Chaire d'information financière et organisationnelle

**Earnings Informativeness under Environmental Uncertainty:
Do IFRS and Legal Regime Make a Difference?**

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Abstract:

The objective of this paper is to investigate the impact of IFRS on earnings informativeness given environmental uncertainty for two different legal regimes, i.e. those in France and the United Kingdom. Our main results are the following. In a situation of sales decreasing (increasing), abnormal accruals are less (more) valued under IFRS than domestic GAAP, either for French or British GAAP. This is consistent with the view that investors are in a better position to detect opportunistic earnings management under IFRS. Concerning the stock market anticipation of earnings, except in France for sales decreasing firms, our results suggest that IFRS do not provide a significant improvement in this matter.

Key words: Earnings management, domestic GAAP, environmental uncertainty, IFRS.

**La pertinence des résultats comptables en contexte d'incertitude environnementale :
Incidence du référentiel IFRS et du régime légal**

Résumé :

Cette étude se propose d'analyser l'impact des IFRS sur l'appréciation des résultats comptables par les marchés boursiers en contexte d'incertitude dans deux contextes légaux différents, la France et la Grande-Bretagne : (1) sur la gestion des résultats et la valorisation boursière ; (2) sur le pouvoir d'anticipation des résultats comptables par les marchés boursiers. Nos résultats sont les suivants : en contexte de chiffre d'affaires est en baisse, les accruals anormaux sont moins valorisés en IFRS qu'en normes locales. L'inverse est observé pour le contexte du chiffre d'affaires en croissance. Deuxièmement, sauf pour la France et en contexte de chiffre d'affaires est en forte baisse, nos résultats montrent que le référentiel IFRS n'améliore pas de façon significative le pouvoir d'anticipation des résultats par les marchés boursiers.

Mots clés : Gestion des résultats, IFRS, incertitude environnementale, normes comptables locales.

Introduction

In this paper, we first investigate the impact of International Financial Reporting Standards (IFRS) and environmental uncertainty on investors' assessment of earnings management for two different legal regimes, France and the United Kingdom. Second, we analyze the ability of the stock market to anticipate earnings in such different contexts. Focusing analyses on individual countries instead of using a combined sample from many countries removes the need to control for potential confounding effects of country-specific factors unrelated to the financial reporting system (Barth *et al*., 2008).

Environmental uncertainty constrains corporate decisions and actions (Child, 1972; Williamson, 1975). However, managers do have opportunities to respond strategically to such uncertainty. Earnings management is an illustration of these opportunities (Ghosh and Olsen, 2009). It is in a firm's interests to reduce the variability of reported earnings and, consequently, information asymmetry between managers and investors (Gul *et al*., 2003; Ghosh and Olsen, 2009). The extent of opportunistic earnings management is likely to be greater in a context of high asymmetry (Dye, 1988; Trueman and Titman, 1988). Moreover, earnings management increases the uncertainty about a firm's future cash flows, which also creates asymmetry in the stock market (Bhattacharya *et al*., 2006). Finally, in an uncertain environment characterized by sales or earnings volatility, earnings management is assumed to be more difficult to detect because of a lack of stability in accounting figures. Accounting standards provides a degree of flexibility giving opportunistic discretion to managers in reporting earnings in an attempt to reduce the variability in reported earnings via accrual management (e.g. Bannister and Newman, 1996).

Our main findings are the following. First, the level of earnings management increased substantially in France following the adoption of IFRS while it remained quite stable in the UK. Second, in a situation of sales decreasing (increasing), abnormal accruals are less (more) valued under IFRS than domestic GAAP, either for French or British GAAP. This is consistent with the view that under IFRS, investors are in a better position to detect whether earnings are managed opportunistically or with the intent of signaling future prospects. Earnings management in a context of sales decreasing is likely to be opportunistic while earnings management in a context of sales increasing may signal future cash flows to investors. Our results suggest that abnormal accruals under IFRS are likely to be detected than under local GAAP when they are created opportunistically while providing a more credible signal about future cash flows than under local GAAP in a context of sales increasing. Third, concerning the ability of the stock market to anticipate earnings, our results suggest that IFRS do not provide a significant improvement in this matter. In a situation of high sales decreasing, IFRS provide a marginal improvement in the power for the stock market to anticipate earnings in France while we observe the opposite for the UK. In a context of sales increasing, our results suggest that IFRS do not provide a significant improvement in this matter.

Even if prior evidence documents that IFRS are more informative for market participants than domestic GAAP, in an uncertain environment, accounting discretion that confers IFRS may substantially mitigate earnings ability to reflect economic events previously captured by the market.

To the best of our knowledge, this study is the first to investigate how IFRS affect investors' assessment of earnings management, and the ability of the stock market to anticipate earnings in an uncertain environment as well as in different legal regimes.

The remainder of the paper is organized as follows. Section 2 presents the theoretical background and the development of hypotheses. The study's method is described in section 3. Results are presented in section 4. Finally, section 5 provides a discussion of the potential implications of the results.

2.   Background, Models and Hypotheses

The United Kingdom is a common law country with accounting standards focusing primarily on the needs of shareholders while France has a legal system based on civil law with accounting rules largely influenced by taxation laws. Ding *et al*. (2007) analyze determinants and effects of differences between domestic accounting standards and IFRS, so-called missing standards. Their findings show that missing standards are mainly determined by the importance of equity market and ownership concentration. The authors argue that a higher level of missing standards implies more opportunities for earnings management. In their results, France is ranked as having 21 missing standards while the United Kingdom is ranked as having zero. For the UK, most of the extra disclosure mandated by IFRS is in a narrative form (ICAS, 2008).

Leuz *et al*. (2003) show that opportunities for earnings management are more a matter of investor protection and that earnings management is expected to decrease in countries with high investor protection such as the UK since strong protection limits an insider's ability to acquire private control benefits through a masking of real performance.

There is some evidence that a switch from domestic GAAP to IFRS has a modest positive impact on market liquidity and on the cost of equity capital. Such improvement results from a reduction in information asymmetry between managers and investors following the adoption of

IFRS. This reduction in asymmetry results from higher quality financial reporting, higher analyst following and greater oversight by auditors and directors from the use of a common reference in accounting (Daske *et al*., 2008; Bruggerman *et al*., 2009). For example, in the United Kingdom, at the transition to IFRS, firms reporting IFRS earnings lower than earnings computed according to UK GAAP were penalized by the stock market (Horton and Serafeim, 2007).

However, it is interesting to note that firms that voluntarily adopt IFRS ahead of the mandated year of adoption experience a stronger improvement in the liquidity of their stock and in their cost of capital than firms that only adopt IFRS at the required date. Therefore, it is unlikely that IFRS adoption alone drives the improvement in financial reporting. Other regulatory or institutional changes probably take precedence. Hence, in the case of the United Kingdom, the high level of market oversight regulation prior to IFRS adoption should restrain the impact on the information environment.

2.1   *Stock Market Assessment of Earnings Quality under IFRS*

Armstrong *et al.* (2010) examine European stock market reactions to specific events associated with the adoption of IFRS by 18 countries. Based on a three-day market-adjusted return centered on 16 events, they find an incrementally positive reaction for firms with lower pre-adoption accounting disclosure quality, and with higher pre-adoption information asymmetry. This is consistent with investors expecting net information quality benefits from IFRS adoption. They also find an incrementally negative reaction for firms in code law countries, consistent with investors' concerns over enforcement of IFRS in those countries. Finally, Armstrong *et al.* (2010) show a positive stock market reaction to IFRS adoption events for

European firms with the highest quality pre-adoption information. According to the authors, this finding is consistent with investors expecting net gains associated with convergence in financial reporting.

A few studies investigate accounting choices at the transition to IFRS. Basically, these studies looked at determinants of optional choices at the IFRS adoption (Cazavan-Jeny and Jeanjean, 2007; Cormier *et al*., 2009). These optional choices are essentially determined by factors such as leverage, profitability, firm size, foreign listing, ownership, stock options, and industry membership. Concerning stock market valuation of IFRS adjustments, Cormier *et al*. (2009) show IFRS mandatory equity adjustments are more valued than French GAAP equity, suggesting that the first-time adoption of IFRS by French firms is perceived as a signal of increase in the quality of their financial statements. The value-relevance of optional IFRS equity adjustments depends on whether or not these adjustments reveal new information to market participants.

IFRS confer accounting discretion in financial reporting, especially with the introduction of fair value accounting. Jeanjean and Stolowy (2008) analyze the effect of the mandatory introduction of IFRS standards on earnings management for three countries: Australia, France, and the UK. They find that the pervasiveness of earnings management did not decline after the introduction of IFRS, and in fact increased in France. Their findings suggest that management incentives and national institutional factors play an important role in framing financial reporting characteristics.

Several studies document that investors systematically overreact to accrual-based accounting information (e.g. Pincus *et al*., 2007; Soares and Stark, 2009). Kaserer and Klingler (2008) address the question as to what extent this accrual anomaly is related to different

accounting standards. They provide empirical evidence that the accrual anomaly is also present in Germany. However, this anomaly seems mainly to be driven by firms presenting their financial statements under IFRS or US GAAP, while the anomaly is unlikely to exist for those firms complying with German GAAP. Kaserer and Klingler (2008) argue that introducing true and fair view accounting, like IFRS, that relies on difficult-to-verify information, may not be suitable to improve accounting information quality, especially when the corporate governance system is weak.[1]

Regarding the information impact of IFRS reconciliations for UK firms, Christensen *et al*. (2009) argue that because the British capital market is well developed, regulated, and dominated by equity-based financing, and because the disclosure quality of UK GAAP is arguably comparable to that of IFRS, it is unlikely that translating UK GAAP to IFRS earnings will in itself convey information about future operating cash flows. However, because accounting information is used in debt covenants, technical changes to how earnings are calculated may affect the distribution of wealth between lenders and shareholders. As expected, the authors find that (1) stock prices respond to IFRS reconciliation announcements, and (2) these market reactions are more pronounced among firms with a greater likelihood, and higher costs, of covenant violation.

Pincus *et al*. (2007) find that stock prices tend to overweigh the role of accruals persistence, especially abnormal accruals. They observe negative abnormal returns in year t+1 for countries having common law traditions such as Australia, Canada, the UK and the US.

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[1] In the same vein, Chan *et al.* (2009) show, in the UK context, a significant reduction in the negative return predictability of accruals among firms with poorer accounting information quality following the introduction of Financial Reporting Standard No. 3: Reporting Financial Performance (FRS3). Their findings suggest that regulatory interventions seeking to improve accounting information quality can in themselves reduce the mispricing of securities in the capital market.

Soares and Stark (2009) reach the same conclusion for a British sample (1989-2004) since they find that average annual abnormal returns generally decline as prior period accruals move from low to high. This outcome can be interpreted as being broadly consistent with the accruals anomaly via which investors overweigh the persistence of accruals and underweigh the persistence of cash flows in predicting the next period's earnings.

Landsman *et al.* (2009) investigate whether the information content of earnings announcements increases after mandatory IFRS adoption based on observations from 27 countries from 2000 to 2007 (16 countries' adoption of IFRS and 11 countries' remaining adoption of domestic accounting standards). Abnormal return volatility and abnormal trading volume are used as proxies for the information content of earnings announcements. They find that information content increased in IFRS-adopting countries, but this happens only when they use abnormal return volatility as a proxy for information content. If abnormal trading volume is used as a proxy, the increase in information content disappears. Moreover, they find that increases in abnormal return volatility are concentrated in code law countries.

Chen *et al*. (2009) compare the accounting quality of publicly listed companies in 15 member states of the European Union before and after the full adoption of IFRS in 2005. They use five indicators, namely, earnings smoothing, managing earnings toward targets, the magnitude of absolute discretionary accruals, accruals quality, and timely loss recognition as proxies for accounting quality. Their results are mixed. They find that the majority of accounting quality indicators improved after IFRS adoption in the European Union. However, prior research indicates that earnings smoothing and deferring losses are two popular earnings management vehicles. They find that firms engage in more earnings smoothing and recognize large losses in a less timely manner in post-IFRS periods.

Moreover, Hail *et al.* (2009) suggest the direct effect of IFRS adoption on the quality of U.S. financial reporting is likely to be small because US GAAP are of high quality. UK GAAP are much more in harmony with US GAAP than French GAAP (Ding *et al*., 2007). Then, we can expect IFRS to affect earnings quality to a lesser extent in the UK than in France. However, Healy and Whalen (1999) assert that if financial statements are to convey managers' information, accounting standards should allow managers to exercise their judgment and discretion in financial reporting. Indeed, IFRS provide a degree of flexibility that provides opportunities for managers to use discretion in reporting earnings with attempts to reduce the variability in reported earnings via the accrual process. In addition, managers may also use their discretion over accruals to enhance earnings informativeness (e.g. Goel and Thakor, 2003). Based on prior literature, we expect this opportunistic behavior to be less important under French GAAP than under UK GAAP.

The experience in the UK has shown that IFRS adoption has increased the level of information available to investors but at the same time has created more uncertainty among financial analysts about earnings forecasts. Moreover, we must keep in mind that earnings and the related components (normal and abnormal accruals) were already value relevant under UK GAAP, much more than under French GAAP.

Overall, based on prior research, we expect IFRS to have a larger impact in France than in the UK for stock market participants. Hence, we anticipate abnormal accruals to be more value relevant in France under IFRS while UK GAAP and IFRS should not differ in the way investors value abnormal accruals.

This gives rise to our first hypothesis:

H1a: IFRS increase the value relevance of earning management in France.

H1b: IFRS have no effect on the value relevance of earning management in the UK.

2.2   Environmental Uncertainty and Stock Market Assessment of Earnings Management (model 1)

Pfeffer and Salancik (1978) define environmental uncertainty as the degree to which future events and states cannot be anticipated or predicted. First, environmental uncertainty is likely to lead to more earnings management (Ghosh and Olsen, 2009). Second, market assessment of earnings management is likely to be influenced by environmental uncertainty. Third, we argue that the market assessment of earnings management is likely to differ between domestic GAAP and IFRS.

Prior research (e.g. Ghosh and Olsen, 2009) shows that managers use discretionary accruals to reduce variability in reported earnings for firms with high sales volatility. In our view, in a situation of high sales volatility, it is more difficult for investors to assess earnings quality. We expect the relationship between abnormal accruals and stock market value to be influenced by sales volatility. We also expect the relationship between abnormal accruals and stock market value in a situation of sales volatility to be affected by accounting standards, i.e. domestic GAAP versus IFRS.

Given the lack of prior evidence, we do not make any directional prediction as to how environmental uncertainty will affect stock market valuation of earnings management, and as to how IFRS will interfere in the valuation process. Hence, our second research hypothesis:

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H2: IFRS affect the incidence of uncertainty on the value relevance of earnings management.

2.3 Environmental Uncertainty and Stock Market Anticipation of Earnings (model 2)

Our approach to test the ability of the stock market to anticipate earnings is derived from Warfield and Wild's (1992) analysis of earnings recognition lag. Hence, market returns recognize economic events in advance of reported earnings. Warfield and Wild (1992) regress current earnings on prior returns to obtain evidence of current earnings recognizing economic events previously incorporated by the market. They alter the reporting period to understand characteristics of the overall earnings recognition lag. This approach limits potential contamination by noise in the dependent variable as returns are measured over the current and prior periods (Warfield and Wild 1992). This model allows obtaining evidence that earnings recognize the effect of prior periods' economic events in the current period.

We posit that earnings under IFRS have a larger power of anticipation by the stock market than under French GAAP. Contrary to French GAAP, IFRS confirm the primacy of financial markets in the determination of accounting standards, with the relevance of financial statements being mostly defined in terms of how useful they are to equity investors. As for the United Kingdom, we do not anticipate significant differences in stock market anticipation of earnings between UK GAAP and IFRS.

We put forward our third hypothesis:

H3a: IFRS increase the anticipation's power of earning by the stock market in France.

H3b: IFRS have no effect on the anticipation's power of earning by the stock market in the UK.

We also expect the power of earnings anticipation to be affected by sales volatility. However, given the lack of prior evidence in this matter, we do not make any directional prediction as to how environmental uncertainty will affect the power of earnings anticipation. Hence, our last hypothesis:

H4: IFRS affect the incidence of uncertainty on the anticipation's power of earning by the stock market.

3.   Method

3.1   Sample

Our sample is based on non-financial firms listed on the SBF250 in France and FTSE 100 and FTSE250 in the UK from 1997 to 2008. This gives a starting sample of 2,604 observations (217 firms) for France and 2,796 observations (233 firms) for the UK. For France, we exclude 5 firms that already comply with IFRS or US GAAP before 2005. This gives 212 firms for 2,544 observations. Since we use a lag variable for computing abnormal accruals, we lose one year of observations. This gives 2,387 firm-year observations for France and 2,563 for the UK. Considering missing data in the Compustat database, our sample is reduced to 1,895 for the French sample and 2,071 for the British sample. Stock markets suffered from a major downturn in 2008 (44% for the French sample and 36% for the UK sample). Since this fact could bias our

results, we decided to withdraw the year 2008 from our regression analyses. This leaves us with 1,648 firm-year observations for France, and 1,868 firm-year observations for the United Kingdom. Table 1 shows the details of our samples.

[Insert table 1]

3.2 Stock Market Valuation of Earnings Components (model 1)

The first empirical model is the following:

(1) Stock market value =

$\beta_0 + \beta_1$ Equity $_{it} + \beta_2$ Cash flow from operations $_{it} + \beta_3$ Normal accruals $_{it}$ +

β_4 Abnormal accruals $_{it} + \beta_5$ Abnormal accruals *IFRS $_{it}$ +

β_6 Abnormal accruals*Environmental uncertainty $_{it}$ +

β_7 Abnormal accruals* Environmental uncertainty *IFRS $_{it}$ +

β_8 Environmental uncertainty $_{it} + \beta_9$ IFRS $_{it}$ + ε

Variables are deflated by the number of shares outstanding at year-end. Interaction terms serve to assess how environmental uncertainty and IFRS affect stock market valuation of abnormal accruals. Both variables Environmental uncertainty and IFRS are binary variables.

Environmental Uncertainty

We measure environmental uncertainty by sales volatility, i.e. sales Z score. The z score for an item indicates how far and in what direction that item deviates from its distribution's mean, expressed in units of its distribution's standard deviation. The following corresponds to Z score:

$$Z_x = \frac{X - \mu_x}{\sigma_x}$$

Z score indicates how many standard deviations an observation is above or below the mean. It is derived by subtracting the mean from an individual raw score and then dividing the difference by the standard deviation. Z score is computed for each firm based on 12-year observations. Then, we compute Z score at industry level and reach a net industry sales variation score, so-called Z score net. We think that sales volatility at firm level must take into consideration the uncertainty that faces the whole industry in which the firm operates.

The interaction term *Abnormal accruals*Environmental uncertainty* is introduced. *Environmental uncertainty* is a binary variable that takes the value of one if Z score net is greater than or equal to the sample median. We then replicate our analyses for negative and positive Z score net. In these cases, the median is based on each sub-sample, i.e., the median for the group Z score net < 0 and the group Z score net > 0.

Abnormal Accruals

The estimation of an accruals determination model requires the specification of potential sources of abnormal accruals. From the literature, it appears that three key variables are closely linked with normal accruals: (1) underlying performance, (2) level of depreciable fixed assets, (3) lagged cash flow from operations (e.g. Dechow *et al.* 1995; Erickson and Wang, 1999) or lagged accruals (Beneish, 1997; Defond and Park, 1997). First, a firm's underlying performance is expected to influence its level of normal accruals, with good performance implying higher accruals than poor performance (e.g. receivables or inventories). A comprehensive measure of a firm's underlying performance is the year-to-year change in sales (e.g. Jones, 1991). Second, the variable Property, plant and equipment (PPE) is included in order to control for systematic accruals resulting from depreciation, i.e., the normal part of depreciation (Jones, 1991). Third, lagged cash flow from operations has been observed to be negatively correlated with accruals of the current period (Dechow, 1994).

We measure total accruals as the difference between net earnings and cash flow from operations. Hribar and Collins (2002) argue that the difference between net income and cash flow from operations is the correct measure of total accruals and that the use of a balance sheet approach may lead to a systematic bias in discretionary accruals estimation. They show that balance sheet accruals estimates are predictably biased in studies where the partitioning event is correlated with either mergers and acquisitions or discontinued operations. The authors demonstrate that tests of market mispricing of accruals will be under-stated due to erroneous

classification of "extreme" accruals firms.[2] While a firm's total accruals are easily accessible

from its financial statements, normal and abnormal accruals are not directly observable and must

be inferred through an estimation model. Normal accruals reflect a firm's economic environment

or its underlying level of activity, independent of managerial incentives. For a given firm (i),

current period (t) total normal accruals are modeled in the following manner:

$$\text{Total accruals}_{it} = \alpha_1 \text{ Change in sales}_{it} + \alpha_2 \text{ Operating Cash flow}_{it-1} + \alpha_3 \text{PPE}_{it} + \varepsilon_{it}$$

Our estimation of normal accruals is cross-sectional based on industry and year specific

observations (9 industries for 12 years, from 1997 to 2008). Observations vary substantially

among industries: from 60 for utilities to 560 for consumer discretionary in France, and from 39

for telecom to 763 for industrials in the UK.

3.3 *Stock Market Anticipation of Earnings (model 2)*

Based on Warfield and Wild (1992), our second empirical model is the following:

(2) Return on equity =

$\beta_0 + \beta_1 \text{ Stock return}_{it} + \beta_2 \text{ Stock return}_{it-1} + \beta_3 \text{ Stock return}_{it-2} + \beta_4 \text{ Stock return *IFRS}_{it}$

$+ \beta_5 \text{ Stock return *IFRS}_{it-1} + \beta_6 \text{ Stock return *IFRS}_{it-2} + \beta_7 \text{ IFRS} + \varepsilon$

Where:

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[2] The balance sheet method of accruals may create bias in the estimation of normal accruals when the firm is involved in mergers and acquisitions. Hence, the change in working capital accounts can be affected by the operation of mergers and acquisitions without any earnings management intention.

Return on equity = Net earnings / Shareholders' equity

Stock return $_{it}$ = (Price year-end – Price beginning of the period + dividend per share) /

Price beginning of the period

Warfield and Wild (1992) suggest that three periods are sufficient to capture the effect of market leading annual earnings.

Our tests are based on the comparison of the estimated coefficients across regressions. Higher estimated coefficients for the return variables would be consistent with greater recognition of earnings by the market in the year indicated. If earnings have a predictive power for investors, they should be anticipated much before the release of the annual report. The interaction term *Stock returns*IFRS* serves to assess the incidence of IFRS on stock market anticipation of earnings.

Finally, we withdraw from regressions observations with negative equity (20 observations for France and 48 observations for the UK).

4.   **Results**

4.1   Descriptive Statistics

Table 2a and 2b present earnings components in domestic GAAP and according to IFRS. We observe much more abnormal accruals under IFRS compared with French GAAP (median of 0.23 €per share for IFRS versus 0.06 €per share for French GAAP). This result holds in a context of uncertainty and for both sales increases and sales decreases relative to firms' industry

membership.[3] However, a switch from UK GAAP to IFRS does not generate a large difference

in abnormal accruals levels (median of 0.02 €per share under IFRS versus -0.02 €per share for

UK GAAP). Overall, these results suggest that the IASB's goal of facilitating international

harmonization and comparability of financial statements has been reached.

[Insert table 2a and 2b]

4.2   Multivariate Results

We estimate regressions using GLS with random effects. The test of Breusch-Pagan /

Cook-Weisberg shows the presence of heteroscdasticity. Hence, the error structure among panels

is presumed to be heteroscedastic. In addition, we exclude from regressions all observations with

standardized residuals exceeding two.

4.2.1   Stock Market Valuation

Results from GLS cross-sectional regressions on stock market valuation of earnings

components are presented in table 3. First, in France, we observe more abnormal accruals under

IFRS (refer to table 2a) and, consistent with hypothesis 1a, these accruals are valued since the

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[3] However, we observe large earnings smoothing under French GAAP (5.14 small profits compared to one small loss) compared with IFRS (2.43 profits for one loss). More specifically, under sales decreasing, there is an attempt by French firms to avoid losses since we observe a proportion of near 14 small profits compared to one small loss for French GAAP versus 5.50 for IFRS. Earnings smoothing is not observed in the UK (2.90 small profits compared to one small loss for UK GAAP compared to 2.27 under IFRS). Consistent with Leuz *et al*. (2003), small losses are defined to be in the range [-0.01, 0.00] and small profits are defined to be in the range [0.00, 0.01].

coefficient on the interaction term *Abnormal accruals*IFRS* is positive and significant (1.17; p < 0.01). Second, in the UK, consistent with hypothesis 1b, we do not observe a significant change in earnings management practices following the adoption of IFRS (refer to table 2b), and abnormal accruals seem to be valued in the same proportion according to UK GAAP and IFRS since the coefficient on the interaction term *Abnormal accruals*IFRS* is not significant at a conventional level.

[Insert table 3]

Kothari *et al.* (2005) suggest that Jones model adding profitability yelds erratic performance improvements. As a sensitivity analysis, for a given firm (i), current period (t) total normal accruals are modeled in the following manner (scaled by number of shares outstanding):

$$\text{Total accruals }_{it} = \alpha_1 + \alpha_2 \text{ Change in Sales }_{it} + 0.160 \text{ PPE }_{it} + \text{Lag Earnings }_{it}$$

Results (not tabulated) provide quite similar results. For France, coefficients on *Abnormal accruals* (2.02 versus 2.60) and on the interaction term *Abnormal accruals*IFRS* (1.01 versus 1.17) are quite similar. Moreover, we still observe higher earnings increasing abnormal accruals under IFRS with quite similar means of Abnormal accruals for both models (0.23 €per share for Kothari et al.'s model versus 0.26 €per share). The similarity is also observed under French GAAP (-0.17 €per share versus -0.15€per share).

As for the UK, the coefficient on the interaction term *Abnormal accruals*IFRS* still remains non significant at a conventional level. The coefficient on *Abnormal accruals* is slightly lower with Kothari *et al.*'s (2005) model (2.91 versus 4.07). Moreover, we still observe similar

levels of abnormal accruals under IFRS (0.04 €per share for both models under IFRS) and a

slight difference under UK GAAP (0.06 €per share Kothari *et al.* versus 0.05 €per share).

The Role of Environmental Uncertainty

France

In table 4a, we present results for the French context, relying on GLS cross-sectional

regressions on stock market valuation of earnings components considering sales volatility. Prior

evidence suggests that earnings informativeness under French GAAP is quite low compared with

Anglo-Saxon countries. In a comparative study involving France, Switzerland and the United

States, Cormier *et al*. (2001) show that the information content of earnings to explain stock

returns is much lower for French firms compared with US firms or even Swiss firms (R^2 of 3.3%

for France, 4.3% for Switzerland and 28.2% for the United States).

Our results show that environmental uncertainty affects the relationship between earnings

management and stock market value since the coefficient on *Abnormal accruals*Environmental

uncertainty* is positive and significant (3.62; $p < 0.01$). For the total sample, in a situation of high

sales uncertainty (Absolute Z score net greater than the median), abnormal accruals are valued at

3.91 (1.87+1.40+3.62-2.98=3.91) for IFRS versus 5.49 (1.87+3.62) for French GAAP. This is

consistent with hypothesis 2. IFRS affect the impact of environmental uncertainty on the

relationship between earnings management and stock market value.

The coefficient on the variable *Abnormal accruals*IFRS* is positive and significant for

sales increasing firms (2.34; $p < 0.05$) suggesting that in the short run, abnormal accruals are

more valued under IFRS. This is likely to create or enhance market anomaly as observed in the UK by Pincus *et al.* (2007) and Soares and Stark (2009).

In a situation of sales decreasing, abnormal accruals are valued at 0.75 (1.30+2.15-2.70=0.75) for IFRS versus 3.45 (1.30+2.15) for French GAAP. Abnormal accruals are less valued under IFRS than under French GAAP in a sales decreasing situation. We observe the opposite relationship for high sales increasing firms since the coefficient on the interaction term *Abnormal accruals*IFRS* is positive and significant (2.34; $p < 0.05$).

Our results hold when we split the sample between high sales decreasing and high sales increasing firms.

The model is the following:

(1.1) Stock market value =

$\beta_0 + \beta_1$ Equity $_{it} + \beta_2$ Cash flow from operations $_{it} + \beta_3$ Normal accruals $_{it} +$

β_4 Abnormal accruals $_{it} + \beta_5$ Abnormal accruals *IFRS $_{it} + \beta_6$ IFRS $_{it} + \varepsilon$

Based on negative Z score net greater than the median, abnormal accruals are less valued for high sales decreasing firms under IFRS (-2.96; $p < 0.01$) and more valued under IFRS for high sales increasing firms (1.88; $p < 0.05$). In addition, IFRS per se (main effect) enhance market valuation in a high sales increasing environment (3.62; $p < 0.01$) while the opposite is observed for a high sales decreasing environment (3.90; $p < 0.01$).

Our findings are consistent with the view that investors are in a better position to detect opportunistic earnings management under IFRS. Earnings management in a context of sales decreasing is likely to be opportunistic while earnings management in a context of sales increasing may signal future cash flows to investors. Our results may indicate that accruals under IFRS provide a more credible signal of future cash flows than under French GAAP. As such, it appears that IFRS contribute to the detection by investors of earnings management.

[Insert table 4a]

The United Kingdom

Table 4b presents results for the British context, relying on GLS cross-sectional regressions on stock market valuation of earnings components taking into account sales volatility. Consistent with hypothesis 2, IFRS affect the incidence of environmental uncertainty on the relationship between earnings management and stock market value since the coefficient

on *Abnormal accruals*Z Environmental uncertainty*IFRS* is significant (3.21; p < 0.01).

However, contrary to the French context, in a situation of sales volatility, abnormal accruals are more valued under IFRS (3.76-2.74+3.21 = 4.23) than under UK GAAP (3.76).

Abnormal accruals are less valued under IFRS than UK GAAP in a situation of sales decreasing (7.49 – 5.59 + 2.94 = 4.84 under IFRS versus 7.49 under UK GAAP. An explanation could be that we observe more increasing earnings management when Z score net < 0 (mean abnormal accruals of 0.08 vs. -0.02). This is consistent with the view that investors are in a better position to detect opportunistic earnings management under IFRS.

Pincus et al. (2007) find that stock prices tend to overweigh the role of accruals persistence, especially abnormal accruals. They observe negative future abnormal returns for countries having common law traditions. In this paper, we provide some empirical evidence related to the existence, or otherwise, of the accruals anomaly in the UK stock market, especially under UK GAAP. Soares and Stark (2009) reach the same conclusion for a British sample (1989-2004) since they find that average annual abnormal returns generally decline as prior period accruals move from low to high.

In a sales increasing environment (Z net > 0), abnormal accruals are more valued under IFRS than under UK GAAP (1.43 -1.63+2.89 = 2.69 versus 1.43). Finally, IFRS per se enhance (reduce) market valuation in a high sales increasing (decreasing) environment.

As it is the case for France, our results hold when we split the sample between high sales decreasing and high sales increasing firms. Based on negative Z score net greater than the median, consistent with results observed in France, abnormal accruals are less valued for high sales decreasing firms under IFRS (-4.85; p < 0.01) and more valued under IFRS for high sales increasing firms (1.55; p < 0.01). In addition, IFRS per se (main effect) enhance market

valuation in a high sales increasing environment (0.91; p < 0.01) while the opposite is observed for a high sales decreasing environment (-0.91; p < 0.01).

In summary, in the UK, abnormal accruals are less (more) valued for sales decreasing (increasing) firms under IFRS. Under IFRS, the French market reacts negatively to high sales uncertainty but essentially in a context of high uncertainty while the UK market seems to react earlier in the uncertainty process. Considering that market participants are more concerned with sales decreasing than with sales increasing, our results suggest that IFRS play an important role in the market assessment of earnings quality. Moreover, the higher market valuation of abnormal accruals for sales increasing firms under IFRS may indicate that accruals under IFRS provide a more credible signal of future cash flows than under UK GAAP.

[Insert table 4b]

4.2.2 Anticipation of Earnings

France

For the second set of findings, in table 5a, we present correlations between return on equity and stock returns for French firms. Essentially, consistent with hypothesis 3a, we observe that the stock market anticipation of earnings under IFRS is greater than under French GAAP. Correlations are all positive and significant for IFRS while French GAAP only shows significant correlations for sales increasing firms.

[Insert table 5a]

From table 5b, we show results from GLS cross-sectional regressions on the stock market anticipation of earnings in the French context. For the total sample, consistent with hypothesis 3a, the stock market anticipation of earnings under IFRS appears to be greater than under French GAAP since the coefficient on the interaction term *Ri t-2*IFRS* (0.026; $p < 0.01$) is positive and significant.

Consistent with hypothesis 4, the power of earnings anticipation appears to be affected by sales instability. For high sales decreasing firms(negative Z net greater than the median), the power of anticipation of earnings under IFRS is higher than under French GAAP since coefficient on interaction terms *Ri*IFRS* (0.056; $p < 0.05$) and *Ri t-2*IFRS* (0.065; $p < 0.01$) are positive and significant. For firms facing decreases in sales, fair value accounting, which is an important notion in IFRS (e.g. impairment of assets), may lead to earnings that better reflect economic reality compared to French GAAP. In an efficient market, investors will anticipate this "real earnings". This could explain why earnings under IFRS are better anticipated by investors.

For high sales increasing firms (positive Z net greater than the median), our results suggest that IFRS do not provide a significant improvement in this matter since two coefficients on interaction terms are negative -0.109; $p < 0.01$ and -0.057; $p < 0.01$) and one is positive (0.027; $p < 0.01$).

[Inset table 5b]

The United Kingdom

In table 6a, we present correlations between return on equity and stock returns for British firms. We observe that the power of the stock market to anticipate earnings under UK GAAP is

greater than under IFRS. This result is somewhere in line with our hypothesis 3b since we expect IFRS not to provide any marginal power of market anticipation of earnings over UK GAAP.

[Insert table 6a]

From table 6b, we show results from GLS cross-sectional regressions on stock market anticipation of earnings in the British context. For the total sample, IFRS does not seem to offer a better power on stock market anticipation of earnings than UK GAAP since the coefficient on the interaction term *Ri t-1*IFRS* (0.026; p < 0.01) is negative and significant while the coefficient on the interaction term *Ri t-2*IFRS* (-0.031; p < 0.01) is negative and significant. This result is consistent with hypothesis 3b.

Consistent with hypothesis 4, the power of anticipation of earnings seems to be affected by sales volatility. For high sales decreasing firms (negative Z net greater than the median), IFRS appear to offer a lower power of anticipation of earnings than UK GAAP. Hence, coefficient on *Ri t-1*IFRS* (-0.134; p < 0.01) and *Ri t-2*IFRS* (-0.145; p < 0.01) are negative and significant.

For high sales increasing, our results suggest that IFRS do not provide a significant improvement in this matter since one coefficients on interaction terms is positive (0.043; p < 0.01 and 0.021; p < 0.01) while two coefficients are negative (-0.026; p < 0.10).

[Insert table 6b]

4.2.4 Results Summary

In summary, in the situation of high sales decreasing, our results show that abnormal accruals are less valued under IFRS than domestic GAAP, either for French or British GAAP. Second, IFRS provide a marginal improvement in the power for the stock market to anticipate earnings in France while we observe the opposite for the UK. Second, in a situation of high sales increasing, our results show that abnormal accruals are more valued under IFRS than domestic GAAP, either for French or British GAAP. An explanation could be that in such a positive context, IFRS provide more relevant information to market participants to assess the value relevance of earnings. Third, in a situation of high sales decreasing, domestic GAAP provide a higher power of anticipation of earnings than IFRS in France while the opposite is observed in the UK.

5. Conclusion

The objective of this paper was to investigate the incidence of environmental uncertainty on earnings informativeness for two different legal regimes, those in France and the United Kingdom, considering the impact of IFRS.

Our findings show that the level of earnings management increased substantially in France following the adoption of IFRS while it remained quite stable in the UK. Both in France and in the UK, abnormal accruals are less (more) valued under IFRS than under local GAAP for sales decreasing (increasing) firms. Our results suggest that market participants have difficulty to detect earnings management in contexts of uncertainty, especially in France for firms facing a sales reduction. Hence, abnormal accruals are less valued by the stock market in this context for

earnings computed according to IFRS compared with domestic GAAP. As such, it appears that IFRS contribute to the detection by investors of earnings management. Earnings in a context of sales decreasing are likely to be opportunistically managed while earnings management in a context of sales increasing may signal future cash flows to investors. Our results may indicate that IFRS allows the detection of abnormal accruals to a larger extent than local GAAP when they are produced opportunistically and provide a more credible signal about future cash flows than under local GAAP in a context of sales increasing.

Concerning the stock market anticipation of earnings, our results suggest that IFRS do not provide a significant improvement in this matter. In a sales decreasing environment, IFRS provide a marginal improvement in the power for the stock market to anticipate earnings in France while we observe the opposite for the UK. In a sales increasing environment, our results suggest that IFRS do not provide a significant improvement in this matter. Even though IFRS are usually perceived as being more informative for market participants, in a context of uncertainty, the extensive discretion in financial reporting that it provides may cancel out the superiority over domestic GAAP.

Considering that we can assume that investors are more concerned with a sales decreasing environment than a sales increasing environment, our results suggest that IFRS play an important role in assessing earnings quality. However, our results do not allow us to conclude as to the ability of IFRS to improve the power of the stock market to anticipate earnings.

In our view, this study contributes to our understanding of earnings informativeness in the following manner. We extend prior literature (e.g. Ghosh, 2009) suggesting that managers use abnormal accruals to reduce the variability in reported earnings more when firms operate in a context of sales volatility. Our contribution is threefold. First, we assess the impact of

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environmental uncertainty on earnings informativeness for two different legal regimes, i.e. code law and common law. Second, we investigate the role played by the adoption of an international accounting framework in this process. Third, we investigate the impact of environmental uncertainty on investors' assessment of earnings, not only referring to a global measure of uncertainty, but also for sales increasing and sales decreasing situations. To the best of our knowledge, this study is the first to investigate how IFRS affect earnings informativeness in a context of environmental uncertainty, and in two different legal regimes.

The results of this study should be interpreted with caution for at least the following reason. As in all earnings quality studies, the present study relies on specific measures of abnormal accruals that may not completely capture the underlying phenomenon. However, we feel that relying on industry-specific estimations over a twelve-year period provides more confidence in the results. Moreover, using an alternative estimation model of abnormal accruals does not alter our results.

Future research may extend analyses to other countries to better assess the role of a country level governance context. Such an approach would allow for a better investigation of how differences between domestic GAAP and IFRS affect investors' assessment of earnings in a context of environmental uncertainty.

Table 1
Sample
Firm-year observations

	Model 1		Model 2	
	France	UK	France	UK
Initial sample	2 604	2,796	2,604	2,796
Firms listed after 1997	-407	-356	-407	-356
Firms complying with IFRS or US GAAP before 2005	-60	-	-60	-
Missing data lag cash flow for operations	-176	-267	-	-
Missing data Ri t-1 and R- t-2	-	-	-434	-466
Negative equity			-20	-48
Other missing data	-101	-22	-103	-306
Total sample	1,895	2071	1,585	1,620
Year 2008	-212	-233	-212	-233
Final sample	1 648	1,868	1,368	1,387

Table 2a
Descriptive statistics
(In €per share)
France

Panel A- Total sample (N: 1,895)	Min.	Max.	Mean	Median	Std dev.
French GAAP					
Cash flow from operations	-21	76	4.46	2.30	4.46
Normal accruals	-36	3.14	-1.87	-1.19	2.25
Abnormal accruals	-8	3.26	-0.15	0.06	0.99
IFRS					
Cash flow from operations	-5	660	5.56	3.33	24.07
Normal accruals	-630	0.98	-3.17	-1.51	22.73
Abnormal accruals	-8	9	0.26	0.23	1.46
Panel B- Z score net > 0					
French GAAP					
Abnormal accruals	-7	3	-0.17	0.02	0.93
IFRS					
Abnormal accruals	-6	9	0.25	0.23	1.32
Panel C – Z score net < 0					
French GAAP					
Abnormal accruals	-8	3	-0.14	0.07	1.04
IFRS					
Abnormal accruals	-9	7	0.29	0.26	1.85

Table 2b

Descriptive statistics
(In €per share)
United Kingdom

Panel A- Total sample (N: 2,071)	Min.	Max.	Mean	Median	Std dev.
UK GAAP					
Cash flow from operations	-5	504	1.42	0.32	15.19
Normal accruals	-26	1.40	-0.26	-0.12	0.91
Abnormal accruals	-2	4	-0.03	-0.02	0.25
IFRS					
Cash flow from operations	-17	691	2.48	0.46	25.41
Normal accruals	-30	0.32	-0.52	-0.16	1.93
Abnormal accruals	-4	7	0.05	0.02	0.53
Panel B- Z score net > 0					
UK GAAP					
Abnormal accruals	-1	0.9	-0.05	-0.03	0.17
IFRS					
Abnormal accruals	-4	6	0.04	0.02	0.38
Panel C – Z score net < 0					
UK GAAP					
Abnormal accruals	-2	4	-0.02	-0.01	0.29
IFRS					
Abnormal accruals	-3	7	0.08	0.02	0.77

Table 3
GLS Cross-Sectional Regression on
Stock Market Valuation of Earnings Components

Dependent variable: Stock market value		France	United Kingdom
Equity	+	***0.87	***0.40
Cash flow from operations	+	***2.85	***5.67
Normal accruals	+	***2.84	***4.02
Abnormal accruals	+	***2.60	***4.07
Abnormal accruals*IFRS	+/-	***1.17	-0.27
IFRS	+/-	***6.62	***0.92
N		1,648	1,868
Wald test		4,363(0.00)	3,289(0.00)
		61 outliers	86 outliers

*: p < 0.10; **: p < 0.05; ***: p < 0.01.One-tailed if directional prediction, two-tailed otherwise.

Table 4a
GLS Cross-Sectional Regression on Stock Market Valuation of Earnings Components
and Environmental Uncertainty

France

Dependent variable: Stock market value		Abs Z score net	Z score net < 0	Z score net > 0
Equity	+	***0.88	***0.85	***0.79
Cash flow from operations	+	***2.76	***1.78	***3.79
Normal accruals	+	***2.74	***1.78	***3.47
Abnormal accruals	+	***1.87	***1.30	***3.64
Abnormal accruals*IFRS	+/-	***1.40	0.64	**2.34
Abnormal accruals*Environmental uncertainty	+/-	***3.62	***2.15	0.78
Abnormal accruals* Environmental uncertainty*IFRS	+/-	***-2.98	***-2.70	-1.29
Z score net	+/-	***3.50	***4.03	0.12
IFRS	+/-	***5.03	***4.65	***6.42
N		1,648	776	872
Wald test		4,674(0.00)	2,803(0.00)	3,516(0.00)
		61 outliers	33 outliers	28 outliers
High sales uncertainty				
Z score net > median				
Abnormal accruals	+	***6.45	***4.46	***4.40
Abnormal accruals*IFRS	+/-	***-2.27	***-2.96	**1.88
IFRS	+/-	***3.61	***-3.90	***3.62
		40 outliers	19 outliers	21 outliers

*: p < 0.10; **: p < 0.05; ***: p < 0.01.One-tailed if directional prediction, two-tailed otherwise.

Table 4b
GLS Cross-Sectional Regression on Stock Market Valuation of Earnings Components
and Environmental Uncertainty
United Kingdom

Dependent variable: Stock market value		Abs Z score net	Z score net < 0	Z score net > 0
Equity	+	***0.40	**0.08	***0.32
Cash flow from operations		***5.64	***7.53	***5.64
Normal accruals	+	***3.87	***6.76	***1.50
Abnormal accruals	+	***3.76	***7.49	***1.43
Abnormal accruals*IFRS	+/-	***-2.74	***-5.59	*-1.63
Abnormal accruals* Environmental uncertainty	+/-	0.36	-0.59	0.44
Abnormal accruals* Environmental uncertainty*IFRS	+/-	***3.21	*2.94	**2.89
Z score net	+/-	-0.02	**0.32	**-0.24
IFRS	+/-	***0.99	-0.06	***1.34
N		1,868	895	973
Wald test		3,151(0.00)	1,500(0.00)	3,025(0.00)
		81 outliers	24 outliers	57 outliers
High sales uncertainty				
Z score net > median				
Abnormal accruals	+	***4.83	***9.49	***3.15
Abnormal accruals*IFRS	+/-	***-4.73	***-4.85	***1.55
IFRS	+/-	***0.81	***-0.91	***0.91
		65 outliers	40 outliers	25 outliers

*: p < 0.10; **: p < 0.05; ***: p < 0.01.One-tailed if directional prediction, two-tailed otherwise.

Table 5a
Correlations
Stock Market Anticipation of Earnings
and Environmental Uncertainty
(Return on equity for year t)
France

	French GAAP	IFRS	French GAAP	IFRS	French GAAP	IFRS
			Z score net < 0		*Z score net > 0*	
Ri t	-0.01	*0.22	-0.03	*0.41	*0.25	*0.16
Ri t-1	0.05	*0.19	0.05	*0.29	*0.21	*0.19
Ri t-2	0.03	*0.14	0.04	*0.12	0.01	*0.16

Table 5b
GLS Cross-Sectional Regression on Stock Market Anticipation of Earnings
in a context of Environmental Uncertainty
France

Dependent variable: Return on equity in t		Total	*Z score net < 0*	*Z score net > 0*
Ri t	+	***0.054	***0.055	***0.073
Ri t-1	+	***0.043	***0.053	***0.073
Ri t-2	+	0.001	***0.001	0.003
Ri t*IFRS	+/-	-0.001	0.039	***-0.037
Ri t-1*IFRS	+/-	-0.007	0.026	***-0.049
Ri t-2*IFRS	+/-	***0.026	0.042	***0.017
IFRS	+/-	***0.018	0.005	***0.036
N		1,368	554	814
Wald test		340.6(0.00)	798.7(0.00)	261.7(0.00)
		5 outliers	5 outliers	0 outlier
High sales uncertainty Z score net > median				
Ri t	+		***0.061	***0.137
Ri t-1	+		***0.048	***0.078
Ri t-2	+		-0.003	0.001
Ri t*IFRS	+/-		**0.056	***-0.109
Ri t-1*IFRS	+/-		0.009	***-0.057
Ri t-2*IFRS	+/-		***0.065	***0.027
IFRS	+/-		-0.010	***0.103
			2 outliers	0 outliers

*: p < 0.10; **: p < 0.05; ***: p < 0.01.One-tailed if directional prediction, two-tailed otherwise.

Table 6a
Correlations
Stock Market Anticipation of Earnings
and Environmental Uncertainty
(Return on equity for year t)
United Kingdom

	UK GAAP	IFRS	UK GAAP	IFRS	UK GAAP	IFRS
			Z score net < 0		*Z score net > 0*	
Ri t	*0.07	-0.01	*0.06	-0.10	*0.08	0.01
Ri t-1	*0.05	0.01	*0.09	*0.11	*0.05	-0.01
Ri t-2	0.02	*-0.11	-0.03	*-0.12	0.03	*-0.10

United Kingdom

Dependent variable:		Total	*Z score net < 0*	*Z score net > 0*
Return on equity in t				
Ri t	+	***0.024	***0.019	***0.026
Ri t-1	+	***0.035	***0.032	***0.032
Ri t-2	+	***0.018	0.004	**0.012
Ri t*IFRS	+/-	0.001	0.034	**-0.029
Ri t-1*IFRS	+/-	**0.026	***0.101	***0.050
Ri t-2*IFRS	+/-	***-0.031	***-0.064	-0.008
IFRS	+/-	***0.042	***0.076	***0.033
N		1,387	546	841
Wald test		210.3(0.00)	309.4(0.00)	182.8(0.00)
		16 outliers	3 outliers	13 outliers
High sales uncertainty				
Z score net > median				
Ri t	+		**0.039	0.002
Ri t-1	+		**0.028	**0.015
Ri t-2	+		**0.029	**0.027
Ri t*IFRS	+/-		-0.025	***0.043
Ri t-1*IFRS	+/-		***-0.134	**0.021
Ri t-2*IFRS	+/-		***-0.145	*-0.026
IFRS	+/-		***0.094	***0.055
			2 outliers	4 outliers

*: $p < 0.10$; **: $p < 0.05$; ***: $p < 0.01$. One-tailed if directional prediction, two-tailed otherwise.

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