DOES MANDATORY IFRS ADOPTION IMPROVE THE INFORMATION ENVIRONMENT?

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ABSTRACT

The paper examines the effects of mandatory International Financial Reporting Standards ('IFRS') reporting on a firms' information environment, specifically on analysts forecast accuracy, following, disagreement and volatility of revisions. We investigate not only those firms that mandatorily adopted IFRS, but also include those firms that voluntarily adopted IFRS earlier and those yet to adopt IFRS. Consistent with the existence of externalities we find that, during the mandatory transition period to IFRS, the largest improvement in the information environment are for those firms that voluntarily adopt IFRS earlier. For firms mandatorily adopting IFRS, there is also an improvement, but this is limited to non-financial firms, consistent with the controversy surrounding fair values. Furthermore, we document a learning curve during IFRS adoption. We also ascertain that the change in transparency is proportional to firm-specific differences between IFRS and local GAAP, suggesting IFRS is the causal mechanism of the improvement.

JEL Classification: M41, G14, G15.

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1. INTRODUCTION

According to proponents of International Financial Reporting Standards (IFRS), publicly traded companies must apply a single set of high quality accounting standards, for the preparation of consolidated financial statements, to contribute to better functioning capital markets (Quigley [2007]). IFRS have the potential to facilitate cross-border comparability and increase reporting transparency, enabling stakeholders to understand the financial results of entities globally. Moreover, IFRS adoption could decrease information costs, thereby increasing the liquidity, competition and efficiency in the markets (Ball [2006]). Corporations might also benefit by reducing information asymmetry, enabling them to make more efficient investment decisions, and thus lowering their cost of capital (Choi and Meek [2005]). Investors may also benefit as it could lead to more-informed valuation of equity markets reducing the risk of adverse selection for the less-informed investors.

All the above benefits rely on the presumption that mandatory IFRS adoption provides superior information to market participants compared to previous accounting regimes. However, there is little empirical evidence that this is the case. Moreover, while all of the above provide a persuasive argument for IFRS adoption, the compliance costs associated with such a transition should not be neglected. It has been suggested that the incremental cost of changing from domestic GAAP to IFRS may have been significant for some firms under this mandatory setting (ICAEW [2007]). Prior research finds that firms that voluntarily adopt IFRS tend to be larger and are therefore able to benefit from economies of scale.[1] In addition to these direct costs, other indirect costs may also be incurred making investors worse off. Ball [2006] notes that mark-to-model accounting could add volatility to financial statements in the form of both good and bad information the latter consisting of noise arising from inherent estimation error and managerial manipulation. The ICAEW [2007] reports that users are concerned with the subjectivity of

[1] See Harris et al. [1999], Leuz et al. [2000], Ashbaugh [2001], Tarca [2004], Cuijpers and Buijink [2005].

fair values in the absence of active and liquid markets, the volatility that fair value could introduce in reported income, and a possible move towards much greater use of fair values.

Furthermore, whether harmonisation will actually be achieved is also currently up for debate. Many argue that the same accounting standards can be implemented very differently and in the absence of suitable enforcement mechanisms, real convergence and harmonisation is infeasible, resulting in diminished comparability (Ball [2006]). Cultural, political and business differences may also continue to impose significant obstacles in the progress towards this single global financial communication system, since a single set of accounting standards cannot reflect the differences in national business practices arising from differences in institutions and cultures (Armstrong et al. [2007]). Soderstrom and Sun [2007] argues that cross-country differences in accounting quality are likely to remain following IFRS adoption because accounting quality is a function of the firm's overall institutional setting, including the legal and political system of the country where the firm resides.

This study provides evidence on whether adoption of IFRS improves the information environment for firms in countries where IFRS is legally required. Specifically, we consider how forecast accuracy, analyst following, analyst disagreement and volatility of forecast revisions change during the period around the mandatory adoption of IFRS in the EU. We provide evidence that the information environment improved on average for non-financial firms. This is true not just for mandatory adopters but also for firms that voluntarily adopt IFRS earlier. We find that the largest effects on the information environment appear for non-financial firms that have voluntarily adopted IFRS prior to the mandatory requirement. For these firms, forecast accuracy and analyst agreement increase more and revision volatility decreases more relative to firms that adopt IFRS mandatorily. We also document that for financial firms there appears to be no improvement in their information environment. This may be, in part, attributed to the potential estimation errors and managerial bias arising from the application

of fair value accounting (see Muller et al. [2008]) and the increased volatility of earnings, relative to historical based measures (see Barth [1994] and Barth et al. [1995]). Moreover, we also document learning effects by showing that mandatory adopters from industries with high proportions of voluntary adopters, benefit more from IFRS adoption. Finally, we find that the earnings reconciliation component between local GAAP and IFRS is associated with the change in forecast accuracy, dispersion and revision volatility. For firms with positive reconciliation (i.e. IFRS earnings are greater than local GAAP earnings for the same fiscal period), the information environment improves, with the improvement increasing in the magnitude of the earnings reconciliation. However, for firms with negative reconciliations, the information environment worsens, although this latter effect is small in economic terms.

This paper makes a number of contributions to the existing literature. First, our study contributes to the literature on the consequences of disclosure by examining the effect of mandatory IFRS adoption (Daske et al. [2008], Horton and Serafeim [2009],) on analysts (Asbaugh and Pincus [2001], Wang [2008]) and thus on the information environment (Lang et al. [2003]). Moreover, we contribute to the literature which documents that the extent to which GAAP differs between countries or another reporting regime (Bae et al. [2008]; Guan et al. [2006]; Ashbaugh and Pincus [2001]) determines forecast accuracy. However, unlike previous research, we capture the actual differences between GAAP, on a firm specific basis rather than employing a country-wide measure.

Furthermore, our results contribute to the literature on disclosure externalities (Foster [1980], Leuz and Wysosci [2008]). By expanding our focus, beyond merely those firms that mandatorily adopt IFRS, to include those firms that voluntarily adopt IFRS early and those yet to adopt IFRS, we find the existence of externalities. To our knowledge this study, along with Daske et al. [2008], is the first to consider externalities of IFRS on firms that have previously applied or not yet applied IFRS.

The rest of the paper is organized as follows. The next section presents a literature review motivating this study and the hypotheses we test. Section 3 outlines the research design. Section 4 describes our sample selection and presents descriptive statistics. Section 5 presents and discusses the results. Finally, section 6 concludes.

2. LITERATURE REVIEW AND MOTIVATION

2.1. Background: IFRS in Europe

The European Union requires publicly traded companies (with certain exceptions) to present consolidated financial statements in conformity with IFRS for each financial year starting on or after 1 January 2005. Other countries with prominent capital markets, such as Australia, Hong Kong, Singapore and South Africa, have also decided to adopt IFRS or have already adopted an accounting regime that is essentially equivalent to IFRS. The SEC has also now scheduled a timeline of transition to IFRS for US firms that want to start reporting under IFRS.

While mandatory adoption of IFRS was widespread in 2005 there are still firms within the EU that are entitled to follow alternative accounting standards. For example, in the UK, companies listed in the Alternative Investment Market (AIM) are not subject to the EU IAS Regulation. The AIM has adopted a rule that requires AIM firms to submit IFRS financial statements for periods beginning on or after 1 January 2007, although voluntary adoption is allowed. Swiss firms[2] that are not multinationals are also exempt from IFRS compliance. These companies may continue to use Swiss GAAP, or they may choose IFRS or US GAAP (Deloitte [2008]). In addition, the IAS Regulation is only applicable to

[2] Switzerland is not a member of the EU and therefore is not subject to the EU IAS Regulation. The Swiss Foundation for Accounting and Reporting publishes accounting standards. Compliance with Swiss GAAP is required for all companies, however compliance with IFRS ensures compliance with Swiss GAAP and many large Swiss companies have, for a number of years, followed IASs/IFRS. However starting with annual reports for 2005 and interim reports for 2006, most Swiss companies whose equity shares are listed on the main board of the Swiss Exchange are required to prepare their financial statements using either IFRS or US GAAP. Swiss GAAP will no longer be permitted.

consolidated accounts and many investment trusts that only publish parent accounts are by their very nature exempt.

Companies reporting under IFRS can be split into voluntary and mandatory adopters. The first group includes all the companies that adopted IFRS before 2005, while the latter group was forced by the EU to adopt IFRS. As a result, currently in the EU there are three distinct groups of firms that exhibit different attitudes towards IFRS: 'non–adopters' that exploit the exemptions and choose not to report under IFRS; 'mandatory adopters' that only adopt when they are forced to comply; and 'voluntary adopters' that choose to comply with IFRS in the period before the regulatory rules demanded IFRS adoption.

Whilst earlier research on 'voluntary' adopters has provided valuable insights of the impact of IFRS disclosure, these results may not be generalisable in a mandatory setting (Horton and Serafeim [2009]). We expect any effects from IFRS mandatory adoption to be different from those documented for voluntary IFRS adopters (Asbaugh and Pincus [2001]; Bae et al. [2008]; Guan et al. [2006]), since the former group is essentially *forced* to adopt IFRS, compared to the latter that *chooses* to. For example, past research documents that the decision to voluntarily adopt IFRS reporting is only one element of a broader strategy that increases a firm's overall commitment to transparency (Daske et al. [2008]). Therefore, as Leuz and Verrecchia [2000] note the effects from voluntary IFRS adoption are likely to reflect differences in the incentives for credible reporting, the circumstances that led to the adoption of IFRS in the first place, and the entire commitment strategy to transparency. Along with voluntary IFRS adoption, firms may also be seeking to cross-list in a stricter regime, to improve corporate governance, change ownership structures, or to raise additional capital. Thus, the effects around voluntary IFRS adoptions are likely to be larger but cannot be attributed to IFRS alone. Moreover, while under a mandatory setting firms are more likely to be affected by reporting externalities

i.e. disclosure by one firm being useful in valuing other firms through intra-industry information transfers, under a voluntary setting there are fewer firms disclosing and therefore such externalities may be moderate. Indeed positive externalities are often used as a rational in favor of disclosure regulation.

This latter point may also be relevant for firms that have already voluntarily switched to IFRS prior to the mandate or choose to continue reporting under local GAAP. We would not expect to observe a significant change in their transparency around the year IFRS reporting becomes mandatory, unless the widespread IFRS adoption further increases their commitment to transparency or provides positive (or negative) externalities to these firms.

2.2. Information environment and research analysts

Our approach follows prior research by Lang and Lundholm [1996], Healy et al. [1999], Gebhardt et al. [2001] and Lang et al. [2003] and uses the characteristics of analyst forecasts as a proxy for the information environment. In particular, we focus on four measures: the accuracy of analyst forecasts, the number of analysts following the firm, dispersion of forecasts and volatility of revisions. These previous studies suggest inter alia, that having more analysts with more accurate forecasts, lower forecast dispersion and lower volatility of revisions indicates a firm with better information environment.

Similar to this prior literature, we view the analyst variables as indicative of, but not necessarily the cause of, changes in a firm's information environment. Brennan and Hughes [1991] provide evidence that analysts reduce information asymmetry between investors and managers. Greater coverage by analysts is associated with higher level of efficiency in stock prices (Barth and Hutton [2000], Elgers et al. [2001]) with improved liquidity (Brenman and Tamarowski [2000]), and is negatively related to information asymmetry between firms and investors (Brennan and Subrahmanyam [1995], Houston et al. [2006]). Consequently analyst coverage has been used to proxy for the richness of a firm's

information environment (Xue [2003], Louis and Robinson [2005]). Findings that suggest that analyst forecast dispersion measures uncertainty and information asymmetry in the capital markets include evidence that forecast dispersion increases surrounding earnings announcements (Brown and Han [1992]), corporate restructurings (Lopez and Clement [2000]), and changes in accounting methods (Elliott and Philbrick [1990]) and decreases when management discloses additional confirming forecasts (Clement et al. [2003]).

Our four measures are not intended to be mutually exclusive. For example, forecasts for a given firm may be more accurate because there are more analysts following the firm. Similarly, we do not believe using both of these two measures is entirely redundant: forecasts may be accurate because a firm discloses more without more analysts following it (Lang et al. [2003]).

2.2.1. Firms adopting IFRS mandatorily

The effect of IFRS mandatory adoption on firms' information environment is not clear ex ante. On the one hand, IFRS are considered a high quality set of standards providing valuable information to investors (Ashbaugh and Pincus [2001]). Barth et al. [2008] find that firms' reporting quality increases, since IAS numbers exhibit lower earnings management relative to local GAAP. Therefore, this higher quality accounting regime could make reported earnings less noisy, improving analysts' forecast accuracy and lowering the level of dispersion.

Furthermore, if IFRS adoption improves the overall disclosure level of firms then accuracy may improve and forecast dispersion may decrease. The latter assumes however that all analysts interpret the new disclosure in the same way (Barron et al. [1998]). If analysts interpret differently additional public information, it could either increase or decrease the dispersion of forecasts (Harris and Raviv [1993], Kandel and Pearson [1995]). However, Lang and Lundholm [1996] find that analysts' absolute forecast

errors are smaller and less dispersed for firms with higher and more informative levels of disclosure. Ashbaugh and Pincus [2001] find that voluntarily switching to IAS typically increases a firm's level of disclosure and reduces the absolute forecast errors. Wang et al. [2007] examine the effect of mandatory IFRS adoption, only on the adopting firms, and find that during IFRS adoption earnings forecast errors decrease.[3]

However, a change in measurement methods may also impair analysts' ability, if some items of IFRS earnings are more difficult to predict relative to local GAAP (see Brown [1983], Elliott and Philbrick [1990]). In low quality reporting regimes earnings are more likely to be smoothed thereby making them easier to predict. For example, Ball et al. [2006] finds that the demand for timely incorporation of economic income into accounting income is lower in code law countries (e.g. France, Germany) relative to common law countries (e.g. UK, USA). Since the former countries have a greater incentive to reduce volatility at the expense of timeliness, firms may use accounting methods that smooth accounting income and incorporate economic income gradually over several periods. Therefore, a plausible example that would contribute to lower forecast accuracy concerns earnings volatility (Ashbaugh and Pincus [2001]). This effect is probable under the IFRS 'fair value' approach, which aims to incorporate more timely information about economic gains and losses on financial instruments etc. As a result, earnings may become more volatile[4] and hence more difficult to forecast, despite the increase in the informativeness of earnings (Ball [2006]). In addition, analysts may now need to update their beliefs

[3]Whether IFRS improves disclosure and lowers information asymmetry is debatable. Leuz and Verrecchia [2000] examine German firms that adopted IAS or U.S. GAAP and find a decrease in spreads and an increase in turnover around adoption, compared to German GAAP firms. Cuijpers and Buijink [2005] do not find significant differences between local GAAP and IFRS firms in the EU. Daske [2006] examines voluntary IAS adoption by German firms and finds that IFRS firms exhibit even higher cost of equity capital than local GAAP firms. Daske et al. [2008] find that, on average, market liquidity and equity valuations increase around the introduction of mandatory IFRS in a country. However, these market benefits exist only in countries with strict enforcement regimes and institutional environments that provide strong reporting incentives.

[4] As is the case with IAS 40 Investment Properties, which requires the changes in fair value to go through the income statement (if fair values are recognized in the balance sheet) which would potentially introduce substantial volatility due to the cyclical nature of the real estate industry (see Muller et al. [2008])

about future earnings more frequently because of changes in fair values, increasing the volatility of forecast revisions.

Similarly a change in measurement methods may also impair analysts' ability if it is subject to estimation errors and/or managerial bias as could be the case with fair values. Muller et al. [2008] find that the adoption of IAS 40 *Investment Properties*[5], does not eliminate the previously documented differences in information asymmetry between firms choosing fair valuation vs. historical cost of investment properties. Muller et al. [2008] suggest that this is consistent with the market having concerns regarding the implementation of fair values (see also Danbolt and Rees [2008] and Dietrich et al. [2001]).

Moreover, in the beginning it might be harder for analysts to agree and forecast accurately just because they have limited experience with IFRS and because of the break in the historical time-series of earnings. Acker et al. [2002] find that the implementation of the UK Financial Reporting Standard 3 impairs analyst forecasting ability for UK firms, in the first year of adoption, but that in the following years forecast accuracy improves. A similar learning effect could take place in the first years of IFRS reporting, leading initially to larger forecast errors. Cuijpers and Bujink [2005] find that uncertainty among analysts and investors is higher for firms using IAS or US GAAP than for firms using local GAAP. They compare early and late adopters and find some evidence that the benefits from IFRS disclosure, take time to materialize.

Finally, if there is a strengthening of an enforcement regime and/or additional public scrutiny these institutional factors could ultimately alter a firm's reporting incentives (Daske et al. [2008]). For example, if mandatory IFRS adoption requires the disclosure of new items in a timelier manner relative to previous local GAAP and therefore firms are not delaying disclosure, market expectations are going

[5] IAS 40 requires either the fair values to be disclosed in the footnotes or to be recognized on the balance sheet and all changes in values through the income statement.

to be revised more smoothly and with less extreme realizations thereby reducing revision volatility. Horton and Serafeim [2009] find that firms delay the communication of their 'bad news' (i.e. captured by a negative reconciliation adjustment reflecting that a firm's IFRS earnings is lower compared to its UK GAAP earnings) until they first comply with IFRS. In contrast, firms with 'good news' (captured by a positive reconciliation adjustment) appear to have informed the market prior to IFRS adoption. Thus, overall whether forecast accuracy, dispersion and revision volatility improves or deteriorates following IFRS remains an empirical question. This leads to our first hypothesis (which is non directional):

H_{a1}: *IFRS adoption affects analyst earnings forecast accuracy, dispersion and revision volatility for firms adopting IFRS mandatorily.*

Analyst following can also be related directly to IFRS adoption for several reasons. First, the extent to which IFRS adoption increases the quantity, comparability and quality of information available to the market, should similarly reduce the cost of following a firm, which could lead to increased coverage by investment analysts. Bae et al. [2008] find that the extent to which accounting standards differs across countries is negatively related to foreign analyst following, suggesting that differences in accounting standards impose costs on foreign financial analysts.

Second, adoption of IFRS widens the potential investment base of a firm, by attracting foreign institutional investors (Covrig et al. [2007]). Therefore, IFRS compliance could be associated with increased analyst activity because analysts are likely to focus on firms that investors find interesting and investors are more likely to consider firms followed by analysts. Cuijpers and Buijink [2005] find an increase in analyst following around voluntary adoption of IFRS, but the effect is not robust to controls for self selection. Covrig et al. [2007] document that foreign mutual fund ownership is significantly higher for voluntary IFRS adopters compared to local GAAP firms and that the difference in mutual

fund holdings increases for firms in poor information environments and with low visibility, suggesting that IFRS reporting can help firms attract foreign institutional investment.

The previous arguments suggest that a firm's disclosures and the information produced by analysts complement each other. Lang and Lundholm [1996], Healy et al. [1999] and Hope [2003] find that, for U.S. firms, increased disclosure is associated with higher analyst following. However, as Lang and Lundholm [1996] note, if extra disclosure levels the playing field among analysts it could reduce any one analyst's competitive advantage, which would lower the incentives to cover a firm. Tong [2004] finds that although disclosure standards enhance forecast accuracy directly, at the same time they also reduce the number of analysts per stock, indirectly increasing forecast errors (which serves as a proxy for private investment in information). Instead of complementing this private information, the public information resulting from increased disclosure and transparency crowds out private information. As public information becomes more accurate, the need for costly investment in the acquisition of private information declines.

H*$_{b1}$: Mandatory IFRS adoption affects analyst following.*

2.2.2. Firms adopting IFRS voluntarily

The mandatory adoption of IFRS may also have an effect on voluntary adopters. The increased focus on IFRS can have positive externalities on these firms and lead to superior forecasting ability. Before the mandatory adoption, these firms are the outliers in the economy but after they are the leaders with an established record of IFRS numbers towards which analysts can evaluate the impact of IFRS. Disclosure theory suggests that an increase in mandatory disclosure is paralleled by an increase in the incentives to voluntary disclosure – i.e. there is a 'race to the top' (Dye 1986; 1990). Therefore, if the level of disclosure increases for all firms following mandatory adoption, voluntary adopters have an

incentive to disclose incrementally more to continue to differentiate themselves. Therefore, this incremental disclosure has the potential to lead to better forecasts.

In addition, following the mandatory adoption there is now a large industry pool in which intra-industry information transfers could take place providing additional information and hence an improvement in the information environment (Ramnath [2002]). Therefore, these voluntary firms have the potential to be used as guides in navigating through the IFRS transition. Alternatively, if the transition to IFRS impairs forecast accuracy because of greater inherent earnings volatility or requires some form of analyst learning then we might again detect a relative improvement in the information environment of these voluntary adopters. Therefore, we predict an improvement in the information environment for voluntary adopters of IFRS. Our hypothesis is therefore the following:

H*$_{c1}$: Forecast errors, dispersion and revision volatility decrease more for voluntary adopters of IFRS compared to mandatory adopters during the mandatory transition period.*

The effect on analyst following for these firms is ambiguous. On the one hand, analyst following may increase as more analysts will try to gather information about IFRS and therefore study firms that have already been reporting under IFRS. On the other hand, the public information (which potentially will have increased overtime) could crowd out private information. Therefore, analyst following may decline, certainly relative to mandatory adopters, as the public information becomes more accurate and the need for costly investment in the acquisition of private information decreases. In addition, the demand for information intermediation will be higher for mandatory adopters of IFRS, where analysts need to ensure that they analyze firm fundamentals in a way that guarantees the continuity of the evaluation of corporate performance over time. As a result we adopt the following non-directional hypothesis:

H*$_{d1}$: IFRS adoption affects analyst following for voluntary adopters of IFRS.*

2.2.3. Firms not reporting under IFRS

The mandatory transition to IFRS may also have externalities for firms that choose not to report under IFRS. Specifically, we may detect a relative improvement in the information environment for these non-IFRS firms. Prior research would suggest that information from early earnings announcements in the industry may be useful in updating earnings expectations of subsequent announcers (Freeman and Tse [1992]). This suggests that there is a possibility that the disclosure of IFRS by mandatory and voluntary adopters could transfer information that is relevant to non-IFRS adopters. However, it has been noted that the information contained in early announcements is not fully exploited by investors, suggesting that if there is an improvement in their information environment it could potentially be less compared to mandatory and voluntary adopters (Ramnath [2002]).

Alternatively, we might detect a relative improvement in the information environment of firms reporting under local GAAP if IFRS have an adverse effect on the information environment for the reasons discussed above. Our fifth (non directional) hypothesis is therefore the following:

H*$_{e1}$: IFRS adoption affects analyst earnings forecast accuracy, dispersion and revision volatility for firms not adopting IFRS.*

It is probable that fewer analysts are going to follow these firms because analysts will focus on understanding IFRS and therefore this will shift the centre of attention away from companies that report under local GAAP. Similarly, if the adoption of IFRS causes increased institutional investors' interest then this will also shift analysts' attention away from non-adopters. On the other hand, with the vast majority of companies using IFRS, the need for information intermediation for non-adopters may rise. Financial statements under local GAAP will not be readily comparable thereby increasing the demand for analyst services. The hypothesis is as follows (non-directional):

H*$_{f1}$: IFRS adoption affects analyst following for firms not adopting IFRS.*

3. RESEARCH DESIGN

To investigate the effect of IFRS on information environment we test for differences in analyst variables before and after IFRS mandatory compliance in 2005 for all firms (mandatory, voluntary and non-adopters). I/B/E/S reports twelve consensus forecasts each year for a firm. We calculate mean values for all dependent variables by firm-year. Since we have two fiscal years before and two fiscal years following 2005 for each firm, we calculate the mean value[6] for all dependent variables before and after 2005 by calculating the average across the two years.[7] We follow the same process, for some of the control variables, e.g. forecast horizon, new forecasts and revision optimism. To test for the effect of IFRS we adopt the following research design:

$$IE_{it} = \beta_0 + \beta_1 AFTER_t + \sum_{j=2}^{N} \beta_j controls + \varepsilon_{it} \quad (1)$$

We define IE_{it} (*'Information environment')* as either the forecast error, forecast dispersion, analyst following or volatility of revisions for firm *i* and time period *t*. The definition of these variables follows Lang and Lundholm [1996]. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. *AFTER* is an indicator variable that captures the period after mandatory IFRS adoption. It takes a value of 1 for the period after 2005

[6] Following Bertrand et al. [2004] we compute the mean value over two years rather than investigating the individual years. Bertrand et al. [2004] find that because of serial correlation conventional differences-in-differences standard errors may grossly understate the standard deviation of the estimated treatment effects, leading to serious overestimation of t-statistics and significance levels. They suggest, for scenarios where laws have passed at the same time for all the samples, that simple averaging of the data, i.e. before and after, and therefore ignoring the time-series information when computing standard errors, works well, especially for samples above 50. We did however run the models year by year and obtained similar results to those reported in the paper, but with higher t-statistics.

[7] It should be noted that none of the voluntary firms in our sample adopt IFRS in 2004. All voluntary adopters therefore adopt IFRS prior to 2004.

and 0 otherwise. For example, for a firm from the mandatory adopter sample *AFTER* captures the date the firm first reported under IFRS, whilst for the 'voluntary' and non-adopters *AFTER* captures the date the firm would have reported under IFRS if they had either waited for the mandatory requirement (i.e. not adopted early) or the firm had not taken the exemptions available to them and instead applied IFRS. Each firm enters the regression only twice (before and after). Previous research suggests various factors that might affect the analyst variables and therefore a number of control variables have also been included.[8]

The above research design provides insights for the individual groups but does not model simultaneously the effect of IFRS on the three groups. To examine the effect of IFRS on the three groups, in relative terms, we adopt the following research design that employs multiplicative dummies:

$$IE_{it} = \beta_0 + \beta_1 AFTER_t + \beta_2 AFTER_t * Voluntary + \beta_3 AFTER_t * Non\text{-}adopters + \sum_{j=4}^{N} \beta_j controls + \varepsilon_{it} \quad (2)$$

β_1 captures the effect on firms adopting IFRS mandatorily, $\beta_1 + \beta_2$ captures the effect on firms that voluntarily adopted IFRS early and $\beta_1 + \beta_3$ captures the effect on firms that did not adopt IFRS. We include country and industry fixed effects in model 2 since the three groups may differ in terms of industry and country composition.

Given the previous literature and the concerns of users about mark-to-market accounting we separate firms that are most likely to be affected by the new fair value measurement regime and assess

[8] Control variables include 1) the logarithm of the market value of the firm's equity, since IAS adoption has been associated with an increase in firm market value which is associated with an improvement in a firm's information environment (Ashbaugh and Pincus [2001]). Also larger firms are more likely to have more analysts covering them and tend on average to have lower forecast errors (Bushman et al. [2005]); 2) forecast horizon, defined as the length of time between the forecast's issue date and the earnings announcement date, has been shown to be associated with forecast accuracy **(**Clement [1999] and Duru and Reeb [2002]); 3) earnings surprise, defined as the change in earnings per share between two years deflated by the closing stock price of the previous year. This is included as a control variable since forecast characteristics are likely to be affected by the magnitude of the earnings information to be disclosed i.e. when earnings surprise is high it is associated with higher forecast errors (Lang and Lundholm [1996]); 4) new forecasts, defined as the percentage of forecasts, included in the consensus, that are made during the statistical period that the consensus is calculated, since updated forecasts should be more accurate compared to stale forecasts; 5) Revision optimism, defined as the number of upward revisions minus the number of downward revisions, deflated by the number of estimates, since downward revisions may convey more information compared to upwards revisions and 6) market return, defined as the country market return for each period, since analyst employment will be positively related to the performance of the equity markets.

whether changes in their information environment are significantly differently from that of other firms. The firms we identify as most likely to be affected by fair values are those in the financial and investment property sector (*FINANCIAL)*. *FINANCIAL* therefore includes all banks, other financial institutions, insurance companies and investment property firms. We include this latter group since IAS 40 allows firms the option to use fair values and almost 90% of real estate companies in Europe select to fair value their properties (Muller et al. [2008]). To test for relative differences between the two groups (financial and non-financial) we modify equation (1) and include a multiplicative dummy variable (*AFTER*FINANCIAL*):

$$IE_{it} = \beta_0 + \beta_1 FINANCIAL_t + \beta_2 AFTER_t + \beta_3 AFTER_t * FINANCIAL + \sum_{j=4}^{N} \beta_j controls + \varepsilon_{it} \quad (3)$$

FINANCIAL takes the value of one if a firm is classified as a financial or investment property firm and zero otherwise. β_3 captures the relative difference between financial and non-financial firms following IFRS. In addition, we also investigate the possibility that analysts learn from the voluntary adopters and/or there are intra-industry information transfers from these voluntary adopters. To investigate this possibility we test whether firms that mandatorily adopt IFRS benefit from the voluntary adopters' disclosure. We split the mandatory sample into firms that are members of industries with significant numbers of voluntary adopters and firms from all other industries. We modify equation (1) to include a multiplicative dummy variable (*AFTER*INDVOL*). *INDVOL* takes the value of one if the firm is a member of an industry that has a high level of voluntary adopters and zero otherwise. If analysts learn from voluntary adopters we expect β_3 (which captures the relative difference between firms from early voluntary industries and other firms) to be negative and significantly different from 0.

$$IE_{it} = \beta_0 + \beta_1 INDVOL_t + \beta_2 AFTER_t + \beta_3 AFTER_t * INDVOL + \sum_{j=4}^{N} \beta_j controls + \varepsilon_{it} \quad (4)$$

The research designs above examine how IFRS impact the information environment by testing for differences in the dependent variables before and after 2005. However, it may be the case that there is substantial heterogeneity within the group of firms adopting mandatorily IFRS. Previous research has found that the extent of the differences between local GAAP and IFRS is also associated with analyst earnings forecasts. If IFRS adoption results in greater transparency, compatibility and quality of accounting information then *a priori* those countries with the largest deviation of domestic practice from IFRS should have the most to gain from the transition to IFRS.

To capture these differences previous literature has used a number of proxies at the country-wide level (Ashbaugh and Pincus [2001]). However, these proxies have a number of limitations, specifically Bae et al. [2008] note that their proxies capture differences in accounting standards not necessarily actual practice across countries, to the extent that firms within countries adopt accounting standards other than their country standards. Moreover, it could be the case that a firm's prior reporting incentives will also determine the differences between local GAAP and IFRS – for example whether the firm chooses an option available in its country that enables it to report results more in line with IFRS or it chooses options that are inconsistent with IFRS.

Thus we employ, as a proxy for the differences between local GAAP and IFRS, a firm-level measure by obtaining the actual reported reconciliation component between IFRS and local GAAP earnings.[9] Firms are required in the first year of adoption, to report the reconciliations between their last reported local GAAP accounts and IFRS. Therefore, we are able to employ the difference between the firm's local GAAP earnings for 2004 and its reconciled IFRS earnings for 2004.

If IFRS adoption has an effect then the reconciliation component should be related to the change in forecast accuracy, dispersion and revision volatility. Based on the previous literature we are assuming

[9] One limitation of this proxy is that, although we are able to capture the recognition and measurement differences within the reconciliation number, we are not able to capture disclosure differences e.g. segmental reporting disclosures pre and post, related party transaction pre and post etc which will also be associated with the analysts variables.

that the higher the reconciliation amount the more incremental information IFRS reveal. However, given the findings of Horton and Serafeim [2009], who suggest that the sign of the reconciliation adjustment differentiates between different reporting incentives of firms, we split the earning adjustment in either positive or negative. According to Horton and Serafeim [2009] the disclosure of a negative reconciliation adjustment (which they defined as 'bad news') is unexpected information and thereby suggests that these firms delay the disclosure of bad information (e.g. an impairment) until compliance with IFRS. In contrast, the information contained in the positive adjustments (defined as 'good news') is already impounded in stock prices suggesting that this information has already been disclosed prior to IFRS compliance. Therefore, we would expect different effects of a positive reconciliation adjustment on the analyst variables relative to a negative adjustment, i.e. firms that delay disclosures prior to IFRS may not increase their transparency following the mandatory adoption of IFRS (unless enforcement increases). If analysts do not adjust or cannot anticipate the adjustment (because they have not been provided with timely information) then a positive association between the forecast error and the accounting change is expected (Elliott and Philbrick [1990]). Thus equation 5 is as follows:

$$\Delta IE_{it} = \beta_1 POSITIVE * ERN^{IFRS\text{-}LOCAL\ GAAP} + \beta_2 NEGATIVE * ERN^{IFRS\text{-}LOCAL\ GAAP} \sum_{j=3}^{N} \beta_j \Delta controls + \varepsilon_{it} \quad (5)$$

where $ERN^{IFRS\ -\ LOCAL\ GAAP}$ is the absolute earnings reconciliation adjustment reported in the firms transitional documents, *POSITIVE* takes the value of one if $ERN^{IFRS\text{-}LOCAL\ GAAP}$ is positive and zero otherwise, and similarly *NEGATIVE* takes the value of one if $ERN^{IFRS\text{-}LOCAL\ GAAP}$ is negative or zero and zero otherwise. We expect β_1 to be negative and significant, while the sign and significance of β_2 is unclear ex ante.

4. SAMPLE AND DESCRIPTIVE STATISTICS

4.1. Sample Selection

The sample covers firms from sixteen European countries with fiscal years ending on or after January 1, 2003, through December 31, 2007. We start in 2003 having two fiscal years for each firm before the mandatory adoption of IFRS to reduce noise from year by year fluctuations in earnings forecast characteristics. For the majority of countries, the mandatory IFRS observations in our sample stem exclusively from December fiscal year-end firms. We begin the sample collection procedure with all firms from countries that require IFRS reporting and for which we have the necessary data to compute the variables used in the firm-period regressions described above. We start by identifying all EU firms covered in I/B/E/S. We exclude any firm from which we do not have data for the fiscal years either before or after IFRS adoption. To classify firms according to which accounting standards they are following we manually code each firm as adopting IFRS early ('voluntary adopters'), adopting IFRS mandatorily ('mandatory adopters'), or continuing to report under other GAAP after 2005 'non-adopters, by reviewing their annual reports. The Worldscope classification suffers from many classification errors (Daske et al. [2008]) and therefore we do not use it.

This procedure yields in total 2127 unique firms, of which 1635 adopt IFRS for the first time mandatorily, 331 firms had voluntarily adopted IFRS on or before 2003 and 161 firms continued to report under local GAAP or US GAAP after 2005. Table 1 provides a break-down of the sample into the number of firms per country and by the accounting standards followed. The majority of firms are from the UK, France and Germany, since these are the largest capital markets in EU. Early voluntary adopters of IFRS are mostly from Germany and Switzerland. Firms reporting under local GAAP are mainly from UK and Switzerland. UK, French, Italian and Swedish firms are most heavily populating the sample that makes the transition to IFRS on 2005.

4.2. Descriptive Statistics

Table 2 Panel A presents descriptive statistics on the dependent and independent variables for the entire sample. For the average sample firm, the mean and median forecast errors are 4.17% and 1.67%, respectively. Mean and median analyst following is 6.8 and 4.2 respectively. Mean forecast dispersion and volatility of revisions is 1.59% and 1.49% respectively. The median market value for the firms in our sample is €1.1 billion. The forecast horizon is approximately 102 days and almost 30% of the estimates entering the consensus forecast are new forecasts. Revision optimism is marginally negative signaling that slightly more revisions were downwards during the period of study. Earnings surprise is 3.83% on average, with a large standard deviation (40%). Mean country market return was 21% over the period of investigation.

5. RESULTS

5.1. Univariate Results

Table 2 Panel A also reports the change in the analyst variables before and after IFRS becomes mandatory for all firms. We find that the mean and median forecast errors, dispersion and volatility significantly decrease after 2005, at the 1% level. The number of analysts following a firm increases significantly at the 2% level. Table 2 Panels B to D report these differences by group. Voluntary adopters and mandatory adopters all have significantly lower forecast errors, dispersion and volatility after 2005, at the 0.1% level. The mandatory adopters also have significantly higher analyst following after mandatory adoption (at the 1% level). However, voluntary adopters experience almost no change in their analyst following (-0.36). The effects on the non-adopters are similar to the voluntary adopters since their forecast accuracy, number of analysts following, disagreement and volatility all decrease. The decrease in forecast error or number of analysts following is insignificant (although the difference in the median is significant at the 1% level.)

Table 2, Panels B to D report the univariate analysis for each sub-sample (mandatory, voluntary, non-adopters) and each sub-group (financial and non-financial firms). We find that for voluntary and mandatory adopters, only the non-financial firms have significant improvement in their information environment. For the non-IFRS adopters there appears to be no difference in the change in analyst forecast accuracy between financial and non-financial firms. For both sub-samples accuracy increases but neither is significant. The only difference for these sub-samples is that whilst for both samples, dispersion and volatility decrease, this is significant at the 5% level only for non-financial firms.

Table 3 presents univariate correlations between the variables used in this study. Forecast error, forecast dispersion and volatility of revisions are positively correlated with correlations ranging from 0.61 to 0.71, which are of a similar magnitude (0.61 - 0.76) as in Lang and Lundholm [1996]. Number of analysts forecasting earnings is negatively correlated with all three previous variables (-0.16 to -0.20), as is the size of the firm (-0.26). Forecast horizon is positively related to accuracy which is consistent with the previous literature (Clement [1999]). New forecasts exhibits a negative correlation with error (-0.08), dispersion (-0.10) and revision volatility (-0.04). In contrast, new forecasts exhibit positive correlation with number of analysts (0.28), showing that more new forecasts are made for firms that are followed by more analysts. Optimism of revisions exhibits the same correlations as new forecasts, but of lower magnitude. The exception is the correlation with revision volatility which is stronger (-0.14), reflecting the fact that optimistic revisions are caused by greater changes in expectations. Earnings surprise exhibits a positive correlation with error (0.16), dispersion (0.12) and revision volatility (0.18), and a negative association with number of analysts (-0.03). Finally, market return does not exhibit a significant association with any dependent variable.

5.2. Multivariate Results

Table 4, Panel A presents the estimated coefficients from the multivariate regressions, separately for each group. We find that accuracy improves significantly after 2005 for all firms. For both the voluntary and mandatory adopters this improvement is significant at the 1% level or lower, and significant at the 10% for non-IFRS firms. This is consistent with the findings of Asbaugh and Pincus [2001] and Wang et al. [2007] .[10] Panel B presents the economic effect of IFRS, calculated based on the mean value of the dependent variable for each sample. Accuracy improves by approximately 13% more for firms that have already voluntarily adopted IFRS. The economic effect for firms making the transition to IFRS in 2005 is -26.58%. In comparison, the effect for voluntary adopters is -37.40% and for non-adopters is -23.28%.

The number of analysts drops for voluntary adopters (-1.65) and non-adopters (-0.28), although this effect is significant only for the former. In contrast, the number of analysts increases for the mandatory adopters (0.13), although not significantly. Analyst disagreement drops significantly for all firms in all sub-groups. All coefficients are significant at the 0.1% level (with the exception of the non-adopters where it is significant at the 10% level). The largest economic effect is for voluntary adopters. The coefficient for this group is -0.012 representing a change of -65.26%, while the change for mandatory adopters is approximately -45.33% and for non- adopters is -49.44%. Therefore, it seems that voluntary adopters are affected more by having a relative drop in forecast dispersion of 16% to 20%. The results on revision volatility are similar to those for forecast dispersion, except for voluntary adopters that do not experience a higher decrease in revision volatility compared to non-adopters. The

[10] The literature has been divided as to whether to treat analyst following as exogenous in the estimation of analysts forecast error. Both Hope [2003] and Berger and Hann [2003] treat analyst following as exogenous in estimating its effect on accuracy, whilst Alford and Berger [1999] suggest that analyst forecast accuracy and analyst following might be simultaneously determined. Without specifically entering this debate, and given the results of Lang et al. [2003], we included as an additional variable analyst following. Although the coefficient on this new independent variable was found to be significantly negative its inclusion did not significantly change the coefficient on *AFTER*.

effect for voluntary adopters is -42%, as is the effect for the non- adopters. The economic effect for the mandatory adopters is lower at -26%.[11]

To investigate these results further, Table 5 reports the results of equation (2) on the relative differences between these sub-groups in terms of the information environment variables. We find that accuracy improves significantly more for voluntary adopters relative to mandatory adopters. Whilst the non-adopters appear to have relatively the same increase in accuracy compared to mandatory adopters, the coefficient on *After*Voluntary* is approximately -0.015 with a t-statistic of -2.68. In contrast, the coefficient on *After* Non-adopters* is -0.0011 with a t-statistic of -0.13. Moreover, these two coefficients are significantly different from each other at 1% level. The results on forecast dispersion and revision volatility are consistent with the forecast accuracy results. Therefore, we conclude that the improvement in the information environment (excluding analyst following) is higher for voluntary adopters. However, we find that the number of analysts forecasting earnings exhibits different behavior. The number of analysts does not change for mandatory adopters, but it decreases significantly for the other adopters. Voluntary adopters lost 1.5 analysts on average and non-adopters, 1.4 analysts. Both coefficients are significant at the 0.1% level. This is consistent with Tong [2004] for voluntary adopters.

Overall, we find that the information environment improves not only for mandatory adopters but also for voluntary adopters and non-adopters. We find that the increase in the information environment is higher in magnitude for the voluntary adopters. This latter finding is consistent with the results of Daske et al. [2008] who find that capital market effects are most pronounced for firms that voluntarily switch to IFRS early. Macroeconomic factors and not IFRS adoption can cause the decrease in forecast errors, dispersion and revision volatility, thereby casting doubt on whether IFRS causes the improvement in the information environment. However, these factors should affect the three groups of

[11] We also estimated the four models as seemingly unrelated regressions to improve the efficiency of the estimates. All the results were very similar to the ones presented here.

firms on average uniformly and therefore this argument fails to explain why we observe a higher improvement in transparency for voluntary adopters.

5.3. Effects of Fair Value Accounting

Table 6 reports the results from model (3), which differentiates between firms most likely to be affected by fair value accounting (*FINANCIAL*) and those least affected, for each sub-group. We find for both voluntary and mandatory adopters, that forecast errors and analyst disagreement drop significantly less for *FINANCIAL* firms relative to non-financial firms. These relative differences are significant at the 1% level (with the exception of forecast error for voluntary adopters which is significant at the 5% level). In addition, for mandatory adopters the level of revision volatility drops relatively less for *FINANCIAL*. There is no significant difference in the change of number of analysts following *FINANCIAL* firms relative to non-financial firms for all sub-groups.

The results suggest that the effect of fair value compliance has resulted in *FINANCIAL* firms achieving significantly less, if any, improvement in the information environment compared to other firms. This is corroborated by the fact that for non-adopters, which currently do not employ such fair value methodology, we find non-significant difference between the *FINANCIAL* firms and other firms, although this may be attributable to the loss of statistical power. In unreported results we re-estimate the effect of IFRS on the pooled sample as in Table 5, after excluding financial firms. However, none of the results change and again we find the voluntary adopters exhibit the largest changes in the analyst variables. The change in the information environment is not statistically different between mandatory adopters and non-adopters.

5.4. Learning Effects from Voluntary Adopters

Table 7 reports industries that have significantly more voluntary adopters relative to all firms reporting IFRS[12] within the industry.[13] For example, the industry with the highest population of voluntary adopters is the mobile telecommunication industry with approximately 38% of the whole industry voluntarily adopting IFRS, whilst equity investment[14], oil/gas producers and tobacco industries have no voluntary adopters of IFRS. We classify industries with more than 20% voluntary adopters as belonging in an industry with high rate of voluntary adoption *(INDVOL*=1). Since none of the *FINANCIAL* firms are within this classification and given the findings above that the information environment has not improved for financial firms, we exclude all financial firms from the analysis and investigate the presence of learning effects in the remaining non-financial industries.

Table 8 reports the results of model (4). We find that, for firms in industries with relatively high levels of voluntary adopters,[15] both forecast errors and analyst following decrease significantly more compared to other firms. These results are significant at the 5% with t-statistics of 2.00 and 2.28 respectively. Forecast errors decrease by 1.21% for firms in industries with low rate of voluntary adoption and by 2.07% for firms in industries with high rate. This is an economically significant difference since the mean forecast error for non-financial transition firms is 4.63% before IFRS adoption (Table 2, Panel B). In contrast, the differential change in number of analysts is only 0.30 and therefore not economically important (Table 8). We find no significant difference between mandatory adopters from industries with high levels of voluntary adopters and other firms for either analyst disagreement or volatility of revision.

[12] Both voluntarily and mandatorily.
[13] We also investigated the learning effect on a country basis, rather than just an industry. The results, although not reported here, are consistent with our findings but with lower significance levels.
[14] This industry is also included in the financial sample discussed above.
[15] We assessed the sensitivity of these results to different thresholds of prior adoption. The inclusion of industries with fewer than 17% weakened significantly the results reported. However increasing the threshold to above 30% did not significantly change the results reported.

5.5. Firm-specific Differences between IFRS and Local GAAP and Change in Information Environment

To provide stronger inferences that indeed IFRS affect the information environment we report the relation between the reconciliation adjustments and the change in the information environment. Given that these reconciliation adjustments need to be hand collected directly from firms' reconciliation reports, we focus on those countries where there are high numbers of mandatory adopters (thereby maximizing the potential sample size) and low levels of voluntary adopters (thereby providing a cleaner sample given the earlier results on learning effects). Thus the sample includes a total of 1030 firms from 8 countries.[16] Table 9 reports the results from the estimation of the multivariate regressions of the analyst variables on the reported reconciliation component and other controls.[17] We find that the earnings reconciliation adjustment exhibits significant association with all dependent variables except for change in analyst following. β_1 is negative and significant, indicating that the higher the magnitude of unsigned positive reconciliation components the higher the decrease in forecast error, dispersion and volatility revision. In contrast, β_2 is positive and significant showing that the higher the magnitude of unsigned negative reconciliation components the higher is the increase in forecast error and dispersion. These results, confirm the joint hypothesis that the reconciliation component is a good proxy for the incremental information under IFRS and that IFRS adoption improves the information environment. One standard deviation increase in the positive reconciliation components has a double to triple effect compared to an increase in negative reconciliations. One standard deviation increase in positive reconciliation, decreases forecast error, dispersion and revision volatility by 40-45%. In contrast, one standard deviation increase in negative reconciliations, increases forecast error and dispersion by

[16] The sample includes 21 Denmark, 29 Finish, 268 French, 62 Greek, 108 Italian, 81 Spanish, 40 Swedish and 421 UK firms.

[17] Dependent and independent variables are the differences between before and after the mandatory period.

approximately 15-20%.[18] These results are consistent with the findings of Horton and Serafeim [2009] and Elliott and Philbrick [1990].

6. Conclusion

We investigate whether mandatory IFRS adoption improves firms' information environment. We consider not only firms adopting IFRS mandatorily but also firms that have already adopted IFRS and firms that still report under local GAAP, as these latter two groups of firms may also be affected by mandatory adoption because of externalities. To proxy for the information environment we consider analyst forecast errors, following, disagreement and revision volatility.

We find that during the mandatory transition to IFRS all measures of the information environment improve for all groups. Although we cannot attribute this improvement to IFRS, we can infer that voluntary adopters have benefited more from the mandatory transition due to externalities. We also find that the improvement in the information environment is limited to non-financial firms. Financial firms do not exhibit significant differences, between before and after IFRS adoption in the analyst variables, consistent with the controversy surrounding fair value accounting and the noise that mark-to-market can impose on earnings. Furthermore, we find learning effects by showing that mandatory adopters in industries with high proportions of voluntary adopters, benefited more from IFRS adoption. Finally, we find that the larger the positive difference between IFRS earnings and local GAAP earnings the larger is the improvement in forecast accuracy, agreement or revision smoothness.

We believe that these results have important implications for the debate on the globalization of accounting standards. Specifically, the results suggest that IFRS adoption is beneficial for non-financial

[18] One potential concern is that the results are heavily influenced by UK firms that represent 40% of the observations. To mitigate this concern we estimate again model 5 excluding UK firms. In unreported results we find that both $\beta 1$ and $\beta 2$ are unaffected and still statistically significant. The values of the coefficients are very close to those reported in Table 9, although slightly higher in most cases. Therefore, our results do not appear to be driven only by the UK firms, but reflect a phenomenon that generalizes to other countries.

firms. Financial firms may need to take extra steps to avoid the volatility of fair value accounting and thereby reap the benefits from IFRS reporting. Moreover the fact that the largest information benefits accrue to voluntary adopters of IFRS suggests that there are benefits for firms committing to increased transparency and gaining first mover advantages. Finally, firms that continue to report under local GAAP may face in the future a deficit of information intermediation and therefore these firms might need to consider whether they still want to continue not to report under IFRS and if yes whether they need to enhance their disclosure strategy to satisfy stakeholders' needs.

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TABLE 1

Number of firms per country and of total sample

	Voluntary Adopters		Non -Adopters		Mandatory Adopters		Total Sample	
Market	**n**	**% of total sample**	**n**	**% of total sample**	**n**	**% of total sample**	**n**	**% of total sample**
Austria	23	1.08	0	0.00	4	0.19	27	1.27
Belgium	20	0.94	0	0.00	47	2.21	67	3.15
Denmark	12	0.56	1	0.05	46	2.16	59	2.77
Finland	10	0.47	0	0.00	74	3.48	84	3.95
France	10	0.47	2	0.09	269	12.65	281	13.21
Germany	159	7.48	13	0.61	94	4.42	266	12.51
Greece	3	0.14	0	0.00	64	3.01	67	3.15
Ireland	0	0.00	3	0.14	29	1.36	32	1.50
Italy	5	0.24	1	0.05	118	5.55	124	5.83
Netherlands	1	0.05	3	0.14	85	4.00	89	4.18
Norway	1	0.05	6	0.28	66	3.10	73	3.43
Portugal	1	0.05	0	0.00	23	1.08	24	1.13
Spain	0	0.00	1	0.05	83	3.90	84	3.95
Sweden	2	0.09	0	0.00	119	5.59	121	5.69
Switzerland	82	3.86	23	1.08	28	1.32	133	6.25
United Kingdom	2	0.09	108	5.08	486	22.85	596	28.02
Total	331	15.56	161	7.57	1635	76.87	2127	100.00

Breakdown by country of the number of firms and percentage of total sample that adopts IFRS early: ‘voluntary adopters’. That mandatory adopts IFRS after 2005 ‘mandatory adopters’, or firms who continue to report under local GAAP: ‘Non-adopters’.

TABLE 2

Panel A: Descriptive Statistics for the information environment variables (forecast error, analyst following, dispersion and volatility) along with descriptive statistics of the control variables (market value, forecast horizon, new forecast, optimism and earnings surprise). These descriptive statistics are for the whole sample (e.g. voluntary, mandatory and non-adopters). Also reported is the test of equality between the before series and after series (both of means and of medians)

	Total Sample (n=4254)			Before IFRS 2005 (n=2127)			After IFRS 2005 (=2127)			Test of Equality (before and after)	
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median	Difference of Means	Difference of Medians
Forecast error	4.17%	7.07%	1.67%	5.01%	7.70%	2.12%	3.32%	6.25%	1.29%	-1.69%***	-0.83%***
Analysts following	6.831	6.976	4.188	6.568	7.144	3.798	7.095	6.795	4.558	0.527*	0.760***
Analyst disagreement	1.59%	2.70%	0.81%	2.07%	3.35%	0.99%	1.11%	1.53%	0.68%	-0.96%***	-0.31%***
Volatility of revisions	1.49%	2.49%	0.67%	1.82%	2.87%	0.82%	1.15%	1.98%	0.55%	-0.37%***	-0.27%***
Log of market value	7.346	2.86	7.983	7.152	2.605	6.899	7.539	2.553	7.312		
Forecast horizon	3.442	0.457	3.444	3.427	0.463	3.500	3.308	0.443	3.386		
New forecasts	30.43%	15.76%	28.93%	30.88%	17.67%	28.13%	29.99%	13.57%	29.65%		
Optimism of revisions	-0.94%	13.75%	-0.58%	-2.31%	13.81%	-1.67%	0.44%	13.56%	0.00%		
Earnings surprise	3.83%	40.12%	1.25%	4.50%	50.00%	1.63%	3.15%	26.80%	0.97%		
Country return	21.17%	6.74%	20.88%	18.80%	7.35%	15.51%	23.54%	5.07%	2.59%		

Mean, median and standard deviation for dependent and independent variables. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. *** is significant at the 0.1%, ** is significant at the 1% and * is significant at the 2%.

Panel B: Descriptive Statistics of the information environment variables for the mandatory sample, also segmented between financial and non-financial firms. The test of equality between the before series and after series (both of means and of medians) is reported.

Mandatory Adopters	Mandatory Sample (2 observation per firm)			Before IFRS 2005 (1 observation per firm)			After IFRS 2005 (1 observation per firm)			Test of Equality (before and after)	
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median	Difference of Means	Difference of Medians
Full sample (firms=1635)											
Forecast error	3.78%	6.34%	1.59%	4.52%	7.02%	2.00%	3.04%	5.48%	1.22%	-1.54%***	-0.78%***
Analysts following	6.710	6.440	4.440	6.287	6.345	3.952	7.129	6.503	4.915	0.843***	0.962***
Analyst disagreement	1.52%	2.50%	0.79%	1.92%	3.11%	0.93%	1.10%	1.58%	0.67%	-0.82%***	-0.26%***
Volatility of revisions	1.38%	2.32%	0.65%	1.67%	2.68%	0.78%	1.10%	1.86%	0.53%	-0.57%***	-0.25%***
Non-Financial (firms = 1395)											
Forecast error	3.77%	6.26%	1.61%	4.63%	6.98%	2.08%	2.92%	5.31%	1.20%	-1.71%***	-0.88%***
Analysts following	6.590	6.270	4.410	6.151	6.149	3.902	7.027	6.354	4.910	0.876***	1.010***
Analyst disagreement	1.56%	2.59%	0.80%	2.01%	3.22%	0.95%	1.10%	1.62%	0.66%	-0.91%***	-0.29%***
Volatility of revisions	1.45%	2.39%	0.68%	1.77%	2.77%	0.82%	1.13%	1.88%	0.56%	-0.64%***	-0.26%***
Financial (firms = 240)											
Forecast error	3.82%	6.77%	1.57%	3.90%	7.20%	1.62%	3.73%	6.33%	1.48%	-0.17%	-0.14%
Analysts following	7.400	7.320	4.610	7.077	7.347	4.292	7.728	7.293	5.05	0.651	0.830
Analyst disagreement	1.27%	1.85%	0.77%	1.41%	2.27%	0.83%	1.13%	1.31%	0.71%	-0.28%	-0.12%
Volatility of revisions	1.00%	1.85%	0.49%	1.10%	1.99%	0.53%	0.92%	1.70%	0.42%	-0.18%	-0.11%

Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. . *** is significant at the 0.1%, ** is significant at the 1% and * is significant at the 2%

Panel C: Descriptive Statistics of the information environment variables for the voluntary sample ('early IFRS' sample), also segmented between financial and non-financial firms. The test of equality between the before series and after series (both of means and of medians) is reported.

Voluntary	Voluntary Sample (2 observation per firm)			Before IFRS 2005 (1 observation per firm)			After IFRS 2005 (1 observation per firm)			Test of Equality (before and after)	
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median	Difference of Means	Difference of Medians
Full sample (firms=331)											
Forecast error	5.07%	8.62%	1.91%	6.63%	9.63%	2.63%	3.51%	7.15%	1.34%	-3.12%***	-1.29%***
Analysts following	8.35	8.43	5.08	8.53	8.97	5.08	8.17	7.85	5.08	-0.36	0.00
Analyst disagreement	1.89%	3.10%	0.87%	2.70%	4.02%	1.25%	1.06%	1.25%	0.70%	-1.64%***	-0.55%***
Volatility of revisions	1.87%	2.96%	0.80%	2.42%	3.45%	1.06%	1.32%	2.27%	0.60%	-1.10%***	-0.46%***
Non-Financial (firms = 292)											
Forecast error	5.31%	8.96%	1.92%	6.96%	9.99%	2.66%	3.65%	7.48%	1.31%	-3.31%***	-1.35%***
Analysts following	8.10	8.28	4.94	8.28	8.79	5.04	7.92	7.74	4.85	-0.36	-0.19
Analyst disagreement	1.98%	3.29%	0.86%	2.87%	4.25%	1.29%	1.06%	1.30%	0.66%	-1.81%***	-0.63%***
Volatility of revisions	1.94%	3.03%	0.85%	2.5%	3.47%	1.17%	1.37%	2.38%	0.61%	-1.13%***	-0.56%***
Financial (firms = 39)											
Forecast error	3.29%	4.86%	1.60%	4.10%	5.76%	2.06%	2.50%	3.66%	1.41%	-2.04%	-0.65%
Analysts following	10.21	9.29	7.41	10.37	10.123	7.37	10.05	8.509	7.46	-0.32	0.09
Analyst disagreement	1.23%	0.81%	0.99%	1.44%	0.86%	1.17%	1.03%	0.72%	0.81%	-0.41%*	-0.36%**
Volatility of revisions	1.34%	2.41%	0.62%	1.80%	3.23%	0.88%	0.89%	0.98%	0.59%	-0.91%	-0.29%

Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. . *** is significant at the 0.1%, ** is significant at the 1% and * is significant at the 2%

Panel D: Descriptive Statistics of the information environment variables for the non-adopters sample, also segmented between financial and non-financial firms. The test of equality between the before series and after series (both of means and of medians) is reported.

Non-adopters	Non-adopters Sample (2 observation per firm)			Before IFRS 2005 (1 observation per firm)			After IFRS 2005 (1 observation per firm)			Test of Equality (before and after)	
	Mean	Std	Median	Mean	Std	Median	Mean	Std	Median	Difference of Means	Difference of Medians
Full sample (firms=161)											
Forecast error	6.23	9.61	2.28	6.69	9.18	2.95	5.77	10.02	1.89	-0.92%	-1.06%**
Analysts following	4.96	8.26	1.20	5.39	9.53	1.11	4.53	6.75	1.42	-0.86	-0.31
Analyst disagreement	1.83	3.20	9.65	2.35	4.24	1.02	1.33	1.53	0.87	-1.02%*	-0.15%
Volatility of revisions	1.73	2.92	0.66	2.07	3.28	0.67	1.4	2.47	0.66	-0.67%*	-0.01%
Non-Financial (firms = 145)											
Forecast error	6.24	0.095	0.25	6.90	9.38	3.26	5.59	9.56	1.89	-1.31%	-1.37%***
Analysts following	4.67	7.923	1.125	5.04	9.10	1.08	4.31	6.55	1.36	-0.73	0.28
Analyst disagreement	1.83	3.38	0.829	2.41	4.49	0.96	1.26	1.56	0.08	-1.15%*	-0.88%
Volatility of revisions	1.82	0.68	3.02	2.18	3.37	0.08	1.46	2.58	0.07	-0.72%*	-0.01%
Financial (firms = 16)											
Forecast error	6.15	10.89	1.59	4.87	7.07	1.51	7.43	13.84	1.59	2.56%	0.08%
Analysts following	7.54	10.64	2.36	8.62	12.74	2.07	6.45	8.30	2.46	-2.17	0.39
Analyst disagreement	1.85	1.82	1.31	1.97	2.26	1.13	1.75	1.37	1.42	-0.22%	0.29%
Volatility of revisions	0.95	1.59	0.39	1.07	2.14	0.26	0.83	0.81	0.06	-0.24%	-0.20%

Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. . *** is significant at the 0.1%, ** is significant at the 1% and * is significant at the 2%

TABLE 3

Correlation matrix

Variable	Forecast error	Analysts Following	Analyst disagreement	Volatility of revisions	Log of market value	Forecast horizon	New forecasts	Optimism of revisions	Earnings surprise
Forecast error	1.000								
Analyst Following	-0.206	1.000							
Analyst disagreement	0.614	-0.159	1.000						
Volatility of revisions	0.712	-0.195	0.687	1.000					
Log of market value	-0.255	0.443	-0.265	-0.275	1.000				
Forecast horizon	0.062	0.183	*0.011*	0.061	0.080	1.000			
New forecasts	-0.084	0.280	-0.105	-0.043	0.373	0.108	1.000		
Optimism of revisions	-0.078	0.095	-0.082	-0.138	0.112	*-0.025*	-0.061	1.000	
Earnings surprise	0.144	-0.030	0.123	0.184	-0.063	*0.020*	*0.004*	0.032	1.000
Market return	*0.023*	*0.001*	*0.014*	*0.034*	-0.152	-0.068	0.044	0.098	0.048

Correlation matrix between dependent and independent variables. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Numbers in italics are **not** significant at the 5% level. All other numbers are significant at the 5% level.

TABLE 4

Panel A: Separate Multivariate regressions for each sample (Early IFRS, Non IFRS and Transition)

$$IE_{it} = \beta_0 + \beta_1 AFTER_t + \sum_{j=2}^{N} \beta_j controls + \varepsilon_{it} \quad (1)$$

		Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Group	**Parameter**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**
Voluntary	Intercept	0.0925	2.31***	-9.108	-8.74****	0.0489	7.70****	0.0414	9.29****
adopters	**After**	**-0.0187**	**-2.97******	**-1.649**	**-5.56******	**-0.0124**	**-6.57******	**-0.0075**	**-3.87******
	Market value	-0.0142	-7.25****	3.136	19.38****	-0.0042	-6.21****	-0.0049	-7.11****
	Earnings surprise	0.0634	2.16**	-0.071	-0.21	0.0417	2.96****	0.0147	1.43
	Forecast horizon	0.0134	1.19						
	New forecasts	0.0227	0.79			0.0028	0.31	0.0367	2.99****
	Revision optimism	-0.0675	-2.72****			-0.0111	-1.53	-0.0221	-2.32****
	Market return			-0.050	-1.59				
Adj R-squared		21.52%		55.90%		26.30%		16.41%	
N		660		662		606[a]		658	
Outliers[b]		2		0		2		4	
Non-adopters	Intercept	0.0627	2.02**	-6.903	-2.73****	0.0412	2.80****	0.0299	4.87****
	After	**-0.0149**	**-1.73***	**-0.280**	**-0.64**	**-0.0089**	**-1.79***	**-0.0073**	**-2.29*****
	Market value	-0.0152	-4.49****	2.155	8.39****	-0.0034	-2.37***	-0.0040	-3.34****
	Earnings surprise	0.0687	3.07****	1.969	3.99****	0.0393	1.20	0.0064	0.76
	Forecast horizon	0.0204	2.84****						
	New forecasts	0.0615	1.19			0.0114	0.73	0.0538	2.93****
	Revision optimism	-0.0133	-0.25			-0.0164	-0.93	-0.0369	-2.28***
	Market return			-0.252	-2.86****				
Adj R-squared		27.62%		30.91%		8.76%		10.36%	
N		320		320		136 [a]		320	
Outliers[b]		2		2		2		2	

		Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Mandatory adopters	Intercept	0.0623	5.79***	-8.3602	-13.66****	0.0369	14.65****	0.0298	16.32****
	After	**-0.0101**	**-5.63*** **	**0.1324**	**1.15***	**-0.0068**	**-8.21**** **	**-0.0036**	**-5.68**** **
	Market value	-0.0058	-10.59****	2.0569	26.73****	-0.0022	-9.82****	-0.0023	-12.23****
	Earnings surprise	0.0513	1.91*	0.3616	4.49****	0.0135	0.95	0.0299	3.57****
	New forecasts	-0.0101	-1.28			-0.0039	-0.99	0.0062	2.36***
	Revision optimism	-0.0143	-1.92			-0.0070	-2.33***	-0.0173	-6.66****
	Forecast horizon	0.0078	2.50***						
	Market return			-0.0212	-1.46				
Adj R-squared		10.66%		21.43%		9.40%		16.57%	
N		3266		3270		3006[a]		3264	
Outliers[b]		4		0		2		6	

Panel B: Economic estimated effect from multivariate regressions

Economic effect	Forecast error	# of analysts	Analyst disagreement	Volatility of revisions
Voluntary IFRS	-37.40%	-20.31%	-65.26%	-41.67%
Non-adopters	-23.28%	-6.14%	-49.44%	-42.94%
Mandatory IFRS	-26.58%	2.02%	-45.33%	-25.71%

Panel A presents multivariate OLS regressions for each sample. 'Voluntary adopters' are firms having voluntarily adopted IFRS. 'Mandatory adopters' are firms adopting IFRS mandatorily. 'Non-adopters' are firms that continue to report under other GAAP after 2005. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Standard errors are robust to heteroscedasticity and clustered at the firm level. [a]Data was not available for the whole sample with respect to analysts disagreement and therefore the sample is smaller. [b] Outliers were eliminated following the calculation of DFBETAS.

Panel B presents the economic effect of IFRS for each sample and dependent variables. The economic effects are evaluated relative to the mean value of the dependent variable in the before period i.e. the estimated coefficient on the variable *after* divided by the mean value of error, number of analysts, dispersion or revision volatility before 2005. **** = significant at 1%, *** = significant at 2%, ** = significant at 5%, * = significant at 10%.

TABLE 5
Pooled multivariate regressions

$$IE_{it} = \beta_0 + \beta_1 AFTER_t + \beta_2 AFTER_t * Voluntary + \beta_3 AFTER_t * Non\text{-}adopters + \sum_{j=4}^{N} \beta_j controls + \varepsilon_{it} \quad (2)$$

	Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Parameter	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**
Intercept	0.0564	4.00****	-11.003	-12.57****	0.0477	9.10****	0.0363	7.69****
Voluntary	0.0158	2.72****	1.8491	4.56****	0.0044	1.64	0.0046	2.14**
Non-adopters	0.0048	0.69	3.8377	7.32****	0.0007	0.14	-0.0005	-0.19
After	**-0.0064**	**-3.54******	**-0.0194**	**-0.17**	**-0.0061**	**-7.32******	**-0.0029**	**-4.33******
After*Voluntary	**-0.0146**	**-2.68******	**-1.5072**	**-5.97******	**-0.0070**	**-3.10******	**-0.0051**	**-2.57******
After*Non-adopters	**-0.0011**	**-0.13**	**-1.3975**	**-3.79******	**-0.0010**	**-0.21**	**-0.0029**	**-0.98**
Market value	-0.0130	-14.62****	2.9134	49.31****	-0.0039	-10.61****	-0.0042	-14.88****
Forecast horizon	0.0113	3.92****						
New forecasts	0.0102	1.21			-0.0015	-0.37	0.0158	5.13****
Revision optimism	-0.0187	-2.38***			-0.0073	-2.47***	-0.0179	-6.56****
Earnings surprise	0.0544	3.12****	0.6409	4.60****	0.0202	1.73*	0.0195	2.98****
Market return			-0.0493	-3.79****				
Industry fixed effects	Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes	
Adj R-squared	19.86%		69.22%		16.54%		19.62%	
N	4246		4248		3748		4246	
Outliers[b]	8		6		6		8	

The Table presents pooled OLS regressions. 'Early IFRS' are firms who voluntarily adopted IFRS. Mandatory adopters are firms adopting IFRS mandatorily. 'Non-IFRS' are firms that continue to report under other GAAP after 2005 (i.e.'non-adopters'). Forecast error is the absolute error deflated by the closing stock price of the previous year. . Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Standard errors are robust to heteroscedasticity and clustered at the firm level. **** = significant at 1%, *** = significant at 2%, ** = significant at 5%, * = significant at 10%. [b] Outliers were eliminated following the calculation of DFBETAS.

TABLE 6

Panel A: Financial vs. Non-Financial: Separate multivariate regressions for each sample (Voluntary, Non-adopters and Mandatory)

$$IE_{it} = \beta_0 + \beta_1 FINANCIAL_t + \beta_2 AFTER_t + \beta_3 AFTER_t * FINANCIAL + \sum_{j=4}^{N} \beta_4 controls + \varepsilon_{it} \quad \textbf{(3)}$$

		Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Group	**Parameter**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**
Voluntary adopters	Intercept	0.0811	2.04**	-9.4957	-9.17****	0.0466	7.23****	0.0417	9.20****
	After	**-0.0194**	**-2.88******	**-1.6590**	**-5.58******	**-0.0132**	**-5.31******	**-0.0075**	**-3.67******
	Financial	-0.0072	-0.88	-2.3228	-2.16**	-0.0040	-1.32	0.0042	0.76
	After*Financial	**0.0215**	**2.32****	**-0.2491**	**-0.33**	**0.0109**	**2.70******	**0.0014**	**0.25**
	Market value	-0.0151	-7.80****	3.2438	19.64****	-0.0037	-5.97****	-0.0052	-7.63****
	Earnings surprise	0.0657	2.23**	-0.0393	-0.08	0.0483	3.34****	0.0147	1.43
	Forecast horizon	0.0174	1.58						
	New forecasts	0.0283	0.99			-0.0007	-0.08	0.0391	3.17****
	Revision optimism	-0.0637	-2.57****			-0.0164	-2.26**	-0.0246	-2.37***
	Market return			-0.0512	-1.66*				
Adj R-squared		22.99%		56.68%		26.42%		16.38%	
N		658		660		606		658	
Outliers		4		2		2		4	
Non-adopters	Intercept	0.0565	1.85*	-6.9161	-2.77****	0.0403	3.71****	0.0301	4.85****
	After	**-0.0199**	**-2.32****	**-0.2690**	**-0.62**	**-0.0091**	**-2.10***	**-0.0078**	**-2.23****
	Financial	0.0116	0.59	-1.0102	-0.49	0.0014	0.14	-0.0016	-0.25
	After*Financial	**0.0472**	**1.34**	**-0.1703**	**-0.12**	**0.0102**	**0.93**	**0.0045**	**0.71**
	Market value	-0.0162	-4.61****	2.1675	8.35****	-0.0035	-2.36***	-0.0040	-3.17****
	Earnings surprise	0.0693	3.09***	1.9861	3.96****	0.0375	1.45	0.0064	0.76
	Forecast horizon	0.0217	2.95***						
	New forecasts	0.0772	1.52			0.0169	0.78	0.0539	2.74****
	Revision optimism	-0.0230	-0.42			-0.0218	-1.21	-0.0372	-2.24**
	Market return			-0.2516	-2.80****				
Adj R-squared		28.91%		31.35%		8.64%		9.84%	
N		320		320		136		320	
Outliers[b]		2		2		2		2	

		Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Group	**Parameter**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**	**Estimate**	**t**
Mandatory adopters	Intercept	0.0628	5.84****	-8.1113	-13.18****	0.0374	14.70****	0.0302	16.35****
	After	**-0.0122**	**-6.42******	**0.1716**	**1.46**	**-0.0077**	**-8.32******	**-0.0043**	**-6.06******
	Financial	0.0015	0.32	-2.1793	-1.95*	-0.0028	-1.55	-0.0026	-2.07**
	After*Financial	**0.0161**	**3.27******	**-0.3248**	**-1.18**	**0.0060**	**3.56******	**0.0048**	**3.52******
	Market value	-0.0061	-10.86****	2.0726	26.85****	-0.0022	-9.82****	-0.0023	-12.07****
	Earnings surprise	0.0508	1.89*	0.3669	4.49****	0.0137	0.96	0.0300	3.58****
	New forecasts	-0.0085	-1.07			-0.0041	-1.03	0.0059	2.25**
	Revision optimism	-0.0173	-2.35***			-0.0074	-2.43***	-0.0174	-6.63****
	Forecast horizon	0.0080	2.55****						
	Market return			-0.0221	-1.54				
Adj R-squared		13.54%		21.64%		9.57%		16.66%	
N		3266		3270		3006		3264	
Outliers[b]		4		0		4		6	

The Table presents multivariate OLS regressions for each sample. Financial is a dummy variable assigned the value of one if the firm is from a financial or investment property industry and zero otherwise. 'Voluntary adopters' are firms having voluntarily adopted IFRS. 'Mandatroy adopters' are firms adopting IFRS mandatorily. 'Non-adopters' are firms that continue to report under other GAAP after 2005. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Standard errors are robust to heteroscedasticity and clustered at the firm level. **** = significant at 1%, *** = significant at 2%, ** = significant at 5%, * = significant at 10%. [b] Outliers were eliminated following the calculation of DFBETAS.

TABLE 7

Panel A: Percentage of voluntary adopters in individual industries relative to mandatory adopters within the same industry

Industry	Early	Transition	Total	Early/Total	
Equity Investment Instruments	0	4	4	0.00%	
Oil & Gas Producers	0	50	50	0.00%	
Tobacco	0	10	10	0.00%	
Misc	0	2	2	0.00%	
Fixed Line Telecommunications	2	48	50	4.00%	
Aerospace & Defence	2	36	38	5.26%	
Life Insurance	2	34	36	5.56%	
Food & Drug Retailers	4	46	50	8.00%	
Support Services	20	212	232	8.62%	
Gas, Water & Multi-utilities	4	40	44	9.09%	
Mining	2	20	22	9.09%	
Banks	14	138	152	9.21%	
Food Producers	12	118	130	9.23%	
Beverages	6	58	64	9.38%	
Household Goods	8	74	82	9.76%	
Oil Equipment & Services	4	36	40	10.00%	
Forestry & Paper	4	34	38	10.53%	
General Retailers	16	134	150	10.67%	
Travel & Leisure	16	134	150	10.67%	
Media	24	184	208	11.54%	
Construction & Materials	30	178	208	14.42%	
Real Estate	26	140	166	15.66%	
Industrial Transportation	16	86	102	15.69%	
General Industrials	12	64	76	15.79%	
Leisure Goods	8	40	48	16.67%	
Software & Computer Services	70	350	420	16.67%	
General Financial	22	104	126	17.46%	
Non-life Insurance	14	60	74	18.92%	
Technology Hardware & Equip.	28	116	144	19.44%	
Personal Goods	**20**	**80**	**100**	**20.00%**	**Classified under dummy *INDVOL***
Automobiles & Parts	**14**	**52**	**66**	**21.21%**	
Electronic, Electrical Equip.	**38**	**108**	**146**	**26.03%**	
Healthcare Equipment, Services	**32**	**78**	**110**	**29.09%**	
Pharmaceuticals, Biotechnology	**40**	**96**	**136**	**29.41%**	
Industrial Metals	**14**	**32**	**46**	**30.43%**	
Industrial Engineering	**74**	**166**	**240**	**30.83%**	
Electricity	**20**	**36**	**56**	**35.71%**	
Chemicals	**38**	**64**	**102**	**37.25%**	
Mobile Telecommunications	**6**	**10**	**16**	**37.50%**	

TABLE 8

Learning Curve for Analysts: Multivariate regressions for the transition sample (excluding financial firms) controlling for high levels of previous voluntary adoption in particular industries

$$IE_{it} = \beta_0 + \beta_1 INDVOL_t + \beta_2 AFTER_t + \beta_3 AFTER_t * INDVOL + \sum_{j=4}^{N} \beta_j controls + \varepsilon_{it} \quad (4)$$

		Forecast error		# of analysts		Analyst disagreement		Volatility of revisions	
Group	Parameter	Estimate	t	Estimate	t	Estimate	T	Estimate	t
Mandatory	Intercept	0.0549	4.65****	-8.6904	-12.8****	0.0383	13.63****	0.0311	15.38****
adopters	**After**	**-0.0121**	**-5.62******	**0.2223**	**1.76***	**-0.0083**	**-7.71******	**-0.0044**	**-5.14******
	INDVOL	0.0039	0.87	1.8247	2.18**	-0.0009	-0.41	0.0004	0.27
	After*INDVOL	**-0.0086**	**-2.00****	**-0.5143**	**-2.28****	**0.0024**	**1.18**	**0.0004**	**0.22**
	Market value	-0.0060	-10.67****	2.0508	25.77****	-0.0023	-9.11****	-0.0023	-11.58****
	Earnings surprise	0.0103	1.57	0.3286	4.19****	0.0076	0.51	0.0255	2.91****
	New forecasts	-0.0015	-1.74*			-0.0045	-0.97	0.0048	1.61
	Revision optimism	-0.0195	-2.82****			-0.0070	-2.04**	-0.0191	-6.64****
	Forecast horizon	0.0108	2.88****						
	Market return			-0.0068	-0.45				
Adj R-squared		10.43%		23.20%		8.79%		14.98%	
N		2784		2786		2522		2780	
Outliers[b]		6		4		6		10	

INDVOL is a dummy variable which is assigned the value of one if the firm is from a industry that had high levels of voluntary adoption and zero otherwise. 'voluntary adopters' are firms having voluntarily adopted IFRS. 'Mandatory adopters' are firms adopting IFRS mandatorily. 'Non-adopters' are firms that continue to report under other GAAP after 2005. Forecast error is the absolute error deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Standard errors are robust to heteroscedasticity and clustered at the firm level. **** = significant at 1%, *** = significant at 2% , ** = significant at 5%, * = significant at 10%. [b] Outliers were eliminated following the calculation of DFBETAS.

TABLE 9
Association between earnings reconciliation and change in information attributes

$$\Delta IE_{it} = \beta_1 POSITIVE * ERN^{IFRS\text{-}LOCAL\ GAAP} + \beta_2 NEGATIVE * ERN^{IFRS\text{-}LOCAL\ GAAP} + \sum_{j=3}^{N} \beta_j \Delta controls + \varepsilon_{it} \quad (5)$$

	Forecast error		**# of analysts**		**Analyst disagreement**		**Volatility of revisions**	
Positive	0.0005	0.09	-0.3274	-0.58	-0.0043	-1.70	-0.0011	-0.42
Negative	0.0052	0.75	-0.6601	-1.18	-0.0055	-1.48	-0.0018	-0.56
Positive*ERN$^{IFRS\text{-}LOCAL\ GAAP}$	**-0.2028**	**-2.56*** **	**-0.9916**	**-0.55**	**-0.0621**	**-1.94***	**-0.0701**	**-2.51*** **
Positive*Δmarket value	-0.0156	-2.50***	0.5525	2.67***	-0.0054	-3.21***	-0.0052	-2.65***
Positive*Δforecast horizon	0.0055	1.24			0.0008	0.39		
Positive*Δnew forecasts	-0.0008	-0.05			-0.0007	-0.18	0.0027	0.65
Positive*Δrevision optimism	0.0001	0.01			-0.0120	-2.75***	-0.0101	-2.35**
Positive*Δearnings surprise	0.0429	0.82	-0.7788	-1.28	0.0170	0.74	0.0024	0.16
Positive*Δcountry return			1.0533	6.05****				
Negative*ERN$^{IFRS\text{-}LOCAL\ GAAP}$	**0.0920**	**2.11** **	**1.0878**	**0.90**	**0.0224**	**1.85***	**0.0075**	**0.70**
Negative*Δmarket value	-0.0247	-2.53***	0.7442	3.99****	-0.0047	-0.90	-0.0035	-0.87
Negative*Δforecast horizon	0.0050	1.13			0.0000	-0.02		
Negative*Δnew forecasts	0.0000	0.00			-0.0034	-0.49	0.0134	1.85*
Negative*Δrevision optimism	-0.0010	-0.07			0.0015	0.28	0.0002	0.04
Negative*Δearnings surprise	-0.0351	-0.73	-0.9512	-1.01	0.0186	0.93	0.0163	0.93
Negative*Δcountry return			0.9976	5.73****				
Industry fixed effects	Yes		Yes		Yes		Yes	
Country fixed effects	Yes		Yes		Yes		Yes	
Adj R-squared	13.35%		37.86%		16.08%		12.66%	
N	1030		1030		936		1030	

Table 10 presents pooled OLS regressions. Dependent variables are differences between the level before and after 2005. Forecast error is the absolute error deflated by the closing stock price of the previous year. Forecast dispersion is the standard deviation of the forecasts deflated by the closing stock price of the previous year. Analyst following is the number of analysts forecasting earnings per share for a firm. Volatility of revisions is the standard deviation of the changes over the fiscal year in the median forecast deflated by the closing stock price of the previous year. Forecast horizon is the distance between the forecast and the fiscal period end. New forecasts are the percentage of the forecasts included in the consensus that are made during the statistical period that the consensus is calculated. Revision optimism is the number of upward revisions minus the number of downward revisions, deflated by the number of estimates. Earnings surprise is the change in earnings per share between two years deflated by the closing stock price of the previous year. Market return is the country return for each period. Standard errors are robust to heteroscedasticity. **** = significant at 1%, *** = significant at 2% , ** = significant at 5%, * = significant at 10%. All tests are two tailed.