1	10
Switzerland	-0.038	-0.036	1	12
Thailand	-0.038	-0.116	0	4
United Kingdom	-0.038	-0.028	1	1
United States	-0.038	-0.026	1	4
<b>Average</b>	<b>-0.04</b>	<b>-0.04</b>	<b>0.72</b>	<b>7.72</b>

Table 1: Quality and Flexibility Proxies of Local Accounting Standards Relative to IFRS

### 3.4. Justification and Construct Validity Test of the Accounting Comparability Proxies

There are existing measures of accounting comparability and earnings comparability measures (De Franco et al. 2011; Lang et al. 2010) in the prior literature. With the accounting comparability measure, De Franco et al. (2011) regress the ratio of earning to market value of equity (E/P) on annual returns using quarterly data, and use the intercept and coefficient on returns as the proxy for accounting choices. Similarly, Lang et al. (2010) regress E/P on annual returns using annual data and take the intercept and coefficient on returns as the proxy for accounting choices. They then take the difference in the intercept and coefficient between two matched firms, after controlling for returns, as the proxy for comparability.

There is a potential concern with these measures: They do not necessarily measure accounting comparability. The relation between E/P and returns is impacted by accounting quality, risk, and other nonaccounting factors such as information availability. Thus, comparing differences across firms in the relation between returns and E/P does not necessarily test accounting comparability. That is, a similar mapping between returns and E/P can exist across firms that have noncomparable accounting choices but are similar in terms of accounting quality, risk, and other factors that affect the relationship between returns and E/P.

In addition to the above concern, the De Franco et al. measures require time series quarterly data to estimate, which are not available in the international setting, thus limiting the application of these measures in my study. Although Lang et al. (2010) utilize annual data to modify the De Franco et al. measures to meet the need of their study, the comparability proxies they developed with international annual data display different properties than the De Franco et al. measures did in the U.S. market. This phenomenon suggests possible limitations for the application of the De Franco measures in an international setting, and also concerns about the ability of the De Franco et al. and the Lang et al. measures to capture the underlying constructs in an international setting.

With the earnings comparability measure, the original De Franco et al. (2011) measure is the adjusted- $R^2$  from regression of firm<sub>j</sub>'s E/P on firm<sub>i</sub>'s E/P, where firm<sub>j</sub> is in the same industry as firm<sub>i</sub>. Their argument is that if two firms are comparable, their earnings are more likely correlated and their accounting choices are more likely to be similar. The issue with this measure is that the co-movement between two firms' earnings measures the combined effect of the true economics and the accounting practices because reported earnings is a function of these two factors. Therefore, the adjusted- $R^2$  captures the impact of both earnings comparability and accounting comparability, and thus, it is not a precise proxy for accounting comparability.

My measure of comparability attempts to control for differences across firms in terms of economic performance and other related factors and then attributes any remaining difference between a firm's ROE as stemming from reduced comparability of accounting

methods. The benefit of my metric is that it uses the residual term instead of the coefficient, intercept, or adjusted- $R^2$ , which capture mixed effects of many factors.

### 3.4.1. Construct Validity Analysis of Accounting Comparability Measures (CCAC1 and CCAC2)

In this section of the paper I perform empirical analyses to examine how well my accounting comparability measures, *CCAC1* and *CCAC2*, capture the underlying construct. The ideal environment for this analysis is a setting where all else equal, the only things that change are the accounting standards. I use financial reports for foreign firms cross-listed in the U.S. in 2004 for this purpose. Foreign firms cross-listed in the U.S. were required to file 20-F under their local GAAPs for 2004. If these firms adopted IFRS in 2005, they filed 20-F for 2005 under IFRS. In addition, they had to provide comparable financial data under IFRS for 2004 as well. Thus, 2004 is the year when cross-listed foreign firms have two sets of financial reports: one set under local GAAP and one set under IFRS. If my accounting comparability measures indeed capture the underlying construct, I should observe an increase in accounting comparability estimated under IFRS than under local GAAP for the firms cross-listed in 2004 (the improvement test). In addition to this comparability improvement test, I examine whether these two comparability proxies are associated with the flexibility proxy, *PreF*, because if these two comparability proxies capture their underlying construct, they should be associated with other measures associated with comparability such as *PreF* (the association test).

The first test I perform is to estimate *CCAC1* and *CCAC2* using 2004 data under IFRS and local GAAPs, respectively. I hand collect financial reporting data for 20 foreign firms from various countries that are cross-listed in the New York Stock Exchange in 2004, and that adopted IFRS in 2005. I then estimate *CCAC1* and *CCAC2* as I did earlier in this chapter except that I relax the requirement of industry match due to data limitation. I expect to see that *CCAC1* and *CCAC2* estimated under IFRS are greater in magnitude than *CCAC1* and *CCAC2* estimated under local GAAPs, which means improvement in comparability when firms prepare financial statements under a single set of accounting standards than under various local standards. I perform the test using both the mean and median values for *CCAC1* and *CCAC2*, because the mean is sensitive to the influence of extreme values while the median is not.

Panel A: Improvement Test								
Variable	Local Standards		IFRS		Improvement			
	Mean	Median	Mean	Median	Mean		Median	
<i>CCAC1</i>	0.000	0.000	0.000	0.000	0.000		0.000	***
<i>CCAC2</i>	-0.113	-0.121	-0.105	-0.113	0.008	***	0.008	***
Panel B: Association Test								
Variable	<i>PreF</i>	<i>CCAC1</i>	<i>CCAC2</i>					
<i>PreF</i>								
<i>CCAC1</i>	-0.449							
<i>CCAC2</i>	-0.511	0.093						

Table 2: Construct Validity Test of Accounting Comparability Proxies

Table 2, Panel A presents the results for the test. When using the mean values for the test, *CCAC1* has no significant improvement when estimated under IFRS than under the local standard, but *CCAC2* has significant improvement (0.008). The results are different when using the median values for the test: the improvement for both *CCAC1* and *CCAC2* is significant.

The second test I perform is to examine the correlation of *CCAC1* and *CCAC2* with *PreF*, flexibility of local standards. If *CCAC1* and *CCAC2* indeed capture accounting comparability, they should be negatively associated with *PreF*. Table 2 Panel B indicates that these two comparability measures are indeed negatively associated with *PreF*.

## 4. Research Design

### 4.1. Pre- and Post-IFRS Accounting Comparability and Quality Analysis

I focus on countries that adopted IFRS in 2005 to simplify the research design. I utilize a balanced time period for the before- (year 2000 to year 2004) and the after-adoption year (year 2005 to year 2009) for various tests. I estimate *CCAC*, *WCAC*, and *AQ* for each firm-year over the 10-year period. I utilize matched control samples (firms that never used IFRS) to tease out the possible confounding effects of any time trends that are independent of IFRS adoption (Lang et al. 2010).

Following Lang et al. (2010), I compile the control sample group using a one-to-one “greedy” matching algorithm. This procedure yields a group of non-IFRS adopter firms that are closely related to the treatment group along several firm-level (returns and market value of equity) and country-level (GDP per capita) economic dimensions. I also control for industry effect by matching firms in the same industry. For both the control and the treatment (IFRS adopters) firms, I estimate *CCAC*, *WCAC*, and *AQ* for each firm-year for the 10-year period.

As a first step to test my hypotheses, I conduct a firm level difference-in-difference test to examine changes in *CCAC*, *WCAC*, and *AQ* in the pre- and post-IFRS periods for the treatment as well as the control samples. Next, I utilize pooled multivariate regression analysis to examine the effects of IFRS adoption on *CCAC*, *WCAC*, and *AQ*. All regression models are country and industry fixed effects models to control for country and industry effects that might affect comparability and representational faithfulness.

Hypothesis 1 states that all adopters experience increases in cross-country accounting comparability after the adoption. I estimate the following equation to test H1:

$$CCAC_{it} = \beta_0 + \beta_1 IFRS_i + \beta_2 POST_t + \beta_3 IFRS_i * POST_t + \varepsilon_{it} \quad (5)$$

where  $IFRS_i$  is an indicator variable that equals 1 if firm  $i$  is a mandatory IFRS adopter, and 0 otherwise.  $POST_t$  is an indicator variable that equals 1 if the observation is in the post-IFRS period, and 0 otherwise. The hypothesis test focuses on the sign and significance of  $\beta_3$ . A significantly positive  $\beta_3$  indicates that the dependent variable increases incrementally more for the adopters than the nonadopters in the post-IFRS period.

Hypothesis 2 posits that changes in within-country comparability are conditional on the flexibility of the local accounting standards relative to IFRS. The following equation tests H2:

$$WCAC_{it} = \beta_0 + \beta_1 IFRS_i + \beta_2 POST_t + \beta_3 PreF_i + \beta_4 IFRS_i * POST_t + \beta_5 PreF_i * IFRS_i + \beta_6 PreF_i * POST_t + \beta_7 PreF_i * IFRS_i * POST_t + \varepsilon_{it} \quad (6)$$

where all variables are defined as before and as in the Appendix. A significantly positive  $\beta_4$  indicates that the within-country comparability increases incrementally more for adopters than nonadopters following the adoption, and a significantly positive  $\beta_7$  indicates that changes in within-country comparability for adopters after the adoption is positively associated with the degree of the flexibility of the local standards relative to IFRS. The higher the flexibility of the local standards, the more increases in within-country comparability following the adoption.

Hypothesis 3 states that changes in representational faithfulness following IFRS adoption are conditional on the quality of the pre-IFRS local accounting standards. To test the hypothesis, I start with running the following analysis:

$$AQ_{it} = \beta_0 + \beta_1 IFRS_i + \beta_2 POST_t + \beta_3 PreAQ_i + \beta_4 IFRS_i * POST_t + \beta_5 PreAQ_i * IFRS_i + \beta_6 PreAQ_i * POST_t + \beta_7 PreAQ_i * IFRS_i * POST_t + \varepsilon_{it} \quad (7)$$

where  $PreAQ$  is an indicator variable as defined in Chapter 4. All other variables are calculated as in the Appendix. A significantly negative  $\beta_4$  suggests that accounting quality decreases more for adopters than nonadopters after the adoption. A significant  $\beta_7$  indicates that changes in accounting quality for the adopters following IFRS adoption are conditional on the quality of the pre-IFRS local accounting standards.

Although a significant  $\beta_7$  suggests that changes in accounting quality for the adopters following IFRS adoption are conditional on the quality of the pre-IFRS local accounting standards relative to IFRS, it does not indicate whether the changes for the two types of firms are in the same or different direction. To further explore how  $PreAQ$  affects changes in accounting quality, I partition the sample into two groups (high and low) based on  $PreAQ$  and estimate the following equation to explore how  $PreAQ$  impact changes in quality with the adoption:

$$AQ_{it} = \beta_0 + \beta_1 IFRS_i + \beta_2 POST_t + \beta_3 IFRS_i * POST_t + \varepsilon_{it} \quad (7.1)$$

According to H3, for firms in countries in the high (low)  $PreAQ$  group, the expected sign on  $\beta_3$  is negative (positive), because firms with higher (low)  $PreAQ$  are expected to experience decreases (increases) in quality. Nevertheless, accounting quality may stay the same after the adoption if the country's  $PreAQ$  is the same as the IFRS quality, as discussed in the corresponding hypothesis development section.

#### 4.2. Trade-Off between Accounting Comparability and Representational Faithfulness Analysis

Tests for H1 and H3 provide preliminary evidence on the potential trade-off between changes in cross-country accounting comparability and representational faithfulness, but the tests are done in different samples. To better examine the trade-off, I compose a sample (the trade-off sample) based on the availability of data needed to calculate  $CCAC$  and  $AQ$ , and do the trade-off analysis within this sample. First, I conduct a firm level difference-in-difference test to examine changes in  $CCAC$  and  $AQ$  before, versus after, the adoption. Next, I estimate the next two equations to see if on average, IFRS adopters experience increased cross-country comparability but decreased representational faithfulness following the adoption and whether changes in representational faithfulness are conditional on the quality of the local accounting standards relative to IFRS:

$$CCAC_{it} = \beta_0 + \beta_1 POST_t + \varepsilon_{it} \quad (8)$$

$$AQ_{it} = \beta_0 + \beta_1 POST_t + \beta_2 PreAQ_i + \beta_3 PreAQ_i * POST_t + \varepsilon_{it} \quad (9)$$

Finally, to take a closer look at whether the trade-off between accounting comparability and representational faithfulness exists in all firms, I partition firms into two groups according to their  $PreAQ$ . A firm is classified as high in terms of quality if its  $PreAQ$  is 1, and is classified as low if its  $PreAQ$  is 0. I then estimate equation (8) and the following equation within each group to examine whether there is any pattern in terms of changes in  $\beta_1$  with each equation:

$$AQ_{it} = \beta_0 + \beta_1 POST_t + \varepsilon_{it} \quad (10)$$

For both the high and low  $PreAQ$  sample, I expect to see a positive  $\beta_1$  for equation (8), which suggests cross-country comparability improvement for all adopters. With equation (10), I expect a negative  $\beta_1$  for the high  $PreAQ$  group and a positive  $\beta_1$  for the low  $PreAQ$  group.

### 5. Data and Sample Selection and Descriptive Statistics

I obtain all financial statement data items from WorldScope, which is part of the DataStream database. Details regarding data selection criteria and sample construction procedures are available upon request.

Tables 3 to 4 provide descriptive statistics for the cross-country and the trade-off samples. For each table, Panel A shows the country distribution for the adopter and nonadopter firms, Panel B provides mean and median estimation, and Panel C is the correlation matrix. Because of sample selection criteria, the adopter countries are primarily EU countries, while the nonadopters come from a wider range of developed and emerging countries. In Table 3, Panel B, the adopter and nonadopter firms are quite similar in terms of  $RET$ ,  $LRET$ , and  $MVE$ , which are the economic indicators used in deriving accounting comparability proxies  $CCAC1$  and  $CCAC2$  and



in matching control firms to treatment firms. It should be noted that the adopter firms have much higher *ROE* than the nonadopter firms (14.64% vs. 10.57%), which may suggest differences in accounting practices across the two samples.

Table 3, Panel C provides the Spearman correlation matrix for the adopter and nonadopter samples. The low positive correlation between *CCAC1* and *CCAC2* suggests that either these proxies capture somewhat different underlying constructs, or one of the proxies (*CCAC1*) is weaker than the other (*CCAC2*). The later explanation is consistent with the fact that *CCAC2* is usually highly significant while *CCAC1* is weakly significant.

Table 4 displays the descriptive statistics for the trade-off analysis sample. They are similar to those of the treatment samples for the cross-country comparability analyses. It should be noted that accounting comparability proxies (*CCAC1* and *CCAC2*) and *AQ* have significantly positive but low correlations, which is consistent with the notion that comparability and representational faithfulness are different qualitative characteristics of useful financial information.

Panel A - Country Breakdown									
Adopters					Non-adopters				
Country	# Firm	%	Frequency	%	Country	# Firm	%	Frequency	%
Australia	35	4.74	214	4.59	Brazil	1	0.18	3	0.09
Belgium	22	2.98	144	3.09	Canada	101	18.5	564	17.82
Denmark	36	4.87	222	4.76	China	13	2.38	59	1.86
Finland	61	8.25	419	8.99	India	6	1.1	40	1.26
France	168	22.73	1014	21.76	Indonesia	10	1.83	45	1.42
Germany	61	8.25	364	7.81	Japan	106	19.41	595	18.8
Greece	14	1.89	68	1.46	Korea (South)	30	5.49	157	4.96
Ireland	13	1.76	91	1.95	Malaysia	7	1.28	41	1.3
Netherlands	57	7.71	408	8.76	Mexico	6	1.1	42	1.33
Poland	12	1.62	52	1.12	Pakistan	1	0.18	3	0.09
Portugal	14	1.89	80	1.72	Singapore	110	20.15	655	20.7
Sweden	87	11.77	544	11.68	Thailand	6	1.1	41	1.3
Switzerland	18	2.44	113	2.43	United States	149	27.29	920	29.07
United Kingdom	141	19.08	926	19.88					
Total	739	100	4659	100	Total	546	100	3165	100

Panel B - Descriptive Statistics								
Adopters								
Variable	N	Mean	Std	Min	P25	Median	P75	Max
<i>CCAC1</i>	4659	-10.8	14.35	-309.98	-13.29	-7.11	-3.31	-0.01
<i>CCAC2</i>	4659	-14.66	5.03	-50.68	-17.34	-14.09	-11.09	-0.17
<i>ROE</i>	4659	14.64	20.39	340.13	7.23	14.29	22.33	258.58
<i>RET</i>	4659	0.24	0.55	-0.95	-0.07	0.2	0.49	5.34
<i>LRET</i>	4659	0.23	0.51	-0.94	-0.08	0.18	0.46	4.15
<i>MVE</i>	4659	13.07	1.97	7.06	11.68	12.93	14.4	18.86
Non-adopters								
Variable	N	Mean	Std	Min	P25	Median	P75	Max
<i>CCAC1</i>	3165	-9.61	10.1	-123.33	-12.48	-6.79	-3.22	-0.01
<i>CCAC2</i>	3165	-12.52	6.76	-64.24	-15.68	-11.53	-8.61	-0.02
<i>ROE</i>	3165	10.57	14.78	-128.1	4.02	9.63	17.31	117.43
<i>RET</i>	3165	0.23	0.63	-0.98	-0.12	0.11	0.42	10.56
<i>LRET</i>	3165	0.21	0.61	-0.98	-0.14	0.11	0.4	6.74
<i>MVE</i>	3165	12.6	2	7.7	11.03	12.49	14.12	18.38

Panel C - Correlation Matrix						
Adopters						
Variable	CCAC1	CCAC2	ROE	RET	LAGRET	MVE
CCAC1						
CCAC2	<b>0.044</b>					
ROE	<b>-0.054</b>	<b>0.043</b>				
RET	<b>0.09</b>	<b>0.14</b>	<b>0.196</b>			
LRET	<b>0.035</b>	<b>0.063</b>	<b>0.32</b>	<b>0.07</b>		
MVE	<b>-0.044</b>	<b>0.083</b>	<b>0.287</b>	<b>0.074</b>	<b>0.047</b>	
Non-Adopters						
Variable	CCAC1	CCAC2	ROE	RET	LAGRET	MVE
CCAC1						
CCAC2	<b>0.049</b>					
ROE	<b>-0.038</b>	-0.021				
RET	0.028	<b>0.074</b>	<b>0.256</b>			
LRET	<b>0.029</b>	0.02	<b>0.302</b>	-0.009		
MVE	0.011	0.02	<b>0.3</b>	<b>0.101</b>	<b>0.097</b>	

Table 3, Panel C is the Spearman correlation matrix. Bold and italicized numbers are significant at 0.01, bold numbers are significant at 0.05, and italicized numbers are significant at 0.1 level, respectively.

Table 3: Panel A presents Descriptive Statistics for the Cross-Country Accounting Comparability Sample

Panel A - Country Breakdown				
Country	# Firm	%	Frequency	%
Australia	28	4.74	158	4.62
Belgium	18	3.05	108	3.16
Denmark	29	4.91	171	5
Finland	53	8.97	335	9.79
France	131	22.17	724	21.16
Germany	51	8.63	281	8.21
Greece	11	1.86	47	1.37
Ireland	13	2.2	79	2.31
Netherlands	50	8.46	331	9.67
Portugal	11	1.86	61	1.78
Sweden	73	12.35	429	12.54
Switzerland	15	2.54	86	2.51
United Kingdom	108	18.27	612	17.88
Total	591	100	3,422	100

Panel B - Descriptive Statistics								
Variable	N	Mean	Std	Min	P 25	Median	P75	Max
CCAC1	3422	-10.67	14.34	-236.08	-12.95	-6.97	-3.32	0
CCAC2	3422	-13.54	4.56	-46.33	-16.39	-12.96	-10.19	-0.35
AQ	3422	-0.04	0.05	-1.27	-0.05	-0.02	-0.01	0
ROE	3422	16.18	19.84	-168.17	8.24	15.17	22.94	267.47
RET	3422	0.2	0.48	-0.9	-0.06	0.17	0.42	5.14
LRET	3422	0.24	0.58	-0.94	-0.05	0.17	0.44	16.95
MVE	3422	13.21	1.92	7.31	11.82	13.08	14.51	18.86

Panel C - Correlation Matrix							
Variable	CCAC1	CCAC2	AQ	ROE	RET	LRET	MVE
CCAC1							
CCAC2	<b>0.049</b>						
AQ	<b>0.072</b>	0.003					
ROE	<b>-0.057</b>	0.007	<b>-0.106</b>				
RET	<b>0.05</b>	0.018	<b>-0.079</b>	<b>0.203</b>			
LRET	<b>0.053</b>	0.015	-0.06	<b>0.293</b>	<b>0.153</b>		
MVE	<b>-0.051</b>	<b>0.042</b>	<b>0.117</b>	<b>0.274</b>	0.018	<b>0.079</b>	

Panel C presents the Spearman correlation matrix. Bold and italicized numbers are significant at 0.01, bold numbers are significant at 0.05, and italicized numbers are significant at 0.1 level, respectively.

Table 4: Descriptive Statistics for the Trade-off Sample

## 6. Empirical Analysis

### 6.1. Pre- and Post-IFRS Adoption Empirical Analysis Findings

Table 5 reports the empirical results for the cross-country accounting comparability analysis. In Panel A, the adopter and nonadopter countries have significant difference in *CCAC1* in the pre-IFRS period; however, *CCAC1* for the adopters increases after the adoption while it decreases for the nonadopters. As a result, the improvement in *CCAC1* for the adopters is significantly larger than that for the nonadopters (1.190 vs. -1.392), leading to a significant difference in changes in *CCAC1* (2.553) between the adopters and nonadopters after the adoption. Looking at *CCAC2*, the adopters also have a significantly lower comparability than the nonadopters in the preadoption period; however, the adopters have a significant improvement (a change of 2.388) with the adoption while the nonadopters have a significant decrease in comparability, leading to a much smaller difference in *CCAC2* between the two samples in the postadoption period (-4.200 vs. -0.655). Moreover, the difference in the change of *CCAC2* between the adopters and nonadopters is significant (3.551).

Panel B of Table 5 presents the results from the multivariate regression analysis of equation (5). Consistent with the results from the difference-in-difference test, the adopters experienced a statistically significant incremental increase in both *CCAC1* and *CCAC2* in the post-IFRS adoption period than the nonadopters. This suggests that IFRS adoption leads to improvement in cross-country accounting comparability among the adopters, which supports H1.

It is interesting to note that there is a negative time trend of comparability (negative coefficient of *POST*), and that nonadopters experience a significant decrease in comparability in the postadoption period. To explore why this is happening, I examine comparability on an annual basis (results untabulated). It seems that comparability decreases for both the adopters and nonadopters for the years of 2007 and 2008, and the nonadopters experience a larger decrease in comparability than the adopters. Future studies are necessary to explore this phenomenon.

Panel A - Difference-in-difference Analysis				
<i>CCAC1</i>				
Variable	Prediction	Pre	Post	Difference 1
Adopters	Pre < Post	-11.584	-10.139	1.190*
Non-adopters	Pre = Post	-9.368	-10.73	-1.392 ***
Difference 2		-2.22 ***	-0.336	<b>2.553 ***</b>
<i>CCAC2</i>				
Adopters	Pre < Post	-15.94	-13.555	2.388 ***
Non-adopters	Pre = Post	-11.74	-12.9	-1.163 ***
Difference 2		-4.200 ***	-0.655 *	<b>3.551 ***</b>

Panel B - Multivariate Regression Analysis						
Dep. Variable	<i>CCAC1</i>			<i>CCAC2</i>		
	(1)	(2)		(3)	(4)	
<i>Intercept</i>	<b>-9.389</b>	<b>(-12.03)</b>	***	-12.753	(-38.88)	***
<i>IFRS</i>	<b>-2.69</b>	<b>(-3.99)</b>	***	-5.003	(-17.41)	***
<i>POST</i>	-0.846	(-1.86)	*	-1.186	(-6.13)	***
<i>IFRS*POST</i>	<b>2.143</b>	<b>-3.65</b>	***	<b>3.658</b>	<b>-14.62</b>	***
Fixed Effects	C, I			C, I		
<i>Adj.R<sup>2</sup></i>	0.034			0.172		
N	7,824			7,824		

**Table 5, Panel B presents results from the multivariate regression analysis for cross-country accounting comparability analysis. Columns (1) and (3) are parameter estimates, and columns (2) and (4) are T-values. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively.**

Table 5: Empirical Analysis for Cross-Country Comparability. Panel A presents results for the pre- and post-IFRS difference-in-difference test. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively

Table 6, Panel A displays the analysis results for the within-country comparability changes following IFRS adoption. The nonadopters have a higher *WCAC1* in both the pre- and postadoption periods than the adopters, but the adopters experienced a significantly larger increase in *WCAC1* than the nonadopters following the adoption, and the increase is even larger for *WCAC2*. As a result, the difference between adopters and nonadopters becomes smaller (*WCAC1*) or insignificant (*WCAC2*) after the adoption. The results from the multivariate regression analysis in Panel B (positive coefficient estimate of *IFRS\*POST*) are similar to those in Panel A. The evidence suggests that IFRS adoption leads to a significant improvement for the adopters than for the nonadopters.

Panel B indicates that *PreF* is negatively correlated with within-country comparability. That is, countries with higher flexibility in local standards have lower within-country comparability. Inconsistent with the prediction of H2, which states that changes in within-country comparability are conditional on the flexibility of the pre-IFRS local standards relative to IFRS, the coefficient estimate of *PreF\*IFRS\*POST* is insignificant. This might be due to the fact that all local standards have higher flexibility than IFRS by construction (and likely by fact too), thus, local standards are always more flexible than IFRS. This might result in insufficient variation in *PreF* for the test to be powerful enough to detect the incremental impact of *PreF* on changes in within-country comparability.

Panel A - Difference-in-difference Analysis				
WCAC1				
Variable	Prediction	Pre	Post	Difference 1
Adopters	?	-13.14	-10.66	2.476 *
Non-adopters		-7.779	-8.012	-0.333
Difference		-5.361 ***	-2.640 ***	<b>2.809 ***</b>
WCAC2				
	Prediction	Pre	Post	
Adopters	?	-16.112	-12.42	3.692 ***
Non-adopters		-10.89	-12.34	-1.449 ***
Difference 2		-5.222 ***	-0.08	<b>5.141 ***</b>

Panel B - Multivariate Regression Analysis for Within-Country Comparability						
Dep. Variable	WCAC1			WCAC2		
	(1)	(2)		(3)	(4)	
Intercept	-7.721	(-12.22)	***	-7.986	(-11.15)	***
IFRS	-6.717	(-7.77)	***	-9.068	(-12.83)	***
POST	-0.586	(-0.78)		-1.403	(-2.32)	**
<i>PreF</i>	<b>-0.571</b>	<b>(-3.51)</b>	***	<b>-1.257</b>	<b>(-9.44)</b>	***
<i>PreF*IFRS</i>	1.081	-5.87	***	2.071	-13.71	***
<i>PreF*POST</i>	0.026	-0.21		-0.019	(-0.19)	**
<b>IFRS*POST</b>	<b>3.391</b>	<b>-3.2</b>	***	<b>6.249</b>	<b>-7.36</b>	***
<b><i>PreF*IFRS*POST</i></b>	<b>-0.105</b>	<b>(-0.71)</b>		<b>-0.162</b>	<b>(-1.38)</b>	
Fixed Effects	C, I			C, I		
Adj. R <sup>2</sup>	0.083			0.202		
N	7,323			7,323		

*Panel B presents results from the multivariate regression analysis for within-country accounting comparability. Columns (1) and (3) are parameter estimates and columns (2) and (4) are T-values. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1(two-sided), respectively.*

Table 6: Empirical Analysis for Within-Country Comparability. Panel A presents results of the pre- and post-IFRS difference-in-difference test. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively

Table 7, Panel A demonstrates the empirical evidence of changes in *AQ* for the adopters and nonadopters following the adoption. The nonadopters have a significantly higher *AQ* than the adopters in both the pre- and postadoption periods. However, the adopters experienced a significant decrease in *AQ* (-0.006) while the nonadopters experienced an insignificant increase in *AQ* (0.004). Thus, the difference in *AQ* (from -0.005 to -0.015) between the two samples becomes larger in the postadoption period.

Panel B shows similar results. While there is an overall significant positive time trend for *AQ* (positive coefficient estimate on *POST*), the adopters experienced a significant incremental decrease in *AQ* than the nonadopters following the adoption (Coefficient of -0.047 on *IFRS\*POST*). The coefficient estimate of *PreAQ\*IFRS\*POST* is significantly positive (0.042), suggesting that adopter firms with high quality local standards (*PreAQ* =1) either increase more or decrease less in quality than the adopter firms with low quality local standards (*PreAQ* = 0). To further explore this phenomenon, I estimate Eq. (7.1), which examines how countries with high and low quality local standards respond to IFRS adoption in terms of representational faithfulness. Table 7, Panel C reports the results. The evidence suggests that both groups of firm’s experience decreases in representational faithfulness, but firms with higher quality local standards see less decrease in representational faithfulness than firms with lower quality local standards. The evidence supports H3 in that firms with a different quality of local standards react differently in *AQ* changes after the adoption.

Panel A - Difference-in-difference Analysis				
<i>AQ</i>				
Variable	Prediction	Pre	Post	Difference 1
Adopters	Pre > Post	-0.034	-0.04	0.006 ***
Non-adopters	Pre = Post	-0.029	-0.025	-0.004 *
Difference 2		-0.005 ***	-0.015 ***	<b>0.010 ***</b>

Panel B - Multivariate Regression Analysis for Representational Faithfulness		
Dep. Variable	Parameter	T-Value
<i>Intercept</i>	-0.094	(-10.55) ***
<i>IFRS</i>	-0.058	-6.37 ***
<i>POST</i>	0.029	-4.65 ***
<i>PreAQ</i>	<b>0.075</b>	<b>-8.57</b> ***
<i>PreAQ*IFRS</i>	-0.06	(-6.49) ***
<i>PreAQ*POST</i>	-0.028	(-4.32) ***
<i>IFRS*POST</i>	<b>-0.047</b>	<b>(-6.67)</b> ***
<i>PreAQ*IFRS*POST</i>	<b>0.042</b>	<b>-5.8</b> ***
Fixed Effects	C, I	
<i>Adj.R<sup>2</sup></i>	0.076	
N	7,373	

**Table7: Panel B presents results from the multivariate regression analysis for representational faithfulness. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively.**

Table 7: Empirical Analysis for Representational Faithfulness. Panel A presents results of the pre- and post-IFRS difference-in-difference test. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively

### 6.2. Trade-Off between Accounting Comparability and Representational Faithfulness Analysis

Finally, Table 8 reports the results for the analysis of the trade-off between improvement in comparability and reduction in representational faithfulness. The results are very consistent with those in Tables 5 and 7. Specifically, the results for the difference-in-difference test in Panel A indicate that there are significant increases in *CCAC1* and *CCAC2* and a significant decrease in *AQ* after the adoption. The results in Panel B also suggest that there is a significant increase in *CCAC1* and *CCAC2* and a significant decrease in *AQ* following the adoption, and that changes in representational faithfulness are conditional on the quality of the local standards relative to the IFRS (significant positive coefficient on *PreAQ\*POST*). Panel C presents results from the regression analysis with the partitioned sample. They suggest that firms with higher quality local standards experience less decrease in *AQ* than firms with lower quality local standards, while both groups of firm's experience increase in *CCAC1* and *CCAC2*. This is generally supportive of H4 in that there is a difference in the impact of local accounting standards on changes in representational faithfulness for different firms following IFRS adoption.

Panel A - Difference-in-difference Analysis					
Variable	Prediction	Pre	Post	Difference	
<i>CCAC1</i>	Post >Pre	-11.64	-9.991	<b>1.645*</b>	
<i>CCAC2</i>	Post >Pre	-14.42	-12.73	<b>1.692 ***</b>	
<i>AQ</i>	Post <Pre	-0.035	-0.039	<b>-0.004 ***</b>	

Panel B - Multivariate Regression Analysis						
Dep. Variable	CCAC1		CCAC2		AQ	
	(1)		(2)		(3)	
<i>Intercept</i>	-15.175		-17.682		-0.045	
	(-9.62) ***		(-40.70) ***		(-8.01)	
<i>POST</i>	<b>1.557</b>		<b>1.743</b>		<b>-0.018</b>	
	<b>-3.24</b> ***		<b>-13.16</b> ***		<b>(-4.66)</b> ***	
<i>PreAQ</i>					0.013	
					-3.19	**
<i>PreAQ*POST</i>					<b>0.016</b>	
					<b>-3.76</b> ***	
Fixed Effects	C, I		C, I		C, I	
<i>Adj. R<sup>2</sup></i>	0.058		0.291		0.049	
N	3,422		3,422		3,422	

**Panel B presents results from the multivariate regression analysis for the trade-off analysis. T-Values (in parenthesis) are under the estimates of the parameters. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively.**

Table 8: Empirical Analysis for Trade-off between Accounting Comparability and Representational Faithfulness. Panel A presents results of the pre- and post-IFRS adoption difference-in-difference test for the trade-off sample. \*\*\*, \*\*, and \* indicate significance levels at 0.01, 0.05, and 0.1 (two-sided), respectively

## 7. Conclusion

The objective of IFRS adoption is to increase both accounting comparability and quality. Although it is a wide concern that adopting a single set of global accounting standards might lead to economic events being accounted for inappropriately, or dissimilar economic

events being treated similarly, and thus, affecting the representational faithfulness of financial reporting, no studies have examined the potential trade-off between comparability and representational faithfulness for the same set of firms at the same time. Moreover, the existing comparability proxies seem to have construct validity concerns and are not readily applicable in the international market due to data limitation, which makes the prior evidence on cross-country comparability unconvincing. My study directly examines the trade-off between improvement in accounting comparability and reduction in representational faithfulness with alternative and refined comparability measures developed in this study. In addition, I provide the first evidence on changes in within-country comparability following IFRS adoption.

This study contributes to the accounting literature in three ways. First, it provides evidence to the standard setters in the U.S. and the world that there is a trade-off between improved accounting comparability and reduction in representational faithfulness with the adoption. The evidence from this study implies that while there are benefits of utilizing a single set of accounting standards, there are also costs associated with it. Second, this paper examines how IFRS adoption affects within-country accounting comparability and provides preliminary evidence on this matter. Last but not least, I develop refined and alternative comparability measures that are suitable for both the international and the U.S. markets. I conduct two tests to examine the construct validity of the comparability proxies developed in this study. The overall evidence suggests that *CCAC2* is a superior measure of accounting comparability to *CCAC1*, but both measures are reasonable proxies for accounting comparability.

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**Appendix: Variable Definitions**

Variable		Definition
<i>AQ</i>	=	accruals quality estimated by the cross-sectional modified Dechow and Dichev model.
Cash	=	cash (wc02001).
$\Delta$ CASH	=	change in cash (wc02001) between year t-1 and t.
CA	=	current assets (wc02201).
$\Delta$ CA	=	change in current assets (wc02201) between year t-1 and t.
CCAC1	=	the first measure of cross-country accounting comparability.
CCAC2	=	the second measure of cross-country accounting comparability.
CL	=	current liabilities (wc03101).
$\Delta$ CL	=	change in current liabilities (wc03101) between year t-1 and t.
CFO	=	cash flow from operations (wc04860).
cfo1	=	cash flow from operations (wc04860) scaled by average total assets.
$ROE_{int}$	=	difference in return on equity (ROE) between the subject firm and its pair that is matched by industry, year, and fiscal year end from two countries.
GDP	=	GDP per capita, calculated as the country's gross domestic product (GDP) divided by the country's total population, where both the gross domestic product and the population data are obtained from the World Bank World Development Indicators at <a href="http://www.worldbank.org/data">www.worldbank.org/data</a> .
$GDP_{int}$	=	cross-country differences in GDP per capita between the subject firm and its pair that is matched by industry, year, and fiscal year end from two countries.
IFRS	=	an indicator variable equal to one if the firm is a mandatory IFRS adopter, and zero otherwise.
<i>Mcaps</i>	=	market value of common equity (wc08001).
<i>MVE</i>	=	log of market value of common equity (wc08001).
$MVE_{int}$	=	difference in MVE between the subject firm and its pair that is matched by industry, year, and fiscal year end from two countries.
<i>NIBPD</i>	=	net income before preferred dividend (wc01651).
<i>POST</i>	=	an indicator variable equal to one if the observation is in the post IFRS (year 2005 and beyond) period, and zero otherwise.
<i>PPE</i>	=	gross value of property, plant, and equipment (wc02301).
<i>PreAQ</i>	=	accounting quality of the local accounting standards relative to IFRS.
<i>PreF</i>	=	accounting flexibility of the local accounting standards relative to IFRS.
<i>RET</i>	=	firm level annual return calculated as year-end price subtract beginning price divided by beginning price.
<i>LRET</i>	=	lagged or last year's return.
Variable		Definition
<i>REV</i>	=	net sales or revenues (wc01001).
$\Delta$ REV	=	change in net sales or revenues (REV) between year t-1 and t
<i>SIZE</i>	=	log of total assets (wc02999).
STD	=	short term debt (wc03051).
$\Delta$ STD	=	change in short term debt (STD) between year t-1 and t.
<i>TCA</i>	=	total current accruals.
<i>WCAC1</i>	=	the first measure of within-country accounting comparability.
<i>WCAC2</i>	=	the second measure of within-country accounting comparability.

Note: Variables prefixed by wc- are the mnemonic identifiers of the raw data items obtained from WorldScope.