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Incentives or Standards: What Determines Accounting Quality Changes around IFRS Adoption?

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Abstract

We examine the impact of managerial financial reporting incentives on accounting quality changes around International Financial Reporting Standards (IFRS) adoption. A novel feature of our single-country setting based on Germany is that voluntary IFRS adoption was allowed and common before IFRS became mandatory. We exploit the revealed preferences in the choice to (not) adopt IFRS voluntarily to determine whether the management of individual firms had incentives to adopt IFRS. For comparability with previous studies, we assess accounting quality through multiple constructs such as earnings management, timely loss recognition, and value relevance. While most existing literature documents accounting quality improvements following IFRS adoption, we find that improvements are confined to firms with incentives to adopt, that is, voluntary adopters. We also find that firms that resist IFRS adoption have closer

more comprehensive accounting standards. The overall results indicate that reporting incentives dominate accounting standards in determining accounting quality. We conclude that it is unwarranted to infer from evidence on accounting quality changes around voluntary adoption that IFRS per se improves accounting quality.

1. Introduction

We examine whether accounting quality improvements around voluntary International Financial Reporting Standards[1] (IFRS) adoption can be attributed to the change in accounting standards per se. Following the mandatory adoption of IFRS in many regions of the world, much attention is being given to the association between accounting standards and accounting quality. Some prior studies document accounting quality improvements (e.g. Barth, Landsman, & Lang, 2008; Barth, Landsman, Lang, & Williams, 2006; Gassen & Sellhorn, 2006; Hung & Subramanyam, 2007) or favorable economic consequences (e.g. Kim & Shi, 2012; Kim, Tsui, & Yi, 2011; Wu & Zhang, 2009) around voluntary IFRS adoption. Yet, the extent to which we could expect the same improvement for firms forced to adopt remains an open question. By examining this question, we provide evidence on whether accounting standard regulations improve information in capital markets.

To isolate the effect of IFRS, we need a setting where we can identify managerial financial reporting incentives. Germany offers such a setting. Between 1998 and 2005, firms in Germany could choose to voluntarily adopt IFRS, and in 2005 compliance became mandatory. The German setting enables us to analyse firms that voluntarily adopted IFRS before 2005 (the management of such firms are likely to perceive net benefits of doing so), and firms that were forced to comply as of 2005 (the management of such firms are likely to perceive no net benefits of doing so).[2] Examining the German firms that are forced to adopt IFRS against their will is different from estimating the consequences of mandatory adoption when such group includes firms from countries not allowing voluntary adoption; mandatory IFRS adoption in countries without voluntary adoption does not distinguish between the underlying managerial financial reporting incentives. To highlight this important distinction in our German setting, we label firms that delayed the adoption of IFRS until 2005 as

German accounting standards, according to the Handelsgesetzbuch (HGB), are generally perceived as lower quality than IFRS (e.g. Leuz & Verrecchia, 2000) given its code-law origin and insider orientation (Leuz & Wüstemann, 2004). One way to define the quality of accounting standards is in terms of quality of the financial statements prepared according to them, holding financial reporting incentives constant. We argue that reporting incentives among IFRS resisters are likely to stay constant around the time of adoption whereas this is unlikely to be the case for voluntary adopters (Leuz & Verrecchia, 2000), even if there are cross-sectional variations in reporting incentives within both groups (Daske, Hail, Leuz, & Verdi, 2013). Thus, in Germany we have an interesting setting where we are able to investigate the complex interaction between reporting incentives and accounting standards in determining accounting quality. In essence, the German setting allows us to test whether accounting quality improves when firms are forced to comply with what is generally perceived as higher quality accounting standards. Although the sample size is relatively small in our single-country setting, this is compensated by the fact that we are able to explicitly observe the voluntary adoption versus resistance choices of all firms. We are therefore able to partition firms according to their managers' perception of IFRS adoption based on revealed preferences, whereas prior research has relied on proxies for assumed benefits (Armstrong, Barth, Jagolinzer, & Riedl, 2010; Christensen, Lee, & Walker, 2007; Daske et al., 2013).

We examine three dimensions of accounting quality, namely, earnings management, timely loss recognition, and value relevance which are often used in studies on the effects of accounting standards on accounting quality (e.g. Barth et al., 2006, 2008; Gassen and Sellhorn, 2006; Hung and Subramanyam, 2007; Van Tendeloo & Vanstraelen, 2005). The first two constructs are especially relevant to our research question because they rely on managerial discretion and are therefore likely to be influenced by the reporting incentives of those preparing the financial statements.

Consistent with prior literature, we find that voluntary adoption of IFRS is associated with decreased earnings management, increased timely loss recognition, and increased value relevance. In stark contrast, we find little evidence of such accounting quality improvements for firms that are forced to adopt IFRS. The results suggest that adoption of IFRS does not necessarily lead to higher quality accounting, at least not when the preparers have no incentives to become more transparent in their reporting.

There are two potential explanations for these findings. First, the flexibility embedded in IFRS might render it ineffective in restricting earnings management of firms with low incentives to comply. Second, IFRS might not be sufficient to decrease earnings management, increase timely loss recognition, and increase value relevance. In this case, the observed accounting quality improvements for voluntary adopters could be driven by changes in reporting incentives of these firms around the time of their adoption. Although we are unable to distinguish between these explanations, they are both consistent with IFRS per se not increasing accounting quality even when firms' prior accounting standards are generally viewed as lower quality (a conclusion that is consistent with Daske et al., 2013).[3]

In further analysis, we attempt to gauge why some firms resist IFRS adoption. We show that these firms have closer relationships with banks and less demand for information from capital markets. These findings are consistent with prior literature and suggest that resisters have closer relationships with insiders. For such firms, financial reporting may primarily serve the purpose of contracting with known insiders rather than relatively anonymous outsiders. We argue that this could explain why these firms resist the costly adoption of IFRS because management sees no need to improve the transparency of reporting.

Throughout this paper, we follow the methodology of Barth et al. (2008). Barth et al. document accounting quality improvements around voluntary IFRS adoption, and is widely cited as evidence that IFRS increases accounting quality.[4] Although the authors are careful in not attributing the accounting quality changes around voluntary IFRS adoption exclusively to the change in accounting standards, that caveat rarely makes it into papers that cite them. Our main contribution is to provide the counter evidence, which is strong, and hence reinforces the original caveat in Barth et al. In this sense, our paper is similar to Daske et al. (2013) that documents evidence that voluntary IFRS adoption entails few capital market benefits.

The key difference between our paper and Daske et al. (2013) is that we follow the methodology of Barth et al. (2008), capture IFRS adoption incentives through revealed preferences, and that we examine both voluntary and mandatory adopters using a single-country setting. By confining our analyses to a single-country sample, we avoid variations in institutional factors that may confound evidence acquired from studies that rely on cross-country samples. For instance, Christensen, Hail, & Leuz (2013a)

liquidity changes around IFRS adoption. As such, single-country studies offer an alternative identification strategy to disentangle potential IFRS effects from contemporaneous non-IFRS effects, and consistent results across methodologies increase the validity of the overall takeaway from the literature (Brüggemann, Hitz, & Sellhorn, 2013).

Evidence in favor of the importance of financial reporting incentives in determining accounting outcomes has been documented by previous studies. For instance, Ball, Robin, and Wu (2003) provide empirical evidence at the country level consistent with accounting quality being driven by reporting incentives rather than accounting standards. They argue that such incentives are driven by the firms' institutional setting. Further, Ball and Shivakumar (2005) and Burgstahler, Hail, and Leuz (2006) show that earnings quality is lower for private than public firms despite applying the same accounting standards. Our contribution to this literature is to document that even among publicly listed firms within the same institutional setting, financial reporting incentives dominate accounting standards in determining accounting quality. In most countries, accounting standards are identical for all listed firms; yet, managerial financial reporting incentives are likely to vary. Our results suggest that the objective of improving accounting quality cannot be achieved for all firms by mandating higher quality accounting standards, because such attempts will have limited effect for firms without incentives to comply. This conclusion reinforces the conjectures in Ball (2006), caveats presented in Barth et al. (2008), and the conclusions in Daske et al. (2013).

The remainder of the paper is organized as follows. Section 2 describes the institutional setting in Germany. Section 3 provides the conceptual underpinnings and discusses prior findings. Section 4 explains the research design and the data sources. Section 5 presents the main empirical findings, sensitivity tests, and additional analyses. Section 6 concludes and discusses the caveats that inherently confound this and other studies that attempt to address the question of what determines accounting quality.

2. Institutional Setting in Germany

Germany is generally classified as a code-law country (e.g. Ball, Kothari, & Robin, 2000; La Porta, Lopez-de-Silanes, Shleifer, & Vishny, 1998; Leuz, Nanda, & Wysocki, 2003) with limited investor protection and an insider orientation (Leuz & Wüstemann, 2004)

creditors (Nobes & Parker, 2004). Thus, from an equity market perspective, they were generally perceived as lower quality than IFRS (e.g. Gassen & Sellhorn, 2006; Leuz & Verrecchia, 2000).[5]

Interest in international accounting practices in Germany began in the late 1980s when German firms increasingly began to access international capital markets for external financing (Liener, 1995). Several key stakeholders of German firms, however, had strong reservations about IFRS, which they perceived could give rise to arbitrary judgements and subjective assessments (Heidhues & Patel, 2012). Such resistance is reflected in the formation of interest groups such as the Vereinigung zur Mitwirkung de Entwicklung des Bilanzrechts fuer Familiengesellschaften e.V. (VMEBF), whose official comment letters to the IASB provide examples of Germany's continued concerns towards IFRS.[6]

In terms of process, voluntary IFRS and US generally accepted accounting principles (GAAP) adoption began in the early 1990s as dual reporting. Under dual reporting, firms voluntarily prepared two sets of consolidated statements, one complying with the HGB and another complying with either IFRS or US GAAP. Starting in 1998, firms were no longer required to disclose the HGB's consolidated statements if they produced either IFRS' or US GAAP's consolidated statements (regulation KapEAG). The lack of required dual reporting and the introduction of stock exchange segments that required the application of either IFRS or US GAAP (Neuer Markt and later Prime Standards on the Frankfurt Stock Exchange) greatly increased the number of voluntary adopters.

In 2002, the EU formally implemented regulation that made IFRS mandatory for fiscal years ending on or after 31 December 2005 for most EU-listed firms, including those domiciled in Germany. Against this backdrop of choices available to German firms, 59% voluntarily adopted IFRS and 41% waited until 2005 when adoption became mandatory.[7]

Because we can observe all German firms' actual accounting standard choices, we are able to accurately classify firms according to their managers' perception of IFRS. This allows for the analyses of a group of firms that perceives relatively greater benefits of IFRS and a group of firms that perceives relatively less benefits of IFRS. Thus, the German setting provides an opportunity to examine the interaction between accounting standards and reporting incentives.[8]

3. Conceptual Underpinnings and Prior literature

Over the past decade, accounting researchers have produced a large number of papers that examine the economic consequences of voluntary and/or mandatory IFRS adoption (see Soderstrom & Sun, 2007 and Brüggemann et al., 2013 for overviews). Many of these papers document substantial economic benefits around IFRS adoption, especially in the voluntary settings. Although the authors of prior papers often include caveats, it is common that the benefits are either implicitly or explicitly attributed to the change in accounting standards (see also Christensen, 2012; Christensen et al., 2013a; Christensen, Hail, & Leuz, 2013b). It is not surprising that accounting researchers have flocked to study the implications of IFRS adoption because it is one of relatively few areas in accounting research with direct policy implications.[9] Yet, exactly because of the policy relevance it is important that we as researchers are careful in drawing inferences based on our own evidence and when we cite prior work.

Conceptually there are reasons to be sceptical that the benefits documented around voluntary IFRS adoption can be attributed to the change in accounting standards. The early IAS, which voluntary adopters complied with prior to mandatory IFRS adoption, were compromises between delegations from up to 14 countries. The delegations, for the most part, had a policy of including free choice in IAS among the various national accounting rules that existed at the time (Zeff, 2012). The choices effectively gave firms the opportunity to continue using local accounting practices after adopting IAS.[10] The free choice in IAS 16 between the revaluation model and historical cost for property, plant, and equipment is one such example. The question is: how effective are such accounting standards in promoting accounting quality? It seems almost self-evident that it must depend on the reporting incentives of those adopting the standards.

3.1. Accounting Quality Changes around Voluntary IFRS Adoption

Despite the conceptual reasons to be sceptical of the ability of IFRS to improve accounting quality, Barth et al. (2008) document accounting quality improvements around voluntary IFRS adoption, and both Gassen and Sellhorn (2006) and Hung and Subramanyam (2007) reach similar conclusions.[11] In this section, we discuss why we may observe accounting quality improvements around voluntary IFRS adoption even if the change in the accounting standards is not the source (the arguments in this section

The purpose of financial reporting is essential to reduce information asymmetry between corporate managers and parties contracting with their firm (Watts, 1977; Ball, 2001). The contracting parties may be shareholders, lenders, suppliers, customers, employees, and many other firm stakeholders. As financial reporting develops to facilitate efficient contracting (Watts & Zimmerman, 1990), the relative importance of different user groups and their differential information needs influence how a particular manager applies the discretion available to him/her in financial reporting.

Now assume that a firm experiences a positive shock to its growth opportunities. To exploit these new growth opportunities, the firm needs external financing. Contracting with outside investors is better facilitated when earnings are not managed and losses are recognized in a timely way (Ball et al., 2000; Watts, 2003). Thus, in order to attract cheaper external financing the firm improves financial reporting along these two dimensions. In this scenario, there are essentially two explanations for why a firm may voluntarily adopt IFRS in the process. The first implies that IFRS has an incremental effect on accounting quality while the second suggests that it is a manifestation of other underlying factors.

To elaborate, the first explanation suggests that voluntary IFRS adoption could be desirable because the rules themselves reduce earnings management and increase timely loss recognition. This may happen because IFRS limits the options available to managers. Consistent with this explanation, the IASC and later IASB have eliminated alternatives available to management under IFRS since the beginning of the Comparability and Improvement Project in 1989.[12]

The alternative explanation suggests that voluntary IFRS adoption may simply correlate with other managerial motives. Consider the following three scenarios. First, IFRS may offer firms a clean break in order to move to a higher quality. It is possible that the firm could have achieved the same quality improvements under local GAAP but this would have involved changing accounting choices and implicitly accepting that previous practices were less informative; a change to a new set of standards allows firms to adopt new practices without having to acknowledge the sins of the past. This explanation is consistent with the observation that many of the accounting principle changes that occurred upon IFRS adoption are voluntary in the sense that IFRS did not require the changes (e.g. Christensen & Nikolaev 2013).

Second, the act of voluntary adoption itself may signal a change in financial reporting incentives. For instance, assuming that there is a need to acquire foreign capital, voluntary IFRS adoption may raise the profile of the firm among foreign investors, perhaps, because this allows the firm's stock to be traded on high-profile stock exchange segments such as the Frankfurt Stock Exchange's Neuer Markt and Prime Standards.

Finally, voluntary IFRS adoption prior to 2005 could be a long-term cost decreasing response for firms that are undergoing change in their financial reporting anyway since they know IFRS would be mandatory as of 2005. The positive association between voluntary IFRS adoption and accounting quality improvements is predicted by the three scenarios, yet in all of them it is a correlated outcome rather than the cause. Hence, it is possible that the quality improvements that prior literature generally documents around voluntary IFRS adoption are at least partly driven by changes to financial reporting incentives rather than IFRS per se.

3.2. Accounting Quality Changes around Mandatory IFRS Adoption

For firms that resist IFRS and postpone adoption until 2005 when it became mandatory, the circumstances around IFRS adoption are different from those for voluntary adopters. These firms could have adopted IFRS as early as 1998 but decided to wait until they were forced to do so in 2005. Prior literature has documented a ‘tick-box’ approach for some firms around voluntary IFRS adoption (Daske et al., 2013). Yet, such behavior intuitively might be expected to be more likely in a mandatory setting in which some managers are forced to adopt IFRS against their will.

Survey evidence suggests that the implementation of IFRS was costly to EU firms (ICAEW, 2007).[13] The costs of compliance are likely to vary with the way IFRS is implemented. PricewaterhouseCoopers suggests that the extent to which IFRS is embedded in the organization is a key determinant of the resulting accounting quality (PwC, 2004) – IFRS is considered embedded if it is used for internal reporting and if systems are adapted to automatically generate required information. Similarly, the degree to which IFRS is embedded in the organization is likely to affect compliance costs. Changing internal reporting (and renegotiating contracts that rely on internal reporting, e.g. compensation contracts) and adapting IT systems are potentially costly. It is plausible that voluntary adopters that perceive net benefits of IFRS are more likely

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[15] The idea that a ‘tick-box’ approach is common among mandatory IFRS adopters is empirically supported by a survey of 200 first-time IFRS annual reports drawn from all the EU member states (ICAEW, 2007, p. 96). The survey finds that the accounting policies sections are often characterized by standard wording, suggesting that it is copied from the model financial statements produced by large audit firms rather than tailored to suit individual firms’ circumstances.

In this study, we examine whether standards or reporting incentives dominate in determining accounting quality by contrasting the changes for voluntary adopters and resisters around their respective IFRS adoption. Based on the above-mentioned arguments, we expect financial reporting incentives to dominate. Observing a significant reduction in earnings management, more timely loss recognition, and greater value relevance after IFRS adoption among the voluntary adopters but not among the resisters would support this conjecture.

4. Methodology

We examine three dimensions of accounting quality that are widely used in contemporary research, namely, earnings management, timely loss recognition, and value relevance. In the analyses we compare the same firms’ accounting quality pre- and post-IFRS adoption separately for voluntary adopters and resisters, effectively using each firm as its own control. We do not attempt to test whether firms that voluntarily adopt IFRS are associated with higher accounting quality than firms that resist IFRS. Such a test would require a matched sample. Matching would either greatly reduce the sample size or be ineffective due to the small number of potential matching candidates in our single-country setting.[16]

4.1. Earnings Management

We follow Barth et al. (2008) by focusing on two kinds of earnings management, earnings smoothing and managing towards small positive earnings. Earnings smoothing is measured by three metrics: the variability of changes in earnings, the variability of changes in earnings relative to the variability of changes in cash flows, and the negative correlation between accruals and cash flows. A high variability of earnings is consistent with less smoothing of earnings (Ball & Shivakumar, 2005, 2006; Barth et al.,

2003). Although it is intuitive that managers who prefer smooth earnings will discretionally apply accruals to reduce the variance, a high variance is also consistent with managers applying their discretion to take 'big baths' or with errors in accruals, both of which are associated with low-quality accounting (Barth et al., 2008; Leuz et al., 2003). Thus, the interpretation of the results is ambiguous.

We apply the methodology in Barth et al. (2008) as closely as possible to ensure that our results are comparable to prior literature. For the metrics used to examine earnings smoothing, we use the residuals from the regressions of Equations (1) and (2). Note that we use the residuals rather than the raw changes to mitigate confounding effects. In particular, Barth et al. (2008) argue that this methodology reduces the influence of changing financial reporting incentives around IFRS adoption. Thus, by applying this methodology we effectively load the dice against finding support for our hypothesis that financial reporting incentives dominate accounting standards in determining accounting quality. The equations are as follows:

(1)

(2)

where ΔNI is the change in net income, scaled by end-of-year total assets; ΔCF is the change in annual cash flow from operations, scaled by end-of-year total assets; ACC is the earnings less cash flow from operations, scaled by end-of-year total assets; CF is the annual net cash flow from operating activities, scaled by end-of-year total assets; SIZE is the natural logarithm of the market value of equity at the end of the year; GROWTH is the percentage change in sales; EISSUE is an indicator that equals one if the firm issued equity; LEV is the end-of-year total liabilities divided by the end-of-year book value of equity; DISSUE is the percentage change in total liabilities; TURN is the sales divided by the end-of-year total assets; AUD is an indicator variable that equals one if the firm's auditor is PricewaterhouseCoopers (PwC), Klynveld Peat Marwick Goerdeler (KPMG), Arthur Andersen, Ernst & Young (E&Y), or Deloitte Touche (D&T), and zero otherwise; NUMEX is the number of exchanges on which a firm's stock is listed; XLIST is an indicator variable that equals one if the firm is listed on any US stock exchange; CLOSE is the percentage of closely held shares of the firm reported by WorldScope;[17] and IDUM are industry dummies.

We estimate Equations (1) and (2) as pooled regressions including all observations. We separately calculate all of the metrics in the pre-adoption and post-adoption period for both voluntary adopters and resisters. To test for statistical significance, we follow

differences. To obtain the distribution, we randomly select firm observations with replacement and calculate the difference between the pre-adoption and post-adoption period. We obtain the distribution of the differences by repeating the procedure 1000 times.

To calculate our measure of earnings management towards a target, we also follow Barth et al. (2008) and run the logistic regression expressed in Equation (3):

(3)

where POST(0,1) is an indicator variable that equals one for observations in the post-adoption period and zero otherwise, and SPOS is an indicator variable that equals one for observations where net income scaled by total assets is between 0 and 0.01. A negative coefficient on SPOS suggests that firms manage earnings less towards a small positive target in the post-adoption period.

4.2. Timely Loss Recognition

For our first measure of timely loss recognition, we follow Barth et al. (2008) by running the logistic regression in Equation (4):

(4)

where LNEG is an indicator variable that equals one for observations in which annual net income scaled by total assets is less than –0.20, and zero otherwise. A positive coefficient on LNEG suggests that IFRS firms recognize large losses more frequently in the post-adoption period than they do in the pre-adoption period.

Our two remaining measures of timely loss recognition follow Ball et al. (2003). The first measure relies on the methodology in Basu (1997) as expressed in Equation (5):

(5)

where NI is the net income per share, P is the share price, R is the fiscal year return including dividend, and RD is an indicator variable that takes the value one if $R < 0$ and zero otherwise. We run the regression in Equation (5) separately in the pre-adoption and post-adoption periods. A higher incremental coefficient on bad news (β_3) in the post-adoption period is consistent with more timely loss recognition after IFRS adoption.

The second measure we apply, from Ball et al. (2003), captures the persistence of earnings changes as expressed in Equation (6):

(6)

where ΔNI is the change in the net income, TA is the total assets, and NID is an

coefficient on negative income (λ_3) in the post-adoption period is consistent with more timely loss recognition after IFRS adoption, that is, losses are less persistent.

4.3. Value Relevance Tests

For the value relevance tests, we estimate the following regression in Equation (7):

(7)

where P is the share price 6 months after fiscal year end, BVPS is the book value per share, and EPS is the earnings per share. A larger positive coefficient on earnings per share in the post-adoption period indicates increased value relevance of reported earnings after IFRS adoption. This would be consistent with a post-IFRS increase in accounting quality.

4.4. Sample and Data

Our sample consists of all firms domiciled in Germany that have data on accounting standards applied available in Datastream. For each of these firms, we manually check the applied accounting standards to the annual reports. Table 1 presents two general samples. The Switch sample is used in all analyses of accounting quality while the cross-sectional sample is used in the additional tests of insider characteristics. A firm is only included in the Switch sample if it states that it complies with the HGB the year before adoption and the IFRS the year after. We include firms for which we cannot find an annual report for the year before or after IFRS adoption in the cross-sectional sample as long as we have an annual report according to IFRS or HGB for 2004.

Table 1. Sample selection

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Firms that comply with US GAAP or that complied with US GAAP in a prior year are

sample. 1998 was the year when the IASC completed its core standards. Thus, firms adopting IFRS prior to 1998 complied with a less comprehensive set of accounting standards, which could be important in the assessment of accounting quality. We obtain the annual reports from Thomson One Banker. If the annual reports are not available in Thomson One Banker, we search the firm's website. All other variables are obtained from Datastream, WorldScope, and Thomson Ownership.

Table 1, Panel A, describes the sample selection process in detail. The final Switch sample consists of 177 resister firms that did not adopt IFRS until 2005, when it became mandatory, and 133 firms that voluntarily adopted IFRS prior to 2005. The cross-sectional sample includes an additional 123 firms that adopted IFRS prior to 2004 but for which we cannot identify the year the firm switched to IFRS. For the accounting quality metrics, we include data for fiscal years 1993–2006.[18] Table 1, Panel B, presents the distribution of adoption years for each sample.

4.5. Treatment of Outliers

Following Barth et al. (2008), we winsorise the variables used to construct the test metrics of Equations (1) and (2) (ΔNI, ΔCF, ACC, CF, and all non-dummy control variables) and Equation (7) (P, BVPS, and EPS) at the 5% level. The high level of winsorisation reflects the fact that metrics based on variability are sensitive to outliers.[19]

We follow Ball et al. (2003, 2005) and Basu (1997) and truncate rather than winsorise the data used in estimating the timely loss recognition tests in Equation (5) (R and NI) and the persistence of earnings changes (ΔNI) in Equation (6). We report results where the variables are truncated at the 1% level for Equation (5) (consistent with prior literature) and the 2% level for Equation (6). If we only truncate the variables in Equation (6) at the 1% level (as prior literature does), the results are influenced by a few outliers.

5. Empirical Findings

5.1. Descriptive Statistics

Table 2 presents descriptive statistics on all variables used in the analysis of accounting

between voluntary adopters and resisters in operating cash flow (CF), proportion of large loss (LNEG), stock returns (R), net income divided by price (NI/P), and earnings per share (EPS). Returns and net income are on average higher for voluntary adopters than resisters, which could reflect industry differences (in all tests we use the firm as its own control; we do not attempt to draw comparisons between the two groups). The descriptive statistics for variables used in the tests that follow the methodologies of either Barth et al. (2008) or Ball et al. (2003) are broadly similar to those reported in these studies. The descriptive statistics on the control variables show that on average the voluntary adopters have higher growth, issue more equity and debt securities, have greater sales, are larger and listed on more exchanges, are more likely to be audited by a large auditor and cross-listed in the USA, and have less closely held shares. This is consistent with the findings of prior research. Compared to Barth et al. (2008), our sample contains fewer firms cross-listed in the USA, as the majority of German firms cross-listed in the USA comply with US GAAP and consequently are excluded from our sample.

Table 2. Summary statistics

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5.2. Accounting Quality Changes for Voluntary Adopters

Table 3 presents the comparison of accounting quality between the pre- and post-adoption periods for voluntary adopters. The variability of earnings (ΔNI) increases significantly in the post-adoption period, which is consistent with decreased earnings management. The change in the variability of earnings could be driven by underlying cash flows. However, the variability of earnings relative to the variability of cash flows (ΔNI/ΔCF) indicates that this is not the case. The negative correlation between accruals and cash flows is also reduced significantly in the post-adoption period, which implies reduced earnings management. These changes are mostly significant at the 1% level. The coefficient on small positive profits in the regression of Equation (3) is negative, which would be consistent with less earnings management towards a target in the post-adoption period had it been statistically significant. These results are consistent in direction with those reported in Barth et al. (2008, Table 5). The magnitude of the change and the statistical significance is stronger in our sample.[20]

Table 3. Accounting quality changes of voluntary adopters

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The positive coefficient on LNEG in the Equation (4) regression suggests that firms are more likely to recognize large losses in the post-adoption period, although this result is not statistically significant. The incremental timeliness of bad news in Equation (5) (β_3) increases significantly (p-value = 0.051) from pre- to post-adoption period, which suggests more timely loss recognition after firms voluntarily adopt IFRS. This is corroborated by the results for the regression of Equation (6), which show that the persistence of losses (λ_3) is significantly reduced (p-value =0.080) in the post-adoption period. Finally, the analyses based on Equation (7) reveal a statistically significant increase in the value relevance of earnings per share (δ_2) from the pre- to post-IFRS period. The difference in value relevance of earnings is significant at the 5% level. Overall, these results document a reduction in earnings management, increase in the timeliness of loss recognition, and an increase in value relevance of earnings after voluntary IFRS adoption. Later, in Table 7 we present further analyses where we partition voluntary adopters into early and late sub-groups.

5.3. Accounting Quality Changes for Resisters

Table 4 presents the comparison of accounting quality between the pre- and post-adoption periods for resisters. The variability of earnings (ΔNI) significantly decreases in the post-adoption period, which suggests an increase in earnings management. The variability of earnings relative to the variability of cash flows (ΔNI/ΔCF) indicates that the majority of the change in earnings variability is attributable to underlying cash flows, although part of the reduction remains unexplained. The negative correlation between accruals and cash flows increases significantly in the post-adoption period when no controls are included, which would suggest increased earnings management. However, once we include controls we observe that the pre- and post-adoption period difference is no longer statistically significant. The coefficient on small positive profits in the regression of Equation (3) is positive and significant (p-value = 0.090), which indicates more earnings management towards a target after IFRS adoption.

Table 4. Accounting quality changes of resisters (mandatory adopters)

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The significantly negative coefficient on LNEG in the regression of Equation (4) suggests that firms are less likely to recognize large losses in the post-adoption period (p-value =0.005). The incremental timeliness of bad news in Equation (5) (β_3) is also reduced in the post-adoption period, and the change is significant at the 5% level. The results for the regression of Equation (6) show a reduced persistence of losses in the post-adoption period. However, the difference in loss persistence is small and not statistically significant. Finally, the analyses based on Equation (7) suggest a decline in the value relevance of earnings per share from the pre- to post-adoption period, although the difference between the two periods is not significant. Overall, the results for resisters generally indicate marginally more earnings management, less timely loss recognition, and even reduced value relevance in the post-adoption period although most changes are statistically insignificant. These findings are in sharp contrast to those reported for voluntary adopters that showed a reduction in earnings management and an increase in timely loss recognition.

5.4. Sensitivity Tests

There are three main concerns regarding the results reported in Tables 3 and 4. First, the metrics used tend to vary over time and consequently a time trend could be driving the results. Second, perhaps accounting quality improvements take time to materialize and the lack of improvements among resisters could be caused by the availability of only two years of post-IFRS data.[21] Third, the lack of observed quality improvements for resisters might be driven by a lack of statistical power. We address these three concerns in the following subsections.

5.4.1. General time trends

Barth et al. (2008, Table 6) provide evidence that could be interpreted as consistent with a time trend explaining at least some of the changes in accounting quality from pre- to post-IFRS adoption. Similarly, Land and Lang (2002) document that accounting quality has improved worldwide since the beginning of the 1990s, which is long before widespread voluntary IFRS adoption began. An additional reason to expect that quality might have improved systematically in the period examined is changes to enforcement in Germany. For instance, Brown, Strahm, and Wömpener (2008) find that a German

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internal control regulation implemented in 1998 is associated with systematic improvements in financial reporting quality. We test whether our results are driven by changes that are time specific rather than related to accounting standards in Table 5.

Table 5. Accounting quality changes around counter-factual time periods

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In Table 5, Panel A, we counter-factually assume that resisters adopted IFRS in 2002 (the average adoption year in the voluntary adopter sample is 2001.6–2002). If the results are consistent with those reported in Table 3 for voluntary adopters, this would indicate that our findings are period specific rather than related to the accounting standards applied.

We find that the variability of earnings (ΔNI) increases significantly (p-value =0.003) after 2002. However, a large proportion of this change is explained by the underlying cash flows. For instance, the change in ΔNI/ΔCF is statistically insignificant when controls are included (p-value = 0.279). Thus, contrary to the results in the voluntary adopter group (Table 3), the observed increase in the variability in earnings (ΔNI) among the resisters over the same time period is almost entirely explained by changes in a combination of underlying cash flows and the control variables. The decline in the negative correlation between accruals and cash flows after 2002 is statistically insignificant both with and without control variables, which suggests that resisters did not experience a reduction in earnings management similar to what we observed for voluntary adopters. The coefficient on small losses in the Equation (3) regression is positive, which would suggest more management towards a target if it were statistically significant. In the voluntary adopter sample in Table 3, the coefficient is negative.

In terms of timely loss recognition, the results we observe for resisters around 2002 in Table 5, Panel A, is also different to those of the voluntary adopter sample of Table 3

adopters, although the findings are statistically insignificant in both cases. The Basu (1997) regression analyses show that timely loss recognition remains unchanged among resisters but increased significantly among voluntary adopters. The analysis based on Equation (6) indicates a significant decrease in the persistence of losses among resisters after 2002. This is the only case in Table 5, Panel A where the findings are broadly consistent with those of the voluntary adopters in Table 3. Finally, Table 5, Panel A, shows that the value relevance of earnings declined among resisters around 2002. Again, this is in stark contrast to the voluntary adopters in Table 3, where we observe a significant increase in the value relevance of earnings after adoption.

In Table 5, Panel B, we address the concern that the accounting quality of resisters might have increased post-IFRS relative to voluntary adopters, and that the observed decrease in quality in Table 4 is driven by a time trend. We counter-factually assume that voluntary adopters adopted IFRS in 2005 when compliance became mandatory. If the results are consistent with those reported in Table 4 for resisters, then the evidence would indicate that our findings are period specific. Across all earnings management indicators, we observe no significant changes after 2005. For instance, while the variability of earnings changes (ΔNI) appears to be lower after 2005, the findings are statistically insignificant both with (p-value = 0.135) and without (p-value =0.323) control variables. In the resister sample in Table 4, this measure is significantly lower in the post-adoption period, although the difference is likely to be driven by cash flows. The coefficient on small profits in the regression of Equation (3) is negative but insignificant (p-value =0.365). In the resister sample in Table 4, the same coefficient is significantly positive, which indicates increased earnings management. The results for timely loss recognition are mixed. First, timely loss recognition is reduced after 2005 as measured by the coefficient on LNEG in Equation (4) (p-value = 0.073). Second, the test from Equation (5) (based on Basu, 1997) indicates an increase from the period before 2005 to the period after, although the results are not statistically significant. Third, the regression in Equation (6) indicates a large decrease in loss persistence after 2005.

Overall, the evidence from Table 5 suggests the existence of a time trend in our sample period. However, it is not enough to explain the difference in accounting quality improvements between voluntary adopters and resisters. Although this effect works against finding a difference between the two groups, its very existence independent of the standards applied suggests that factors other than standards have a strong impact on accounting quality. The majority of our evidence implies that voluntary IFRS

trend. For firms resisting IFRS the results are mixed. Although some of their observed quality change in Table 4 appears to be explained by time trends, we argue that this does not contradict the conclusion of the main analysis in this paper – that is, we do not conclude that forcing firms to adopt IFRS will either improve or reduce accounting quality; rather, we conclude that it has little or no impact, which is consistent with the results in this section. However, because accounting quality changes around resister firms' IFRS adoption are important to this study, we perform further tests on accounting quality changes around 2005 in the next subsection (specifically, we compare the quality changes of resisters relative to voluntary adopters around 2005).

5.4.2. Balanced panels around IFRS adoption

One of the concerns with the results in this study, and in prior literature, is that the panels are unbalanced, that is,, they do not include the same number of observations for each firm before and after IFRS adoption. Among other things this raises the concern that accounting quality improvements take time to materialize, and that the observed differences between voluntary and resister adoption are driven by the longer time series available after voluntary adoption.

We address this issue in Table 6, Panels A and B. In Panel A we restrict our tests to firms with data available both the year before and the year after IFRS adoption. In Panel B we restrict the tests to firms with data available two years before and two years after IFRS adoption. We focus on the variability of net income (ΔNI) and the variability of net income relative to the variability of cash flows (ΔNI/ΔCF) because these two measures provide the strongest evidence of quality improvements around voluntary IFRS adoption in Barth et al. (2008) and in our study.[22] We only report results for changes without controls to reduce the data requirements and increase the number of observations available.

Table 6. Balanced panels – comparison of voluntary adopters and resisters' accounting quality around IFRS adoption

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The variability of changes in net income relative to the variability of cash flows (ΔNI/ΔCF) increases sharply after voluntary IFRS adoption, regardless of whether the change

first year but a decrease in the second year. This suggests that quality improves right around IFRS adoption for voluntary adopters but not for resisters. However, these results are only significant when we apply the standard errors from the larger sample in Table 3. Based on the standard error within the smaller sample of Table 6, none of these results are statistically significant. We therefore view the analysis in this section as suggestive only.

In Table 6, Panel C, we compare the quality changes of resisters relative to voluntary adopters around 2005 (the year resisters adopted IFRS) based on the balanced panels. The advantage of this approach is that it is the most intuitive way to address the time trends documented in Section 5.4.1. The disadvantage is that the two groups of firms, resisters and voluntary adopters, are fundamentally different, and it is not obvious that a time trend should affect these firms in the same way.[23] Nevertheless, we find that regardless of whether we measure the quality changes from 2004 to 2005 or from 2003 and 2004 to 2005 and 2006, the inference is unchanged. Either very little happens to accounting quality or the changes point towards lower quality after mandatory IFRS adoption by resisters.[24]

5.4.3. Statistical power

The setting limits the post-IFRS observations that are available for firms resisting IFRS. It is therefore possible that the lower number of observations explains the lack of quality improvements subsequent to IFRS adoption. Table 6 indirectly addresses this issue with every panel having fewer observations for voluntary adopters than resisters. We would generally observe quality decreases subsequent to IFRS adoption for resisters and quality improvements for voluntary adopters had the test results been statistically significant. Furthermore, the signs on the equivalent quality metrics tests in Table 4 are also generally negative, which suggests that the lack of improvements observed in Table 6 is not attributable to a lack of power.

5.5. Additional Analyses

5.5.1. Early vs. late voluntary adopters

In Table 7, we present the findings of an additional analysis that partitions voluntary adopters into early and late sub-groups. Existing literature (Christensen, 2012; Daske, Hail, Leuz, & Verdi, 2008) suggests that the former sub-group comprises truly voluntary

firms that adopt voluntarily in anticipation of mandatory rules. For instance, Christensen (2012) suggests that as early as 2000 the European Commission had already outlined its strategies to mandate IFRS by 2005. As such, truly voluntary adopters should be those that started using IFRS before 2000. Alternatively, Daske et al. (2008) classify early or late voluntary adopters depending on whether firms use IFRS before or after their home country formally announced the decision to require IFRS, which is the year 2002 in the case of the EU (including Germany).[25] If our findings of improved accounting quality among voluntary adopters in Table 3 are at least partly driven by financial reporting incentives, then we expect the findings to be more pronounced among the early than late voluntary adopters.

Table 7. Early vs. late voluntary adopters

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In Table 7, Panel A, we classify firms as early voluntary adopters if they do so before 2000 following Christensen (2012). In Panel B, we classify firms that use IFRS before 2002 as early voluntary adopters following Daske et al. (2008). Both panels consistently reveal that the improvement in accounting quality is more pronounced among the early voluntary adopters. For instance, such improvement is indicated for early voluntary adopters in Panel A by both the change in the variability of ΔNI and the change in correlation between ACC and CF, and in Panel B by all three indicators including the change in the variability of ΔNI/ΔCF. In contrast, we observe better post-adoption accounting quality among late voluntary adopters only through the change in the variability of ΔNI/ΔCF in both panels. Overall, the findings in Table 7 help substantiate the inference that financial reporting incentives contribute to the accounting quality improvement among voluntary adopters.

5.5.2. Determinants of resisters

The results of the analysis thus far are consistent with accounting quality not improving when firms that resist IFRS are forced to adopt. But why do some firms resist IFRS? That is, why do some firms lack incentives to adopt what is generally perceived to be higher quality accounting standards? Based on the discussion in connection with the development of the hypothesis in Section 3.2, we address this question by looking at

regulation by exhibiting ‘tick-box’ behavior. More specifically, we are looking for firms that are less likely to respond to shocks to growth opportunities by improving financial reporting quality and adopting IFRS in the process.[26] Such firms are likely to perceive fewer benefits from a capital market-oriented set of accounting standards like IFRS and consequently apply a cost-minimizing strategy when subjected to it.

Several authors have suggested that a country's orientation towards insider or outsider financing is important in understanding its financial reporting system (e.g. Ball, 2001; Ball et al., 2000; Leuz et al., 2003; Leuz & Wüstemann, 2004). If accounting regulations develop to satisfy the needs of the main contracting parties in the economy, then we would expect the role of accounting to be very different in an insider economy relative to an outsider economy. In countries with an insider orientation, information asymmetries between managers and capital providers are resolved through private information channels. Thus, public information channels such as the annual report may serve other purposes, for example, the determination of dividends or taxes. It is plausible that this argument extends to the firm level. Some firms may exhibit a higher degree of outsider orientation than other firms. The orientation of firms could be driven by a trade-off between the costs to insiders of losing their information advantage and the benefits from being able to exploit growth opportunities because external financing is more easily available with an outsider orientation.

This argument suggests that a firm's insider orientation may be important in understanding the decision to resist IFRS. Assume that growth opportunities are equally distributed across all firms prior to any financial reporting decision. Since firms with insider characteristics likely have greater insider benefits, a larger positive shock to growth options would be needed to motivate them to change their orientation. Thus, fewer firms with insider characteristics will switch to outsider orientation. Furthermore, the analysis of accounting quality changes around IFRS adoption in the previous sections indicates that voluntary adoption is associated with changes that could be interpreted as a move towards an outsider orientation. These ideas are closely related to the reporting incentive factors suggested by Christensen et al. (2007) and Daske et al. (2013).

Table 8, Panel A, provides summary statistics on key characteristics that capture firms’ orientation in the cross-sectional sample.[27] The variables are closely related to those used in Equations (5) and (6) but not identical, as the purpose of Equations (5) and (6)

2008). The purpose in this section is to capture differences in insider characteristics. The summary statistics show that resisters have more bank ownership and less equity analyst following. This suggests that resisters have closer relationships with banks and depend less on the equity markets for financing. In Germany, banks are often insiders with representatives on the board and access to significant non-public information (Leuz & Wüstemann, 2004). Similarly, financial analysts act as information intermediaries and respond to demand from capital markets (Lang & Lundholm, 1996). Thus, the observation that analyst following is lower among resisters suggests that there is lower demand for information from the capital markets for these firms, consistent with these firms having an insider orientation.

Table 8. Determinants of resisters

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Table 8, Panel B, provides the result of a logistic regression where the dependent variable takes the value one when a firm adopts IFRS in 2005, that is, resists IFRS.[28] The independent variables are the insider characteristics and a set of control variables based on prior literature on voluntary adoption of IFRS and US GAAP (e.g. Ashbaugh, 2001; Cuijpers & Buijink, 2005; Gassen & Sellhorn, 2006; Tarca, 2004). The advantage of the multivariate analysis is that we are able to assess the incremental association of each variable with the decision to resist IFRS. The disadvantage is the greatly reduced sample due to missing variables that reduce the power of our tests. This analysis generally supports the findings of the univariate analysis. Bank ownership, leverage, and analyst followings have the predicted signs and are significant, although not at the same levels.[29] Notice that bank ownership is only positively associated with resisting IFRS when the firm is not a bank itself.

The analysis of resisters' characteristics suggests that the insider orientation of firms may be a contributing factor to why resisters lack incentives to adopt IFRS. The lack of incentives to adopt IFRS could explain why this group does not experience accounting quality improvements in association with mandatory IFRS adoption.[30]

6. Conclusion

We examine how accounting quality is affected by the adoption of IFRS for two groups of firms: (i) those that supposedly perceive net benefits of IFRS (voluntary adopters) and (ii) those that have no incentives to adopt and are forced to comply (mandatory adopters). The purpose is to examine whether IFRS per se leads to accounting quality improvements. Towards this end we exploit the setting in Germany, where firms were able to voluntarily adopt IFRS instead of local GAAP starting in 1998, until it became mandatory to adopt IFRS in 2005. Revealed preferences imply that firms that voluntarily adopted prior to 2005 did so because their management perceived net benefits of IFRS compliance.

Consistent with prior research, we generally find a decrease in earnings management and an increase in timely loss recognition and value relevance after voluntary IFRS adoption. In contrast, we generally find no accounting quality improvements for firms that resist IFRS reporting until 2005. These are firms that postponed adoption until it became mandatory in 2005 because they had no incentive to adopt IFRS. The finding that accounting quality improvements are confined to voluntary adopters and the existence of time trends independent of the accounting standards applied suggests that IFRS adoption per se does not change accounting quality, which is consistent with the findings of Daske et al. (2008, 2013) and Christensen et al. (2013a). In additional analyses, we find that the firms that resist IFRS adoption (i.e. adopt in 2005) on average have more insider characteristics, which is consistent with an insider orientation. These results may be important in understanding the lack of incentives to adopt IFRS and the subsequent lack of quality improvements after forced adoption.

One implication of our results is that accounting quality does not necessarily improve with IFRS adoption. Our results suggest that mandating IFRS will not improve accounting quality for firms that have no incentives to adopt. A second implication is that even when publicly listed firms are operating in the same institutional framework, managerial financial reporting incentives dominate accounting standards in determining accounting quality. The results suggest that the current focus of regulators on accounting standards quality might not always yield higher accounting quality. Accounting quality improvements in connection with the application of new standards are dependent on the reporting incentives of those preparing the accounts, rather than on whether the new standards are perceived to be of higher quality.

As such, we contribute to the large accounting literature on IFRS in the following ways.

setting, our results reinforce the caveat originally included in their paper, that is,, that the accounting quality changes observed around voluntary IFRS adoption may not necessarily be attributed to the change in accounting standards. Second, we reinforce the inferences of Daske et al. (2013) by using an alternative proxy for firms' managerial incentives to adopt IFRS, namely based on revealed preferences rather than normative conjectures. Finally, we also add to the mandatory IFRS adoption literature (e.g. Brüggemann et al., 2013) by finding no evidence of accounting quality changes.

Our study has the following caveats. First, Barth et al. (2008) argue that while voluntary adopters may choose IFRS because of changes in disclosure incentives, the fact that they choose IFRS over their domestic standards could imply that these firms believe that IFRS better allows them to demonstrate their improved accounting quality. Since changing accounting standards is costly, these firms may recognize that the new standards have features to facilitate accounting quality improvements. However, this still implies that standards per se cannot improve accounting quality unless firms have incentives to adopt, which is consistent with existing empirical evidence of heterogeneity in the impact of mandatory IFRS adoption (e.g. Armstrong et al., 2010; Christensen et al., 2007; Daske et al., 2008).

Second, measuring accounting quality is inherently difficult and the measures we adopt from Barth et al. (2008) may capture operational differences between the firms in our sample. Dechow, Ge, and Schrand (2010) argue that it is difficult to differentiate between the smoothness of reported earnings that reflect the fundamental earnings process and accounting rules. Our analyses are joint tests of the underlying theory and the earnings quality metrics we use. However, there exists no perfect accounting quality measures and our decision to use the measures in Barth et al. (2008) better enables us to compare and contrast our findings to their findings.

Finally, accounting quality measures do not capture all possible benefits from IFRS adoption. For instance, Brochet, Jagolinzer, and Riedl (2013) find capital market benefits following mandatory IFRS adoption in the UK, which had previous domestic standards that are considered to be very similar to IFRS (Bae, Tan, & Welker, 2008). As such, they argue that the benefits are more likely to arise from changes in accounting comparability (DeFond, Hu, Hung, & Li, 2010; Wang, 2014) than changes in accounting quality. Existing studies also document IFRS benefits through alternative indicators such as analyst forecast accuracy (Byard, Li, & Yu, 2010; Tan, Wang, & Welker, 2011).

Consistent with the many caveats to this study, we do not conclude that IFRS adoption, or more generally international accounting harmonization, has no positive effects. There are many potential benefits from international accounting harmonization (see also Hail, Leuz, & Wysocki, 2010a, 2010b). Yet, we note that it is unwarranted to conclude from changes in accounting properties around voluntary IFRS adoption that IFRS leads to accounting quality improvements.

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Notes

[1]IFRS covers both IFRS issued by the International Accounting Standard Board (IASB) and International Accounting Standards (IAS) issued by the IASB's predecessor the International Accounting Standards Committee (IASC).

[2]While there may be cross-sectional variations in reporting incentives in both voluntary and mandatory adopters (Christensen et al., 2007; Daske et al., 2013), the average reporting incentives is likely to be higher in the former than the latter group (Leuz & Verrecchia, 2000).

[3]Additional tests confirm the existence of temporal effects in accounting quality

However, this result does not explain the entire difference in quality changes we observe between the two groups. The fact that the temporal effect exerts an influence on firms irrespective of accounting standards further supports our inference that the accounting quality improvements among voluntary IFRS adopters cannot be attributed to standards per se.

[4]As of October 2014, Barth et al. (2008) have more than 1000 citations by either published or unpublished papers, making it one of the most impactful papers published in accounting journals over the past decade.

[5]The lower quality is also often attributed to HGB's code-law origin, tradition for prudence, and tax alignment. However, HGB prescribes that the sole purpose of consolidated statements is to facilitate decision-making (Gassen & Sellhorn, 2006; Leuz, 2003), so the perceived quality differences cannot be attributed entirely to legal issues.

[6]Examples of VMEBF comment letters to the IASB:

- http://www.ifrs.org/Current-Projects/IASB-Projects/Income-Taxes/ED-march-09/Comment-Letters/Documents/cl49.pdf
- http://eifrs.ifrs.org/eifrs/comment_letters/2/2_236_FrankReutherVMEBFTheAssociationforParticipationintheDevelopmentofAccountingRegulationsforFamilyownedEntities_0_CL44VMEBF.pdf
- http://eifrs.ifrs.org/eifrs/comment_letters/27/27_3147_DieterTruxiusVMEBFeV_0_VMEBF_comments_on_Conceptual_Framework.pdf

[7]See Table 1 for details on these statistics (177/433 = 41%).

[8]Existing studies suggest that voluntary adopters are not necessarily a homogenous group. For instance, some studies further classify them into early or late sub-groups (Daske et al., 2008), and into label or serious sub-groups (Daske et al., 2013). However, despite these variations, the overall reporting incentives and IFRS preference of voluntary adopters are expected to be greater than those firms that resisted IFRS until they were mandated to adopt (Leuz & Verrecchia, 2000).

[9]Hail et al. (2010a, 2010b) discuss the costs and benefits of potential IFRS adoption by the USA.

[10]Such flexibility also underlies the label versus serious adopters distinction examined by Daske et al. (2013).

[11]There are also papers that find no evidence of accounting quality improvements around voluntary IFRS adoption (for instance, Van Tendeloo & Vanstraelen, 2005; Goncharov, 2005). Consistent with this evidence, the reviews by Soderstrom and Sun (2007) and Brüggemann et al. (2013) conclude that the evidence is mixed.

[12]Despite these eliminations, IFRS offers managers significant discretion in how they implement the rules.

[13]The survey is based on answers to an online questionnaire. Compliance costs for the first set of consolidated statements are estimated at 0.31% of turnover for firms with turnover less than €500 m and 0.05% of turnover for firms with turnover greater than €500 m. For subsequent years the costs are estimated to be between 0.06% and 0.008% of turnover. For details on methodology and the analysis, see ICAEW (2007, chapter 7).

[14]Prior literature suggests that bookkeeping costs influence managers' choice of accounting standards (e.g. Watts & Zimmerman, 1978). We suggest that costs associated with a mandatory accounting standard change may also influence how managers adopt those standards.

[15] Ball (1998) provides evidence that Daimler-Benz AG voluntarily adopted US GAAP instead of HGB to decrease earnings management in subsidiaries. This is an example of embedding a new accounting system in the organization.

[16]A setting with larger sample size would be required to carry out such analyses. In the sensitivity analyses of Section 5.4 in our study, we compare the changes in accounting quality between the two groups to evaluate the extent to which they are driven by time trends.

[17]Closely held shares are not available for all firms. In order to avoid losing too many observations, we set this variable equal to the median of available data from 1994 to 2006, or to zero if no data are available for the entire period. This does not change the coefficient on CLOSE significantly. Furthermore, we also estimate all results using the raw variables (△NI, △CF, CF, and ACC) rather than the residuals from Equations (1) and (2). The use of raw variables does not affect the results, consistent with Barth et al.

(2008, note 16). As a consequence, it is unlikely that this data limitation in our setting affects the conclusions of this study.

[18]As we need to calculate the change in the accounting variables, we lose the observations for the first year for all metrics. For the loss persistency measure in Equation (6), we lose the first two years of observations.

[19]We replicate all tests with winsorising or truncating the variables at the 2% level. In these tests, the inferences we draw from the results remain unchanged.

[20]The stronger results are likely due to our hand-collected data on the accounting standards applied. In collecting data for this paper, we observed that the information on accounting standards available in commercial databases includes many errors prior to 2003 (see also Daske et al., 2013). These errors may have weakened the results in Barth et al. (2008).

[21]While extending the sample period may address this issue, the benefit of doing so is likely to be offset by confounding effects that arise from the influence of financial crisis and recession over the extended sample period.

[22]Furthermore, it is difficult to measure timely loss recognition and value relevance with a small number of observations.

[23]A firm's exposure to the time trend is likely to depend on the firm's stage in the life cycle, for example, through the growth rate. To the extent that the trend is driven by internationalization (Land & Lang, 2002), it is also likely to depend on firms' international trade. Both age and international exposure vary systematically between voluntary adopters and resisters (see Table 8).

[24]Following Lang et al. (2006) and Barth et al. (2006), we do not provide statistical significance tests since it is difficult to do so between ratios of variances. As such, the findings in Table 6, Panel C, are meant to be suggestive and it would be difficult to draw inferences from them. In untabulated analyses, we obtain similar findings for the other quality measures applied in this paper. However, because these measures generally rely on a large number of observations the results are less stable, that is,, the conclusions for some metrics are sensitive to the inclusion of specific observations.

[25]See Daske et al. (2008) Table 6, Panel A.

[26]The fact that firms adopt IFRS in connection with accounting quality improvements does not imply that IFRS causes the quality improvements, although this is one possibility. This issue is discussed in Sections 3.1 and 3.2.

[27]The lack of data for variables such as closely held shares and bank ownership for earlier sample period caused the reduction in the number of observations for voluntary adopters.

[28]Independent variables are measured in the fiscal year before IFRS adoption.

[29]Some variables are defined slightly differently in this study compared to earlier literature. Although levels of significance and the specific combination of variables included vary across studies, the results presented here are largely consistent with prior literature on voluntary IFRS/US GAAP adoption. Thus, the presentation of the results here is simply to illustrate that the insider characteristics are correlated with incentives, not to suggest that these findings are unique to this study.

[30]In additional analyses, untabulated for brevity, we partition our sample into sub-groups based on the strength of their incentives to adopt (similar to Christensen et al., 2007 and Daske et al., 2013). We measure the strength of incentives to adopt IFRS by the predicted values from the logistic model developed in this section. Consistent with expectation, among the strong resistance incentives sub-group, we observe either no significant changes or even significant deteriorations in accounting quality after adoption. Among the weak resistance incentives sub-group, we observe significant improvements in accounting quality based on changes in the variability of $\triangle NI/\triangle CF$ both with and without controls. This evidence supports the argument that improvements in accounting quality following IFRS adoption are conditional on financial reporting incentives (Daske et al., 2013).

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