Value Relevance of Discretionary Accruals under Environmental Uncertainty: The Incidence of IFRS and the Legal System

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Abstract:

The aim of this paper is to investigate the impact of IFRS on the value relevance of
discretionary accruals given environmental uncertainty for two different legal
regimes, i.e. France and the United Kingdom. Our main findings are the following.
First, IFRS improve the value relevance of discretionary accruals in a larger extent
in France in comparison to the UK. Second, using a net of industry proxy for
environmental uncertainty, in a situation of high negative sales variation,
discretionary accruals are less valued under IFRS than local GAAP. This is
consistent with the view that opportunistic earnings management would be easier
to detect under IFRS. Hence, IFRS are generally considered more stringent and
detailed than the domestic accounting standards they replace. Third, in a situation
of high positive sales variation, discretionary accruals, which are likely to provide a
credible signal about future cash flows, are more valued under IFRS than French
GAAP. In that regard, no significant difference is observed between IFRS and UK
GAAP.

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

In this paper, focusing on a context of environmental uncertainty (sales variability), we investigate the impact of IFRS on the value relevance of accruals for two different legal systems, France and the United Kingdom. The theory of the firm (e.g. Child, 1972; Williamson, 1975) recognizes that environmental uncertainty places considerable constraints on firms, affecting strategy and decision-making. However, managers do have opportunities to respond strategically to uncertainty. Earnings management is an illustration of these opportunities (Ghosh and Olsen, 2009). Hence, 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 may increase the uncertainty about a firm’s future cash flows, which also creates asymmetry in the stock market (Bhattacharya et al., 2006).

In an uncertain environment characterized by sales or earnings variability, it is assumed that earnings management is more difficult to detect because of a lack of stability in accounting figures, which could affect its information content for investors. Accounting standards, including International Financial Reporting Standards (IFRS), provide a degree of flexibility that gives 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). However, IFRS are generally considered more stringent and detailed than the domestic accounting standards they replace, allowing stock market participants to better assess earnings quality in an uncertain context.

LaPorta et al. (1997, 1998) document that legal rules protecting investors vary systematically among legal traditions or origins, common law countries (originating in English law) being more protective of outside investors and having less government ownership and regulation than civil law countries (originating in Roman law) and especially French civil law countries. Over the years, the United Kingdom developed accounting standards focusing primarily on the needs of shareholders and investors while in France, accounting rules have been largely influenced by taxation laws. Hence, we posit that a country’s legal system may affect the level of earnings management and investors’ assessment of earnings management, especially in an uncertain environment.

Therefore, we expect the relationship between discretionary accruals and stock market value to be influenced by sales variability as well as the accounting referential, i.e. domestic GAAP versus IFRS.

Our main findings are the following. First, IFRS improve the value relevance of discretionary accruals in a larger extent in France in comparison to the UK. Second, in a situation of high negative sales variation relative to the industry, discretionary accruals are more valued under IFRS than local GAAP, consistent with the argument that opportunistic earnings
management would be more detected under IFRS. Third, our results suggest that in a context of high positive sales variation, discretionary accruals under IFRS are more likely to be value relevant in France, thus providing a more credible signal about future cash flows under IFRS than under French GAAP. In that regard, no significant difference is observed between IFRS and UK GAAP.

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).

To the best of our knowledge, this study is the first to investigate how IFRS affect the value relevance of earnings management both in an uncertain environment and in different legal systems.

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

2. Background and Research Propositions

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 stock 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 missing standards. 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.
Based on a sample of 18 European countries that adopted IFRS, Li (2010)
finds that the reduction in the cost of equity capital following the adoption of
IFRS is present only in countries with strong legal enforcement. 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; Li, 2010). 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 mandatory adoption of IFRS alone drives the improvement in financial reporting. Other regulatory or institutional factors probably take precedence. Hence, in the case of the United Kingdom, the high level of market oversight regulation prior to IFRS adoption should restrain its impact on the information environment (Christensen et al., 2009).

In the French context, Cormier et al. (2009) show IFRS mandatory equity adjustments at the adoption date 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. Jeanjean and Stolowy (2008) find that the pervasiveness of earnings management increased in France after the introduction of IFRS. Finally, in the case of earnings reconciliation adjustment following IFRS adoption, Platikanova (2009) shows that the bid/ask spread has decreased in France, but not in Germany, Sweden and in the UK.
2.1 Value relevance of Discretionary Accruals under IFRS –

Proposition 1

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.

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 transition 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. Moreover, 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, especially in US markets (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 or US GAAP, which relies on difficult-to-verify

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1 Pincus et al. (2007) find that stock prices tend to overweigh the role of accruals persistence, especially discretionary 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. 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 consistent with the accruals anomaly since investors overweigh the persistence of accruals and underweigh the persistence of cash flows in predicting the next period’s earnings.
information, may not be suitable to improve accounting information quality, especially when the corporate governance system is weak.²

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.

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. The

² In the same vein, Chan et al. (2009) observe, 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 the UK standard 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.
authors find that information content increased in IFRS-adopting countries, but this happens only when they use abnormal return volatility (not abnormal trading volume) as a proxy for information content. 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 firms in 15 member states of the European Union before and after the full adoption of IFRS in 2005. They use five indicators as proxies for accounting quality, namely, earnings smoothing, earnings management toward targets, the magnitude of absolute discretionary accruals, accruals quality, and timely loss recognition. Their results are mixed. They find that the majority of accounting quality indicators improved after IFRS adoption in the European Union. However, 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. (2010) suggest that 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). 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).

Horton et al. (2008) for a European sample and Tan et al. (2009) for an international sample find an improvement in the information environment during the mandatory transition period to IFRS. More specifically, investors can be better at detected earnings management as a result as a change in the information environment following IFRS adoption, i.e. more financial analysts following a firm and lower forecast errors.

Prior findings in the UK suggest 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. In this vein, Iatridis (2010) shows that due to the fair value orientation of IFRS, the transition to IFRS appears to introduce volatility in British income statement figures. Moreover, we must keep in mind that earnings and their related components (normal and discretionary accruals) were already value relevant under UK GAAP, much more than under French GAAP.

Overall, based on prior findings, we expect IFRS to have a larger impact on value relevance in France than in the UK. This gives rise to our first research proposition:

*Proposition 1:*

*IFRS improve the value relevance of discretionary accruals in a larger extent in France in comparison to the UK.*
2.2 Environmental Uncertainty and Value Relevance of Discretionary Accruals: Proposition 2

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) show that managers use discretionary accruals to reduce the variability in reported earnings for firms with high sales volatility.

Second, market assessment of earnings management is likely to be influenced by environmental uncertainty. In our view, in a situation of high sales volatility, it is more difficult for investors to assess earnings quality. In an uncertain environment characterized by sales or earnings variability, earnings management is assumed to be more difficult to detect because of a lack of stability in accounting figures.

Third, we argue that the market assessment of earnings management under environmental uncertainty is likely to differ between domestic GAAP and IFRS. Accounting standards, including IFRS, provide a degree of flexibility that gives 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). However, IFRS are generally considered more stringent and detailed than the domestic
accounting standards they replace, allowing stock market participants to better assess earnings quality in an uncertain context.

Therefore, we expect the relationship between discretionary accruals and stock market value to be influenced by sales variability. We also expect the relationship between discretionary accruals and stock market value in a situation of high sales variability 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 IFRS will affect the value relevance of earnings management in an uncertain context. Hence, our second research proposition:

_Proposition 2:_

_IFRS affect the value relevance of discretionary accruals in a context of high sales variability._

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. We exclude 5 firms (60 observations)
that already comply with IFRS or US GAAP before 2005 in France and 3 firms (36 observations) in the UK. This gives 212 firms for 2,544 observations for France and 214 firms for 2,568 observations for the UK.

Since we use a lag variable for computing discretionary accruals, we lose one year of observations. Considering missing data and firms listed after 1997, this gives 2,387 firm-year observations for France and 2,527 for the UK. Due to missing data in the Compustat database, our sample is reduced to 1,847 for the French sample and 2,040 for the British sample. Stock markets suffered from a major downturn in 2008 (44% for the French sample and 36% for the UK sample). We decided to withdraw the year 2008 from our regression analyses.

This leaves us with 1,657 firm-year observations for France, and 1,874 firm-year observations for the United Kingdom. Table 1 shows the details of our samples.3

[Insert table 1]

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3 For firms having fiscal year-end different from December 31st, local GAAP apply for the year 2005 and not IFRS (European Parliament, Regulation 1606/2002, March 2002, Official Journal of the European Communities). However, for firms with fiscal year-end ranging between January 31st and April 30th, in Compustat database, 2005 data correspond to 2006 financial statements. 25 French firms and 38 UK firms are classified as local GAAP in 2005.
3.2 Stock Market Valuation of Earnings Components

The empirical model is the following:

\[
\text{Stock market value} = \\
\beta_0 + \beta_1 \text{Equity}_{it} + \beta_2 \text{Cash flow from operations}_{it} + \\
\beta_3 \text{Normal accruals}_{it} + \beta_4 \text{Discretionary accruals}_{it} + \\
\beta_5 \text{Discretionary accruals*IFRS}_{it} + \\
\beta_6 \text{Discretionary accruals*High sales variation}_{it} + \\
\beta_7 \text{Discretionary accruals*High sales variation*IFRS}_{it} + \\
\beta_8 \text{High sales variation}_{it} + \beta_9 \text{High sales variation*IFRS}_{it} + \\
\beta_{10} \text{IFRS}_{it} + \varepsilon
\]

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 discretionary accruals. Both variables \textit{Sales variation} and \textit{IFRS} are binary variables.

Environmental Uncertainty

Dechow (1994) asserts that change in sales between two consecutive years is a good proxy for a firm’s uncertainty. Hence, environmental uncertainty is proxied by a firm’s yearly sales variation. We measure sales variation by the percentage change in sales from period t to period t-1. To
mitigate industry effects, the firm-specific measure is normalized by subtracting the uncertainty measure for firm’s two-digit SIC code for the same time period yielding the net of industry proxy for environmental uncertainty. We compute net of industry sales variation that we use in absolute value (Abs Sales variation). We think that sales variation at firm level must take into consideration the uncertainty that faces the whole industry in which the firm operates (Ghosh and Olsen, 2009).

The interaction term $\text{Discretionary accruals} \times \text{High sales variation}$ is introduced. $\text{High sales variation}$ is a binary variable that takes the value of one if the absolute value of net of industry sales variation is greater than or equal to the sample median.

**Discretionary Accruals**

The estimation of a discretionary accruals determination model requires the specification of potential sources of normal 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) current or lagged cash flow from operations ($e.g.$ Dechow et al. 1995; Dechow and Dichev, 2002) 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 (i.e., cash from last period) is assumed to systematically determine current period normal accruals since changes in cash flow and in accruals are correlated over time (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 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. While a firm’s total accruals are easily accessible from its financial statements, normal and discretionary 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:

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4 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.
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. Results are not affected when we estimate normal accruals without telecommunications and utilities for which there are few observations.

4. Results

4.1 Descriptive Statistics

From table 2a and 2b, we observe that sales variability remains quite similar prior and post IFRS adoption (2005 to 2008 versus 1997 to 2004) with a mean score of 0.22 (median 0.12) prior IFRS and 0.21 (median 0.10) post IFRS in France and a mean score of 0.15 (median 0.09) prior IFRS and 0.19 (median 0.10) post IFRS in the UK. Moreover, there is no difference in sales variability prior/post IFRS both in France and the UK when we split among low and high sales variation.

[Insert table 2a and table 2b]
Table 3a and 3b present earnings components in domestic GAAP and according to IFRS. We observe much more discretionary accruals under IFRS compared with French GAAP (median of 0.24 € per share for IFRS versus 0.06 € per share for French GAAP).

This result holds in a context of high uncertainty (Abs Sales variation net $\geq$ median) and for both positive and negative sales variation relative to firms’ industry. However, a switch from UK GAAP to IFRS does not generate a large difference in discretionary accruals levels (median of 0.02 € per share under IFRS versus -0.02 € per share for UK GAAP). Quite similar results are reached when we scale discretionary accruals by lag assets.

[Insert table 3a and 3b]

4.2 *Multivariate Results*

We use the Hausman specification test to decide on the use of a random or fixed effects’ model. We obtain a Chi2 statistic of 12.77 (p < 0.174), for the French sample and a Chi2 statistic of 14.03 (p < 0.121), for the UK sample. This suggests that the random effects’ model is the most

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5 However, we observe (results untabulated) 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 negative sales variation, there is an attempt by French firms to avoid losses since we observe a proportion of near 14 small profits (ROA) 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].
appropriate. We estimate regressions using random effect feasible GLS (GLS regression with correlated disturbance). This technique allows estimation in the presence autocorrelation within panels and cross-sectional correlation and/or heteroscedasticity across panels. The test of Breusch-Pagan/Cook-Weisberg shows the presence of heteroscedasticity (Chi2: 11,823.9; p < 0.000 for the French sample, and Chi2: 2,020.5; p < 0.000 for the UK sample). Hence, the error structure among panels is presumed to be heteroscedastic. In addition, we exclude from regressions all observations with standardized residuals exceeding two. Results from GLS cross-sectional regressions on stock market valuation of earnings components are reported in table 4.

In France, we observe more discretionary accruals under IFRS (refer to table 3a) and these accruals are value relevant since the coefficient on the interaction term $\text{Discretionary accruals} \times \text{IFRS}$ is positive and significant (1.14; p < 0.01 two-tailed).

In the UK, we do not observe a significant change in earnings management practices following the adoption of IFRS (refer to table 3b), and discretionary accruals do not seem to be valued differently according to UK GAAP and IFRS since the coefficient on the interaction term $\text{Discretionary accruals} \times \text{IFRS}$ is not significant at a conventional level (coefficient = 0.45; p < 0.329 two-tailed).

[Insert table 4]
Kothari et al. (2005) suggest that Jones model adding profitability yields 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):

\[
\text{Total accruals}_t = \alpha_1 + \alpha_2 \text{Change in Sales}_t + \alpha_3 \text{PPE}_t + \\
\quad \alpha_4 \text{Lag Earnings}_t
\]

Results (not tabulated) provide quite similar results. For France, coefficients on Discretionary accruals (2.37 versus 2.75) and on the interaction term Discretionary accruals*IFRS (1.09 versus 1.14) are quite similar. Moreover, we still observe higher earnings increasing discretionary accruals under IFRS with quite similar means of Discretionary accruals for both models (0.23 € per share for Kothari et al.’s model versus 0.25 € per share). The similarity is also observed under French GAAP (-0.17 € per share versus -0.16 € per share).

As for the UK, the coefficient on Discretionary accruals is slightly lower with Kothari et al.’s (2005) model (1.40 versus 1.82). Moreover, we still observe similar levels of discretionary accruals under IFRS (mean of 0.05 € per share for both models under IFRS) and a slight difference under UK GAAP (-0.02 € per share Kothari et al. versus -0.03 € per share).
The Role of Environmental Uncertainty

France

In table 5, we present results for the French context, relying on GLS cross-sectional regressions on stock market valuation of earnings components considering sales variation. Prior evidence suggests that the value relevance of earnings under French GAAP is quite low compared with Anglo-Saxon countries. This is result is consistent with Cormier et al. (2001) findings based on a comparative study involving France, Switzerland and the United States. Their result show that association between earnings and explain stock returns is much lower for French firms compared with US firms or even Swiss firms (R² 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 Discretionary accruals*High sales variation is negative and significant (-1.24; p < 0.05). For the total sample, under high sales variation (Abs sales variation net of industry ≥ median), discretionary accruals are valued at 2.15 (3.39-1.24) for both IFRS and French GAAP. Since sales uncertainty is assessed in absolute value, positive and negative variations could cancel out each other, explaining that we do not observe differences between IFRS and French GAAP in the market valuation of discretionary accruals.
To address this issue, we split sample firms based on negative and positive sales variation relative to the industry. In a situation of high negative sales variation, discretionary accruals are valued at 1.50 (1.56+2.14-2.20) under IFRS versus 3.70 (1.56+2.14) for low negative sales variation. This is consistent with proposition 2. In a context of high negative sales variation, discretionary accruals are less valued under IFRS since the coefficient on $\text{Discretionary accruals} \times \text{High sales variation} \times \text{IFRS}$ is negative (-2.20; $p < 0.05$). Furthermore, Student t-test for the difference between coefficient on $\text{Discretionary accruals} \times \text{IFRS}$ (2.14) and $\text{Discretionary accruals} \times \text{High sales variation} \times \text{IFRS}$ (-2.20) is not statistically different from zero (t=0.01; $p < 0.934$), suggesting that in a context of high negative sales variation, discretionary accruals are not value relevant under IFRS.

This suggests that opportunistic earnings management would be detected under IFRS but not under French GAAP. This result is consistent with the view that investors are in a better position to detect opportunistic earnings management under IFRS.

In a situation of high positive sales variation, discretionary accruals are valued at 5.75 (4.95-2.22+3.02) under IFRS versus 2.73 (4.95-2.22) under French GAAP. This is consistent with proposition 2. IFRS is more value relevant than French GAAP since the coefficient on the variable $\text{Discretionary accruals} \times \text{High sales variation}$ is negative (-2.22; $p < 0.01$) while the coefficient on the variable $\text{Discretionary accruals} \times \text{IFRS} \times \text{High sales variation}$ is positive (3.02; $p < 0.01$) suggesting that discretionary accruals are more valued under IFRS. Furthermore, Student t-test for the
difference between coefficient on *Discretionary accruals*\(^*\) *High sales variation* (-2.22) and *Discretionary accruals*\(^*\) *High sales variation*\(^*\) *IFRS* (3.02) is not statistically different from zero (t=0.57; p < 0.451), suggesting that in a context of high positive sales variation, discretionary accruals are valued at 4.95 under IFRS compared to 2.73 (4.95-2.22) under French GAAP.

In a context of high positive sales variation, earnings management would be informative about future cash flows. Our results may indicate that accruals under IFRS provide a more credible signal of future cash flows than under French GAAP. In such a positive context, IFRS provide more relevant information to market participants to assess the value relevance of earnings. As such, it appears that IFRS contribute to the detection and valuation of earnings management.

[Insert table 5]

**The United Kingdom**

Table 6 reports results for the British sample, relying on GLS cross-sectional regressions on stock market valuation of earnings components, taking into account sales variation. Consistent with proposition 2, IFRS affect the incidence of environmental uncertainty on the relationship between earnings management and stock market value since the coefficient on *Discretionary accruals*\(^*\) *High sales variation*\(^*\) *IFRS* is significant (-3.91; p < 0.01). On the contrary to what we observe for the French context, in a
situation of high sales variation (Abs sales variation net of industry median), discretionary accruals are less valued under IFRS (3.66+2.05-3.91=1.80) than under UK GAAP (3.66). Moreover, Student t-test for the difference between $\text{Discretionary Accruals*IFRS}$ (2.05) and $\text{Discretionary accruals*High sales variation*IFRS}$ (-3.91) confirms this result since it is statistically different from zero ($t=3.89; p < 0.048$).

Discretionary accruals are less valued under IFRS than UK GAAP in a situation of negative sales variation (5.76+2.31-5.03=3.04 under IFRS versus 5.76 under UK GAAP). This finding is consistent with the view that British 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.

Student t-test for the difference between the two coefficients $\text{Discretionary accruals*IFRS}$ (2.31) and $\text{Discretionary accruals*High sales variation*IFRS}$ (-5.03) confirms this result since coefficients are statistically different from zero ($t=2.82; p < 0.093$).

In a context of positive sales variation, discretionary accruals are more valued under IFRS than under UK GAAP (0.77+3.25-3.06=0.96 versus 0.77). However, Student t-test for the difference between the two coefficients $\text{Discretionary accruals*IFRS}$ (3.25) and $\text{Discretionary accruals*High sales variation*IFRS}$ (-3.06) is not different from zero ($t=0.90; p < 0.344$), suggesting that under high positive sales variation, UK GAAP and IFRS do not differ in the valuation of Discretionary accruals.
In summary, under IFRS, the French market reacts negatively to high sales variation (positive and negative). Our results suggest that IFRS play an important role in the market assessment of earnings quality in France. In the UK, discretionary accruals are less valued for high negative sales variation firms under IFRS while under high positive sales variation, UK GAAP and IFRS do not differ in the valuation of Discretionary accruals. Moreover, the higher market valuation of discretionary accruals for firms with high positive sales variation under IFRS may indicate that accruals under IFRS provide a more credible signal of future cash flows than under French GAAP while no significant difference is observed between IFRS and UK GAAP in this matter.

[Insert table 6]

5. Conclusion

The aim of this paper was to investigate the impact of IFRS on the value relevance of discretionary accruals given environmental uncertainty for two different legal regimes, i.e. France and the United Kingdom.

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. Second, IFRS appears to improve the value relevance of earning management in a larger extent in France in comparison to the UK. Third, in a situation of high negative sales variation, discretionary
accruals are generally more valued under IFRS than local GAAP, consistent with the argument that opportunistic earnings management would be detected more under IFRS. Fourth, earnings management in a context of high positive sales variation may signal future cash flows to investors. Our results suggest that, in such a context, discretionary accruals under IFRS are more likely to be value relevant in France, thus providing a more credible signal about future cash flows than under French GAAP. In that regard, no significant difference is observed between IFRS and UK GAAP.

Pincus et al. (2007) find that stock prices tend to overweight the role of accruals persistence, especially discretionary accruals. They observe negative future discretionary returns for countries having common law traditions. Soares and Stark (2009) reach the same conclusion for a British sample since they find that average annual abnormal returns generally decline as prior period accruals move from low to high. In this paper, we provide some empirical evidence related to the likelihood of the accruals anomaly in the French and UK stock markets, especially under low sales variability since the coefficient on discretionary accruals is significant both for French and UK samples. However, this anomaly does not appear to exist in a context of high sales variations, at least concerning negative sales variation.

Our results suggest that IFRS allows market participants to better detect earnings management in contexts of high sales variability. Hence, discretionary accruals are less valued by the stock market in a context of
high negative sales variation for earnings computed according to IFRS compared with domestic GAAP. As such, it appears that IFRS contribute to the detection and valuation of earnings management. Earnings in a context of high negative sales variation are likely to be opportunistically managed while earnings management in a context of high positive sales variation may signal future cash flows to investors. Our results may suggest that IFRS allow for the detection of discretionary accruals to a larger extent than local GAAP when they are produced opportunistically while, especially in France, providing a more credible signal about future cash flows than under local GAAP in a context of positive sales variation.

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.

In our view, this study contributes to our understanding of earnings management in the following manner. We extend prior literature (e.g. Ghosh, 2009) suggesting that managers use discretionary accruals to reduce the variability in reported earnings more when firms operate in a context of sales uncertainty. Our contribution is threefold. First, we assess the impact of environmental uncertainty on the value relevance of discretionary accruals for two different legal systems, 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
discretionary accruals, 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 the value relevance of accruals in a context of environmental uncertainty, and in two different legal systems.

The results of this study should be interpreted with caution for at least the following reason. As in all earnings management studies, the current paper relies on specific measures of discretionary 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 discretionary 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 the value relevance of earnings in a context of environmental uncertainty.
Table 1
Sample
Firm-year observations

<table>
<thead>
<tr>
<th></th>
<th>France</th>
<th>UK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial sample</td>
<td>2,604</td>
<td>2,796</td>
</tr>
<tr>
<td>Firms listed after 1997</td>
<td>-407</td>
<td>-356</td>
</tr>
<tr>
<td>Firms complying with IFRS or US GAAP before 2005</td>
<td>-60</td>
<td>-36</td>
</tr>
<tr>
<td>Missing data lag cash flow for operations</td>
<td>-212</td>
<td>-233</td>
</tr>
<tr>
<td>Other missing data</td>
<td>-78</td>
<td>-131</td>
</tr>
<tr>
<td>Total sample</td>
<td>1,847</td>
<td>2,040</td>
</tr>
<tr>
<td>Year 2008</td>
<td>-190</td>
<td>-192</td>
</tr>
<tr>
<td>Final sample</td>
<td>1,657</td>
<td>1,848</td>
</tr>
</tbody>
</table>
Tableau 2a
Descriptive statistics
Sales variability
(France)

<table>
<thead>
<tr>
<th>Panel</th>
<th>Total sample</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N: 1,847)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UK-GAAP (N:1,096)</td>
<td>Abs sales variation</td>
<td>0</td>
<td>20</td>
<td>0.22</td>
<td>0.12</td>
<td>0.73</td>
</tr>
<tr>
<td>IFRS (N:751)</td>
<td>Abs sales variation</td>
<td>0</td>
<td>19</td>
<td>0.21</td>
<td>0.10</td>
<td>0.83</td>
</tr>
</tbody>
</table>

Panel B - Abs Sales variation < median
(Low sales variation)

<table>
<thead>
<tr>
<th>Panel</th>
<th>Abs Sales variation &lt; median</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK-GAAP</td>
<td>Sales variation</td>
<td>0</td>
<td>0.10</td>
<td>0.05</td>
<td>0.05</td>
<td>0.03</td>
</tr>
<tr>
<td>IFRS</td>
<td>Sales variation</td>
<td>0</td>
<td>0.10</td>
<td>0.05</td>
<td>0.04</td>
<td>0.03</td>
</tr>
</tbody>
</table>

Panel C - Abs Sales variation ≥ median
(High sales variation)

<table>
<thead>
<tr>
<th>Panel</th>
<th>Abs Sales variation ≥ median</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK-GAAP</td>
<td>Sales variation</td>
<td>0.10</td>
<td>20</td>
<td>0.36</td>
<td>0.20</td>
<td>1.00</td>
</tr>
<tr>
<td>IFRS</td>
<td>Sales variation</td>
<td>0.10</td>
<td>19</td>
<td>0.38</td>
<td>0.19</td>
<td>1.15</td>
</tr>
</tbody>
</table>
Table 2b  
Descriptive statistics  
Sales variability  
(United Kingdom)

<table>
<thead>
<tr>
<th>Panel A- Total sample (N: 2,040)</th>
<th>Min.</th>
<th>Max.</th>
<th>Mean</th>
<th>Median</th>
<th>Std dev.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK-GAAP</strong> (N: 1,274)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abs sales variation</td>
<td>0</td>
<td>9</td>
<td>0.15</td>
<td>0.09</td>
<td>0.31</td>
</tr>
<tr>
<td><strong>IFRS</strong> (N: 766)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Abs sales variation</td>
<td>0</td>
<td>11</td>
<td>0.19</td>
<td>0.10</td>
<td>0.76</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B- Abs Sales variation &lt; median (Low sales variation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK-GAAP</strong></td>
</tr>
<tr>
<td>Sales variation</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
</tr>
<tr>
<td>Sales variation</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C - Abs Sales variation ≥ median (High sales variation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK-GAAP</strong></td>
</tr>
<tr>
<td>Sales variation</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
</tr>
<tr>
<td>Sales variation</td>
</tr>
</tbody>
</table>
### Table 3a
Descriptive statistics
Earnings components and sales variability
(France)

<table>
<thead>
<tr>
<th>In € per share</th>
<th>Scaled by lag Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel A- Total sample</strong> (N: 1,847)</td>
<td></td>
</tr>
<tr>
<td><strong>French GAAP</strong> (N: 1,096)</td>
<td></td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>-21</td>
</tr>
<tr>
<td>Normal accruals</td>
<td>-36</td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>-8</td>
</tr>
<tr>
<td><strong>IFRS</strong> (N: 751)</td>
<td></td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>-5</td>
</tr>
<tr>
<td>Normal accruals</td>
<td>-630</td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>-8</td>
</tr>
<tr>
<td><strong>Panel B - Abs Sales variation &lt; median</strong> (Low sales variation)</td>
<td></td>
</tr>
<tr>
<td><strong>French GAAP</strong></td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
<td>-8</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
<td>-6</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
<td>-5</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
<td>-8</td>
</tr>
<tr>
<td><strong>Panel C - Abs Sales variation ≥ median</strong> (High sales variation)</td>
<td></td>
</tr>
<tr>
<td><strong>French GAAP</strong></td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
<td>-4</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
<td>-8</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
<td>-6</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
<td>-4</td>
</tr>
</tbody>
</table>
### Table 3b
Descriptive statistics
Earnings components and sales variability
(United Kingdom)

<table>
<thead>
<tr>
<th>Panel A - Total sample</th>
<th>In € per share</th>
<th>Scaled by lag Assets</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(N: 2,040)</td>
<td></td>
</tr>
<tr>
<td><strong>UK GAAP</strong> (N: 1,274)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>-5  88  0.63  0.32  2.71  0.102</td>
<td></td>
</tr>
<tr>
<td>Normal accruals</td>
<td>-26  1.40 -0.26 -0.12  0.93 -0.037</td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>-2   1   -0.04  -0.02  0.22 -0.005</td>
<td></td>
</tr>
<tr>
<td><strong>IFRS</strong> (N: 766)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>-8 125  1.49  0.47  7.37  0.098</td>
<td></td>
</tr>
<tr>
<td>Normal accruals</td>
<td>-30  0.32 -0.52 -0.16  1.93 -0.034</td>
<td></td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>-4   6   0.06  0.02  0.45  0.003</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel B - Abs Sales variation &lt; median (Low sales variation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK GAAP</strong></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Panel C - Abs Sales variation ≥ median (High sales variation)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>UK GAAP</strong></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
</tr>
<tr>
<td><strong>IFRS</strong></td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation &lt; 0)</td>
</tr>
<tr>
<td>Discretionary accruals (Sales variation ≥ 0)</td>
</tr>
</tbody>
</table>
### Table 4
GLS Cross-Sectional Regression on Stock Market Valuation of Earnings Components

<table>
<thead>
<tr>
<th>Dependent variable: Share price</th>
<th>France</th>
<th>United Kingdom</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>+</td>
<td>***0.90</td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>+</td>
<td>***2.65</td>
</tr>
<tr>
<td>Normal accruals</td>
<td>+</td>
<td>***2.41</td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>+</td>
<td>***2.75</td>
</tr>
<tr>
<td>Discretionary accruals*IFRS</td>
<td>+/-</td>
<td>***1.14</td>
</tr>
<tr>
<td>IFRS</td>
<td>+/-</td>
<td>***6.35</td>
</tr>
</tbody>
</table>

N: 1,625 | 1,771
Wald test: 3.595(0.00) | 6.770(0.00)

23 outliers | 77 outliers

***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.
Table 5
GLS Cross-Sectional Regression on Stock Market Valuation of Earnings Components and Sales Variability (France)

\[
\text{Stock market value} = \beta_0 + \beta_1 \text{Equity}_t + \beta_2 \text{Cash flow from operations}_t + \\
\beta_3 \text{Normal accruals}_t + \beta_4 \text{Discretionary accruals}_t + \\
\beta_5 \text{Discretionary accruals} \times \text{IFRS}_t + \\
\beta_6 \text{Discretionary accruals} \times \text{High sales variation}_t + \\
\beta_7 \text{Discretionary accruals} \times \text{High sales variation} \times \text{IFRS}_t + \\
\beta_8 \text{High sales variation}_t + \beta_9 \text{High sales variation} \times \text{IFRS}_t + \epsilon
\]

<table>
<thead>
<tr>
<th></th>
<th>Total sample</th>
<th>Sales variation&lt;0</th>
<th>Sales variation≥0</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>+</td>
<td>***0.92</td>
<td>***0.92</td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>+</td>
<td>***2.67</td>
<td>***1.95</td>
</tr>
<tr>
<td>Normal accruals</td>
<td>+</td>
<td>***2.44</td>
<td>***1.69</td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>+</td>
<td>***3.39</td>
<td>***1.56</td>
</tr>
<tr>
<td>Discretionary accruals \times IFRS</td>
<td>+/-</td>
<td>0.69</td>
<td>***2.14</td>
</tr>
<tr>
<td>Discretionary accruals \times High sales variation</td>
<td>+/-</td>
<td>**-1.24</td>
<td>0.78</td>
</tr>
<tr>
<td>Discretionary accruals \times High sales variation \times IFRS</td>
<td>+/-</td>
<td>0.72</td>
<td>**-2.20</td>
</tr>
<tr>
<td>High sales variation</td>
<td>+/-</td>
<td>***2.25</td>
<td>*-1.02</td>
</tr>
<tr>
<td>High sales variation \times IFRS</td>
<td>+/-</td>
<td>**-1.24</td>
<td>*1.03</td>
</tr>
<tr>
<td>IFRS</td>
<td>+/-</td>
<td>***7.02</td>
<td>***6.50</td>
</tr>
</tbody>
</table>

| N                         | 1,627        | 977               | 650              |
| Wald test                 | 5,590(0.00)  | 6,161(0.00)       | 2,279(0.00)      |

30 outliers 13 outliers 17 outliers

*: p < 0.10; **: p < 0.05; ***: p < 0.01. One-tailed if directional prediction, two-tailed otherwise.
Table 6
GLS Cross-Sectional Regression on Stock Market Valuation of Earnings Components and Sales Variability (United Kingdom)

\[
\text{Stock market value} = \beta_0 + \beta_1 \text{Equity}_{it} + \beta_2 \text{Cash flow from operations}_{it} + \\
\beta_3 \text{Normal accruals}_{it} + \beta_4 \text{Discretionary accruals}_{it} + \\
\beta_5 \text{Discretionary accruals*IFRS}_{it} + \\
\beta_6 \text{Discretionary accruals*High sales variation}_{it} + \\
\beta_7 \text{Discretionary accruals*High sales variation*IFRS}_{it} + \\
\beta_8 \text{High sales variation}_{it} + \beta_9 \text{High sales variation*IFRS}_{it} + \beta_{10} \text{IFRS}_{it} + \epsilon
\]

<table>
<thead>
<tr>
<th></th>
<th>Total sample</th>
<th>Sales variation&lt;0</th>
<th>Sales variation(\geq 0)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equity</td>
<td>+</td>
<td>***0.74</td>
<td>***0.81</td>
</tr>
<tr>
<td>Cash flow from operations</td>
<td>+</td>
<td>***4.75</td>
<td>***5.37</td>
</tr>
<tr>
<td>Normal accruals</td>
<td>+</td>
<td>***2.18</td>
<td>***5.21</td>
</tr>
<tr>
<td>Discretionary accruals</td>
<td>+</td>
<td>***3.66</td>
<td>***5.76</td>
</tr>
<tr>
<td>Discretionary accruals*IFRS</td>
<td>+/-</td>
<td>**2.05</td>
<td>***3.25</td>
</tr>
<tr>
<td>Discretionary accruals*High sales variation</td>
<td>+/-</td>
<td>0.02</td>
<td>0.95</td>
</tr>
<tr>
<td>Discretionary accruals<em>High sales variation</em>IFRS</td>
<td>+/-</td>
<td>***-3.91</td>
<td>***-5.03</td>
</tr>
<tr>
<td>High sales variation</td>
<td>+/-</td>
<td>-0.02</td>
<td>0.27</td>
</tr>
<tr>
<td>High sales variation*IFRS</td>
<td>+/-</td>
<td>***0.61</td>
<td>***-1.19</td>
</tr>
<tr>
<td>IFRS</td>
<td>+/-</td>
<td>***1.18</td>
<td>***0.99</td>
</tr>
</tbody>
</table>

N: 1,838
Wald test: 3,806(0.00) 2,504(0.00) 5,934(0.00)

10 outliers 0 outlier 10 outliers

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


http://ssrn.com/abstract=1264101


