ATTRIBUTE DIFFERENCES BETWEEN US GAAP AND IFRS EARNINGS: AN EXPLORATORY STUDY

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ABSTRACT

In this study we explore attribute differences between US GAAP and IFRS earnings. Our study is motivated by the on-going harmonization process in accounting standard setting as well as by recent convergence projects by the FASB and the IASB. We test two market-based earnings attributes, i.e. value relevance and timeliness, as well as two accounting-based earnings attributes, i.e. predictability and accrual quality. These attributes are tested for IFRS and US GAAP adopters of German New Market firms as they are allowed to choose between IFRS and US GAAP for financial reporting purposes. We find that US GAAP and IFRS earnings perform equally well on value relevance, timeliness and accruals quality. Only with regard to predictive ability do our results suggest US GAAP superiority.

1. INTRODUCTION

When comparing and characterizing accounting standard regimes, IFRS are typically labeled as concept-based while US GAAP are categorized as rules-based. During recent years the FASB repeatedly solicited for research on the feasibility of changing towards more concepts-based standards, as more and more critique arose on its current approach, especially in the aftermath of Enron. Rules-based standards are said to provide companies with the opportunity to structure transactions to meet requirements for a particular accounting treatment, even if such treatments do not reflect the true economic substance (see for example, Vincent et al. 2003). Likewise, Sawabe (2005) establishes that proliferation of accounting rules, like in a rules-based approach, is usually associated with more creative accounting instruments, suggesting that it leads to more earnings management.

In this paper, we add to this ongoing discussion by investigating a set of earnings attributes. Prior empirical research on quality differences between US GAAP and IFRS is scarce and provides mixed results. In a US exchange context, Eccher and Healy (2000) and Harris and Muller (1999) find that the reconciliations from IFRS to US GAAP in Form 20F filings add value. By contrast, based on a sample of German New Market firms Leuz (2003) documents that both US GAAP and IFRS are of no significantly different quality. Note that Leuz defines quality as a function of (less) information asymmetry (bid-ask spreads) and (more) market liquidity (trading volume). In the present study, we further focus on German New Market firms, but unlike Leuz, we test more traditional quality measures of value relevance, timeliness, predictability and accruals quality to draw inferences on attribute differences between IFRS and US GAAP earnings. We restrict our sample to German New Market firms for the following reasons. First, the need for high quality financial information is particularly prevalent for this type of new economy firms. Due to unstable performances and the limited financial history of the firms quoted on this market, investments in such firms are highly risky which makes the (quality of) current financial statements highly relevant to investors. Second, by limiting our sample to one equity market, we control for (institutional) variation in market features. This is necessary as some of the earnings metrics adopted in our study are based on equity market variables.

As we execute a comparative study, we address prior claims (such as the one by the SEC) that the FASB provides qualitatively better standards than the IASC. Note that such claims led to the certain reconciliation (to US GAAP) requirements for foreign filers on US exchanges that are adopting IFRS. Prior studies that addressed this issue mainly focused on US markets. Exploring the differences between IFRS and US GAAP earnings of German New Market firms further contributes both to the reconciliations debate as well as the process towards developing a world GAAP. Further, we address a comprehensive set of earnings attributes – both capital market and accounting based – to evaluate financial reporting quality, whereas prior studies comparing standards typically limit their scope value relevance (of earnings). Finally, by comparing IFRS and US GAAP prepared information, we examine whether concepts-based versus rules-based standard regimes result in significantly different information.

We find that US GAAP and IFRS earnings perform equally well on most of the attributes we investigate. With regard to predictive ability, however, US GAAP earnings significantly outperform IFRS.

The remainder of this paper is organized as follows. Section 2 provides a review of the existing literature on accounting regime evaluations and earnings attribute measures, followed by our expectations for the IFRS / US GAAP comparison. In section 3, we specify the models that we use to estimate and evaluate the earnings attributes. Next, we document the sample composition and data collection in Section 4. We present the results in section 5 and finally give some concluding remarks in a final section.

2. LITERATURE REVIEW AND HYPOTHESES

Previous studies that evaluate the quality of standards across regimes can roughly be divided into two groups: those comparing US GAAP versus other local regimes, and those comparing IFRS with local regimes. Studies that resort under the first group typically have two common features. First, almost all studies are performed using a sample of US and non-US companies listed on the same US stock exchange. Reason is that US stock exchanges have the interesting feature they allow foreign filers to report under their local standards, provided there is a reconciliation of earnings and shareholders' equity with US GAAP (called 20F reconciliation). Second, quality is

most often measured by applying value relevance models, looking at the association between stock prices (respectively returns) and accounting data.

In comparing UK and US GAAP constructed earnings (and earnings changes), Pope and Rees (1992), conclude that US GAAP earnings adjustments add only marginally to the ability of earnings to explain returns. Comparing US GAAP with multiple local GAAP systems, Amir et al. (1993) find that the 20F reconciliations made by Non-US filers are reflected in stock prices and thus are valued by the market. By contrast, Chan and Seow (1996) find earnings based on local GAAP to have greater information content than US GAAP.

Splitting up the group of foreign filers, Barth and Clinch (1996) document variations depending on the country of residence. For UK and Australian firms, the reconciliations are found to be valued more than for Canadian firms. Given that US GAAP and Canadian GAAP are similar for many items, this finding suggests that the usefulness of reconciliations to US GAAP decreases, as the foreign GAAP is more closely comparable to US GAAP. Alford et al. (1993) reach similar conclusions when considering several European local GAAP systems. They conclude that earnings based on Danish, German, Italian, Singaporean and Swedish GAAP contain less information and are less timely than US GAAP earnings, while earnings based on local GAAP of Australia, France, the Netherlands and the UK are relatively more informative and timely.

Overall, results about US stock exchanges seem to suggest that from an investor's perspective reconciliations add value. While all the above studies compare US GAAP to other accounting regimes within a US stock exchange environment, Harris et al. (1994) is the only study that analyzes across exchanges. Similar to the US stock exchange studies, Harris et al. (1994) assess quality by looking at the association between prices and earnings (resp. shareholders' equity). These associations are however not calculated for the entire sample, but for the German and US stock market separately. They find that the explanatory power of German earnings is comparable to US earnings, but the explanatory power of shareholder's equity in Germany is significantly lower than in the US.

Research on quality differences between US GAAP and IFRS is scarce. To our knowledge, only three studies have made such comparison so far. Eccher and Healy (2000) and Harris and Muller (1999) use US stock exchange data, in particular a sample of foreign firms that

prepare IFRS financial statements for domestic purposes and in addition for cross-listing purposes reconcile from IFRS to US GAAP in Form 20F filings. They both define value in terms of price and return models and find that the reconciliations add value. By contrast, Leuz (2003) documents that both US GAAP and IFRS are of no significantly different quality. He therefore addresses a sample of German New Market firms since these companies can freely decide to apply either IFRS or US GAAP. Unlike most of the previously mentioned studies using typical earnings attributes, Leuz defines quality in terms of information asymmetry (bid-ask spreads) and market liquidity (trading volume). In the present study, we further focus on the German New Market firms, but unlike Leuz, we apply the more traditional quality measures to help explain the inconsistency in results.

In adressing the IFRS / US GAAP dilemma, we argue that differences between the two sets of standards are likely to be relevant. Firstly, on a very general level, we discern both structural and organizational differences between the two standards sets that might impact the quality level of accordingly prepared accounting information. Proponents of US GAAP typically argue that the international standards have not been subject to the same due process as US standards. Both the FASB's organizational structure, its standard setting process and the enforcement is said to be better defined. However, others argue that the IFRS standard setting process is open to more input from a wider interest group.

Secondly, turning to the standards themselves, it is often illustrated that US standards are rigorously defined, resulting in a real cookbook of detailed and stringent accounting and disclosure requirements. Considerable attention is paid to exceptions and special issues and extensive guidance is provided on specialized industry practices. The IASB (International Accounting Standards Board) standards book, on the other hand, is far less voluminous and standards are defined more generally in terms of rules. Whether stricter rules also result in higher quality accounting information remains however an open question. One could argue that information resulting from the application of US standards is more neutral since there are fewer opportunities to manage earnings. Firms' reporting on economic activity is more faithful and consistent when offered fewer opportunities to color the image they communicate for the purpose of influencing behavior in any particular direction. However, one could also argue that the discretion offered by IFRS puts management in a position where it can more freely signal the true economic situation of performance of the company.

Finally, differences in specific standards may also be responsible for differences in the quality of earnings. For example, the opportunity to capitalize R&D under IFRS can result in more value relevant earnings. Making predictions on earnings and its attributes is however complicated. First, and especially when there is a difference in allowed alternative treatments, it is questionable whether managers will always choose the accounting method on which IFRS and US GAAP differ. Returning to the R&D example, managers might expense development costs even though capitalization is allowed, simply because it is not opportune at that time. Second, since accounting involves reverting effects over time and we cannot determine the application lag for each company and each item, the earnings attribute effect is indistinct.

Based on the above-mentioned arguments, we do expect differences between IFRS and US GAAP earnings to exist. However, it is *a priori* not clear which standards set will result into higher accounting quality.

3. MODEL SPECIFICATION

To examine quality differences between information prepared based on IFRS versus US GAAP, we define quality in terms of earnings attributes. Unlike prior research that tends to focus on one or two earnings attributes at a time, we consider four attributes: value relevance, timeliness, predictability and accruals quality. The first two resort under the market-based attributes, while the last two are examples of accounting-based attributes. Differences between IFRS and US GAAP earnings with regard to these attributes are reflected in differences in the models' R-squared [1]. To assess whether a difference in the R-squared is statistically significant, we need to control for between-sample differences on the variables included in the respective models. To that end, we use the same test statistic as Lang et al. (2005) and Barth et al. (2005), based the estimation of R-squared standard deviations (see Cramer 1987).

[1] Most often, comparison between IFRS and US GAAP is executed on a sample of firms that report under the two reporting regimes simultaneously. Each sample firm is included twice in the study: once to run, for example, the prices on IFRS measures and once on US GAAP measures. If the number of measures is held constant, than comparison between the two regimes happens directly through comparison of the R-squares. To statistically test the difference, one needs to apply a Vuong test (see Dechow, 1994). The analysis in this study also consists in comparing an IFRS and US GAAP model, however the models (and the resulting R^2) are estimated using a different sample. To compare these R-squares one needs to control for differences between the samples (e.g. sample size). Statistical tests are performed using the Cramer-based test..

Value relevance. Similar as in previous research (see Holthausen and Watts 2001 for a review), we measure value relevance in terms of the contemporaneous association between earnings and stock returns as follows:

$$RET_{i,t3} = \alpha_0 + \alpha_1 \frac{X_{it}}{P_{i,t-1}} \quad (1a)$$

where $RET_{i,t3}$ is the annual market-adjusted return, ending three months after the fiscal year end. X_{it} is earnings per share and $P_{i,t-1}$ is the security price at the beginning of the period. The model's R-squared, which reflects the degree of association, is estimated for the IFRS and US GAAP sample separately. Secondly, we also run the price-earnings model as suggested by Ohlson (1995) and Burgstahler and Dichev (1997), where prices are regressed on both earnings and the book value of equity. This results in the following regression:

$$P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 BV_{i,t-1} \quad (1b)$$

where P_{it} is the security price at the end of the fiscal period t, X_{it} is earnings per share and $BV_{i,t-1}$ is the book value of equity at the beginning of period t. In this regression, the coefficient on earnings, α_1, reflects the pricing effect of current earnings. The coefficient on beginning-of-year book value of equity captures the effect of expected future normal earnings[2]. To control for scale effects (Easton 1999), we use White's correction for heteroscedasticity. Again, our measure of value relevance is based on the explanatory power of the equation.

Timeliness. Consistent with prior research, we test this attribute by running the following Beaver-like (1987) reverse regression on the two samples separately:

$$X_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 RET_{it} \quad (2)$$

with RET_{it} being the annual market-adjusted return (corresponding to the fiscal year) and all other variables as previously defined. Timely earnings are those earnings that result in stronger associations or higher R^2s for the above model.

Predictability. In testing whether IFRS earnings have different predictive ability than US GAAP earnings, we model the association between future earnings and current as well as past earnings

[2] This is one way of controlling for growth opportunities, as suggested by Holthausen and Watts (2001).

(Lipe 1990) for the IFRS and US GAAP sample separately. We estimate the R^2 of the following model:

$$X_{i,t+1} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 X_{i,t-1} \quad (3a)$$

where X_i is earnings per share for firm i either in fiscal year t or fiscal year t-1, and all variables are scaled by a firm size measure, being sales in year t[3]. Additionally, but also examining predictability, we run the Dechow (1998) model, where we regress future operating cash flows on current accounting information. The model is the following:

$$OCF_{i,t+1} = \alpha_0 + \alpha_1 X_{i,t} \quad (3b)$$

where OCF_i is the operating cash flow for firm i in fiscal year t, scaled by total sales, and all other variables are as previously defined. Again, the model's R-squared is indicative of the predictive ability of current accounting information, with higher values reflecting more predictive ability.

Accruals Quality. Following the Dechow and Dichev model (2002), we run changes in working capital on past, present and future realizations (see also Aboody et al. 2003, Myers et al. 2003 and Francis et al. 2003). The focus is on working capital, since related cash flow realizations generally occur within one year. The model is run for the IFRS and the US GAAP sample:

$$\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{i,t-1} + \alpha_2 OCF_{it} + \alpha_3 OCF_{i,t+1} \quad (4a)$$

where ΔWC are changes in working capital (scaled by total sales) and all other variables are as previously defined. As pointed out by Dechow and Dichev (2002), a positive sign is expected on both past and future cash flow and a negative sign on current cash flows. A higher explanatory power of the model indicates high earnings or accruals quality. To further control for quality effects caused by the negative coefficient on current cash flows, we also run the model suggested by Wysocki (2004):

$$\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{it} \quad (4b)$$

[3] Note that we do not apply the measure that is most often used in accounting research to capture size, i.e. total assets. Reason is that total assets are largely determined by the standards, which might significantly bias our results. We did consider other size measures, such as market capitalization and number of shares, and obtained similar results as in section 3.5.2.

Relatively large R-squared of model 4a compared to this model reflect high earnings quality, adjusting for the potential effect of income smoothing. An overview of the above attributes is provided in Table 1.

[Insert Table 1 about here]

4. SAMPLE SELECTION

To perform this exploratory study, we selected a sample of German New Market firms. According to the listing requirements of this equity market, firms must report financial statements that are either IFRS or US GAAP compliant. Selecting firms that are listed on the same market furthermore offers the advantage that capital market elements (like market structure and organization) are constant across all sample firms.

In particular, we selected firms with an IPO date from 1997 through 1999. We identified on 184 IPO's. To further ensure a minimum time period for performing robust tests, we single out only those firms that are continuously traded between 2001 until the beginning of 2003, leaving us with 168 firms. For these firms, we checked the Thomson Worldscope database, which offers capital market data as well as financial statement data. A number of firms were dropped either because they are not included in the database (15) or because the financial information is incomplete (8). For the remaining firms, we also collected hardcopy versions of the financial statements, readily downloadable from the New Market website. We used these reports to check both the firm's identity and conformity in key accounting data between the New Market information and the Worldscope database. Ten observations were deleted due to inconclusive results on this test. Finally, 2 firms in the financial sector are eliminated because of their very specific character. In addition, 4 firms that are cross-listed on NASDAQ or NYSE are dropped, since the quality of those statements might be different due to SEC following (Lang et al 2003).

On all 129 firms included, we retrieved data from the Worldscope database. Financial statement data, like earnings, book value of equity and operational cash flows, were collected on an annual basis for the period 2000-2002. Price data at several points in time during that same period were also gathered. As a result, we obtain 331 firm year observations. Consistent with Collins et al. (1999) and Brown et al. (1999), we required each observation to have a positive

book value of equity, which resulted in dropping 7 firm-year observations. Subsequently, observations falling in the top or bottom 1% of some of the variables used later on in the multivariate model (such as opening price-deflated earnings) were further excluded to reduce the effect of outliers on the regression results. The final sample includes 321 firm-year-observations, spread over 128 firms.

5. RESULTS

To obtain comparability across our different metrics, we limit our analysis to investigating the quality of year 2000, 2001 and 2002 accounting data. Reason is that the evaluation of some of the above earnings models not only requires data in that specific year, but also data from the previous and following year. Since the sample firms have IPO dates from 1997 until the end of 1999, collecting comparable price data on all sample firms can only begin at the end of 1999 (or beginning 2000). By necessity, value relevance models can only start with the reflection of year 2000 accounting information in returns over the year 2000. Also, due to a restructuring of the German New Market[4] and changing standards' requirements, the data collection ended with 2002 accounting data. Before discussing the results on the above models, some descriptive statistics are given in the following section.

5.1 DESCRIPTIVE STATISTICS

The sample consists of 321 firm year observations, covering the period 2000-2003 and collected from 128 different companies (see Table 2, Panel A). The number of observations per accounting period is almost equally distributed, with the least observations in 2002 (due to availability of 2003-accounting data such as earnings). The vast majority of the selected sample firms are incorporated in Germany, had an IPO on the New Market during 1999 and their activities typically consist of computer or technology-oriented businesses (see Table 2, Panel B, C and D

[4] The German New Market, or the high-tech and innovative market segment of the Deutsche Börse, was closed down on 5th of June 2003. All former companies from the Neuer Markt segment were migrated into either the Prime Standard or the General Standard, where other reporting requirements were in force

respectively). Firms listed on the New Market are obliged to report either according to IFRS or according to US GAAP. Overall, there is a slight preference for IFRS (171 versus 150).

[Insert Table 2 about here]

Table 3 provides some more descriptive statistics on accounting and capital market information. First, the stock market on which the sample firms are traded is characterized by an overall downward trend: on average, prices per share melt down from 23.37 € at the end of 2000 to 3.36 € in 2002. The annual returns furthermore show that most of the loss is incurred during 2001 (-15%), while 2002 returns already suggest some recovery (+16%). Secondly, the bad economic environment in which these firms operate is also reflected in their accounting information. Firms, on average, end with a negative earnings number (Earnings Per Share are equal to -0.03, -0.16 and –0.31 respectively). Shareholders' equity is also cut back during this period, as it drops from 7.58 € per share in 2000 to 3.80 € per share in 2002.

Remarkable is the evolution in total assets. While we expect these firms to expand their asset pool at a rather high rate (since New Market is aimed at high-growth firms), we notice that firms abandon their expansion strategy and even divest, with an average drop in total assets of 143,392 €. Overall, however, firms become operationally better, as evidenced by the increase in operating cash flow (-4,660 € in 2000, to 2,723 € and even 6,768 € in 2002). As evidenced by the working capital accruals, and combined with the changes in earnings, these results suggest that accruals and thus accounting decisions are of considerable influence.

Looking at panel B of Table 3, we further conclude that the market, in general, does not attach significantly different prices to US GAAP and IFRS firms (p= 0.3825). Note that the market did price the US GAAP compliant companies significantly higher than their IFRS counterparts in 2000 (i.e., 31.93 compared to 16.76; p= 0.0146). However, from 2001 onwards, after some large scale US financial scandals, the market no longer priced these investments differently (e.g., 6.35 versus 10.12; p= 0.4215). The reported earnings number is, in general, not dependent on the applied accounting standards (-0.17 compared to –0.16). In addition, and consistent with prior research, our results also suggest that firms choosing US GAAP, on average, report lower equity numbers per share (e.g., 5.36 versus 6.11 for the pooled sample),

and by consequence also lower total assets (e.g., 118,481 versus 185,800). Although the pattern is present in nearly all years, this difference between IFRS and US GAAP is not significant.

[Insert Table 3 about here]

5.2 MULTIVARIATE MODELS

Differences between IFRS and US GAAP earnings with regard to the four attributes we defined are reflected in (differences in) the models' R-squared. Results are presented in Table 4 through 7[5]. As shown in the tables, we estimate cross-sectional regressions (1) for the three years separately (2000-2001-2002) and (2) for the pooled sample. While pooling offers the advantage of increased sample size, the year regressions might provide useful insights into time-dependent effects. The year 2001, for example, can typically be characterized by a bad economic environment, with a number of gigantic firm collapses, and subsequently the bursting of the stock market bubble.

Value Relevance. First, running the returns/earnings model on the pooled sample (see Table 4), we obtain R-squares of only 2.77% for the IFRS sample and 2.28 for the US GAAP sample. Although the explanatory power is remarkably low, our results are in line with other studies that documented a drop in value relevance and R-squares during the nineties (see, for example, Collins et al. 1997, Brown et al. 1999). Applying the Cramer test statistic, we furthermore find no evidence ($t = 0.14$) that US GAAP or IFRS earnings explain more variance in the share value evolution (that is, assuming that prices are good indicators of a share's value). Year specific results are presented in the upper level of Panel A (Table 4). The explanatory power of the annual regressions (e.g., 9.14% for US GAAP firms on 2002 accounting data) is higher, but still low compared to other studies. For both the IFRS and the US GAAP sample, we notice a large drop in explanatory power in 2001 (from 13.58% resp. 23.68 to 4.83 resp. 0.02), with only a modest recovery in 2002 (to 5.63% resp. 9.14%). Overall, as documented by the t-statistics, none

[5] In a supplementary analysis we also control for self-selection biases. Since these self-selection tests are non-significant and, at the same time considerably reduce sample size due to additional data requirements, we report the analyses without self-selection control.

of the R-square differences are significant. In other words, these results seem to suggest that earnings stated according to IFRS capture approximately as much (or as little) value relevant information as US earnings numbers, and vice versa.

Based on the alternative valuation model, where we control for some of the suggested misspecification in the returns/earnings model, we reach similar conclusions. Overall, neither set of standards makes accounting information more or less value relevant. The explanatory power of the two estimated models is very similar (R^2 of 6.93% for IFRS versus 7.88% for US GAAP; t= 0.17). As also shown in panel B of Table 4, (book value of) equity under the two sets of standards seems to reflect company value, incrementally to the earnings number (with estimated parameter statistics of respectively 0.456 and 1.239). Similar to the first model, we notice a significant change in the model R-square in year-by-year results. In 2000, IFRS accounting information is (marginally) more value relevant than US GAAP information (19.62% versus 3.60%), while we find the opposite based on 2002 data (37.97% for US compared to 16.61% IFRS compliant firms; t = 1.64). The low value relevance of US GAAP information in 2000, combined with earlier findings on high share prices associated with firms applying US GAAP (see descriptives), support the view of speculation activities on the equity market. The large scandals (e.g., Enron) have considerably reduced share prices, resulting in a more pronounced link with accounting information. Given the inconsistent year results, we also further address issues of model misspecification in section 5.3.

Timeliness. In Table 5, we present results from running model 2, measuring timeliness of accounting data. In all the estimated models, returns are used as an indicator of firm-specific news. Using market-adjusted returns controls for any other, market or economy-wide information reaching the investor public. Consistent with prior studies (e.g. Raonic et al. 2004), we find that the overall power of the timeliness models remains relatively low (R^2 of 2.14% versus 3.35%). Moreover, results on the pooled sample suggest that IFRS is as timely as US GAAP in reflecting news (t= 0.32). Looking at the annual regressions, we notice a drop in the models performance for 2001 and 2002 accounting data, consistent (and not surprisingly, given the high degree of correspondence between the variables) with the value relevance results. Most models even become meaningless, with F-statistics ranging from 1.21 to 5.88. In sum, and in line

with the value relevance models, this seems to suggest that accounting information in itself, whether it is stated according to IFRS or US GAAP, is not value relevant nor timely for the sample firms at hand. Alternatively, it might also be argued that market prices/returns are bad value indicators for these sample firms. To further assess the appropriateness of accounting information in this context (and to discern between one of the two above explanations), we remove pricing associations and concentrate uniquely on accounting data with the next attribute metrics.

Turning to these accounting-based models, we note that the models generally result in higher R-squares than the market-based models, consistent with prior findings (e.g., Choi et al. 2003). As documented in Table 6, the R-square of the predictability models is generally above 20%, much higher than the R-square obtained for the market-based models.

Predictability. As discussed in the models section, predictability can be measured running an autoregressive earnings model and evaluating the model's R-square. The results we obtained on the two samples are presented in Table 6. In general, our results indicate that US GAAP data better predict future performance than IFRS data (R^2 of 46.11% compared to 17.50%). The difference is significant at the 5% level (t= 2.69). Results from the annual regressions are consistent with the pooled results. In all three years, we find that US GAAP earnings have significantly more predictive ability than IFRS earnings (e.g. R^2 of 32.77% for IFRS and 88.10% for US GAAP accounting on 2002 information). The results on the Dechow et al. (1998) model provide further support for the superiority of US GAAP earnings. Based on the pooled sample, we clearly discriminate between the predictive ability of US GAAP and IFRS information (R^2 of 39.01% respectively 2.42%; t= 3.95). Remarkably, IFRS accounting data result in overall low performance on this measure (e.g., R^2 of 0.75% in 2000)[6], and considerably lower than the performances obtained in Dechow et al. (1998) applied to a US sample. Looking on a year-by-year basis, we again find consistency in all three years.

Accrual Quality. Finally, the results with regard to accruals quality are reported in Table 7. In general, these results suggest that the quality of accounting accruals does not significantly differ

[6] Alternatively, we also ran a model where the current earnings number is split up in its major components, being operating cash flow and accruals. In general, our results show that these models are associated with higher explanatory power (also for the IFRS sample). Consistent with the findings reported here, we find strong evidence for US GAAP superior predictive ability.

depending on the accounting standards applied. The Dechow and Dichev measure on the pooled sample, for example, results in R-squares of 13.23% for US GAAP observations and 11.87% for IFRS observations (t=0.14). In an attempt to capture the degree of (working capital) income smoothing, we run working capital accruals only on the current operating cash flow (model 4b). As shown in Panel B of Table 7, both sets of standards are associated with some income smoothing. However, in general, there is no significant difference between IFRS and US GAAP smoothing behavior (R^2 of 4.83% versus 0.77%; t = 0.64). Consistent with Wysocki (2004), we subtract the R-square of model 4b from the R-square of model 4a to control for any current year income smoothing effects (see Panel C of Table 7). Applying this procedure to our data, we find further evidence that there are no significant differences between the quality of IFRS and US GAAP accruals (adjusted R^2 differences of 5.97% on the pooled IFRS sample compared to 11.33% on the US GAAP observations; t = 0.66).

Based on model 4a, the year-by-year analyses are mostly consistent with the above results. Nevertheless, further analyses show interesting developments. First, we find that US GAAP accruals are qualitatively better than IFRS accruals for 2000 data (R^2 of 58.33% compared to 40.51%; t= 1.61). Moreover, we also find that the application of both standard sets is associated with some (but not significantly different) income smoothing behavior (t= 0.86). In contrast, results from 2001 show that US GAAP firms engage in significantly more income smoothing compared to IFRS firms (t= 1.64). From the large drop in IFRS model performance from 2000 to 2001 (R^2 from 27.63% to 1.65%), compared to only a small change for US GAAP firms (from 16.93% to 11.61%), we infer that not as much US GAAP but rather IFRS is causing the overall year difference in accruals quality. For 2002, we again observe no significant differences between the IFRS and US GAAP sample (t=0.72).

[Insert Table 4 till 7 about here]

5.3 SUPPLEMENTARY ANALYSIS

In this section, we further examine possible misspecification of the market-based models. First, we re-specify some models to distinguish between positive and negative news/earnings periods.

Market prices could, for example, react in different way to positive and negative earnings, while the earnings number in itself could be more timely in reflecting bad news compared to good news. Given the extreme financial conditions of our sample firms (e.g., reported losses and decreasing prices, see Table 3), we expect this re-specification to be highly relevant (see also Bernard 1994, Hayn 1995, Jan and Ou 1995, Penman 1998 and Burgstahler 1998). In this context, we apply measures as developed by Collins et al. (1999) and Basu (1997). More specifically, we test whether there are any asymmetries in the value relevance respectively timeliness of IFRS and US GAAP prepared information. The models we run on the two samples separately are the following:

Model 1': $P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 DX + \alpha_3 X_{it} * DX + \alpha_4 BV_{i,t-1}$

Model 2': $X_{it} / P_{i,t-1} = \alpha_0 + \alpha_1 RET_{it} + \alpha_2 DR + \alpha_3 RET_{it} * DR$

where DX and DR are dummies equaling one when earnings respectively returns are negative and 0 otherwise. All other variables are as previously defined. In both models, asymmetry is reflected in the significance of the interaction term (α_3). Results from running these models are presented in Table 8, with the value relevance estimates reported in Panel A. Consistent with prior research, we find a negative coefficient on the interaction term (e.g. -14.00 on IFRS earnings and -9.81 on US GAAP earnings). In other words, the more negative earnings are, the smaller the associated price reaction is.

Furthermore, the models' performance clearly increases by adding the negative/positive earnings indicator, which further supports the misspecification explanation for the low performance of more traditional and simple value relevance models. The results remain however largely similar to those from the original price/earnings models: IFRS and US GAAP earnings are equally value relevant (e.g., R^2= 16.41 versus 12.95 for the respective pooled samples). Looking at panel B, we find no evidence for asymmetric timeliness, neither in the IFRS nor in the US GAAP sub-samples (i.e., insignificant α_3's). Likewise, we again conclude on no significant differences between IFRS and US GAAP accounting data with regard to timeliness.

[Insert Table 8 about here]

Second, we also address whether firms self-select into a particular set of standards. In such case, we could wonder whether the observed attribute differences are really due to the accounting standards being applied or whether underlying firm characteristics are driving our results. In other words, a relevant question is for example whether it is the application of US GAAP that results in better earnings predictability or is it that firms with more predictable earnings happen to choose US GAAP? In correcting for self-selection biases, we use the two-stage regression procedure developed by Heckman (1976) and Lee (1978)[7]. In a first stage, we model the accounting standards choice. Taken from prior research on accounting regime choice, we model the IFRS/US GAAP choice as follows:

STAGE ONE: $IFRS/USGAAP = \alpha_0 + \alpha_1 SALES_i + \alpha_2 FLOAT_i + \alpha_3 FOREIGN_i + \alpha_4 INCSTOCK_i + \alpha_5 DEBT_i + \alpha_6 PERF_i + \alpha_7 INDUSTRY_i + \varepsilon_t$

Variable definitions as well as the results from the probit analysis are presented in table 9.

[Insert Table 9 about here]

In the second stage, we run the same earnings attribute models as in section 5.2. but now also include a selectivity correction variable. This variable is called the Mills ratio or LAMBDA and is computed using estimated values from the first-stage model (Greene 2000). More specifically, this variable measures the covariance between the accounting standards choice and the dependent variable of the earnings attribute model. Applied, for example, to the predictability attribute, this yields in the following model being estimated using OLS:

STAGE TWO: $X_{i,t+1} = \beta_0 + \beta_1 X_{it} + \beta_2 LAMBDA_{it} + \mu_{it}$

Statistical significance of the estimated coefficient on the LAMBDA variable indicates that the decision to adopt IFRS/USGAAP is interrelated with the level of earnings. If there is any

[7] This two-stage procedure has been applied in other accounting studies. See, for example, Abdel-Khalik (1990) who studies the link between audit fees and the demand for MAS; Shehata (1991) who addresses the relation between investment decisions and accounting regulation; and, Beatty et al. (2002) who investigate the relationship between interest rates charges and the exclusion of accounting changes from the calculation of covenant compliance.

correlation between the error from the probit model and the error from the earnings attribute model, then not including this correction results in inefficient and inconsistent estimates in the earnings attribute model.

[Insert Table 10 about here]

Results from this second stage are presented in table 10. In general, the estimated coefficient on the LAMBA variable for the IFRS (resp. US GAAP) sub-sample is statistically insignificant, with p-values ranging from 0.1400 to 0.6916 (resp. 0.1280 to 0.9752). This result suggests, for example, for the predictability measure, that average net income for IFRS (resp. US GAAP) firms with given measured characteristics is, ceteris paribus, not exceeding what firms would have realized under the US GAAP (resp. IFRS) method. Likewise, on all other attributes, we reach similar conclusions. In other words, our results indicate that the omitted variables that impact accounting choice are not significantly correlated with the dependent variable of our attribute models and previously reported findings are thus undistorted.

6. SUMMARY

In this study we report empirical evidence on attribute differences between US GAAP and IFRS earnings. Several attributes are studied, namely value relevance, timeliness, predictability and accruals quality. Applying previously developed metrics on publicly available data, such as reported financial statements and capital market data, we find that accounting earnings prepared in accordance with US GAAP do not significantly outperform IFRS earnings. IFRS earnings, for example, are as value relevant and timely as US GAAP earnings. Next to these similarities, our findings suggest one difference, namely that US GAAP earnings are typically better indicators of future firm performance.

Results obtained in this study may have important implications for standard setters. First, our results encourage further convergence between the two sets. Based on our study of the German New Market, we concluded that market participants do not react significantly different to IFRS or US GAAP accounting information. This suggests that some of the (remaining) technical issues underlying IFRS / US GAAP differences are perhaps too complex to be fully

captured by the investor public. To facilitate transparency in financial reporting, both the FASB and the IASB should carry on with their convergence projects (such as the Norwalk Agreement[8]) and work towards a single set of international standards. Second, with our study, we address some of the concerns (formulated typically at the time of these convergence initiatives) about IFRS turning into de facto US GAAP. As our results show, US compliant accounting information also has some desirable earnings attributes, making the move towards US GAAP beneficial for market participants involved. Inversely, this study also offers useful arguments for abandoning the SEC's reconciliation requirement, as only one of the four attributes is significantly different. Finally, our results also indicate that earnings attributes are not static measures of accounting quality. Time-series analyses within firms that apply IFRS (resp. US GAAP) might therefore provide useful insights.

[8] In September 2002, the FASB and the IASB took the first step towards convergence, committing to the development of high-quality, compatible standards. Project teams were set up and monitoring mechanisms were installed in both standards boards.

REFERENCES

Aboody, D. and Lev, B. (1999). 'The value-relevance of intangibles: The case of software capitalization.' *Journal of Accounting Research*, 36(suppl.): 161-191.

Aboody, D. and Liu, J. (2003). 'Earnings quality, insider trading, and cost of capital.' *Working Paper Series*.

Alford, A., Jones, J., Leftwich, R. and Zmijewski, M. (1993). 'The relative informativeness of accounting disclosures in different countries.' *Journal of Accounting Research*, 31(Supplement): 183-201.

Amir, E. (1996). 'The effect of accounting aggregation on the value-relevance of financial disclosures: The case of SFAS No. 106.' *The Accounting Review*, 71(4): 573-590.

Amir, E., Harris, T. and Venuti, E. (1993). 'A comparison of the value-relevance of US versus non-US GAAP accounting measures using form 20-F reconciliations.' *Journal of Accounting Research*, 31(Supplement): 230-264.

Amir, E., Kirschenheiter, M. and Willard, K. (1997). 'The valuation of deferred taxes.' *Contemporary Accounting Research*, 14(4): 597-622.

Barth, M. and Clinch, G. (1996). 'International accounting differences and their relation to share prices: Evidence U.K., Australian, and Canadian firms.' *Contemporary Accounting Research*, 13(1): 135-179.

Barth, M., Landsman, W. and Lang, M. (2005). 'International Accounting Standards and Accounting Quality'. *Working Paper Series*.

Basu, S. (1997). 'The conservatism principle and the asymmetric timeliness of earnings.' *Journal of Accounting & Economics*, 24(1): 3-37.

Beaver, W., Lambert, R. and Morse, D. (1980). 'The information content of security prices.' *Journal of Accounting and Economics*, 2(1): 3-28.

Beaver, W., Richard A and Ryan, S. (1987). 'The information content of security prices: A second look.' *Journal of Accounting and Economics*, 9(2): 139-157.

Bernard, V. (1994). 'Accounting-based valuation methods, determinants of market-to-book ratios, and implications for financial statement analysis.' *Working Paper Series*.

Bloomer, C. (1999). *The IASC-U.S. comparison project: A report on the similarities and differences between IASC Standards and U.S. GAAP*. Norwalk, Connecticut.

Burgstahler, D. (1998). 'Discussion of "combining earnings and book value in equity valuation".' *Contemporary Accounting Research,*15(3): 325-341.

Burgstahler, D. and Dichev, I. (1997). 'Earnings, adaptation and equity value.' *The Accounting Review*, 72(2): 187-215.

Brown, S., Lo, K. and Lys T. (1999). 'Use of R^2 in accounting research: measuring changes in value relevance over the last four decades.' *Journal of Accounting and Economics*, 28(2): 83-115.

Chan, K. and Seow, G. (1996). 'The association between stock returns and foreign GAAP earnings versus earnings adjusted to U.S. GAAP.' *Journal of Accounting & Economics*, 21(1): 139-159.

Cheng, C., Liu, C. and Schaefer, T. (1997). 'The value-relevance of SFAS No. 95 cash flows from operations as assessed by security market effects.' *Accounting Horizons*, 11(3): 1-15.

Collins, D., Pincus, M. and Xie, H. (1999). 'Equity valuation and negative earnings: The role of book value of equity.' *The Accounting Review*,74(1): 29-61.

Collins, D., Maydew, E. and Weiss, I. (1997). 'Changes in the value relevance of earnings and book values over the past forty years.' *Journal of Accounting and Economics*, 24(1): 39-67.

Dechow, P. and Dichev, I. (2002). 'The quality of accruals and earnings: The role of accrual estimation errors.' *The Accounting Review,* 77: 35-59.

Dechow, P., Kothari, S. and Watts, R. (1998). 'The relation between earnings and cash flows.' *Journal of Accounting and Economics*, 25(2): 133-168.

Easton, P. (1999). 'Security returns and the value relevance of accounting data.' *Accounting Horizons,*13(4): 399-412.

Eccher, E. and Healy, P. (2000). 'The role of international accounting standards in transitional economies: A study of the People's Republic of China.' *Working Paper Series*.

Ernst&Young (2002). *IAS/US GAAP comparison: A comparison between IAS and US accounting principles*.

Francis, J., Lafond, R., Olsson, P. and Schipper, K. (2003). 'Cost of capital and earnings attributes.' *The Accounting Review,* 79(4): 967-1010.

Harris, M. and Muller, K. (1999). 'The market valuation of IAS versus US-GAAP accounting measures using Form 20-F reconciliations.' *Journal of Accounting & Economics*, 26(1-3): 285-312.

Harris, T., Lang, M. and Moller, H. (1994). 'The value relevance of German accounting measures: An empirical analysis.' *Journal of Accounting Research*, 32(2), 187-210.

Hayn, C. (1995). 'The information content of losses.' *Journal of Accounting & Economics*, 20(2): 125-154.

Heckman, J. (1974). 'The common structure of statistical models of truncation, sample selection, and limited dependent variables and a simple estimator for such models.' *Annals of Economic and Social Measurement*, 5: 475-492.

Holthausen, R. and Watts, R. (2001). 'The relevance of the value-relevance literature for financial accounting standard setting.' *Journal of Accounting & Economics*, 31(1-3): 3-75.

Jan, C. and Ou, J. (1995). 'The role of negative earnings in the valuation of equity stocks.' *Working Paper Series*.

Joos, P. and Zhdanov, A. (2003). 'A closer look at the "anomalous" V-shaped earnings-equity value relation in a real options framework with investor learning.' *Working Paper Series*.

Lang, M., Raedy, J. and Yetman, M. (2003). 'How representative are firms that are cross-listed in the United States? An analysis of accounting quality.' *Journal of Accounting Research*, 41(2): 363-386.

Lang, M., Ready, J. and Wilson, W. (2005). 'Earnings Management and Cross Listing: Are Reconciled Earnings Comparable to US Earnings?' *Journal of Accounting and Economics*, forthcoming.

Leuz, C. (2003). 'IAS versus US GAAP: Information-asymmetry based evidence from Germany's new market.' *Journal of Accounting Research*, 41(3): 445-472.

Lipe, R. (1990). 'The relation between stock returns and accounting earnings given alternative information.' *Accounting Review*, 65(1): 49-72.

Milgrom, P. (1981). 'Good news and bad news: Representation theorems and applications.' *Bell Journal of Economics*, 12(2): 380-392.

Myers, J., Myers, L. and Omer, T. (2003). 'Exploring the term of auditor-client relationship and the quality of earnings: A case for mandatory auditor rotation?' *The Accounting Review*, 78(3): 779-799.

Niskanen, J., Kinnunen, J. and Kasanen, E. (2000). 'The value relevance of IAS reconciliation components: Empirical evidence from Finland.' *Journal of Accounting and Public Policy*, 19(2): 119-137.

Ohlson, J. (1995). 'Earnings, book values, and dividends in equity valuation.' *Contemporary Accounting Research*, 11(2): 661-688.

Penman, S. (1998). 'Combining earnings and book value in equity valuation.' *Contemporary Accounting Research,* 15(3): 291-324.

Pope, P. and Rees, W. (1992). 'International differences in GAAP and the pricing of earnings.' *Journal of International Financial Management and Accounting*, 4(3): 190-219.

Raonic, I., McLeay, S. and Asimakopoulos, I. (2004). 'The timeliness of income recognition by European companies: an analysis of institutional and market complexity.' *Journal of Business, Finance and Accounting*, 31(1-2): 115-148.

Vincent, L. et al. (2003). 'Evaluating Concepts-Based vs. Rules-Based Approaches to standard setting.' *Accounting Horizons*, 17(1): 73-89.

Wysocki, P. (2004). 'Assessing earnings and accrual quality: US and international evidence.' *Working Paper Series*.

TABLE 1: OVERVIEW OF ATTRIBUTE METRICS

Attribute	Model Specification	
Value relevance	Model 1a	$RET_{i,t3} = \alpha_0 + \alpha_1 X_{it}/P_{i,t-1}$
	Model 1b	$P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 BV_{i,t-1}$
Timeliness	Model 2	$X_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 RET_{it}$
Predictability	Model 3a	$X_{i,t+1} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 X_{i,t-1}$
	Model 3b	$OCF_{i,t+1} = \alpha_0 + \alpha_1 X_{it}$
Accruals Quality	Model 4a	$\Delta WC_{it} = \alpha_0 + \alpha_1 CFO_{i,t-1} + \alpha_2 CFO_{it} + \alpha_3 CFO_{i,t+1}$
	Model 4b	$\Delta WC_{it} = \alpha_0 + \alpha_1 CFO_{it}$

where RET_{it} is the market-adjusted return, X_{it} is earnings per share, P_{it-1} is the security price at end of the previous fiscal period t-1 (or the beginning of year t), BV_{t-1} is the book value of equity at the beginning of period t, OCF_{it} is the operating cash flow for firm i in fiscal year t and ΔWC_{it} is the change in non-cash working capital from year t-1 to t. All variables used in model 3a, 3b, 4a and 4b are scaled by total sales in year t.

TABLE 2: GENERAL DESCRIPTIVES ON OBSERVATIONS AND SAMPLE FIRMS

	FULL SAMPLE	IFRS	USGAAP
Panel A: General Sample Distribution (observations)			
2000	108	61	47
2001	109	57	52
2002	104	53	51
Pooled	321	171	150
Panel B: Distribution according to the country of origin (sample firms)			
Austria	6	5	1
Germany	116	65	51
Netherlands	2	1	1
Norway	1	0	1
Sitzerland	2	1	1
Israel	1	0	1
	128	72	56
Panel C: Distribution according to the date of first listing (sample firms)			
during 1997	8	5	3
during 1998	31	16	15
during 1999	89	51	38
	128	72	56
Panel D: Distribution across industries (sample firms)*			
Technology	29	15	14
Biotechnology	5	1	4
Software	22	13	9
Internet	16	6	10
Media & Entertainment	15	14	1
Telecommunications	7	3	4
IT-services	21	12	9
Medical Technology & Healthcare	5	3	2
Industry & Industrial Services	8	5	3
	128	72	56

* this classification is based on the New Market's indices

TABLE 3: DESCRIPTIVE ACCOUNTING AND CAPITAL MARKET INFORMATION

		Panel A: Full Sample			Panel B: IFRS firms compared to US GAAP firms					
					IFRS		US GAAP		Wilcoxon p-value	
CAPITAL MARKET INFORMATION		Mean	Median	*St. Dev.*	Mean	*St. Dev.*	Mean	*St. Dev.*		
Market Price	2000	23.37	14.75	*27.54*	16.76	*17.68*	31.93	*34.99*	0.0146	**
	2001	8.24	5.09	*10.91*	6.53	*6.94*	10.12	*13.86*	0.4215	
	2002	3.36	2.02	*5.13*	3.02	*4.58*	3.71	*5.68*	0.8683	
	Pooled	11.75	4.75	*19.36*	9.09	*12.94*	14.78	*24.43*	0.3825	
Market Adjusted Returns (3m)	2000	0.2140	0.0958	*0.4022*	0.2475	*0.4687*	0.1706	*0.2938*	0.5919	
	2001	-0.1525	-0.2566	*0.4105*	-0.1659	*0.4117*	-0.1375	*0.4127*	0.6320	
	2002	0.1576	0.0260	*0.3987*	0.1109	*0.2904*	0.2070	*0.4861*	0.9795	
	Pooled	0.0709	0.0116	*0.4342*	0.0663	*0.4350*	0.0762	*0.4346*	0.8785	
ACCOUNTING INFORMATION										
Earnings Per Share	2000	-0.03	0.00	*0.08*	-0.02	*0.07*	-0.04	*0.09*	0.2141	
	2001	-0.16	-0.04	*0.44*	-0.14	*0.27*	-0.19	*0.57*	0.9179	
	2002	-0.31	-0.11	*0.56*	-0.39	*0.61*	-0.23	*0.49*	0.1289	
	Pooled	-0.17	-0.02	*-0.37*	-0.17	*0.40*	-0.16	*0.45*	0.8320	
Shareholders Equity Per Share	2000	7.58	5.65	*8.82*	8.01	*10.68*	7.03	*5.62*	0.9629	
	2001	5.82	4.37	*6.90*	6.23	*0.27*	5.38	*4.96*	0.3287	
	2002	3.80	2.82	*3.33*	3.81	*2.55*	3.79	*4.01*	0.2071	
	Pooled	5.76	4.37	*6.93*	6.11	*8.24*	5.36	*5.03*	0.1766	
Total Assets ('000)	2000	239,841	76,041	*985,065*	320,824	*1,300,938*	134,735	*172,089*	0.9186	
	2001	124,866	63,132	*180,560*	129,405	*192,935*	119,891	*167,684*	0.5767	
	2002	96,449	51,251	*142,299*	91,047	*135,473*	102,063	*150,208*	0.8326	
	Pooled	154,342	63,132	*588,078*	185,800	*790,958*	118,481	*162,833*	0.7376	
Operating Cash Flow	2000	-4,660	-1,123	*36,976*	-6,506	*46,494*	-2,265	*18,716*	0.9531	
	2001	2,723	1,111	*21,302*	5,590	*24,475*	-419	*16,850*	0.0537	*
	2002	6,768	3,598	*13,018*	7,258	*12,332*	6,258	*13,800*	0.4805	
	Pooled	1,549	778	*26,215*	1,792	*32,337*	1,273	*16,813*	0.1861	
Working Capital Accruals	2000	7,443	2,603	*31,162*	8,983	*37,972*	5,445	*19,258*	0.4628	
	2001	-4,318	-1,829	*28,266*	-5,663	*31,425*	-2,817	*24,486*	0.6577	
	2002	-2,906	-1,940	*12,104*	-3,691	*14,907*	-2,090	*8,329*	0.2060	
	Pooled	-2,311	-557	*18,702*	-2,992	*21,184*	-1533	*15,419*	0.7993	

* All numbers are expressed in €, except p-values: *,**= p-value <.10, .05 respectively

TABLE 4: VALUE RELEVANCE RESULTS

Panel A: $RET_{i,t3} = \alpha_0 + \alpha_1 X_{it}/P_{i,t-1}$

	IFRS			US GAAP			
	α_0	α_1	R^2	α_0	α_1	R^2	t-statistic
t=2000	0.297	2.366	0.1358	0.229	1.586	0.2368	0.79
	(5.07)**	(3.04)**	[9.27]**	(5.59)**	(3.74)**	[13.96]**	
t=2001	-0.123	0.340	0.0483	-0.140	-0.011	0.0002	0.76
	(-2.02)**	(1.67)*	[2.79]*	(-2.29)**	(-0.10)	[0.01]	
t=2002	0.158	0.113	0.0563	0.277	0.300	0.0914	0.35
	(3.39)**	(1.74)*	[3.04]*	(3.81)**	(2.22)**	[4.93]**	
Pooled	0.098	0.180	0.0277	0.099	0.146	0.0228	0.14
	(2.73)**	(2.20)**	[4.82]**	(2.66)**	(1.86)*	[3.46]*	

Panel B: $P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 BVi_{,t-1}$

	IFRS				US GAAP				
	α_0	α_1	α_2	R^2	α_0	α_1	α_2	R^2	t-statistic
t=2000	6.337	1.915	2.100	0.1962	27.845	1.542	0.964	0.0360	1.49 *
	(1.14)	(2.48)**	(1.69)*	[6.71]**	(3.45)**	(1.38)	(0.98)	[0.82]	
t=2001	6.316	1.375	0.262	0.2303	4.182	2.069	1.313	0.3815	1.14
	(4.78)**	(3.02)**	(5.28)**	[8.08]**	(1.55)	(3.11)**	(3.00)**	[15.11]**	
t=2002	2.983	0.997	0.257	0.1661	0.489	0.752	0.817	0.3797	1.64 **
	(5.10)**	(1.47)	(1.51)	[4.88]**	(0.51)	(1.34)	(2.54)**	[14.69]**	
Pooled	7.559	1.235	0.456	0.0693	9.140	1.440	1.239	0.0788	0.17
	(5.58)**	(2.59)**	(1.82)*	[6.10]**	(2.99)**	(2.07)**	(2.82)**	[6.29]**	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

TABLE 5: TIMELINESS RESULTS

Model: $X_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 RET_{it}$

	IFRS			US GAAP			
	α_0	α_1	R^2	α_0	α_1	R^2	t-statistic
t=2000	-0.027 (-3.06)**	0.042 (3.56)**	0.18 [12.67]**	-0.048 (-3.48)**	0.027 (2.09)**	0.09 [4.38]**	0.76
t=2001	-0.143 (-3.98)**	0.076 (0.82)	0.0121 [0.67]	-0.185 (-2.35)**	0.337 (1.16)	0.0260 [1.34]	0.23
t=2002	-0.396 (-4.72)**	0.168 (1.19)	0.0270 [1.42]	-0.248 (-3.66)**	0.126 (1.75)*	0.0588 [3.06]*	0.39
Pooled	-0.182 (-5.89)**	0.100 (1.92)*	0.0214 [3.69]*	-0.173 (-4.68)**	0.102 (2.26)**	0.0335 [5.13]**	0.32

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

TABLE 6: PREDICTABILITY RESULTS

Panel A: $X_{i,t+1} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 X_{i,t-1}$

	IFRS				US GAAP				
	α_0	α_1	α_2	R^2	α_0	α_1	α_2	R^2	t-statistic
t=2000	-0.233	0.230	2.050E-06	0.0713	-0.274	0.321	4.494E-05	0.5561	4.90 **
	(-3.74)**	(1.93)*	(0.60)	[2.15]	(-2.17)**	(3.73)**	(3.82)	[27.57]**	
t=2001	-0.118	0.443	2.940E-06	0.2034	-0.099	0.310	-2.980E-06	0.4441	2.26 **
	(-1.46)	(3.63)**	(0.50)	[6.64]**	(-1.20)	(4.93)**	(-0.95)*	[19.58]**	
t=2002	-0.017	0.372	1.794E-07	0.3277	0.048	0.352	7.066E-07	0.8810	5.30 **
	(-0.28)	(4.94)**	(0.13)	[12.18]**	(1.38)	(17.72)**	(0.82)	[177.64]**	
Pooled	-0.1291	0.349	-5.000E-08	0.1750	-0.104	0.369	-1.360E-06	0.4611	2.69 **
	(-3.34)**	(5.90)**	(-0.04)	[17.40]**	(-1.81)*	(10.24)**	(-0.72)	[62.88]**	

Panel B: $OCF_{i,t+1} = \alpha_0 + \alpha_1 X_{it}$

	IFRS			US GAAP			
	α_0	α_1	R^2	α_0	α_1	R^2	t-statistic
t=2000	0.00357	-0.060	0.0075	-0.007	0.227	0.3807	4.56 **
	(0.08)	(-0.65)	[0.43]	(-0.10)	(5.26)**	[27.66]**	
t=2001	0.067	0.108	0.1079	0.067	0.170	0.4343	4.18 **
	(2.38)**	(2.53)**	[6.41]**	(1.28)	(6.20)**	[38.38]**	
t=2002	0.133	0.145	0.0894	0.057	0.114	0.5883	3.69 **
	(2.67)**	(2.24)**	[5.01]**	(2.46)**	(8.37)**	[70.01]**	
Pooled	0.063	0.078	0.0242	0.037	0.167	0.3901	3.95 **
	(2.50)**	(2.02)**	[4.10]**	(1.23)	(9.73)**	[94.67]**	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

TABLE 7: ACCRUALS QUALITY RESULTS

Panel A: $\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{i,t-1} + \alpha_2 OCF_{it} + \alpha_3 OCF_{i,t+1}$

	IFRS					US GAAP					
	α_0	α_1	α_2	α_3	R^2 / *AdjR²*	α_0	α_1	α_2	α_3	R^2 / *AdjR²*	t-statistic
t=2000	0.007	-0.520	-0.423	-0.475	0.4051 / *0.3714*	0.072	0.684	-0.103	-0.046	0.5833 / *0.5536*	1.61 *
	(0.12)	(-1.57)	(-2.27)**	(-2.73)**	[12.03]**	(2.63)**	(5.45)**	(-1.14)	(-0.56)	[19.60]**	
t=2001	0.037	0.275	-0.072	-1.175	0.3145/ *0.2742*	-0.035	0.182	0.036	-0.241	0.2302 / *0.1821*	0.77
	(0.79)	(2.22)**	(-0.42)	(-4.70)**	[7.80]**	(-1.16)	(2.44)**	(0.32)	(-1.40)	[4.79]**	
t=2002	-0.135	0.122	0.861	-0.091	0.3491 / *0.3084*	-0.052	-0.259	0.307	0.106	0.4999 / *0.4680*	1.15
	(-4.12)**	(1.86)*	(4.14)**	(-0.86)	[8.58]**	(-1.65)*	(-3.18)**	(2.01)**	(0.51)	[15.66]**	
Pooled	-0.001	0.091	-0.168	-0.382	0.1187 / *0.1022*	-0.030	-0.150	0.197	-0.080	0.1323 / *0.1143*	0.14
	(-0.02)	(1.17)	(-1.50)	(-3.70)**	[7.18]**	(-1.47)	(-4.27)**	(2.82)**	(-0.98)	[7.37]**	

Panel B: $\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{it}$

	IFRS			US GAAP			
	α_0	α_1	R^2 / *AdjR²*	α_0	α_1	R^2 / *AdjR²*	t-statistic
t=2000	-0.011	-0.699	0.2763 / *0.2636*	0.053	0.138	0.1693 / *0.1509*	0.86
	(-0.19)	(-4.66)**	[21.76]**	(1.45)	(3.03)**	[9.17]**	
t=2001	-0.038	0.144	0.0165 / *0.0020*	-0.064	0.087	0.1161 / *0.0985*	1.64 **
	(-0.78)	(0.94)	[0.89]	(-2.23)**	(2.56)**	[6.57]	
t=2002	-0.130	0.804	0.2914 / *0.2776*	-0.031	-0.164	0.3921 / *0.3797*	0.72
	(-4.00)**	(4.58)**	[0.02]	(-0.96)	(-5.62)**	[31.61]**	
Pooled	-0.021	-0.277	0.0483 / *0.0425*	-0.028	-0.025	0.0077/ *.0010*	0.64
	(-0.69)	(-2.89)**	[8.38]**	(-1.30)	(-1.07)	[3.82]*	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

Panel C: Comparing model 4a and 4b

	IFRS			US GAAP			
	Adj R² (Model 4a)	**Adj R²** (Model 4b)	**Adj R² Diff** (Model 4a-4b)	**Adj R²** (Model 4a)	**Adj R²** (Model 4b)	**Adj. R² diff** (Model 4a-4b)	**t-statistic**
t=2000	0.3714 [12.03]**	0.2636 [21.76]**	0.1078	0.5536 [19.60]**	0.1509 [9.17]**	0.4027	2.55 **
t=2001	0.2742 [7.80]**	0.0020 [0.89]	0.2722	0.1821 [4.79]**	0.0985 [6.57]	0.0836	1.81 **
t=2002	0.3084 [8.58]**	0.2776 [0.02]	0.0308	0.4680 [15.66]**	0.3797 [31.61]**	0.0883	0.62
Pooled	0.1022 [7.18]**	0.0425 [8.38]**	0.0597	0.1143 [7.37]**	0.0010 [3.82]*	0.1133	0.66

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

TABLE 8: BAD NEWS / GOOD NEWS DISTINCTION

Panel A: $P_{it} = \alpha_0 + \alpha_1 X_{it}/P_{i,t-1} + \alpha_2 DX_{it} + \alpha_3 X_{it}/P_{i,t-1} * DX_{it} + \alpha_4 BV_{i,t-1}$

	IFRS						US GAAP						
	α_0	α_1	α_2	α_3	α_4	R^2	α_0	α_1	α_2	α_3	α_4	R^2	t-statistic
t=2000	7.139624	8.36339	-7.489663	-7.238474	2.15893	0.2790	26.87566	18.20319	3.842481	-18.62698	-0.647245	0.1172	1.30 *
	(1.17)**	(0.82)	(-1.36)	(-0.69)	(1.65)*	[5.13]**	(4.94)**	(2.42)**	(0.30)	(-2.37)**	(-0.49)	[1.39]	
t=2001	1.433	17.772	1.991	-17.295	0.23837	0.6094	4.671022	8.664767	-2.429399	-7.868353	0.917015	0.4607	1.36 *
	(0.48)	(2.25)**	(0.64)	(-2.19)**	(7.29)**	[20.28]**	(1.45)	(1.97)**	(-0.67)	(-1.77)**	(2.29)**	[10.04]**	
t=2002	1.067	13.074	0.601	-13.012	0.02090	0.7496	1.30118	5.096886	-0.802512	-5.342495	0.260949	0.6395	1.40 *
	(1.10)	(3.59)**	(0.59)	(-3.55)**	(0.36)	[35.17]**	(1.47)	(3.96)**	(-1.04)	(-3.51)**	(1.74)*	[20.40]**	
Pooled	6.088872	14.28744	-2.221054	-14.00185	0.348321	0.1641	10.0082	9.754867	-1.909388	-9.806011	0.524603	0.1295	0.49
	(2.76)**	(3.09)**	(-0.99)	(-3.01)**	(1.48)	[6.48]**	(3.23)**	(2.61)**	(-0.47)	(-2.54)**	(1.22)	[5.39]**	

Panel B: $X_{it} = \alpha_0 + \alpha_1 RET_{it} + \alpha_2 DR_{it} + \alpha_3 RET_{it} * DR_{it}$

	IFRS					US GAAP					
	α_0	α_1	α_2	α_3	R^2	α_0	α_1	α_2	α_3	R^2	t-statistic
t=2000	0.0078	0.01563	-0.00713	0.15701	0.2563	-0.00331	0.00259	-0.07530	0.03755	0.2375	0.14
	(0.39)	(0.92)	(-0.23)	(1.85)*	[6.55]**	(-0.17)	(0.17)	(-1.55)	(0.25)	[4.47]**	
t=2001	-0.169	0.120	-0.025	-0.408	0.0225	-0.154	0.330	-0.207	-0.758	0.0415	0.22
	(-2.26)**	(0.93)	(-0.20)	(-0.69)	[0.41]	(-0.74)	(0.50)	(-0.69)	(-0.67)	[0.69]	
t=2002	-0.349	0.461	-0.359	-0.541	0.1506	-0.180	0.106	-0.227	-0.040	0.1008	0.41
	(-2.16)**	(0.97)	(-1.65)	(-1.08)	[2.90]**	(-1.78)*	(0.69)	(-1.40)	(-0.22)	[1.76]	
Pooled	-0.18835	0.13294	-0.02436	-0.12945	0.0274	-0.10123	0.05077	-0.13787	0.02498	0.0515	0.51
	(-3.22)**	(1.66)*	(-0.32)	(-0.96)	[1.57]	(-1.73)	(0.77)	(-1.65)*	(0.24)	[2.64]*	

Note. T-statistics on the parameters are presented between ( ) while the overall model's F-test is mentioned between [ ]; *,**= p-value <.10, .05 respectively

TABLE 9: FIRST STAGE HECKMAN RESULTS

Variable		Coefficient	Standard Error	Chi-Square	p < (ChiSQ)
Intercept		-1.5045	0.8608	3.05	0.0805*
SALES	*= natural logarithm of total sales* $_t$	0.0263	0.0744	0.13	0.7237
FLOAT	*= 100 - percentage of shares held by known shareholders at time of IPO*	0.0114	0.0041	7.57	0.0059**
FOREIGN	*= 1 if the firm is cross-listed on a foreign equity market; 0 otherwise*	0.6672	0.2085	10.24	0.0014**
INCSTOCK	*= 1 if common stock doubles between year t and year t+1*	-1.0329	0.2311	19.97	<.0001**
DEBT	*= total long-term debt* $_t$ */ common equity* $_t$	0.0942	0.0422	4.99	0.0255**
PERF	*= net operating profit* $_t$ */ total sales* $_t$	-0.2987	0.1665	3.22	0.0728*
INDUSTRY	*= 1 if activities are either telecom, IT, software, internet, medical technology or biotech; 0 otherwise*	0.5221	0.1717	9.24	0.0024**

*,**= p-value <.10, .05 respectively

TABLE 10: SECOND STAGE POOLED HECKMAN RESULTS

Variable	IFRS Coefficient	IFRS Standard Error	IFRS t-value	IFRS p > |t|	USGAAP Coefficient	USGAAP Standard Error	USGAAP t-value	USGAAP p > |t|
Panel A: Value Relevance Model $RET_{it} = \alpha_0 + \alpha_1 X_{it}/P_{i,t-1}$								
Intercept	0.1939	0.1029	1.88	0.0611	0.1223	0.0912	1.34	0.1824
X_t/P_{t-1}	0.1223	0.0634	1.93	0.0553*	0.1491	0.0761	1.96	0.0523*
LAMBDA	-0.0945	0.0809	-1.17	0.2442	0.0030	0.0975	0.03	0.9752
	R^2	*0.0274*	*[2.48]**		*R^2*	*0.0349*	*[2.15]*	
Panel B: Value Relevance Model $P_{it} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 BV_{i,t-1}$								
Intercept	8.5011	3.2483	2.62	0.0097**	8.0314	3.6116	2.22	0.0282
X_{it}	0.9072	0.2490	3.64	0.0004**	0.8431	0.3359	2.51	0.0135**
BV_{t-1}	0.4869	0.1345	3.62	0.0004**	1.2217	0.3045	4.01	0.0001**
LAMBDA	-1.2687	2.4632	-0.52	0.6072	-2.7148	3.6647	-0.74	0.4604
	R^2	*0.095*	*[5.67]***		*R^2*	*0.1376*	*[6.01]***	
Panel C: Timeliness Model $X_{it}/P_{i,t-1} = \alpha_0 + \alpha_1 RET_{it}$								
INTERCEPT	-0.3043	0.0880	-3.46	0.0007**	-0.2962	0.0960	-3.09	0.0025**
RET_t	0.1012	0.0598	1.69	0.0928*	0.1256	0.0958	2.71	0.0077**
LAMBDA	0.0888	0.0642	1.38	0.1686	0.2601	0.1001	1.25	0.2121
	R^2	*0.0291*	*[2.42]**		*R^2*	*0.0759*	*[4.68]***	

Panel D: Predictability Model $X_{i,t+1} = \alpha_0 + \alpha_1 X_{it} + \alpha_2 X_{i,t-1}$								
INTERCEPT	-0.2117	0.1267	-1.67	0.0967*	-0.2833	0.1081	-2.62	0.0100**
X_t	0.3059	0.0636	4.81	<.0001**	0.2537	0.0509	4.99	<.0001**
X_{t-1}	-8.8930E-02	7.0790E-02	-1.26	0.2109	-0.0907	0.0546	-1.66	0.0998*
LAMBDA	0.0404	0.1016	0.40	0.6916	0.1841	0.1201	1.53	0.1280
	R^2	*0.1336*	*[8.17]***		*R^2*	*0.2363*	*[11.66]***	
Panel E: Predictability Model $OCF_{i,t+1} = \alpha_0 + \alpha_1 X_{it}$								
INTERCEPT	-0.0527	0.0760	-0.69	0.4891	-0.0340	0.0440	-0.77	0.4414
X_t	0.1180	0.0372	3.18	0.0018	0.0484	0.0136	3.56	0.0005
LAMBDA	0.0903	0.0609	1.48	0.1400	0.0568	0.0457	1.24	0.2164
	R^2	*0.0766*	*[6.42]***		*R^2*	*0.1458*	*[10.07]***	
Panel F: Accruals Quality Model $\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{i,t-1} + \alpha_2 OCF_{it} + \alpha_3 OCF_{i,t+1}$								
INTERCEPT	0.0441	0.1274	0.35	0.7297	-0.0276	0.0478	-0.58	0.5649
OCF_{t-1}	0.0125	0.1052	0.12	0.9056	0.0886	0.0586	1.51	0.1334
OCF_t	-0.0820	0.1532	-0.54	0.5932	0.1515	0.0640	2.37	0.0198**
OCF_{t+1}	-0.2059	0.1390	-1.48	0.1406	-0.0389	0.1104	-0.35	0.7254
LAMBDA	-0.0178	0.1027	-0.17	0.8629	0.0198	0.0494	0.40	0.6897
	R^2	*0.0232*	*[0.87]*		*R^2*	*0.1831*	*[6.17]***	
Panel G: Accruals Quality Model $\Delta WC_{it} = \alpha_0 + \alpha_1 OCF_{it}$								
INTERCEPT	0.0250	0.1186	0.21	0.8332	-0.0501	0.0427	-1.17	0.2437
OCF_t	-0.1617	0.1209	-1.34	0.1830	0.2105	0.0459	4.59	<.0001**
LAMBDA	-0.0065	0.0961	-0.07	0.9464	0.0352	0.0462	0.76	0.4484
	R^2	*0.0112*	*[0.93]*		*R^2*	*0.1777*	*[12.75]***	