

**The Effect of Mandatory Adoption of International Financial Reporting Standards on  
Accounting Quality: Preliminary Evidence**

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**Abstract**

We provide evidence on the effects of the mandatory adoption of IFRS on several accounting quality metrics for a sample of over 1,600 firms from 21 countries that mandated the use of IFRS in 2005. We compare these properties in a post-adoption period (2005-2007) and a pre-adoption period (2002-2004) relative to a benchmark sample of firms from 17 other countries that did not adopt IFRS in our post-adoption period. First, we find robust evidence of an increase in income smoothing for the IFRS firms relative to the benchmark firms. Second, we find that the timeliness of good news recognition has increased while the timeliness of bad news recognition has decreased in the post-adoption period. Third, we find a decrease in the asymmetric timeliness of loss recognition in the post adoption period for the IFRS firms relative to the benchmark firms. These changes appear to be most pronounced in those countries that have historically exhibited higher quality accounting due to stronger shareholder protections. Overall, the results suggest that IFRS adoption has not resulted in an increase accounting quality.

**Keywords:** International Financial Reporting Standards, Income Smoothing, Earnings Timeliness, Value Relevance

**Data availability:** All of the data used in the study is publicly available.

**Preliminary! Please do not quote**

## I. Introduction

This study provides preliminary evidence on the effects of mandatory adoption of International Financial Reporting Standards (IFRS) on a commonly used set of accounting quality measures for a relatively broad set of firms in 21 countries. Studying the effects of IFRS on accounting quality is important because there is considerable debate and controversy over the role of accounting standards in determining accounting quality. On the one hand, International Accounting Standard setters expect mandatory adoption of IFRS to improve accounting quality, reduce user costs of analyzing and interpreting financial statements, and thus reduce cost of capital of global firms [see IASC 1989; Barth 2008].

On the other hand, skeptics argue that adoption of IFRS is unlikely to enhance accounting quality without associated changes in enforcement and reporting incentives of firms. For example, Ball (2001) states that “Changing one element alone – notably the system for setting accounting standards or, worse, just the accounting standards themselves – is likely to be a futile exercise, unless it is accompanied by a wide range of complementary changes in infrastructure” [also see Jamal et al. 2009; Sunder 2009]. Practitioners also express concerns about the efficacy of IFRS. For example, in a letter (dated January 30, 2009) to the SEC, on behalf of the Investors Technical Advisory Committee, Jack Ciesielski, states: “We harbor reservations about whether or not standards of a “principles-based” design will always produce robust, investor-useful reporting.” Thus, whether the mandatory adoption of IFRS will improve accounting quality is an open question.

Prior research has forwarded several reasons why IFRS could lead to improvements in accounting quality (See Barth et al. 2008; Daske et al. 2008; Christensen et al. 2008; Li 2008; Armstrong et al. 2009). First, IFRS are considered to be principles-based and thus are potentially more difficult to circumvent than rules-based standards. Managers’ ability to strategically

structure transactions towards a desired accounting outcome may be constrained if their choices are evaluated relative to a given principle instead of a given rule.<sup>1</sup> Second, IFRS limit the set of allowable accounting alternatives and thus reduce the potential for abuse through discretion over accounting methods. Third, IFRS require more extensive use of fair value accounting which could result in an improvement in the ability of accounting numbers to capture the underlying economics on a timelier basis. Finally, by enhancing the comparability of financial statements across countries, IFRS potentially reduce the costs of processing and interpreting accounting information and thus could enhance external monitoring of firms' accounting choices which would lead to improvements in accounting quality.

Alternatively, IFRS may not yield the expected improvements in quality for several reasons. First, principles-based standards inherently allow more flexibility and this flexibility could lead to either inconsistent treatments for similar transactions and/or potential misuse of accounting discretion by managers.<sup>2</sup> Second, the elimination of accounting alternatives that were permissible under local GAAP could constrain the ability of managers to convey information and this could result in a reduction in accounting quality. Thus, the net effect of IFRS on accounting quality may not be favorable. Given these competing reasons, how the mandatory adoption of IFRS affects accounting quality is an empirical question.

An important challenge that researchers face in addressing this question is that we don't have agreement over measures of accounting properties or their interpretation. For example, while Holthausen and Watts (2001) question the usefulness of value-relevance metrics, Barth et

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<sup>1</sup> For example, the IFRS standard on leasing, IAS 17, avoids the use of bright lines to distinguish between operating and capital leases thereby making it difficult to structure a lease to avoid capitalization.

<sup>2</sup> In the "Information for Observers" for the April 28 meeting of the FASB and IASB, the FASB/IASB staff note several important deficiencies of IFRS. For example, with respect to revenue recognition, they note that "the existing guidance in IAS 18 is incomplete, insufficient, and internally inconsistent." Similarly, with respect to fair value measurements they note that "IFRS lacks a consistent/robust definition of fair value."

al. (2001) argue that they are useful to standard setters. Similarly, while Ball (2001) and Watts (2003) among others view timely loss recognition as a desirable attribute of accounting numbers, standard-setters explicitly reject the desirability of conservatism and prefer more “neutral” accounting (FASB 2008). Leuz et al. (2003) view a greater degree of income smoothing as an indicator of lower quality accounting but Tucker and Zarowin (2006) suggest that smoothing may be useful in filtering transitory components and thus may result in more informative earnings. Even if academics could agree on accounting quality metrics, Dechow et al. (2009) argue that it is hard to separate the effects of underlying economic determinants of accounting measures from the effects of accounting decisions (or discretionary accounting choices).

In addressing our research question, we follow Barth et al. (2008) and assume that less income smoothing, more conservative accounting (or more timely loss recognition), and higher value relevance are indicators of higher accounting quality. We recognize that the interpretation of our results depends upon whether one agrees with these notions.

Our research design is based on a comparison of accounting property metrics pre and post mandatory adoption for a sample of over 1,600 firms from 21 countries over the period 2002 to 2007. To control for other potentially confounding influences over time, we compare changes in our metrics for IFRS firms to changes in these metrics for a sample of over 2,000 benchmark firms from 17 countries that did not adopt IFRS in this period.

Following Barth et al. (2008), we use two broad categories of metrics: accounting-based metrics and market-based metrics. Our accounting-based metrics include two measures of income smoothing, accruals deflated by assets, and absolute value of accruals divided by absolute value of cash flows. Our market-based metrics include timeliness of loss recognition, following Basu (1997),  $R^2$ s from regressions of earnings on returns (for good news and bad news

respectively), and value-relevance ( $R^2$ s from regressions of price on book value of equity and earnings). We perform our analyses for the full sample as well as for sub-samples constructed on the strength of legal enforcement (La Porta et al. 1998; Kaufmann et al. 2007), the strength of reporting incentives (Dyck and Zingales 2004), and the magnitude of difference between domestic GAAP and IFRS (Bae et al. 2008) respectively as well as on a combination of these institutional characteristics.

Our findings can be summarized as follows. First, we find that for the overall sample of IFRS firms, the correlation between changes in accruals and changes in operating cash flows becomes significantly more negative in the post-adoption period (relative to the benchmark firms). Furthermore, both average accruals and absolute value of accruals increase significantly in the post-adoption period (relative to the benchmark firms). These results hold generally across partitions constructed on strong versus weak enforcement and reporting incentives as well as large versus small differences between IFRS and domestic GAAP. In addition to pooled firm-year analyses, we also perform country-level analysis with an index that combines ranks of our accounting-based metrics. The results of this country-level analysis are generally consistent with the above findings.

Second, with respect to market-based metrics we find evidence of a significant decrease in timely loss recognition in the post-adoption period (relative to benchmark firms). This finding holds for all partitions except the weak enforcement and the large difference partitions. This result is consistent with our above finding that average accruals are less negative in post-adoption periods and provides additional evidence of a decrease in conservatism following IFRS adoption. Further, we observe a significant increase in timeliness of good news recognition in the post-adoption period (relative to benchmark firms). This finding holds for all partitions except

the weak enforcement partition. Consistent with these findings the adjusted  $R^2$ s in Earnings/Return regressions are generally higher for good news firms but lower for bad news firms in the post-adoption period (relative to benchmark firms). These findings hold for all partitions except the weak legal enforcement partition. The evidence on value-relevance is mixed.

Taken together, our results suggest that income smoothing has increased significantly and reporting conservatism has decreased significantly in the post-adoption period for IFRS firms following mandatory adoption of IFRS. These results are in contrast to the results in Barth et al. (2008) based on voluntary adopters. However, voluntary adopters likely have strong incentives to differentiate their reporting quality and as Barth et al. (2008) note, their results may not be generalizable to mandatory adopters.

To our knowledge, prior work on the accounting quality effects of *mandatory* adoption is limited.<sup>3</sup> For example, Christensen et al. (2008) study the impact of mandatory adoption in Germany and find that improvements in accounting quality are confined to firms with incentives to adopt. Jeanjean and Stolowy (2008) study the impact of IFRS adoption on loss avoidance in three countries and conclude that the pervasiveness of earnings management did not decline after adoption. However, they don't provide any comparison of their results with a benchmark set of firms not affected by IFRS. Chan et al. (2008) provide evidence on the impact of mandatory IFRS adoption for a sample of firms from EU countries. However, they do not study whether the changes in accounting quality metrics for their sample differs from changes in accounting quality for a set of benchmark firms. Thus, their evidence is inconclusive.

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<sup>3</sup> A number of studies also investigate the effects of IFRS on the cost of equity. For example, Daske et al. (2008) show that in countries where firms had incentives to be transparent and where enforcement was strong, market liquidity improved and the cost of equity decreased. Similarly, Li (2008) finds that the cost of equity decreases for firms in countries with strong enforcement.

Our study, to our knowledge, is the first comprehensive study of the effects of mandatory IFRS adoption on accounting quality using a broad set of IFRS firms relative to a broad set of benchmark firms. Studying a larger number of countries allows us to provide evidence on the differential effects of IFRS adoption across different institutional settings.

Section II presents a brief overview of the reasons for and against expecting improvements in accounting quality as a result of mandatory IFRS adoption. Section III presents our research design and the results are presented in section IV. Section V presents our conclusion.

## **II. Potential effects of mandatory IFRS adoption**

There are a priori reasons for expecting that the adoption of IFRS will improve accounting quality as well reasons why IFRS may not yield the improvements (Barth 2008). Given that these reasons have been discussed in detail in prior studies such as Barth et al. (2008), Daske et al. (2008), and others, we briefly summarize them below.

Prior studies recognize that holding the underlying economics constant, accounting quality is likely determined by managers' reporting incentives and a broad set of constraints on managers' accounting decisions.<sup>4</sup> Managers' reporting incentives likely vary across countries and include incentives emanating from (i) compensation and job security concerns, (ii) capital market considerations, (iii) contracting considerations, (iv) political factors (e.g. hiding profits to prevent expropriation by governments), and (v) other factors e.g. taxes, regulation. Constraints on managers' accounting choices include accounting standards, auditors, board of directors, institutional shareholders, securities regulators, investor protection laws and markets (for capital, labor, corporate control, etc).

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<sup>4</sup> See for example, Ball, Kothari and Robin (2000), Ball (2001), Ball, Robin, and Wu (2003), Leuz et al. (2003), Bhattacharya et al. (2003), Burghstahler et al. (2006), Barth et al. (2008), Daske et al. (2008).

### **Reasons for expecting IFRS to improve accounting quality**

Barth et al. (2008) present three reasons why the adoption of IFRS could lead to improvements in accounting quality. First, IFRS are viewed as principles-based standards and potentially more difficult to circumvent. For example, under a principles-based standard it should be more difficult to avoid recognition of a liability through transaction structuring. Second, IFRS reduce the amount of discretion managers can exercise under certain domestic standards. This potentially reduces the extent of earnings management and thereby improves accounting quality. Third, IFRS require measurements that better reflect the underlying economics. For example, IFRS require fair value measurements for a broader set of items than most domestic standards.

A further reason why IFRS may improve accounting quality noted in Soderstrom and Sun (2007) is that IFRS may facilitate comparison of firms across countries and thereby reduce the information acquisition costs of investors. This lower cost may result in enhanced monitoring of accounting choices by investors and thus lead to improvements in accounting quality.

### **Reasons why IFRS may not improve accounting quality**

Barth et al. (2008) also summarize the major reasons why the adoption of IFRS may not yield any improvements in accounting quality. First, because IFRS are principles-based, they may inherently afford managers greater flexibility and thus result in a greater degree of earnings management. Second, to the extent that IFRS eliminate accounting alternatives, they reduce managers' ability to use accounting alternatives that may be most suited to their business. In other words, accounting quality could deteriorate if the most appropriate accounting alternatives

are disallowed and managers are forced to use less appropriate accounting choices. Third, IFRS does not generally provide detailed implementation guidance. The mandatory adoption of IFRS may create implementation confusion and inconsistency across firms even within similar institutional regimes and, therefore, the comparability of accounting information may decrease.

### **Institutional factors**

Prior studies suggest that accounting quality is likely to be affected by a host of factors other than standards. We focus on three factors that have been shown to have important effects on accounting quality in prior studies: strength of legal enforcement, strength of reporting incentives, and differences between domestic GAAP and IFRS. We discuss these three factors below.

In a series of papers, La Porta et al. (1998, 1999, 2000, and 2002) document the importance of legal rules and enforcement for understanding financing patterns and ownership structures across countries. Accounting researchers have built on this line of work and documented systematic differences in reporting quality across countries with differing levels of investor protection (see for example Ali and Hwang 2000; Ball et al. 2000; Ball et al. 2003; Leuz et al. 2003). Based on these findings, we expect that if IFRS has had a favorable impact on accounting quality, it is more likely to be observed in countries with strong enforcement.

Second, a number of studies document the importance of reporting incentives in determining accounting quality. For example, Ball et al. (2000), Ball et al. (2003), Leuz et al. (2003), Ball and Shivakumar (2005), and Burghstahler et al. (2006) document evidence suggesting that reporting incentives appear to matter more than standards in determining accounting quality. Ball (2001) argues that if the effect of reporting incentives dominates the

effect of standards, then a change in standards alone will not be expected to yield improvements in overall accounting quality. Thus, if IFRS improves accounting quality, we expect it is more likely to be observed in countries where firms have strong reporting incentives.

A third factor that potentially affects the impact of a switch to IFRS is the difference between domestic GAAP and IFRS (Ashbaugh and Pincus 2001; Ding et al. 2007; Bae et al. 2008). If domestic GAAP is already close to IFRS, then we would not expect much improvement after the adoption of IFRS. We look at the preceding three factors independently because they are likely to be correlated across countries. For example, countries with stronger legal enforcement are also likely to have better developed capital markets, more dispersed ownership, smaller private control benefits and stronger reporting incentives. Considering the factors independently allows us to avoid problems of multicollinearity. We also consider the three factors independently to avoid a loss of power in our country level analyses due to the small number of observations.

Based on the above, our tests allow for different IFRS effects in different institutional settings. This is one advantage of a multi-country sample as opposed to focusing on a single country as in Christensen et al. (2008) or a few countries. Furthermore, we also examine a portfolio of firms with strong legal enforcement, strong reporting incentives, and large differences between domestic GAAP and IFRS. This subsample has the highest probability of exhibiting an improvement in accounting quality if mandatory adoption of IFRS indeed improves accounting quality.

### **III. RESEARCH DESIGN**

This section presents our research design. First, we discuss why we choose to use a benchmark sample of non-adopting countries in our analyses. Second, we discuss how we

measure the three institutional characteristics and how we form partitions of our sample based on these characteristics. Third, we present our accounting-based earnings measures. Finally, we present our market-based measures.

### **Benchmark sample**

When looking at changes in reporting behavior for IFRS adopters, it is possible that any observed change in our metrics between the pre- and post-adoption periods might be due to general trends that are not related to IFRS adoption. To control for this possibility we include a benchmark sample from those countries which either do not allow or do not require IFRS adoption during our sample period. For countries that do not require IFRS adoption we include only those firms that do not voluntarily report using IFRS.

### **Partitions based on institutional factors**

Prior literature provides evidence that accounting characteristics and quality depend on unique institutional differences between countries as well as differences in accounting standards. Accordingly, we include three partitions in our analyses which allow us to explore changes in accounting quality for more homogenous sub-samples. Leuz et al. (2003) find that prior to the mandatory adoption of IFRS earnings management varied predictably across countries. Aggregate earnings management was, on average, decreasing in a country's strength of legal enforcement and increasing in a country's private control benefits. Accordingly, our first partition classifies firms based on their respective country's strength of legal enforcement. We use the Rule of Law variable for 2005 from Kaufmann et al. (2007) and classify firms as being subject to Strong (Weak) Legal Enforcement if their respective country's score is above (below) the country-level sample median score.

Our second partition classifies firms based on their respective country's Private Control Benefits. Consistent with Leuz et al. (2003) we expect that firms' incentives to produce higher quality and more informative financial reports are decreasing in insiders' ability to obtain Private Control Benefits. We estimate Private Control Benefits using the country's average block premium estimated by Dyck and Zingales (2004) based on transfers of controlling blocks of shares and classify firms as having Strong (Weak) Financial Reporting Incentives if their respective country's score is below (above) the country-level sample median score.

Our third partition classifies firms based on differences between domestic GAAP and IFRS prior to countries' adoption. The effect of IFRS adoption is likely to be most pronounced in countries where the existing accounting standards are substantially different from IFRS. We identify the size of the difference between domestic GAAP and IFRS based on Bae et al. (2007) which identifies differences between domestic GAAP and IFRS along 21 distinct items for 2001. Country scores range from 0 to 21 with larger values implying a larger difference between domestic GAAP and IFRS and we classify firms as having a Large(Small) Difference if their respective country's score is above (below) the country-level sample median score.

### **Accounting-based measures**

We are interested in whether firms exhibit a change in accounting properties following the mandatory adoption of IFRS. Accordingly, we use four measures which are broadly consistent with Leuz et al (2003) and Barth et al. (2008). The first two measures proxy for income smoothing, the third measure proxies for firms' aggressiveness in financial reporting and the fourth measure proxies for firms' general use of accruals to exercise discretion in reported earnings.

We use five primary variables in the construction of our accounting-based earnings quality measures: net operating income (NI), operating cash flow (CF), accruals (ACC), change in operating cash flow ( $\Delta CF$ ), and change in accruals ( $\Delta ACC$ ). In the first-stage of our measure construction, we control for factors that may affect firms' accounting properties and are independent of the specific accounting standards used (Barth et al. 2008). Specifically, we first estimate the following regression for each of the above five variables pooling over the entire sample of IFRS adopters and the benchmark. We retain the residuals from each of the five regressions (denoted with a \*) and use in all further analyses.

$$VAR_{it} = \alpha + \beta_1 Growth_{it} + \beta_2 Eissue_{it} + \beta_3 Lev_{it} + \beta_4 Dissue_{it} + \beta_5 Turn_{it} + \beta_6 Size_{it} + \beta_7 CF_{it} + e_{it}$$

Where:

- VAR = NI, CF, ACC,  $\Delta CF$  or  $\Delta ACC$  depending on the regression
- Growth = percentage change in sales;
- Eissue = percentage change in common stock;
- Lev = end of year total liabilities divided by end of year book value;
- Dissue = percentage change in total liabilities;
- Turn = sales divided by end of year total assets;
- Size = the natural logarithm of end of year market value of equity;
- CF = annual net cash flow from operating activities divided by end of year total assets;

We omit CF as a control in the regressions with CF,  $\Delta ACC$  and ACC as the dependent variable.

Our first measure,  $\sigma(NI^*) / \sigma(CF^*)$ , is the ratio of the standard deviation of net operating income (deflated by assets) to the standard deviation of operating cash flow (deflated by assets).

While we expect that the fair value requirements of IFRS will increase income volatility to the extent that adjustments to fair values flow through the income statement, we also recognize that aspects of IFRS (e.g. capitalization and amortization of development costs) may reduce income volatility.

Our second measure,  $\rho(\Delta ACC^*, \Delta CF^*)$ , is the Spearman correlation between (accruals<sub>t</sub> - accruals<sub>t-1</sub>) and (operating cash flow<sub>t</sub> - operating cash flow<sub>t-1</sub>). Accruals and operating income are deflated by total assets. We expect the correlation to be negative in all instances as a natural result of the accruals process, however if the fair value requirements of IFRS result in accruals that occur independent of cash flows, we would expect the association of accruals and cash flows to weaken and for the correlation to be less negative following adoption. Alternatively, if firms increase their use of accruals to offset undesirable changes in operating cash flow we expect the correlation to be more negative in the post-adoption period.

Our third measure, ACC\*, captures conservatism in firms' financial reporting. If firms decrease their reporting conservatism through an increase in accruals, because of either an increase in discretionary use or the fair value requirements if IFRS, we expect accruals (deflated by assets) to be larger in the post-adoption period. Our fourth measure,  $|ACC^*| / |CF^*|$ , is based on the ratio of absolute accruals (deflated by assets) to absolute operating cash flow (deflated by assets). If IFRS results in larger magnitude accruals, then we expect this ratio to be more positive in the post-adoption period.

Because data on firms' cash flows is not generally available on COMPUSTAT Global Industrial, we compute operating cash flow indirectly by subtracting accruals from net operating income. We compute accruals as:

$$Accruals_{it} = \Delta CA_{it} - \Delta Cash_{it} - (\Delta CL_{it} - \Delta STD_{it} - \Delta TP_{it}) - Dep_{it} \quad (1)$$

Where  $\Delta CA_{it}$  = change in total current assets,  $\Delta Cash_{it}$  = change in cash and cash equivalents,  $\Delta CL_{it}$  = change in total current liabilities,  $\Delta STD_{it}$  = change in short term debt in current

liabilities,  $\Delta TP_{it}$  = change in income taxes payable, and  $Dep_{it}$  = depreciation and amortization expense for firm  $i$  in year  $t$ . If data on short term debt or income taxes payable is missing we set the change in both variables to zero. We deflate net operating income, accruals and operating cash flow by average total assets for firm-year  $it$  to create our variables; NI, ACC and CF.

Prior literature explores income smoothing in an international setting using both pooled and country-level tests. Accordingly, we perform both types of analyses. In a design generally consistent with Barth et al. (2008) and Christensen et al. (2008), we first pool IFRS and benchmark sample firm-year observations that occur in either the pre- or post-adoption periods. This produces four distinct subsamples. We calculate  $\sigma(NI^*) / \sigma(CF^*)$  and  $\rho(\Delta ACC^*, \Delta CF^*)$  for each of the four subsamples and  $ACC^*$  and  $|ACC^*| / |CF^*|$  as the median of each subsample. We then test for differences in our four measures between the pre- and post-adoption periods for both the IFRS and benchmark firms. We also test for differences between periods for both the IFRS and benchmark firms using finer subsamples based on our three partitions: 1) Rule of law, 2) Reporting Incentives and 3) Domestic GAAP - IFRS Differences. Finally, we test whether IFRS sample exhibits a change that is incremental to the benchmark sample both pooled and based on our partitions.

Following Barth et al. (2008) and Christensen et al. (2008) we test for a significant change in  $\sigma(NI^*) / \sigma(CF^*)$  by constructing a t-statistic from the empirical distribution of the data. For each test we randomly select with replacement observations from each relevant group and then compute the metric. We repeat this procedure 250 times to obtain the empirical distribution of  $\sigma(NI^*) / \sigma(CF^*)$  for the two groups we are comparing and test for a difference in the means of the 2 distributions. We use a similar procedure when using differences in differences to test

whether IFRS firms exhibit a change in each of our measures that is incremental to the benchmark firms.

For our country-level analysis we calculate each of our four accounting-based measures for each IFRS and benchmark country in both the pre- and post-adoption periods. Because each of the individual measures is likely to have measurement error, we create an aggregate measure based on  $\sigma(\text{NI}^*) / \sigma(\text{CF}^*)$ ,  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$  and  $\text{ACC}^*$  for our primary analysis. Aggregation should result in a measure with less error if the errors across the individual measures are uncorrelated.

We first convert  $\sigma(\text{NI}^*) / \sigma(\text{CF}^*)$  and  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$  such that larger values imply more income smoothing. Next, we rank each of the measures across the pre- and post-adoption periods combined. Our aggregate accounting-based measure is the country-period average across the three ranked measures. We test for a change for IFRS firms using:

$$AGG\ EM_{it} = \alpha + \beta_1 IFRS_{it} + \beta_2 Post_{it} + \beta_3 Post_{it} * IFRS_{it} + e_{it} \quad (2)$$

where  $AGG\ EM_{it}$  is our aggregate measure and  $IFRS$  is an identifier that equals 1 for our sample of mandatory IFRS adopters and equals 0 for our benchmark sample,  $Post_t$  is an identifier that equals 1 for the post-mandatory period and equals 0 for the pre-mandatory period and  $Post_t * IFRS$  is an identifier that equals 1 for IFRS adopters in the post-mandatory period and equals 0 otherwise. We interpret a positive (negative)  $\beta_3$  as consistent with an increase (decrease) in income smoothing for firms adopting IFRS by mandate that is incremental to any general trend. Consistent with our pooled analyses, we also test the above regression using six

subsamples based on our partitions to identify whether any observed change is dependent on country-specific institutional differences.

To further explore whether institutional differences influence any observed effect of IFRS adoption on firms' accounting quality we identify those IFRS adopters most likely to benefit from adoption. Specifically, we create four groups of IFRS adopters that have respectively: 1) Strong Legal Enforcement, 2) Large Domestic GAAP - IFRS Differences, 3) Strong Reporting Incentives and 4) all three of the previous characteristics. We compare the change in our aggregate measure for each of the four groups against two different benchmarks: 1) all non-IFRS countries and 2) IFRS countries not included in the group. We use the following regressions:

$$AGG EM_{it} = \alpha + \beta_1 Group_{it} + \beta_2 Post_{it} + \beta_3 Post_{it} * Group_{it} + e_{it} \quad (3)$$

where  $AGG EM_{it}$  is our aggregate measure and  $Group$  is an identifier that equals 1 for countries in the relevant group and equals 0 otherwise,  $Post_t$  is an identifier that equals 1 for the post-mandatory period and equals 0 for the pre-mandatory period and  $Post_t * Group$  is an identifier that equals 1 for countries in the relevant group and in the post-mandatory period and equals 0 otherwise. We interpret a positive (negative)  $\beta_3$  as consistent with an increase (decrease) in income smoothing for IFRS firms in the relevant group relative to the appropriate benchmark.

### **Asymmetric timeliness of loss recognition**

We first employ the model of asymmetric loss recognition developed by Basu (1997) to examine whether "bad news" is recognized in earnings in a timelier manner in the post-adoption

period than in the pre-adoption period. Earnings are more conservative if economic losses are recognized in earnings in a timelier manner than are economic gains (Basu 1997; Ball et al. 2000; Ball et al. 2003). Following Barth et al. (2006), we adopt a two-step approach to control for the impact of the mean differences across countries and industries. First, we regress earnings (E), earnings per share in period t deflated by price in period t-1, on country and industry fixed effects and obtain the residuals. Second, we regress the residuals on returns. Specifically, we estimate Equation (4) pooling observations from the pre- and post-adoption periods and from IFRS and benchmark countries.

$$E_t^* = \alpha + \beta_1 D_t + \beta_2 R_t + \beta_3 D_t * R_t + e_t \quad (4)$$

where  $E_t^*$  is the residual from the earnings (E) at period t, deflated by price at t-1, and country and industry fixed effect regressions.  $D_t$  equals 1 if  $R_t < 0$ , and 0 otherwise.  $\beta_2$  measures the sensitivity of earnings to positive news, and  $\beta_3$  captures the incremental sensitivity of earnings to bad news relative to good news. As we are interested in comparing the asymmetrically timely loss recognition in the IFRS period versus the pre-adoption period, Equation (4) is expanded as follows:

$$\begin{aligned} E_t^* = & \alpha + \beta_1 D_t + \beta_2 R_t + \beta_3 D_t * R_t \\ & + \beta_4 Post_t + \beta_5 Post_t * D_t + \beta_6 Post_t * R_t + \beta_7 Post_t * D_t * R_t \\ & + \beta_8 IFRS + \beta_9 IFRS * R_t + \beta_{10} IFRS * D_t + \beta_{11} IFRS * D_t * R_t + \beta_{12} IFRS * Post_t \\ & + \beta_{13} IFRS * Post_t * D_t + \beta_{14} IFRS * Post_t * R_t + \beta_{15} IFRS * Post_t * D_t * R_t + e_t \end{aligned} \quad (5)$$

where  $Post_t$  equals 1 in years 2005–2007 (post-adoption period), and 0 otherwise.  $IFRS$  equals 1 for firms in countries that mandate IFRS adoption in 2005, and 0 in countries without mandatory

IFRS adoption.  $\beta_{15}$  is our main focus of interest. It measures the incremental timeliness of bad news recognition for IFRS firms in the post-adoption period as opposed to non-IFRS benchmark firms. All other variables are the same as defined in Equation (4).

### **Earnings timeliness based on adjusted-R<sup>2</sup>**

Following Lang et al. (2006) and Barth et al. (2008), we next compare the timeliness of accounting earnings in the pre-adoption period and that in the post-adoption period. The measures of earnings timeliness are based on the explanatory power from “reverse” regressions of earnings on stock returns. The underlying intuition is that financial reporting is of high quality if earnings capture economic events reflected in stock returns on a timely basis. Because accounting earnings recognize economic losses and economic gains in an asymmetrically timely manner (Basu 1997), we partition our sample into “good news” firms and “bad news” firms based on the sign of stock returns and estimate two “reverse” regressions: one for good news firms and one for bad news firms. The “reverse” regression model is illustrated below.

$$E_t^* = \alpha + \beta_1 R_t + e_t \tag{6}$$

Good news:  $R_t \geq 0$

Bad news:  $R_t < 0$

where  $E_t^*$  and  $R_t$  are the same as defined in Equations (4) and (5). We run Equation (6) in the pre-adoption period and post-adoption period separately and compare the adjusted-R<sup>2</sup>s from the regressions of good news firms and those of bad news firms.

## Value relevance

The value relevance is measured by the explanatory power from regressions of stock price on earnings and book value of equity. The underlying assumption is that accounting data is of higher quality if it demonstrates a higher association with stock prices or returns and, therefore, better represents the underlying economics of a company. If IFRS are superior to domestic GAAPs, earnings and book value are expected to exhibit a greater association with stock prices or returns. Similar to the tests in timely loss recognition, we control for the mean stock price differences across countries and industries by adopting a two-step regression approach. In the first step, we regress price  $P_t$  on country and industry fixed effects. In the second step, we regress the residuals from the first step on earnings and book value. Specifically, we use the adjusted- $R^2$ s from the following model adapted from prior literature for empirical testing (Barth et al. 2008; Lang et al. 2006; Barth et al. 2001):

$$P_t^* = \alpha + \beta_1 NI_t + \beta_2 BV_t + e_t \quad (7)$$

where  $P_t$  is price per share six months after the fiscal year-end,  $NI_t$  is income before extraordinary items per share and  $BV_t$  is book value per share. We deflate  $P_t$ ,  $NI_t$  and  $BV_t$  by price as of six months after the preceding year-end.  $P_t^*$  is the residual from the first step regression. Similar to the analysis of earnings timeliness, we run Equation (5) in the pre-adoption period and post-adoption period separately and then compare the adjusted- $R^2$  from the two regressions. Barth et al. (2008) use the per-share values of price, earnings, and book value. However, Brown et al. (1999) argue theoretically and show empirically that the use of  $R^2$  from a

level regression as a measure of value relevance is unreliable due to scaling effects. As a result, Lang et al (2006) deflate all variables by the stock price six months before fiscal year-end to mitigate the potential scaling effects. Because the per-share levels of stock price, earnings, and book value of equity across different legal regimes may vary substantially, we deflate all variables by stock prices six months after prior-year fiscal year-end.

#### **IV. RESULTS**

In this section we present the results of our analyses. First, we discuss our sample selection and descriptive statistics. Second, we present the results for our tests using accounting-based measures in a pooled analysis. Third, we present the results for our accounting-based measures in a country-level analysis. Fourth, we present the results for our tests of the asymmetric timeliness of loss recognition as well as the timeliness of both good and bad news recognition. Fifth, we present our analysis of the value relevance of firms' accounting numbers and finally we present a section on sensitivity analysis and additional analyses we perform.

##### **Sample selection and descriptive statistics**

Our primary sample consists of 9,816 firm-year observations for 1,636 firms in 21 countries that adopted IFRS in 2005 and 12,198 firm-years for 2,033 firms in 17 countries that comprise our benchmark sample. We include firms with COMPUSTAT Global Currency data available from 2002 through 2007, when necessary, to adjust for changes in reporting currency. We retain firms that have the necessary COMPUSTAT Global Industrial/Commercial data and COMPUSTAT Global Issue data available for 2002 through 2007 for our accounting-based measures. For each test we use a balanced sample where each included firm has three full years

of data in both the pre-adoption (2002-2004) and post-adoption (2005-2007) periods. We are restricted to three years in the post-adoption period and we limit the pre-adoption period to three years because using a longer time period before IFRS would increase the likelihood of other factors confounding our results. In order to obtain a more evenly-weighted benchmark sample we randomly select 300 firms for both Japan and the U.S. for inclusion in order to perform all tests. Table 1 describes the sample selection process in detail.

We identify mandatory IFRS adopters using COMPUSTAT Global Industrial which identifies the set of accounting standards a firm uses to prepare its financial statements. We code a firm-year observation as complying with IFRS if COMPUSTAT reports the variable ASTD as ‘DI’, ‘DA’ or ‘DT’ based on references to IFRS in the firms’ financial statements<sup>5</sup>. Once a firm first reports IFRS as its accounting standard in 2005, we code all subsequent years as IFRS. COMPUSTAT codes a small portion of our sample firms as returning to domestic accounting standards following their mandatory IFRS adoption. We assume this reflects an error in COMPUSTAT’s coding of the firms.

Table 2 provides sample characteristics related to Rule of Law, Domestic GAAP-IFRS Differences, Reporting Incentives and country frequencies for our IFRS and benchmark samples. We include the raw scores for our institutional variables as well as binary indicators. There is reasonable variation across our 21 IFRS countries although the UK and France are more heavily weighted and provide approximately 39% of our sample. Our benchmark sample also exhibits reasonable variation across the 17 countries although Canada, China, Japan, Malaysia and the U.S. are more heavily weighted and provide approximately 65% of our sample. We find that the

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<sup>5</sup> COMPUSTAT provides the following codes: ‘DI’ when a firm follows domestic standards generally in accordance with IASC guidelines; ‘DA’ when a firm follows domestic standards generally in accordance with IASC (International Accounting Standards Committee) and OECD (Organization for Economic Cooperation and Development) guidelines; and ‘DT’ when a firm follows domestic standards in accordance with principles generally accepted in the United States and generally in accordance with IASC and OECD guidelines.

countries mandating IFRS have stronger legal enforcement, larger differences between their domestic accounting standards and IFRS and stronger reporting incentives (based on less private control benefits) than the benchmark countries, although the differences are only significant for legal enforcement and GAAP-IFRS difference. These results are consistent with countries generally choosing to mandate IFRS when their domestic standards are less consistent with IFRS and when they have the legal structures in place to enforce the new standards. These are the countries most likely to benefit from IFRS if it provides higher quality reporting requirements.

Table 3 presents the descriptive statistics for variables (prior to the control regressions) used in our analyses. Panel A presents our IFRS sample and a univariate comparison of the variables in the pre- and post-adoption periods. We find that net operating income (NI), accruals (ACC) and operating cash flow (CF) deflated by assets are larger in the post-adoption period with the mean and median differences being significant. In contrast,  $\Delta$ CF is smaller and there is no significant difference in  $\Delta$ ACC. Market value is larger and the book-to-market ratio is smaller following adoption, consistent with general market trends over those periods, and Assets are larger following adoption. Mean and median annual returns ( $R_t$ ), stock price ( $P_t$ ) and book value of equity ( $BV_t$ ) decrease while mean and median earnings per share ( $E_t$  and  $NI_t$ ) increase.

Panel B presents our benchmark sample and a univariate comparison of the variables in the pre- and post-adoption periods. Consistent with our sample of IFRS firms, we find that net operating income deflated by assets (NI) is larger in the post-adoption period. Accruals (ACC) and operating cash flow (CF) deflated by assets are also larger in the post-adoption period; however neither the mean nor median differences between periods are significant. In contrast to the IFRS sample,  $\Delta$ ACC is smaller in the post-adoption period and there is no significant difference in  $\Delta$ CF. Also consistent with the IFRS firms, market value is larger and the book-to-

market ratio is smaller in the post-adoption period, although only the median differences are significant. Assets are larger in the post-adoption period. The means and medians annual returns ( $R_t$ ), stock price ( $P_t$ ) and book value of equity ( $BV_t$ ) decrease in post-adoption period. Earnings per share ( $E_t$  and  $NI_t$ ) remain at the same level.<sup>6</sup>

### **Pooled analysis**

Table 4 Panel A shows the results for our four accounting-based measures for the pooled mandatory sample as well as six subsamples partitioned on either their country's strength of legal enforcement, financial reporting incentives or domestic GAAP - IFRS difference. The pooled sample exhibits behavior consistent with an increase in income smoothing following adoption of IFRS. Both  $\sigma(NI^*) / \sigma(CF^*)$  and  $\rho(\Delta ACC^*, \Delta CF^*)$  decrease in the post-adoption period from .556 to .542 and from -.613 to -.709 respectively. Both of these results are consistent with firms increased use of accruals to reduce the volatility of net operating income (deflated by assets) relative to the volatility of the underlying operating cash flows (deflated by assets).

Our third measure, median  $ACC^*$ , increased in the post-adoption period from -.005 to .009 suggesting that accruals (deflated by assets) became less negative, on average, following adoption. This result is consistent with firms exhibiting more aggressive use of income-increasing accruals and a decrease in conservatism. Our fourth measure,  $|ACC^*| / |CF^*|$ , indicates that the median ratio of absolute accruals (deflated by assets) to absolute operating cash flow (deflated by assets) increased from .670 to .744 following IFRS adoption. This result is consistent with an increase in the use of accruals.

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<sup>6</sup> The means of  $E_t$  and  $NI_t/P_{t-1}$  in the pre-IFRS period for the IFRS sample are much lower than their medians. This could be due to the extreme negative values of the two variables even though we winsorize all variables at the top and bottom 2.5%. As a sensitive analysis, we winsorize all variables at the top and bottom 5%, our inferences are not affected.

Partitioning our sample by the strength of legal enforcement does not generally change our inferences about changes in our accounting-based measures around IFRS adoption. Both Weak and Strong enforcement firms exhibit an increase in income smoothing following adoption. The Weak (Strong) enforcement samples exhibit a decrease from .546 to .510 (.557 to .547) for  $\sigma(\text{NI}^*) / \sigma(\text{CF}^*)$  and from -.718 to -.776 (-.594 to -.696) for  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$ . Also consistent with the pooled sample, the Weak (Strong) enforcement samples exhibit an increase in median  $\text{ACC}^*$  from -.001 to .005 (-.006 to .010) and increase in median  $|\text{ACC}^*| / |\text{CF}^*|$  from .695 to .812 (.660 to .722). We also partition the firms based on either strength of reporting incentives or size of the domestic GAAP-IFRS difference. The results are generally of the same signs as for the pooled sample and for the samples partitioned on legal enforcement and all differences between the pre- and post-adoption periods are significant.

Regardless of the country-specific institutional structure we consider, our two income smoothing measures consistently suggest an increase in the use of accruals to reduce income volatility, or more income smoothing, following IFRS adoption and the increase in accruals suggests less conservative financial reporting. The results for our fourth measure,  $|\text{ACC}^*| / |\text{CF}^*|$ , imply that absolute accruals have increased relative to absolute operating cash flow. Leuz et al. (2003) interpret this increase as consistent with managers exercising more discretion in reporting earnings.

Table 4 Panel B shows the results for our four accounting-based measures for the pooled benchmark sample as well as the six partitioned subsamples. Consistent with firms adopting IFRS, the full benchmark sample generally exhibits a significant decrease in  $\sigma(\text{NI}^*) / \sigma(\text{CF}^*)$  in the post adoption period but does not exhibit a significant change in  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$ . Overall, the benchmark also does not exhibit a significant change in median  $\text{ACC}^*$ , although we do detect

variation depending on the strength of legal enforcement. Specifically, benchmark firms in weak (strong) enforcement countries exhibit a decrease (increase) in accruals. In contrast to IFRS adopters, the benchmark exhibits a decrease in our fourth measure, median  $|ACC^*| / |CF^*|$ , from .765 to .730 in the post-adoption period. This decrease appears restricted to countries where firms have weaker reporting incentives and that have large differences between domestic GAAP and IFRS. Taken as a whole, the results for the benchmark firms do not suggest a consistent change in accounting quality surrounding 2005. The primary purpose of our benchmark is to provide a baseline to control for any general trends that may affect the IFRS firms' reporting behavior but that are unrelated to the actual adoption itself. Accordingly, we next compare the changes in our four measures for the IFRS and benchmark samples.

Table 4 Panel C provides comparisons of the observed changes in our accounting-based measures for the IFRS and benchmark firms. By subtracting the changes in our measures for the benchmark firms from the changes for our IFRS firms we are, hopefully, controlling for general trends in reporting behavior that occur during the periods we observe. We note though, that changes we observe in our benchmark may be related to IFRS to the extent that those countries are in a process of converging towards IFRS. The full sample of IFRS firms exhibit a decrease in  $\sigma(NI^*) / \sigma(CF^*)$  that is not incremental to the decrease in the benchmark with a difference in differences equal to .005 and significant. Interestingly, when we look at partitions based on strength of legal enforcement, we detect an incremental decrease(increase) in  $\sigma(NI^*) / \sigma(CF^*)$  for the weak(strong) enforcement countries. The full IFRS sample also exhibits a decrease in  $\rho(\Delta ACC^*, \Delta CF^*)$  that is incremental to the benchmark with a difference in differences equal to -.103 and significant. Also consistent with Panel A, the IFRS firms exhibit an incremental increase in both median  $ACC^*$  and median  $|ACC^*| / |CF^*|$ . Taken together, results suggest IFRS

adopters exhibit an increase in income smoothing and more aggressive income-increasing accruals following adoption but that these changes are most pronounced in countries with weaker legal institutions.

### **Accounting-based measures: Country level analysis**

Table 5 presents our five accounting-based measures calculated at the country level for the pre- and post-adoption periods. Panel A presents the IFRS sample countries and our univariate results are consistent with our pooled analysis. Our 21 IFRS countries exhibit a mean (median) decrease in  $\sigma(\text{NI}^*) / \sigma(\text{CF}^*)$  from .510 to .473 (.511 to .466) and a mean (median) decrease in  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$  from -.623 to -.735 (-.663 to -.759) with three of the differences being significant. These results suggest that, on average, income smoothing increased in these countries during the three years following the mandatory adoption of IFRS relative to the three years prior to adoption. Median  $\text{ACC}^*$  became less negative following adoption with a mean (median) increase from -.008 to .009 (-.005 to .009), suggesting that adoption resulted in a less conservative reporting. Median  $|\text{ACC}^*| / |\text{CF}^*|$  also increased following adoption with a mean (median) increase from .681 to .765 (.673 to .754), suggesting greater discretionary use of accruals by managers. Finally, the mean (median) aggregate score increased from 24.4 to 50.8 (26.3 to 53.0). The results for our aggregate score are broadly consistent with the results for each of our four individual measures and suggest a post-adoption increase in income smoothing for our 21 IFRS countries.

Table 5 Panel B presents our five accounting-based measures calculated at the country level for the benchmark sample countries. In contrast with the IFRS countries, our 17 benchmark countries exhibit small and statistically insignificant changes in all five of our

measures. The results from the univariate analyses at both the pooled and country-level suggest that the benchmark countries do not consistently exhibit a change in reporting behavior between the pre- and post-adoption periods.

For our next tests we perform multivariate analyses by pooling the country-level pre- and post-adoption observations for both the IFRS and benchmark samples. Table 6 Panel A provides the results of seven regressions using the aggregate score as the dependent variable with six of the regressions partitioning the sample based on the strength of enforcement, size of the domestic GAAP-IFRS difference or the strength of reporting incentives. We use equation (2):  $AGGEM_t = \alpha + \beta_1 IFRS + \beta_2 Post_t + \beta_3 Post_t * IFRS + e_t$ . We include the entire sample in column (1) and first find that IFRS countries exhibit less income smoothing, on average, than the benchmark during the pre-adoption period ( $\beta_1 = -15.90$ ,  $t = -4.52$ ). This is consistent with the results from Table 2 which show that IFRS countries tend to have stronger legal enforcement, relative to the benchmark countries, that is able to constrain opportunistic reporting by managers. Consistent with our prior analysis we do not find any evidence of a change in income smoothing between periods for the benchmark countries ( $\beta_2 = -1.43$ ,  $t = -0.36$ ) but do find evidence of an increase for the IFRS countries relative to the benchmark ( $\beta_3 = 27.76$ ,  $t = 5.66$ ).

Columns (2) and (3) repeat the analysis on weak and strong enforcement countries respectively. We first note that the intercept is larger for the weak enforcement countries in column (2) relative to the strong enforcement countries in column (3) with  $\alpha = 43.00$  and  $31.66$  respectively. We do not test whether this difference is significant but it is consistent with our expectation that stronger enforcement regimes restrict income smoothing in the benchmark countries. Again, we do not find any evidence of a change in income smoothing between periods for the benchmark countries under either enforcement regime but do find evidence of an increase

for the IFRS countries relative to the benchmark with ( $\beta_3 = 15.34$ ,  $t = 2.77$ ) for weak enforcement and ( $\beta_3 = 35.21$ ,  $t = 3.20$ ) for strong enforcement.

The results are consistent across columns (4) through (7) with respect to changes in income smoothing for the benchmark and IFRS countries between the pre- and post-adoption periods. For each partition, the coefficient on  $Post_t$  is not significantly different than zero and suggests that there is no evidence of a change in the benchmark countries while the coefficient on  $Post_t * IFRS$  is positive and significant, suggesting an increase for the IFRS countries relative to the benchmark.

Table 6 Panel B presents our final results with respect to our aggregate measure. We conduct regressions in which we identify 4 unique groups of IFRS adopters that are likely to benefit the most from adopting a higher quality set of accounting standards. The four groups are: 1) countries with relatively strong legal enforcement, 2) countries with a large difference between their domestic GAAP and IFRS, 3) countries whose firms have relatively strong financial reporting incentives and 4) countries with each of the preceding 3 characteristics. We compare each of these groups to one of two benchmarks: all non-IFRS countries in columns (1) through (4) and all IFRS countries not included in the appropriate group in columns (5) through (8). We use equation (3)  $AGG EM_t = \alpha + \beta_1 Group + \beta_2 Post_t + \beta_3 Post_t * Group + e_t$  for this analysis.

Columns (1) through (4) provide evidence that IFRS adopters from countries with either a strong enforcement regime, a large difference between domestic GAAP and IFRS, strong reporting incentives or all three characteristics exhibit less income smoothing than the benchmark in the pre-adoption period. The coefficients on  $Group$  range from -15.76 to -21.73 and are all significant at  $p < 0.01$ . The results for the strong enforcement and strong reporting

incentives are consistent with our expectations. Our result that IFRS firms in countries with a large GAAP-IFRS difference exhibit less income smoothing than the benchmark prior to adoption is not immediately intuitive but is likely explained by the fact that IFRS firms, on average, are still subject to stronger legal regimes. As in Panel A, the coefficients on  $Post_t$  are not significant while the coefficients on  $Post_t * Group$  are all positive and significant. The coefficients on  $Post_t * Group$  range from 29.91 to 44.26 and are all significant at  $p < 0.01$  suggesting that those firms with the strongest incentives to produce high quality financial reports still exhibit an increase in income smoothing following their adoption of IFRS.

Columns (5) through (8) compare IFRS adopters from countries with either a strong enforcement regime, a large difference between domestic GAAP and IFRS, strong reporting incentives or all three characteristics to IFRS adopters not in the relevant group. Consistent with all of our prior results, columns (5) through (8) suggest an increase in income smoothing for all IFRS adopters with coefficients on  $Post$  ranging from 14.78 to 22.05 and all  $p < .01$ . Column (5) suggests that IFRS adopters in countries with stronger enforcement regimes also exhibit less pre-adoption income smoothing relative to IFRS adopters in countries with weaker enforcement regimes ( $B_1 = -13.01$ ,  $t = -3.13$ ) but that this difference is somewhat moderated following adoption. Adopters subject to strong enforcement exhibit an increase in income smoothing following adoption that is incremental to the adopters subject to weak regimes ( $B_3 = 16.18$ ,  $t = 3.49$ ). Unlike those firms subject to stronger enforcement regimes, however, firms with a larger pre-adoption difference between domestic GAAP and IFRS or stronger reporting incentives do not exhibit a change incremental to other IFRS adopters. Finally, it appears that the effect of legal enforcement carries through to column (8) where again see an increase in income

smoothing for countries with stronger legal enforcement and reporting incentives and a larger GAAP-IFRS difference ( $B_3 = 20.09$ ,  $t = 2.29$ ).

In general, the results from our accounting-based measures suggest that countries requiring the adoption of IFRS in 2005 exhibited an increase in income smoothing and more aggressive use of accruals following adoption and that this increase is incremental to any observed change for countries in a benchmark sample of non-adopters. Additionally we find evidence that, on average, countries adopting IFRS in 2005 exhibit this increase regardless of the legal enforcement regime (Strong vs. Weak), firms' financial reporting incentives (Strong vs. Weak) or the size of the pre-adoption difference between domestic accounting standards (Large vs. Small).

### **Asymmetric timeliness of loss recognition**

The results from our analysis of the asymmetric timeliness of loss recognition in earnings based on Equation (4) are presented in Table 7. All models are significant at  $p < 0.001$  and the adjusted- $R^2$ s are around 10%. P-values are two-tailed and are based on standard errors clustered by firm. In all models, the coefficients on  $D_t * R_t$  are positive and highly significant, consistent with the findings in prior studies (Basu 1997; Ball et al. 2000; Ball et al. 2003) that bad news is recognized in earnings in a more timely manner than good news. Our main focus is the coefficient on  $IFRS * POST * D_t * R_t$  that measures the incremental timeliness of bad news recognition in the post-adoption period for IFRS firms relative to firms in benchmark countries. For the pooled sample, the coefficient on  $IFRS * POST * D_t * R_t$  is -0.164 with a p-value  $< 0.001$ , indicating that earnings of firms in IFRS countries are less conservative in the post-adoption period relative to the benchmark firms in non-IFRS countries. This finding is consistent with the

results of the analyses of accounting-based measures which suggest a decrease in reporting conservatism in the post-adoption period.

For the subsamples, the coefficients on  $IFRS*POST*D_t*R_t$  are negative and significant at  $p < 0.10$  except for those in countries with weak legal enforcement (model (2)) and weak reporting incentives (6). In countries with strong legal enforcement, large reporting incentives and strong/small domestic GAAP-IFRS difference, bad news is recognized in a less timely fashion in the post-adoption period relative to benchmark countries. Because financial reporting in countries with strong legal enforcement is more conservative than in countries with weak enforcement in the pre-adoption (Ball et al. 2002), it is not surprising that we observe a more significant drop in earnings conservatism after adopting IFRS in strong law countries than in weak law countries. Therefore, in general, our results are robust to the partitions based on country-level institutional environment.

It is worth noting that the coefficients on  $IFRS*POST*R_t$ , which measures the timeliness of good news recognition in the post-adoption period for IFRS firms relative to benchmark firms, are positive and significant in six out of seven models. Except in countries with weak legal enforcement, the coefficients for all other partitions are positive and significant at  $p < 0.10$ . The positive coefficients suggest that IFRS firms recognize good news in earnings in a timelier manner in the post-adoption period relative to the benchmark firms. While the literature has traditionally viewed more conservative financial reporting is of higher quality, markets do not appear to discount the cost of equity for conservative earnings (Francis et al. 2004) as we would expect if shareholder perceived some benefit to them. Further, given that IFRS are generally less conservative (i.e., more symmetric gain and loss recognition) and the IASB is moving towards

neutral reporting, a decrease in reporting conservatism is consistent with the standards and indicates a high quality outcome.

### **Earnings timeliness and value relevance: A comparison of adjusted-R<sup>2</sup>**

Results from the analyses of R-squares of earnings timeliness and value relevance are presented in Table 8. Following Lang et al. (2006) and Barth et al. (2008) we compute two-tailed p-values to test for a significant difference in adjusted-R<sup>2</sup> based on the methodology in Cramer (1987). Panel A of Table 8 shows the results from regressions using IFRS firms. Adjusted-R<sup>2</sup>s labeled as “Good News” and “Bad News” are from the analyses of earnings’ timely recognition of economic gains and economic losses, respectively. Adjusted-R<sup>2</sup>s labeled as PRICE are from the regressions of stock price on earnings and equity. In the pooled regressions, the adjusted R<sup>2</sup> for good news firms increases in the post-adoption period and the difference is statistically significant at  $p < 0.001$ , indicating that good news is recognized in earnings in a more timely fashion in the post-adoption period. In comparison, for bad news observations the adjusted-R<sup>2</sup> decreases from 0.089 in the pre-adoption period to 0.043 in the post-adoption period indicating that the timeliness of bad news recognition decreases after firms adopt IFRS. This finding is in line with the results documented in Table 7.

In the PRICE regressions, the adjusted-R<sup>2</sup> increases from 0.035 in the pre-adoption period to 0.046 in the post-adoption period, and the difference is statistically significant. The increase in the explanatory power implies that accounting data is more value relevant; therefore, accounting numbers convey more information in stock price in the post-adoption period. The augmented value relevance could be the result that good news is recognized in earnings in a

timelier manner. Taken together, these findings provide consistent evidence suggesting that the mandatory adoption of IFRS affects earnings attributes.

To examine whether the results from the pooled sample are sensitive to the country-level institutional factors, we next partition the pooled sample into subsamples based on three country-level characteristics: legal enforcement, reporting incentives, and domestic GAAP-IFRS differences. In countries with weak legal enforcement ( $n=1,530$ ), the adjusted- $R^2$  does not change significantly across all three models. In countries with strong legal enforcement ( $n=5,898$ ), the adjusted- $R^2$  for good news firms increases from 0.001 to 0.036 while it decreases from 0.104 to 0.049 for bad news firms. Additionally, the adjusted- $R^2$  from the PRICE regression increases slightly in the post-IFRS period. The results suggest that the decrease (increase) in timely loss (good news) recognition is most pronounced in countries with stronger shareholder protections and that this decrease (increase) affects value relevance of earnings and book value in stock price formation process.

Next, we partition the pooled sample into a subsample of firms in countries with weak financial reporting incentives and a subsample of strong financial reporting incentives. For weak incentive firms ( $n=2,520$ ), the adjusted- $R^2$  for good news observations and that from PRICE regressions increase. In comparison, the adjusted- $R^2$  for bad news observations decreases. For strong incentive firms ( $n=4,554$ ), the adjusted- $R^2$  of good news and PRICE regression increases while that of bad news declines. Lastly, we run the regressions for firms in countries with small/large domestic GAAP and IFRS differences. In countries with small GAAP-IFRS differences, the adjusted- $R^2$  increases for good news and PRICE regressions but decreases for bad news regressions. The results are similar in countries with large GAAP-IFRS differences. Overall, although the results vary across different institutional partitions, we find evidence of a

decrease (increase) in timely recognition of bad news (good news) and an increase or no change in value relevance of income and book value.

Panel B of Table 8 reports the results of the benchmark firms. For the pooled sample (n=9,744), the adjusted-R<sup>2</sup> for good news firms declines in post-adoption period and that for bad news firms increases. The findings imply that the earnings of benchmark firms exhibit a higher level of asymmetry in recognizing economic losses versus gains. In the analysis of value relevance, the adjusted-R<sup>2</sup> in PRICE regression is statistically the same in the post-period as in the pre-period, indicating that value relevance of earnings and book value remain at the same level in post-IFRS period. Overall, these results provide a sharp contrast to those of the IFRS firms reported in Panel A which suggest that, in the post-IFRS period, good (bad) news is recognized in a more (less) timely manner and value relevance improves.

Similar to Panel A, we partition the pooled sample into subsamples based on the strength of legal enforcement, reporting incentives, and difference between domestic GAAPs and IFRS. In countries with weak legal enforcement, adjusted-R<sup>2</sup>s from Good News and PRICE regressions decline while that from Bad News regression increases. For the sample with strong legal enforcement, the adjusted-R<sup>2</sup> of good news firms increases and those from Bad News and PRICE regressions are similar to those of the sample with weak legal enforcement. In countries with weak reporting incentives or small domestic GAAP-IFRS difference, the adjusted-R<sup>2</sup>s from Good News regressions are similar in the post-period relative to pre-period. Additionally, the adjusted-R<sup>2</sup>s from Bad News and PRICE regressions increase in both subsamples. In countries with strong reporting incentives or large domestic GAAP-IFRS difference, the results show that bad news is recognized in a timelier manner but earnings and book value are less value relevant in the post-period. However, the timeliness of recognition of good news declines in countries

with strong reporting incentives but increases in countries with large domestic GAAP-IFRS difference. Taken together, we show that the changes in timely loss recognition and value relevance of the benchmark firms in and after 2005 do not follow the same pattern as we document for the IFRS firms in Panel A. Particularly, we observe robust evidence that economic losses are recognized in a timelier manner in post-IFRS period in all partitions. Therefore, based on the results from Panels A and B, we conclude that the timely recognition of economic losses (gains) decreases (increases) and that the value relevance of accounting numbers improves, after firms are forced to adopt IFRS.

### **Earnings timeliness and value relevance by country**

To shed more light on the change of earnings timeliness and value relevance in the post-IFRS period, we estimated the adjusted- $R^2$  for each country in the pre- and post-adoption periods. The caveat of this test is that some countries have very few firm-year observations and in turn it makes the estimation of  $R^2$  unstable. The results are shown in Table 9. Panel A (B) reports the adjusted- $R^2$ s of IFRS (benchmark) countries. As reported, the magnitude of adjusted- $R^2$  varies substantially from country to country and from the pre- to post-adoption periods. We conduct univariate comparisons of the adjusted- $R^2$ s. As reported in the lower part of panel A of Table 8, we show that, in the post-adoption period, the mean and median of adjusted- $R^2$ s from Good News and PRICE regressions increase while those from Bad News regressions decline, which is generally consistent with the findings in Table 7 and Panel A of Table 8. However, only the adjusted- $R^2$  difference from Bad News regressions is statistically lower at  $p < 0.10$ , which is not very surprising given that there are only 20 observations.

Panel B demonstrates the adjusted-R<sup>2</sup>s in benchmark countries in the pre- and post-adoption periods. In Good News and Bad News regressions, the mean adjusted-R<sup>2</sup>s increase in the post-adoption period. However, none of the changes is statistically significant. Similarly, the mean and median adjusted-R<sup>2</sup>s from PRICE regressions do not show any significant change in the post-IFRS period. Together with the results in Panel A, we observe a significant decrease in timely loss recognition in the post-IFRS period.<sup>7</sup>

## V. SUMMARY AND CONCLUSIONS

We provide preliminary evidence on the effects of mandatory adoption of International Financial Reporting Standards (IFRS) on a commonly used set of accounting quality metrics for a relatively broad set of firms in 21 countries relative to a benchmark sample of firms from countries that did not adopt IFRS during our sample period. Our findings can be summarized as follows. First, we find that for the overall sample of IFRS firms, the correlation between changes in accruals and changes in operating cash flows becomes significantly more negative in the post-adoption period (relative to the benchmark firms). Furthermore, both average accruals and absolute value of accruals increases significantly in the post-adoption period (relative to the benchmark firms). These results hold generally across partitions constructed on strong versus weak enforcement and reporting incentives as well as large versus small differences between IFRS and domestic GAAP. In addition to pooled firm-year analyses, we also perform country-level analysis with an index that combines ranks of our accounting-

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<sup>7</sup> We also run regressions at the country level, similar to those in Table 6. The dependent variable is the adjusted R<sup>2</sup>, and the independent variables include Post, IFRS, and the joint term of POST\*IFRS. There are 72 observations representing 36 countries in both the pre- and post-adoption periods. None of the coefficients on Post, IFRS, and the joint term of POST\*IFRS are statistically significant at p = 0.10.

based metrics. The results of this country-level analysis are generally consistent with the above findings.

Second, with respect to market-based metrics we find evidence of a significant decrease in timely loss recognition in the post-adoption period (relative to benchmark firms). This finding holds for all partitions except the weak enforcement and the large difference partitions. This result is consistent with our above finding that average accruals are less negative in post-adoption periods and provides additional evidence of a decrease in conservatism following IFRS adoption. Further, we observe a significant increase in timeliness of good news recognition in the post-adoption period (relative to benchmark firms). This finding holds for all partitions except the weak enforcement partition. Consistent with these findings the adjusted  $R^2$ s in Earnings/Return regressions are generally higher for good news firms but lower for bad news firms in the post-adoption period (relative to benchmark firms). These findings hold for all partitions except the weak legal enforcement partition. The evidence on value-relevance is mixed.

Taken together, our results suggest that income smoothing has increased significantly and reporting conservatism has decreased significantly in the post-adoption period for IFRS firms following mandatory adoption of IFRS. These results are in contrast to the results in Barth et al. (2008) based on voluntary adopters. However, voluntary adopters likely have strong incentives to differentiate their reporting quality and as Barth et al. (2008) note, their results may not be generalizable to mandatory adopters.

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**Table 1**  
**Sample Selection**

	<b>Accounting-based measures</b>		
	Countries	Firms	Firm-Years
IFRS and benchmark firms on Compustat Global Industrial (1998 - 2007)	85	23,543	180,514
Delete Benchmark firms that report using IFRS	<u>(9)</u>	<u>(191)</u>	<u>(563)</u>
	76	23,352	179,951
Delete IFRS firms without identifiable adoption year	<u>0</u>	<u>(97)</u>	<u>(1,594)</u>
	76	23,255	178,357
Delete IFRS firms that never adopt IFRS	<u>0</u>	<u>(2,161)</u>	<u>(7,966)</u>
	76	21,094	170,391
Delete IFRS firms that adopt voluntarily	<u>0</u>	<u>(895)</u>	<u>(7,269)</u>
	76	20,199	163,122
Delete non-continuous fiscal-years	<u>0</u>	<u>0</u>	<u>(1,555)</u>
	76	20,199	161,567
Delete firms-years without required exchange rates from COMPUSTAT Global Currency	<u>0</u>	<u>(27)</u>	<u>(219)</u>
Delete firms-years without required data from COMPUSTAT	<u>(7)</u>	<u>(1,800)</u>	<u>(55,761)</u>
	69	18,372	105,587
Delete firms without 6 years of data (2002-2007)	<u>(29)</u>	<u>(11,220)</u>	<u>(62,675)</u>
	40	7,152	42,912
Delete Cayman Islands and Bermuda	<u>(2)</u>	<u>(165)</u>	<u>(1,044)</u>
	38	6,987	41,868
Delete firms not being randomly selected for the US and Japan	<u>0</u>	<u>(3,318)</u>	<u>(19,854)</u>
<b>Sample of Mandatory IFRS Firms &amp; Benchmark for EM measures</b>	<b>38</b>	<b>3,669</b>	<b>22,014</b>
	<b>Market-based measures</b>		
	Countries	Firms	Firm-Years
Firm-years with required data from Compustat Global Currency file	38	3,669	22,014
Delete missing firm-year values of all market-based variables	<u>(2)</u>	<u>(807)</u>	<u>(4,842)</u>
<b>Sample of Mandatory IFRS Firms &amp; Benchmark for market-based measures</b>	<b>36</b>	<b>2,862</b>	<b>17,172</b>

**Table 2**  
**Descriptive Statistics for Our Institutional Characteristics and our Sample Composition**

**Panel A: IFRS Sample**

	Rule of Law		Gaap- IFRS Difference		Reporting Incentives (PCB)		Accounting Measures			Market Measures		
							Firm-years	Firms	Percent	Firm-years	Firms	Percent
Australia	1.73	(1)	4	(0)	0.02	(1)	438	73	4.5%	246	41	3.3%
Austria	1.82	(1)	12	(1)	0.38	(0)	66	11	0.7%	60	10	0.8%
Belgium	1.43	(1)	13	(1)	n/a		144	24	1.5%	126	21	1.7%
Denmark	1.94	(1)	11	(1)	0.08	(0)	168	28	1.7%	102	17	1.4%
Finland	1.90	(1)	15	(1)	0.02	(1)	372	62	3.8%	342	57	4.6%
France	1.33	(1)	12	(1)	0.02	(1)	1,392	232	14.2%	1,290	215	17.4%
Greece	0.65	(0)	17	(1)	n/a		204	34	2.1%	186	31	2.5%
Germany	1.73	(1)	11	(1)	0.1	(0)	780	130	7.9%	714	119	9.6%
Hong Kong	1.47	(1)	3	(0)	0	(1)	384	64	3.9%	294	49	4.0%
Ireland	1.59	(1)	1	(0)	n/a		120	20	1.2%	42	7	0.6%
Italy	0.52	(0)	12	(1)	0.37	(0)	768	128	7.8%	708	118	9.5%
Luxembourg	1.90	(1)	18	(1)	n/a		30	5	0.3%	0	0	0.0%
Netherlands	1.72	(1)	4	(0)	0.02	(1)	390	65	4.0%	306	51	4.1%
Norway	1.94	(1)	7	(0)	0.01	(1)	360	60	3.7%	270	45	3.6%
Philippines	-0.44	(0)	10	(1)	0.13	(0)	174	29	1.8%	138	23	1.9%
Portugal	1.08	(0)	13	(1)	0.2	(0)	90	15	0.9%	90	15	1.2%
South Africa	0.18	(0)	0	(0)	0.02	(1)	114	19	1.2%	54	9	0.7%
Spain	1.10	(0)	16	(1)	0.04	(1)	390	65	4.0%	354	59	4.8%
Sweden	1.79	(1)	10	(1)	0.07	(0)	786	131	8.0%	708	118	9.5%
Switzerland	1.97	(1)	12	(1)	0.06	(1)	258	43	2.6%	222	37	3.0%
UK	1.63	(1)	1	(0)	0.01	(1)	<u>2,388</u>	<u>398</u>	<u>24.3%</u>	<u>1,176</u>	<u>196</u>	<u>15.8%</u>
Total							9,816	1,636	100%	7,428	1,238	100%
Mean	1.38		9.62		0.09							
Median	1.63		11.00		0.04							

**Table 2 (cont'd)**

**Panel B: Benchmark Sample**

	Rule of Law		Gaap- IFRS Difference		Reporting Incentives (PCB)		Accounting Measures			Market Measures		
							Firm- years	Firms	Percent	Firm- years	Firms	Percent
Argentina	-0.55	(0)	14	(1)	0.27	(0)	54	9	0.4%	48	8	0.5%
Brazil	-0.45	(0)	11	(1)	0.65	(0)	198	33	1.6%	96	16	1.0%
Canada	1.75	(1)	5	(0)	0.01	(1)	1,152	192	9.4%	930	155	9.5%
Chile	1.16	(0)	13	(1)	0.18	(0)	360	60	3.0%	306	51	3.1%
China	-0.42	(0)	9	(1)	n/a		1,524	254	12.5%	786	131	8.1%
India	0.13	(0)	8	(0)	n/a		108	18	0.9%	36	6	4.7%
Indonesia	-0.86	(0)	4	(0)	0.07	(0)	534	89	4.4%	456	76	0.4%
Israel	0.73	(0)	6	(0)	0.27	(0)	48	8	0.4%	0	0	0.0%
Japan	1.35	(1)	9	(1)	-0.04	(1)	1,800	300	14.8%	1,392	232	14.3%
Korea Rep.	0.78	(0)	6	(0)	0.16	(0)	780	130	6.4%	714	119	7.3%
Malaysia	0.56	(0)	8	(0)	0.07	(0)	1,686	281	13.8%	1,200	200	12.3%
Mexico	-0.51	(0)	1	(0)	0.34	(0)	174	29	1.4%	132	22	1.4%
New Zealand	1.90	(1)	3	(0)	0.03	(1)	48	8	0.4%	30	5	0.3%
Pakistan	-0.87	(0)	4	(0)	n/a		48	8	0.4%	48	8	0.5%
Taiwan	0.85	(0)	6	(0)	0	(1)	822	137	6.7%	804	134	8.3%
Thailand	0.10	(0)	4	(0)	0.12	(0)	1,062	177	8.7%	966	161	9.9%
United States	1.52	(1)	4	(0)	0.01	(1)	<u>1,800</u>	<u>300</u>	<u>14.8%</u>	<u>1,800</u>	<u>300</u>	18.5%
Total							12,198	2,033	100%	9,447	1,624	100%
Mean	0.42	***	6.76	*	0.15							
Median	0.56	***	6.00	*	0.10							

Notes: The Rule of Law scores are for the year 2005 from Kaufmann et al. (2007). Higher values represent countries with higher quality legal enforcement. The GAAP-IFRS difference scores are from Bae et al. (2007). Higher values represent countries with a larger difference between domestic GAAP and IFRS as measures across 21 accounting dimensions. Reporting Incentives are based on the private control benefits (PCB) scores from Dyck and Zingales (2004). Higher values represent a larger premium to the value of a controlling share block and, therefore, larger private control benefits. We interpret smaller private control benefits as consistent with stronger reporting incentives. We form binary identifier variables for each of our three institutional variables. For Rule of Law and GAAP-IFRS difference we assign countries with a value equal to or greater than the country level median for each variable as having strong legal enforcement and a large domestic GAAP-IFRS difference respectively. We assign countries below the median as having weak legal enforcement and a small domestic GAAP-IFRS difference respectively. For Reporting Incentives, we assign firms in countries with a private control benefit score less than the country level median as having strong reporting incentives and firms in countries with a private control benefit score equal to or greater than the country level median as having weak reporting incentives. \*, \*\* and \*\*\* indicate a significant difference between IFRS countries and benchmark countries at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$  respectively.

**Table 3**  
**Descriptive Statistics for Variables Used in Our Tests**

**Panel A: IFRS sample**

Variables	Pre Adoption			Post Adoption				
	N	Mean	Median	N	Mean	Median		
NI <sub>t</sub>	4,908	0.033	0.052	4,908	0.062	0.0714	***	***
CF <sub>t</sub>	4,908	0.086	0.102	4,908	0.096	0.1087	***	**
ΔCF <sub>t</sub>	4,908	0.006	0.004	4,908	0.001	-0.001	*	**
ACC <sub>t</sub>	4,908	-0.053	-0.052	4,908	-0.034	-0.033	***	***
ΔACC <sub>t</sub>	4,908	0.003	0.002	4,908	0.007	0.005		**
MV <sub>t</sub>	4,908	1,880	135	4,908	3,236	264	***	***
BTM <sub>t</sub>	4,908	0.802	0.611	4,908	0.533	0.464	***	***
Assets	4,908	3,092	217	4,908	4,168	307	***	***
E <sub>t</sub>	3,714	0.007	0.048	3,714	0.048	0.062	***	***
R <sub>t</sub>	3,714	0.231	0.152	3,714	0.143	0.066	***	***
D <sub>t</sub>	3,714	0.387	0.000	3,714	0.425	0.000	***	***
P <sub>t</sub>	3,714	1.177	1.109	3,714	1.099	1.037	**	**
BV <sub>t</sub>	3,714	0.835	0.638	3,714	0.619	0.481	**	**
NI <sub>t</sub>	3,714	-0.011	0.046	3,714	0.036	0.057	**	**

**Panel B: Benchmark sample**

Variables	Pre Adoption			Post Adoption				
	N	Mean	Median	N	Mean	Median		
NI <sub>t</sub>	6,099	0.056	0.057	6,099	0.060	0.061	**	***
CF <sub>t</sub>	6,099	0.091	0.090	6,099	0.092	0.094		
ΔCF <sub>t</sub>	6,099	-0.001	-0.001	6,099	0.001	0.001		
ACC <sub>t</sub>	6,099	-0.035	-0.034	6,099	-0.032	-0.033		
ΔACC <sub>t</sub>	6,099	0.007	0.006	6,099	-0.002	-0.001	***	***
MV <sub>t</sub>	6,099	6,587	172	6,099	7,844	274		***
BTM <sub>t</sub>	6,099	3.315	0.751	6,099	1.121	0.693		***
Assets	6,099	1,754	291	6,099	2,463	401	***	***
E <sub>t</sub>	4,872	0.044	0.058	4,872	0.044	0.059		
R <sub>t</sub>	4,872	0.204	0.092	4,872	0.165	0.065	*	*
D <sub>t</sub>	4,872	0.414	0.000	4,872	0.423	0		
P <sub>t</sub>	4,872	1.162	1.067	4,872	1.121	1.017	***	***
BV <sub>t</sub>	4,872	0.824	0.640	4,872	0.747	0.576	***	***
NI <sub>t</sub>	4,872	0.025	0.054	4,872	0.029	0.056		

Note: NI is annual operating income. ACC = (ΔCurrent Assets - ΔCash - ΔCurrent Liabilities + ΔShort-term debt in CL + ΔTaxes Payable - Depreciation). CF = NI - ACC. NI, CF and ACC are deflated by average total assets. MV is fiscal year-end market value of equity in \$USmm. BTM is the fiscal year-end ratio of common equity to market value of equity. Assets is fiscal year-end total assets in \$USmm. R<sub>t</sub> is 12-month cumulative returns ending three months after fiscal year-end of t. E<sub>t</sub> is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1. D<sub>t</sub> equals 1 if R<sub>t</sub> is negative, 0 otherwise. P<sub>t</sub> is stock price six months after fiscal year end of t,

$BV_t$  is book value of equity per share at fiscal year-end of  $t$  and  $NI_t$  is earnings per share before extraordinary items in fiscal year  $t$ .  $P_t$ ,  $BV_t$  and  $NI_t$  are deflated by price six months after the preceding year-end. \*, \*\* and \*\*\* indicate significant difference between the pre- and post-adoption periods at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$  respectively.

**Table 4**  
**Pre- and Post-Adoption Earnings Management Metrics Pooled Across Countries**

**Panel A: IFRS Sample**

**Pooled**

Earnings Management Metric	Pre (N=4908)	Post (N=4908)	(Difference)	
STD(NI*) / STD(CF*)	0.556	0.542	-0.014	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.613	-0.709	-0.096	***
Med ACC*	-0.005	0.009	0.014	***
Med [abs(ACC*)/abs(CF*)]	0.670	0.744	0.074	***

**Rule of Law**

Earnings Management Metric	<u>Weak Law</u>			<u>Strong Law</u>			(Difference)	(Difference)
	Pre (N=870)	Post (N=870)	(Difference)	Pre (N=4038)	Post (N=4038)	(Difference)		
STD(NI*) / STD(CF*)	0.546	0.510	-0.036	***	0.557	0.547	-0.010	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.718	-0.776	-0.058	*	-0.594	-0.696	-0.102	***
Med ACC*	-0.001	0.005	0.006	*	-0.006	0.010	0.016	***
Med [abs(ACC*)/abs(CF*)]	0.695	0.812	0.117	***	0.660	0.722	0.062	***

**Reporting Incentives**

Earnings Management Metric	<u>Small Incentives</u>			(Difference)	<u>Large Incentives</u>			(Difference)
	Pre (N=1416)	Post (N=1416)	(Difference)		Pre (N=3243)	Post (N=3243)	(Difference)	
STD(NI*) / STD(CF*)	0.562	0.533	-0.029	***	0.559	0.548	-0.011	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.611	-0.708	-0.097	***	-0.618	-0.705	-0.087	***
Med ACC*	-0.005	0.010	0.015	***	-0.005	0.009	0.014	***
Med [abs(ACC*)/abs(CF*)]	0.719	0.755	0.036	no	0.649	0.737	0.088	***

**GAAP-IFRS Difference**

Earnings Management Metric	<u>Small Difference</u>			(Difference)	<u>Large Difference</u>			(Difference)
	Pre (N=2097)	Post (N=2097)	(Difference)		Pre (N=2811)	Post (N=2811)	(Difference)	
STD(NI*) / STD(CF*)	0.546	0.554	0.008	***	0.565	0.530	-0.035	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.589	-0.686	-0.097	***	-0.633	-0.727	-0.094	***
Med ACC*	-0.005	0.009	0.014	***	-0.006	0.009	0.015	***
Med [abs(ACC*)/abs(CF*)]	0.641	0.716	0.075	***	0.688	0.762	0.074	***

**Table 4 (cont'd)**

**Panel B: Benchmark Sample**

**Pooled**

Earnings Management Metric	Pre (N=6099)	Post (N=6099)	(Difference)	
STD(NI*) / STD(CF*)	0.541	0.522	-0.019	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.724	-0.717	0.007	no
Med ACC*	0.000	0.001	0.001	no
Med [abs(ACC*)/abs(CF*)]	0.765	0.730	-0.035	**

**Rule of Law**

Earnings Management Metric	<u>Weak Law</u>			<u>Strong Law</u>		
	Pre (N=3699)	Post (N=3699)	(Difference)	Pre (N=2400)	Post (N=2400)	(Difference)
STD(NI*) / STD(CF*)	0.527	0.526	-0.001 **	0.564	0.513	-0.051 ***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.786	-0.775	0.011 no	-0.612	-0.616	-0.004 no
Med ACC*	0.003	-0.001	-0.004 *	-0.002	0.002	0.004 ***
Med [abs(ACC*)/abs(CF*)]	0.814	0.782	-0.032 *	0.663	0.626	-0.037 *

**Reporting Incentive**

Earnings Management Metric	<u>Small Incentives</u>			<u>Large Incentives</u>		
	Pre (N=2448)	Post (N=2448)	(Difference)	Pre (N=2811)	Post (N=2811)	(Difference)
STD(NI*) / STD(CF*)	0.519	0.517	-0.002 ***	0.564	0.510	-0.054 ***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.782	-0.757	0.025 no	-0.630	-0.645	-0.015 no
Med ACC*	0.001	-0.001	-0.002 no	-0.001	0.002	0.003 **
Med [abs(ACC*)/abs(CF*)]	0.798	0.763	-0.035 *	0.682	0.652	-0.030 no

**GAAP-IFRS Difference**

Earnings Management Metric	<u>Small Difference</u>			<u>Large Difference</u>		
	Pre (N=4131)	Post (N=4131)	(Difference)	Pre (N=1968)	Post (N=1968)	(Difference)
STD(NI*) / STD(CF*)	0.543	0.513	-0.030 ***	0.538	0.548	0.010 ***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.704	-0.705	-0.001 no	-0.778	-0.747	0.031 no
Med ACC*	0.000	0.001	0.001 no	0.002	0.000	-0.002 no
Med [abs(ACC*)/abs(CF*)]	0.748	0.721	-0.027 no	0.789	0.743	-0.046 **

**Table 4 (cont'd)**

**Panel C: Comparison of IFRS and Benchmark Samples**

<b>Pooled</b>								
Earnings Management Metric	(Post - Pre)							
	Benchmark	IFRS	(Difference)					
STD(NI*) / STD(CF*)	-0.019	-0.014	0.005	***				
Corr( $\Delta$ ACC*, $\Delta$ CF*)	0.007	-0.096	-0.103	***				
Med ACC*	0.001	0.014	0.013	***				
Med [abs(ACC*)/abs(CF*)]	-0.035	0.074	0.109	***				

  

<b>Rule of Law</b>								
Earnings Management Metric	<u>Weak Law (Post - Pre)</u>				<u>Strong Law (Post - Pre)</u>			
	Benchmark	IFRS	(Difference)		Benchmark	IFRS	(Difference)	
STD(NI*) / STD(CF*)	-0.001	-0.036	-0.035	***	-0.051	-0.010	0.041	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	0.011	-0.058	-0.069	***	-0.004	-0.102	-0.098	***
Med ACC*	-0.004	0.006	0.010	***	0.004	0.016	0.012	***
Med [abs(ACC*)/abs(CF*)]	-0.032	0.117	0.149	***	-0.037	0.062	0.099	***

  

<b>Reporting Incentive</b>								
Earnings Management Metric	<u>Small Incentives (Post - Pre)</u>				<u>Large Incentives (Post - Pre)</u>			
	Benchmark	IFRS	(Difference)		Benchmark	IFRS	(Difference)	
STD(NI*) / STD(CF*)	-0.002	-0.029	-0.027	***	-0.054	-0.011	0.043	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	0.025	-0.097	-0.122	***	-0.015	-0.087	-0.072	***
Med ACC*	-0.002	0.015	0.017	***	0.003	0.014	0.011	***
Med [abs(ACC*)/abs(CF*)]	-0.035	0.036	0.071	***	-0.030	0.088	0.118	***

  

<b>GAAP-IFRS Difference</b>								
Earnings Management Metric	<u>Small Difference (Post - Pre)</u>				<u>Large Difference (Post - Pre)</u>			
	Benchmark	IFRS	(Difference)		Benchmark	IFRS	(Difference)	
STD(NI*) / STD(CF*)	-0.030	0.008	0.038	***	0.010	-0.035	-0.045	***
Corr( $\Delta$ ACC*, $\Delta$ CF*)	-0.001	-0.097	-0.096	***	0.031	-0.094	-0.125	***
Med ACC*	0.001	0.014	0.013	***	-0.002	0.015	0.017	***
Med [abs(ACC*)/abs(CF*)]	-0.027	0.075	0.102	***	-0.046	0.074	0.120	***

Note: NI\*, ACC\* and CF\* are as defined in Table 3.  $\sigma(NI*) / \sigma(CF*)$  is the standard deviation of NI\* divided by the standard deviation of CF\*.  $\rho(\Delta ACC*, \Delta CF*)$  is the Spearman correlation between the change in ACC\* and the change in CF\*.  $|ACC*| / |CF*|$  is the absolute values of ACC\* divided by the absolute value of CF\* respectively. \*, \*\*, and \*\*\* indicate significant difference between IFRS and benchmark samples at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively. All variables used to construct our metrics are winsorized at the top and bottom 2.5% of their distributions. Rule of Law, Reporting Incentive and GAAP-IFRS Difference are as defined in Table 2.

**Table 5**  
**Descriptive Statistics for Accounting-based measures by Country**

**Panel A: IFRS sample**

Country	$\sigma(\text{NOI}^*)/\sigma(\text{CFO}^*)$		$\rho(\frac{\Delta \text{ACC}^*}{\Delta \text{CFO}^*})$		Med ACC*		med  ACC* / CFO*		Aggregate earnings management score						
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST					
Australia	0.551	0.500	-0.516	-0.632	0.007	0.007	0.658	0.686	25.3	36.7					
Austria	0.837	0.473	-0.748	-0.770	-0.017	0.001	0.996	0.837	17.3	46.7					
Belgium	0.547	0.450	-0.663	-0.795	-0.014	0.002	0.664	0.783	14.7	54.0					
Denmark	0.477	0.548	-0.719	-0.761	-0.009	0.013	0.755	0.621	28.7	46.0					
Finland	0.585	0.379	-0.487	-0.770	-0.017	0.010	0.650	0.715	6.0	64.3					
France	0.531	0.439	-0.692	-0.736	-0.003	0.005	0.673	0.756	25.0	51.0					
Germany	0.501	0.466	-0.625	-0.749	-0.004	0.008	0.702	0.744	23.0	53.3					
Greece	0.466	0.449	-0.681	-0.770	-0.010	0.009	0.627	0.699	29.0	59.0					
Hong Kong	0.511	0.477	-0.721	-0.781	0.000	0.012	0.707	0.754	30.3	56.3					
Ireland	0.303	0.388	-0.329	-0.746	-0.005	0.008	0.600	0.654	31.0	58.0					
Italy	0.428	0.437	-0.700	-0.805	0.006	0.005	0.712	0.851	50.0	61.3					
Luxembourg	0.287	0.441	-0.354	-0.818	-0.019	0.012	0.250	1.075	27.0	68.0					
Netherlands	0.470	0.431	-0.655	-0.760	-0.005	0.014	0.672	0.748	27.7	63.3					
Norway	0.542	0.550	-0.587	-0.579	-0.019	0.021	0.749	0.776	11.0	34.0					
Philippines	0.534	0.503	-0.738	-0.759	-0.003	0.005	0.630	0.770	27.3	43.3					
Portugal	0.476	0.600	-0.746	-0.742	-0.005	0.010	0.840	0.875	34.0	38.3					
South Africa	0.530	0.540	-0.778	-0.679	-0.020	0.010	0.785	0.676	26.3	36.0					
Spain	0.480	0.461	-0.752	-0.797	-0.004	0.002	0.686	0.833	35.7	53.0					
Sweden	0.646	0.467	-0.462	-0.546	-0.014	0.015	0.713	0.587	4.7	44.0					
Switzerland	0.484	0.444	-0.627	-0.754	-0.010	0.012	0.630	0.922	21.7	60.3					
UK	0.531	0.488	-0.577	-0.688	-0.005	0.006	0.608	0.713	17.3	39.0					
Mean	0.510	0.473	no	-0.626	-0.735	***	-0.008	0.009	***	0.681	0.765	**	24.4	50.8	***
Median	0.511	0.466	**	-0.663	-0.759	***	-0.005	0.009	***	0.673	0.754	***	26.3	53.0	***
Std. Dev.	0.110	0.054		0.130	0.072		0.008	0.005		0.133	0.110		10.3	10.4	
Min	0.287	0.379		-0.778	-0.818		-0.020	0.001		0.250	0.587		4.7	34.0	
Max	0.837	0.600		-0.328	-0.548		0.007	0.021		0.996	1.080		50.0	68.0	

Table 5 (cont'd)

Panel B: Benchmark sample

Country	$\sigma(\text{NOI}^*)/\sigma(\text{CFO}^*)$		$\rho(\Delta\text{ACC}^*, \Delta\text{CFO}^*)$		Med ACC*		med  ACC* / CFO*		Aggregate earnings management score						
	PRE	POST	PRE	POST	PRE	POST	PRE	POST	PRE	POST					
Argentina	0.394	0.645	-0.618	-0.495	-0.011	0.006	0.616	0.778	32.0	22.3					
Brazil	0.469	0.606	-0.733	-0.572	0.004	-0.008	0.554	0.626	44.3	10.7					
Canada	0.506	0.474	-0.514	-0.552	0.000	0.003	0.614	0.550	21.7	33.0					
Chile	0.515	0.448	-0.784	-0.745	0.004	0.001	0.760	0.710	45.0	45.3					
China	0.470	0.431	-0.823	-0.813	0.008	0.000	0.862	0.854	60.0	56.3					
India	0.501	0.518	-0.716	-0.738	-0.004	0.009	0.718	0.858	28.0	42.0					
Indonesia	0.469	0.551	-0.814	-0.795	-0.009	0.003	0.826	0.813	43.3	40.0					
Israel	0.663	0.361	-0.728	-0.551	0.003	-0.001	0.737	0.918	26.7	38.0					
Japan	0.451	0.444	-0.747	-0.703	-0.003	0.000	0.735	0.674	42.3	41.0					
Korea Rep.	0.480	0.425	-0.811	-0.749	-0.005	0.009	0.882	0.742	41.3	58.7					
Malaysia	0.499	0.480	-0.779	-0.784	0.003	0.000	0.848	0.796	45.3	45.7					
Mexico	0.381	0.409	-0.763	-0.814	0.002	0.001	0.874	0.732	55.7	59.3					
New Zealand	0.330	0.596	-0.676	-0.453	-0.004	-0.021	0.823	0.639	41.0	3.7					
Pakistan	0.453	0.265	-0.837	-0.906	-0.006	-0.004	0.941	0.806	47.7	58.7					
Taiwan	0.485	0.449	-0.731	-0.794	0.004	-0.003	0.801	0.802	39.7	49.0					
Thailand	0.480	0.527	-0.782	-0.751	0.004	-0.011	0.686	0.737	50.0	25.7					
United States	0.521	0.499	-0.572	-0.602	-0.003	0.004	0.643	0.615	21.7	32.0					
Mean	0.475	0.478	no	-0.731	-0.695	no	-0.001	-0.001	no	0.760	0.744	no	40.3	38.9	no
Median	0.480	0.473	no	-0.749	-0.745	no	0.000	0.000	no	0.760	0.742	no	42.3	41.0	no
Std. Dev.	0.070	0.094		0.090	0.131		0.005	0.007		0.111	0.099		11.0	16.4	
Min	0.330	0.265		-0.837	-0.906		-0.011	-0.021		0.554	0.550		21.7	3.7	
Max	0.663	0.645		-0.514	-0.453		0.008	0.009		0.941	0.918		60.0	59.3	

Note:  $\sigma(\text{NI}^*)/\sigma(\text{CF}^*)$ ,  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$ , ACC\* and  $|\text{ACC}^*|/|\text{CF}^*|$  are as previously defined in Table 5. To form our aggregate earnings management score, we rank  $\sigma(\text{NI}^*)/\sigma(\text{CF}^*)$ ,  $\rho(\Delta\text{ACC}^*, \Delta\text{CF}^*)$  and ACC\* pooled across all countries in the pre- and post-adoption periods combined. Aggregate earnings management is the country-period average across the 3 ranks. \*, \*\* and \*\*\* indicate significant difference between the pre- and post-adoption periods at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively. All variables used to construct our metrics are winsorized at the top and bottom 2.5% of their distributions.

**Table 6**  
**Results from Cross-Sectional Country-Level Regressions Comparing Post-Adoption and Pre-Adoption Earnings Management for IFRS Adopters Relative to Benchmark Sample**

**Panel A: Full Sample and Subsamples Partitioned on Institutional Factors**

Dependent variable = Aggregate EM							
Independent Variables	(1) Pooled	(2) Weaker legal enforcement	(3) Stronger legal enforcement	(4) Small GAAP-IFRS Difference	(5) Large GAAP-IFRS Difference	(6) Weaker reporting incentives	(7) Stronger reporting incentives
(1) INTERCEPT	40.33*** (15.00)	43.00*** (15.33)	31.66*** (5.90)	38.50*** (11.46)	44.73*** (10.42)	42.63*** (14.29)	33.27*** (7.16)
(2) IFRS	-15.90*** (-4.52)	-9.28* (-2.06)	-10.96* (-1.88)	-14.36*** (-3.31)	-20.16*** (-3.74)	-16.20** (-2.65)	-10.63* (-1.93)
(3) Post	-1.43 (-0.36)	-0.56 (-0.13)	-4.25 (-0.40)	1.97 (0.40)	-9.60 (-1.60)	-4.22 (-0.76)	-1.53 (-0.17)
(4) Post*IFRS	27.76*** (5.66)	15.34** (2.77)	35.21*** (3.20)	20.07*** (3.36)	38.08*** (5.30)	25.37*** (3.50)	28.30** (2.78)
Adjusted R <sup>2</sup>	.39	.04	.64	.19	.53	.21	.45
F-statistic	16.84***	1.56	22.69***	3.90**	14.71***	3.80**	8.75***
# Observations	76	38	38	38	38	32	30
# of Countries	38	19	19	19	19	16	15

Note: The table presents coefficients from OLS regressions. T-statistics, in parentheses, are based on standard errors clustered by country. Aggregate earnings management is as defined in Table 5. IFRS equals 1 if the country is required to adopt IFRS beginning in 2005 and equals zero if the country is part of our benchmark. Post equals 1 for the post-mandatory period and equals zero for the pre-mandatory period. Rule of Law, Reporting Incentive and GAAP-IFRS Difference are as defined in Table 2. \*, \*\* and \*\*\* indicate significant at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively.

**Table 6 (cont'd)**

**Panel B: IFRS countries with Strong Enforcement, Strong Reporting Incentives and a Large Pre-Adoption Difference Between Domestic GAAP and IFRS**

Dependent Variable = Aggregate Earnings Management								
	Benchmark = Non-IFRS countries				Benchmark = IFRS countries not in Group			
	(1) Group = strict rule of law	(2) Group = Large GAAP-IFRS difference	(3) Group = Stronger reporting incentives	(4) Group = strict Strict rule & large diff & strong incent	(5) Group = strict rule of law	(6) Group = Large GAAP-IFRS difference	(7) Group = Stronger reporting incentives	(8) Group = strict Strict rule & large diff & strong incent
(1) INTERCEPT	40.33*** (14.91)	40.33*** (14.89)	39.29*** (14.21)	39.29*** (13.88)	33.72*** (9.67)	24.14*** (8.83)	26.42*** (4.97)	25.62*** (8.29)
(2) Group	-19.62*** (-5.61)	-15.76*** (-3.78)	-16.65*** (-4.20)	-21.73*** (-3.69)	-13.01*** (-3.13)	0.43 (0.10)	-3.80 (-0.63)	-8.06 (-1.34)
(3) Post	-1.43 (-0.36)	-1.43 (-0.36)	-3.26 (-0.70)	-3.26 (-0.68)	14.78*** (4.24)	22.05*** (6.52)	21.14*** (4.56)	20.91*** (7.28)
(4) Post*Group	32.39*** (6.47)	29.91*** (5.37)	30.03*** (4.59)	44.26*** (4.62)	16.18*** (3.49)	6.43 (1.24)	5.62 (0.85)	20.09** (2.29)
Adjusted R <sup>2</sup>	.43	.36	.31	.27	.67	.62	.55	.61
F-statistic	16.84***	12.20***	7.94***	5.09***	29.02***	23.39***	14.57***	18.11***
# Observations	64	62	48	34	42	42	34	34
# of Countries	32	31	24	17	21	21	17	17

Note: The table presents coefficients from OLS regressions. T-statistics, in parentheses, are based on standard errors clustered by country. Aggregate earnings management is as defined in Table 5. Group equals 1 for IFRS countries in the designated group and equals zero otherwise. Post equals 1 for the post-mandatory period and equals zero for the pre-mandatory period. We use two benchmarks. Columns 1-4 use all non-IFRS countries as the benchmark. Columns 5-8 use IFRS countries not in the appropriate group as the benchmark. Rule of Law, Reporting Incentive and GAAP-IFRS Difference are as defined in Table 2. \*, \*\* and \*\*\* indicate significant at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively.

**Table 7**  
**Results from Firm-Year Asymmetric Timeliness Regressions to examine the Effects of**  
**IFRS Adoption on Timeliness of Loss Recognition**

**Dependent Variable =  $E_t^*$**

Independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Pooled	Weak Legal Enforcement	Strong Legal Enforcement	Weak Reporting Incentives	Strong Reporting Incentives	Small GAAP-IFRS Difference	Large GAAP-IFRS Difference
Intercept	0.017 (3.94)***	0.010 (1.65)*	0.025 (4.35)***	0.008 (1.05)	0.025 (4.63)***	0.024 (4.60)***	-0.002 (-0.34)
$R_t$	0.016 (2.18)**	0.042 (4.41)***	-0.018 (-1.52)	0.047 (4.44)***	-0.014 (-1.34)	0.006 (0.63)	0.055 (3.94)***
$D_t$	0.013 (1.84)*	0.030 (2.96)***	-0.011 (-1.07)	0.035 (2.54)**	-0.005 (-0.55)	0.021 (2.51)**	-0.006 (-0.53)
$D_t * R_t$	0.225 (10.44)***	0.216 (7.32)***	0.239 (7.68)***	0.247 (5.95)***	0.240 (8.80)***	0.278 (11.37)***	0.048 (1.21)
$Post_t$	0.010 (1.95)*	0.009 (1.19)	0.017 (2.28)**	0.003 (0.33)	0.015 (2.20)**	0.007 (1.01)	0.020 (2.34)**
$Post_t * D_t$	-0.019 (-2.16)**	-0.040 (-3.03)***	0.009 (0.79)	-0.039 (-2.19)**	0.003 (0.29)	-0.025 (-2.26)**	-0.011 (-0.68)
$Post_t * R_t$	-0.012 (-1.16)	-0.022 (-1.72)*	-0.019 (-0.99)	-0.005 (-0.26)	-0.012 (-0.72)	-0.004 (-0.34)	-0.043 (-2.40)**
$Post_t * D_t * R_t$	0.035 (1.21)	0.078 (1.85)*	0.052 (1.25)	0.012 (0.23)	0.047 (1.29)	0.029 (0.84)	0.073 (1.44)
IFRS	-0.005 (-0.72)	-0.014 (-1.18)	-0.011 (-1.32)	0.008 (0.68)	-0.014 (-1.64)	-0.004 (-0.43)	0.011 (1.15)
$IFRS * R_t$	-0.023 (-2.07)**	-0.003 (-0.14)	0.006 (0.39)	-0.056 (-3.11)***	0.007 (0.50)	-0.018 (-1.21)	-0.057 (-3.32)***
$IFRS * D_t$	-0.016 (-1.48)	-0.046 (-2.30)**	0.012 (0.87)	-0.054 (-2.73)***	0.011 (0.78)	-0.034 (-1.94)*	0.007 (0.46)
$IFRS * D_t * R_t$	0.007 (0.24)	-0.144 (-2.68)***	0.025 (0.63)	-0.029 (-0.51)	0.015 (0.37)	-0.049 (-1.01)	0.185 (3.85)***
$IFRS * Post_t$	0.002 (0.32)	0.010 (0.77)	-0.006 (-0.56)	0.015 (1.04)	-0.005 (-0.55)	-0.001 (-0.04)	-0.004 (-0.39)
$IFRS * Post_t * D_t$	0.024 (1.70)*	0.054 (2.03)**	-0.009 (-0.53)	0.059 (2.27)**	-0.012 (-0.68)	0.032 (1.46)	0.013 (0.66)
$IFRS * Post_t * R_t$	0.060 (4.05)***	0.014 (0.48)	0.079 (3.47)***	0.053 (1.96)*	0.063 (3.01)***	0.051 (2.27)**	0.091 (4.11)***
$IFRS * Post_t * D_t * R_t$	-0.164 (-3.94)***	-0.071 (-0.93)	-0.210 (-3.95)***	-0.091 (-1.22)	-0.226 (-4.29)***	-0.164 (-2.55)**	-0.197 (-3.18)***
F-value	119.46***	48.89***	83.73***	49.82***	73.91***	71.80***	51.94***
Adjusted-R <sup>2</sup>	0.094	0.092	0.110	0.102	0.103	0.101	0.091
N	17,172	7,122	10,050	6,438	9,510	9,504	7,668

$Post_t$  equals 1 in years 2005-2007, 0 otherwise. IFRS equals 1 for IFRS firms, 0 otherwise.  $E_t^*$  is the residual from earnings ( $E_t$ ) and country and industry fixed effect regressions.  $E_t$  is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1.  $R_t$  is 12-month cumulative returns ending three months after fiscal year-end of t.  $D_t$  equals 1 if  $R_t$  is negative, 0 otherwise. All continuous variables are winsorized at the top and bottom 2.5% of their distributions. \*, \*\* and \*\*\* indicate significant at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively.

**Table 8**  
**Adjusted-R<sup>2</sup>s from Cross-Sectional Regressions to examine the Effect of IFRS Adoption on the Timeliness of Good and Bad News Recognition, and the Value Relevance of Net Income and Book Value**

**Panel A: IFRS sample**

**Pooled (N=7,428)**

	Pre	Post	(Diff)
Good News	0.000	0.027	0.027***
Bad News	0.089	0.043	-0.046***
PRICE	0.035	0.046	0.011***

**Rule of Law**

	<u>Weak Law (N=1,530)</u>			<u>Strong Law (N=5,898)</u>		
	Pre	Post	(Diff)	Pre	Post	(Diff)
Good News	0.011	0.012	0.001	0.001	0.036	0.035***
Bad News	0.024	0.020	0.005	0.104	0.049	-0.055***
PRICE	0.050	0.046	0.004	0.035	0.050	0.015***

**Reporting Incentives**

	<u>Small Incentives (N=2,520)</u>			<u>Large Incentives (N=4,554)</u>		
	Pre	Post	(Diff)	Pre	Post	(Diff)
Good News	-0.000	0.014	0.014***	-0.000	0.040	0.040***
Bad News	0.072	0.053	-0.019***	0.105	0.032	-0.073***
PRICE	0.036	0.037	0.001	0.036	0.048	0.012***

**GAAP-IFRS Difference**

	<u>Small difference (N=2,388)</u>			<u>Large difference (N=5,040)</u>		
	Pre	Post	(Diff)	Pre	Post	(Diff)
Good News	0.001	0.022	0.021***	-0.001	0.029	0.030***
Bad News	0.076	0.036	-0.040***	0.094	0.045	-0.049***
PRICE	0.045	0.050	0.005*	0.031	0.044	0.013***

**Table 8 (cont'd)****Panel B: Benchmark sample****Pooled (N=9,744)**

	Pre	Post	(Diff)
Good News	0.003	-0.000	-0.003***
Bad News	0.082	0.094	0.012***
PRICE	0.037	0.036	-0.000

**Rule of Law**

	<u>Weak Enforcement</u> (N=5,592)			<u>Strong Enforcement</u> (N=4,152)		
	Pre	Post	(Diff)	Post	Pre	(Diff)
Good News	0.017	0.005	-0.012***	0.003	0.017	0.014***
Bad News	0.076	0.087	0.011***	0.095	0.139	0.045***
PRICE	0.045	0.041	-0.004***	0.060	0.020	-0.040***

**Reporting Incentives**

	<u>Weak Incentives</u> (N=3,918)			<u>Strong Incentives</u> (N=4,956)		
	Pre	Post	(Diff)	Post	Pre	(Diff)
Good News	0.020	0.018	-0.003	0.002	0.008	0.006***
Bad News	0.079	0.084	0.005**	0.100	0.139	0.039***
PRICE	0.030	0.054	0.024***	0.057	0.024	-0.033***

**GAAP-IFRS Difference**

	Small Difference (N=7,116)			Large Difference (N=2,628)		
	Pre	Post	(Diff)	Pre	Post	(Diff)
Good News	-0.000	-0.000	0.000	0.030	0.002	-0.028***
Bad News	0.107	0.116	0.010***	0.013	0.028	0.016**
PRICE	0.020	0.048	0.028***	0.102	0.014	-0.087***

Note: Adjusted  $R^2$  of models of Good News and Bad News is estimated based on the following regression:

$$E_t^* = \alpha + \beta_1 R_t + e_t; R_t \geq 0: \text{Good news}; R_t < 0: \text{Bad news}$$

Adjusted  $R^2$  of PRICE model is estimated based on the following regression:

$$P_t^* = \alpha + \beta_1 NI_t + \beta_2 BV_t + e_t$$

$E_t^*$  is the residual from earnings ( $E_t$ ) and country and industry fixed effect regressions.  $E_t$  is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1.  $R_t$  is 12-month cumulative returns ending three months after fiscal year-end of t,  $E_t$  is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1.  $D_t$  equals 1 if  $R_t$  is negative, 0 otherwise.  $P_t^*$  is the residual from the price and

country and industry fixed effects regressions.  $P_t$  is stock price six months after fiscal year end of  $t$ ,  $BV_t$  is book value of equity per share at fiscal year-end of  $t$  and  $NI_t$  is earnings per share before extraordinary items in fiscal year  $t$ .  $P_t$ ,  $BV_t$  and  $NI_t$  are deflated by price as of six months after the preceding year-end. All continuous variables are winsorized at the top and bottom 2.5% of their distributions. \*, \*\* and \*\*\* indicate significant at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively.

**Table 9**  
**Effect of IFRS Adoption on the Timeliness of Good and Bad News Recognition, and**  
**the Value Relevance of Net Income and Book Value by Country**

**Panel A: IFRS Countries**

country	Good News		Bad News		PRICE	
	Pre	post	Pre	post	Pre	post
Australia	0.073	-0.013	0.075	-0.010	0.082	-0.012
Austria	-0.007	0.255	0.625	-0.073	0.119	0.166
Belgium	0.289	0.020	-0.033	-0.058	0.252	0.052
Denmark	-0.021	0.042	-0.023	-0.008	0.136	-0.009
Finland	-0.004	0.033	0.094	0.173	0.017	0.058
France	-0.001	0.051	0.128	0.016	0.039	0.041
Germany	0.006	0.016	0.118	0.087	0.019	0.059
Greece	-0.021	0.024	0.077	0.242	0.083	0.207
Hong Kong	0.022	0.005	0.004	0.031	0.045	0.046
Ireland	0.093	0.143	0.838	0.122	0.154	-0.081
Italy	0.040	-0.003	0.012	-0.005	0.111	0.037
Netherlands	-0.010	0.056	0.029	0.001	0.130	0.010
Norway	0.021	-0.013	0.422	0.087	0.085	0.119
Philippines	-0.023	-0.022	-0.012	0.147	0.033	-0.004
Portugal	0.076	0.065	-0.018	0.020	0.006	0.098
South Africa	0.294	0.110	-0.196	-0.126	0.201	0.219
Spain	-0.008	0.331	0.154	0.001	-0.011	0.160
Sweden	-0.004	0.065	0.082	0.134	0.017	0.059
Switzerland	-0.007	0.020	0.237	-0.036	0.100	0.030
UK	0.034	0.054	0.056	0.037	0.038	0.077
Mean	0.042	0.062	0.133	0.039*	0.067	0.071
Median	0.000	0.038	0.076	0.018	0.042	0.059
Std. Dev.	0.091	0.089	0.240	0.091	0.059	0.077
Max	0.294	0.331	0.838	0.242	0.201	0.219
Min	-0.023	-0.022	-0.196	-0.126	-0.011	-0.081

**Table 9 (cont'd)****Panel B: Benchmark Countries**

country	Good News		Bad News		PRICE	
	Pre	post	Pre	post	Pre	post
Argentina	0.010	0.067	0.705	-0.110	0.162	0.112
Brazil	0.045	0.144	-0.065	0.107	-0.012	0.182
Canada	-0.003	0.000	0.141	0.201	0.085	0.071
Chile	0.089	0.104	-0.032	0.063	0.146	0.124
China	0.001	-0.002	0.034	0.005	0.094	0.037
India	0.042	-0.005	0.169	-0.004	-0.004	0.029
Indonesia	-0.081	-0.109	0.527	0.531	0.255	0.210
Japan	0.046	0.060	0.007	0.043	0.062	0.029
Korea Rep.	0.010	0.069	0.047	0.101	0.047	0.067
Mexico	-0.021	0.014	0.175	0.015	-0.011	0.155
Malaysia	0.002	0.007	0.116	0.106	0.042	0.076
New Zealand	-0.044	0.034	0.370	0.452	0.458	0.113
Pakistan	-0.023	-0.029	-0.400	0.137	0.006	0.099
Thailand	0.034	0.012	0.089	0.115	0.089	0.045
Taiwan	-0.003	-0.002	0.135	0.231	0.116	0.081
United States	0.091	0.079	0.142	0.185	0.047	0.014
Mean	0.012	0.027	0.135	0.136	0.099	0.090
Median	0.006	0.013	0.126	0.107	0.074	0.078
Std. Dev.	0.045	0.059	0.248	0.163	0.119	0.056
Max	0.091	0.144	0.705	0.531	0.458	0.210
Min	-0.081	-0.109	-0.400	-0.110	-0.012	0.014

Note: Adjusted  $R^2$  of models of Good News and Bad News is estimated based on the following regression:

$$E_t^* = \alpha + \beta_1 R_t + e_t; R_t \geq 0: \text{Good news}; R_t < 0: \text{Bad news}$$

Adjusted  $R^2$  of PRICE model is estimated based on the following regression:

$$P_t^* = \alpha + \beta_1 NI_t + \beta_2 BV_t + e_t$$

$E_t^*$  is the residual from earnings ( $E_t$ ) and country and industry fixed effect regressions.  $E_t$  is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1.  $R_t$  is 12-month cumulative returns ending three months after fiscal year-end of t,  $E_t$  is earnings per share before extraordinary items scaled by stock price at the fiscal year-end of t-1.  $D_t$  equals 1 if  $R_t$  is negative, 0 otherwise.  $P_t^*$  is the residual from the price and country and industry fixed effects regressions.  $P_t$  is stock price six months after fiscal year end of t,  $BV_t$  is book value of equity per share at fiscal year-end of t and  $NI_t$  is earnings per share before extraordinary items in fiscal year t.  $P_t$ ,  $BV_t$  and  $NI_t$  are deflated by price as of six months after the preceding year-end. All continuous variables are winsorized at the top and bottom 2.5% of their distributions. \*, \*\* and \*\*\* indicate significant at  $p < 0.10$ ,  $p < 0.05$  and  $p < 0.01$ , respectively.