

Transparency, Disclosure and the Pricing of Future Earnings in the European Market

1. INTRODUCTION

The present study examines the role of disclosure in assisting market participants to form expectations of future earnings by observing the accrual content of reported earnings. Previous research (Lundholm and Myers, 2002; Gelb and Zarowin, 2002; Hope, Kang, Thomas and Vasvari, 2008; Ettredge, Kwon, Smith and Zarowin, 2005) has shown that disclosure enhances the degree at which future earnings information is reflected in current stock returns. Other studies which also examine future earnings information in current returns consider the impact of various reported accounting numbers and practices and financial decisions (e.g. dividends by Hanlon, Myers and Shevlin, 2007 and Walker and Hussainey, 2008¹, R&D expenditures by Oswald and Zarowin, 2007; income smoothing practices by Tucker and Zarowin, 2006). To the extent that reported accounting numbers and practices are assessed with respect to their ability to provide relevant information without taking into account disclosure, conclusions can be drawn on the effect of these numbers and practices at the average level of disclosure only. Here, we show that these conclusions can be significantly altered at varying levels of disclosure.

Our study adds to this literature by examining whether the information about future earnings in current returns is conditional upon disclosure, the degree at which

¹ Similarly to the present study Walker and Hussainey (2008) examine the impact of cash dividends on share price anticipation of future earnings conditionally upon a measure of disclosure. However, while the authors examine the impact of a financial decision, we focus on accounting numbers.

accounting numbers reveal useful information to outside investors and their interactions. In this context, we acknowledge the usefulness of accrual accounting to convey estimates of future cash flows. Christensen and Demski (2003, chapter 17), point out that these two features of financial reporting (accruals and disclosure) should not be considered separately. In this vein, Gietzmann and Trombetta (2003) point out that investors condition their investment decisions upon disclosure and conservative or aggressive accounting policies.² Instead of accounting policies, the present study focuses on the nature of accruals and the complementary role of disclosure in revealing their relevance and reliability for the prediction of future earnings and cash-flows. Pope (2003) points out that there are two primary dimensions of accounting systems that affect the predictability of earnings, holding economic uncertainty constant: (1) accruals measurement rules and (2) the degree of disclosure of accruals procedures. They both enhance or reduce the predictability of earnings and their components. The present study contributes by providing empirical evidence on the *interplay* between disclosure and different timing and dimensions of accruals in assisting market participants to anticipate future earnings.

Motivated by Christensen and Demski (2003) who point out that different dimensions and timing of accruals alter the information that is being conveyed, this study contributes by investigating the influence of the nature of accruals on the association between information on future earnings in current returns and disclosure. The emphasis is on clarifying the distinction between the roles of current and non-current accruals, with current accruals addressing more matching and timing issues than non-current accruals. Therefore, the present study aims to shed light on the role of disclosure in assisting market participants in forming expectations of future

² In a related study, Gietzmann and Ireland (2005) find out that different combinations of the aggressive-conservative accounting as suggested by the use of discretionary accruals affect the impact of disclosure on the cost of equity capital.

earnings by observing accruals when the information provided by accruals has different timeliness.

An important part of accounting research has investigated accruals as a means of improving relevance, usefulness and quality of financial statement information (Dechow and Dichev, 2002; Francis, LaFond, Olsson and Shipper, 2005)³ and even firms' overall information quality (Ecker, Francis, Kim, Olsson and Schipper, 2006). On the other hand, more recent studies by Core, Guay and Verdi (2007), Hribar and Nichols (2007), Liu and Wysocki (2007) and Wysocki (2007) document evidence which challenges the ability of accruals to reflect firm's earnings quality. Following Lev, Li and Sougiannis (2005) we maintain that the extensive use of accruals as a means of improving the relevance of financial information may be jeopardized by the increasing difficulty of making reliable forecasts in a fast-changing economy, and also by the frequent managerial misuse of estimates to manipulate financial data.

In this study, we acknowledge the importance of considering the complementary role of disclosure for the interpretation of accruals when these accruals are either misguided or manipulated. We argue that adequate disclosure is necessary for market participants not only to enhance the timeliness of information contained in accruals but also to assess the reliability of the future earnings cash-flows expectations arising from these accruals. In other words, the present study also investigates the ability of disclosure to have a further corrective influence by preventing the formation of over-optimistic/pessimistic earnings expectations associated with the use of accruals.

A final unique feature of the present study that is of interest is that it applies a uniform measure of disclosure on a number of firms originating from various

³ Dechow and Dichev (2002) and Francis, LaFond, Olsson and Schipper (2005) use the relation between a firm's cash flow and working capital accruals to measure earnings quality.

European jurisdictions. The specific measure of disclosure being developed within a high outsider investor protection jurisdiction is particularly suitable for assessing the usefulness of disclosure across jurisdictions whose financial reporting practices do not necessarily focus on outsiders but also where there is an increasing demand from outsiders. Even though this exercise is conducted in a pre-IFRS period (2001-2003), the findings are particularly relevant and timely in a post-IFRS period as the financial reporting still appears to be influenced by local institutional features (see for example, Daske, Hail, Leuz and Verdi, 2008) despite the uniform disclosure benchmark provided by the IFRS and its focus on the outside market participants.

The remainder of our paper is organised as follows: Section 2 develops the arguments on how accruals and disclosure affect market participants' expectations of future earnings. Section 3 discusses the disclosure metric employed here. Section 4 presents the data employed in the study. Section 5 discusses the methodology and the related empirical results and section 6 concludes the study.

2. ACCRUALS, DISCLOSURE AND THE SHARE PRICE ANTICIPATION OF EARNINGS

The examination of share price anticipation of future earnings begins with Collins et al. (1994) who attribute the low association between returns and contemporaneous earnings to the lack of timeliness in accounting earnings⁴ in measuring value relevant events. By adding future earnings in the regression of current returns to current earnings, they find that returns contain information on future

⁴ The (lack of) timeliness and asymmetric timeliness of accounting earnings has been investigated in detail by numerous studies in empirical financial accounting literature (e.g., Basu, 1997; Pope and Walker 1999) either in an international context considering a set of different institutional arrangements (e.g., Ball et al., 2001; Giner and Rees, 2001; Ball et al., 2003; Dargenidou et al. 2007) or considering a set of firm level characteristics including disclosure (e.g., Barth et al., 2008; Garcia Lara, 2005, Raonic et al. 2004) or as an important attribute of accounting earnings quality (Francis et al., 2004).

earnings; the future earnings response coefficient (FERC) in this context “catches up” with the information given out by current earnings and other sources of current information about expected future earnings (alternatively, it can be said that FERC captures the share price anticipation of earnings).⁵

In this study, we address accruals as the tools employed by accounting to communicate information about future cash flows and future earnings. Pope (2003) argues that accruals based on the realization and matching principles reduce the variance of earnings relative to cash flows and create more permanent, predictable earnings components. Evidence in Dechow (1994) suggests that the increased use of accruals enhances the role of earnings as a measure of short-term performance which better reflects expected cash flows, and particularly so with regards to working capital accruals relative to non-current operating accruals⁶. Working capital accruals in particular, are seen to be more successful in mitigating matching and timing problems than long-term accruals, an evidence that is confirmed also by Guay and Sidhu (2001). More to the point, Guay and Sidhu (2001) argue that non-current accruals do reduce timing and matching problems in much the same way as current accruals while non-current accruals resolve timing and matching problems in cash flows over longer intervals. As longer intervals imply a slower pace and higher uncertainty in establishing the economic benefits (or losses) associated with these accruals, it is expected that current accruals demonstrate greater contribution in incorporating information on future earnings into current prices compared to non-current accruals.

⁵ Collins et al. (1994) argue that using the actual future earnings introduces an error in variables problem in the regression of current returns on current earnings and future earnings as the theoretically correct regressor is the unobservable expected future earnings. This measurement error problem biases downward estimates of the future earnings coefficients. Collins et al. (1994) address this problem by including the future return as a control variable.

⁶ Dechow (1994) examines the association between current earnings with returns across quintiles of operating accruals which are decomposed into their working capital and long-term components.

However, both Dechow (1994) and Guay and Sidhu (2001) do not take into account the conservative nature of accounting. Ball and Shivakumar (2005) and Dechow and Ge (2006) show that accruals are likely to provide more timely information in the case of loss of future economic benefits, with negative non-current accruals being especially relevant in this respect (e.g. restructuring charges, goodwill impairments, and asset write-downs). Therefore, it is also argued that information on future earnings in current returns is likely to be more pronounced for negative than for positive accruals and especially, with respect to negative *non-current* accruals as opposed to positive *non-current* accruals since information in negative accruals is likely to resolve more timing issues.

Until this point, accruals have been considered as means of communicating information on future earnings and cash flows. However, as extensive literature on earnings management suggests, accruals can be also guided by managements' discretion. Managers may manage earnings through accruals either for opportunistic reasons or for communicating a sustainable level of future earnings. Furthermore, managers simply may face increasing difficulty of making reliable forecasts in a fast-changing economy (Lev, Li and Sougiannis, 2005). Richardson, Sloan, Soliman and Tuna (2005) take a more comprehensive perspective of accruals documenting that less reliable categories of accruals lead to lower earnings persistence and that investors do not fully anticipate the lower earnings persistence. Hirscheifer, Hou, Teoh and Zhang (2004) find that firms with "bloated balance sheets", *i.e.* firms with high net operating assets, have high and growing earnings prior to the conditioning date, but declining earnings subsequent to that date. More importantly, they argue that investors fail to predict future lower earnings and tend to overvalue such firms. Here, we argue that the extreme magnitudes of accruals are more prone to hide extensive use of unreliable

accruals and hence, more likely to guide over- optimistic/pessimistic future earnings expectations. Due to timing effects, we also argue that this is more likely to happen with respect to current accruals rather non-accruals whose future economic benefits potentially take longer to realise in future earnings. However, again due to the timing effects, this also could happen in the cases where managers employ very conservative accounting accelerating the recognition of losses of future economic benefits (as in Dechow and Ge, 2006).

However, market participants do not use solely accounting numbers to predict future earnings but also a number of other sources of qualitative information. Here it is argued that assessing the impact of accounting practices on the share price anticipation of earnings without taking into account other sources of information that also shape returns *i.e.*, disclosure, will produce an estimate of this impact at the average level of disclosure. Such a generalisation will not hold for all firms and might lead to erroneous conclusions on the efficiency of a particular accounting practice to communicate relevant information. For instance, Oswald and Zarowin (2007) find that capitalization of R&D is associated with higher FERC relative to expensing. Such result is consistent with the capitalisation decision sending a more reliable signal of future economic benefits arising from this asset. However, while this result holds under an average level of disclosure, it is unclear whether the investors would still attribute a higher FERC to recognised R&D as opposed to expensed R&D if the capitalisation decision had not been sufficiently explained to market participants and the associated future economic benefits could not be assessed by outsider investors. Therefore, it is also argued here that in order to have a better understanding of the impact of accounting practices on market participants' expectations, we also need to consider incremental and interactive effects of the varying levels of disclosure.

In the present study, we argue that increased disclosure may assist in unravelling the future cash flow and earnings implications of accruals and thus mitigate the over-pessimistic/optimistic earnings expectations arising from unreliable accruals. Lambert, Leuz and Verrecchia (2006) report that disclosure affects the distribution of future cash flow estimates. Furthermore, Hope (2003) documents that firm's disclosure is useful in reducing uncertainty about future earnings and especially so in circumstances where alternative mechanisms are not available to improve the transparency of accounting numbers. These perspectives point out to both roles of disclosure, to reveal future cash flow estimates and to enhance the reliability of accounting numbers. It is argued here that where accounting information is not reliable, disclosure will prevent this information to affect future earnings expectations. There is only limited and quite recent evidence in this respect; for instance, Louis, Robinson and Sbaraglia(2008) and Drake, Myers and Myers (2006) find that accruals related mispricing does not take place among firms with adequate and high disclosure.

The implications of increased disclosure for future earnings predictability have been investigated by Gelb and Zarowin (2002), Lundholm and Myers (2002) who show that better and more informative disclosure introduces more information on future earnings in current returns. This finding points out to the incremental effects of disclosure for revealing future earnings and cash flows, consistent with Lambert, Leuz and Verrecchia (2006). However, the evidence in Gelb and Zarowin (2002) and Lundholm and Myers (2002) could erroneously lead us to believe that more disclosure will inadvertently increase information on future earnings in current returns. Those studies do not acknowledge that earnings already contain components that inform market participants on future earnings and cash flows that is, accruals. Here we argue that accruals and disclosure also interact with each other with disclosure enhancing

the reliability of the information in accruals. When earnings manipulation intentionally triggers over/under-statement of future earnings expectations in current stock prices, corporate disclosure has the ability to reveal information that can be used by outside investors to curb the over/under-statement and adjust their expectations compounded in the current stock price accordingly. Based on the literature reviewed here, it is expected that disclosure can curb an over/under-prediction of future earnings in the case of high absolute accruals and especially where these accruals resolve short term timing issues via current accruals or negative non-current accruals (e.g., restructuring charges, goodwill impairments, and asset write-downs). However, when the information in accruals resolves timing issues over a longer horizon which implies a slower pace and higher uncertainty in establishing the associated economic benefits (or losses) associated with these accruals, disclosure may not further enhance information on future earnings.

3. MEASUREMENT OF DISCLOSURE

Measuring corporate disclosure activities is not an easy task. Disclosures are often qualitative in nature which makes it difficult for empirical researches to objectively identify most important aspects of disclosure quality. Some authors construct their own disclosure matrices (Lee, Shen and Petroni 2006; Barton and Waymire 2004; Hail, 2002; Botosan 1997). Research-made scores are usually limited to a few financial reporting characteristics which rely on the researcher's judgment and are costly to implement. Studies that investigate effect of disclosure in an international context (e.g., Bushman, Piotroski and Smith, 2004, Hope 2003, Chang, Khanna and Palepu, 2000) typically use the Centre for International Financial Analysis and Research (CIFAR) index constructed by examining annuals reports for

the omission or inclusion of 90 accounting items. There are studies that include other forms of voluntary disclosure activities such as conference calls with analysts that may either complement or substitute for financial reporting by revealing useful information to outside market participants (e.g., Frankel, Johnson and Skinner; 1999; Bushee, Matsumoto and Miller, 2003). There are papers that rely on financial analysts ratings of disclosure (Daske and Gebhardt 2006; Healy, Hutton and Palepu, 1999, Lang and Lundholm 1996) including prior studies in the area more relevant to the present paper (Lundholm and Myers, 2002; Gelb and Zarowin, 2002). They argue that analysts' scores measure the usefulness of corporate disclosure as perceived by expert users of the information. However, these rankings are typically available for large (mostly U.S.) firms and reflect analysts' *subjective* assessment of disclosure.

In the present paper, we choose Standard and Poor's disclosure rankings created by examining firms' annual reports across 98 dimensions. The advantage of this approach is that, unlike analysts' subjective evaluation of disclosure, rankings are constructed using an *objective* assessment of corporate disclosure practices against a global benchmark⁷ (Khanna, Palepu, Srinivasan, 2004). The Standard and Poor's rankings cover three broad categories: Financial Transparency and Information Disclosure, Board and Management Structure and Process and Ownership Structure and Investor Relations. One important feature of the rankings is that they assess whether a particular accounting dimension or investor protection mechanism is transparently *disclosed* rather than judging the quality of disclosure or whether a particular investor protection mechanism is adequate. Another important feature of the disclosure items used for the construction of the rankings is that they do not

⁷ Khanna, Palepu and Srinivasan (2004) point out that the large majority of 98 questions used for the scoring by Standard and Poor's are actually based on either mandatory disclosures in the U.S. or on the perceived best practices in U.S. corporate disclosure.

discriminate between mandatory and voluntary disclosures. For example, they include information on the quality of accounting standards used for preparing annual reports as well as the information on management analysis and forecasts (investment plans, earnings forecasts, industry trends, etc.). Whilst it is difficult to quantify the latter type of information (e.g., related to management earnings forecasts) they are very useful in revealing qualitative and contextual information to outside investors enabling them to evaluate future viability of the company. Hence, such disclosure events are likely to play an important part in assisting market participants in their attempts to interpret accruals and develop expectations of future earnings.

4. DATA

The definition of accruals employed here builds on the approach by Richardson et al. (2005) and Fairfield, Whisenant and Yohn (2003) who define accruals as all assets and liabilities on the balance sheet except cash assets. Their definition of accruals includes the change in non-cash working capital, the change in non-current operating assets and liabilities and the change in non-cash financial assets and liabilities:

$$\text{Accruals} = \Delta\text{CO} + \Delta\text{NCO} + \Delta\text{NFA} \quad (1)$$

where ΔCO is the change in net non-cash current operating assets; ΔNCO is the change in net non-current operating assets;⁸ ΔNFA is the change in net non-cash financial assets.

⁸ ΔNCO is the change in net non current operating assets $\text{NCO}_t - \text{NCO}_{t-1}$, where NCO is given as non-current operating assets (NCOA) – Non-current operating liabilities (NCOL). NCOA, non-current operating assets equal total assets minus current assets minus long term other non operating investments; NCOL, non-current operating liabilities equal total liabilities minus current liabilities minus long term debt excluding capitalized leases. ΔCO , the change in current accruals is defined as $\text{CO}_t - \text{CO}_{t-1}$. CO is calculated as current operating assets (COA) minus current operating liabilities (COL) where current operating assets equal current assets minus cash and short term investments;

As the ability to generate profits is mainly driven by operating items, the study focuses on operating accruals ΔNOA , specified as the change in net non cash operating assets, as follows:

$$\Delta\text{NOA} = \Delta\text{CO} + \Delta\text{NCO} \quad (2)$$

The Standard and Poor's Financial Transparency and Disclosure survey (2002) on 17 European countries provides an initial sample of 348 firms; 76 out of 348 firms are excluded because they are classified as financials (banking, investment, insurance). Further filters have also been applied when accounting and financial data were not available and finally, after the application of a Hadi (1994) procedure for the detection of outliers, the study is based on a sample of 283 firms and 683 observations for the period 2000-2002, that is, around the S&P rating period which included reports published in 2001 and 2002, depending on the fiscal year-end month. A survey conducted by Graham, Campbell and Rajgopal (2005) shows that managers are likely to avoid setting a precedent in disclosure that is difficult to maintain. Consistently, here it is assumed that disclosure levels are not likely to change dramatically from year to year.

The annual financial statement data source is Worldscope and Datastream for stock returns and market capitalization. Earnings are defined as net income before extraordinary items available to common shareholders, collected at accounting year-end dates. As a measure of firm-level disclosure practices, we use the scores constructed in the S&P survey which focuses on a wide range of attributes and their coverage in key public documents released by companies. These attributes are grouped into three broad categories, concerning: (a) ownership structures and investor

current operating liabilities equal current liabilities minus short term debt and current portion of long term-debt .

rights, (b) financial transparency and (c) board and management structure and process. These are further broken down into twelve sub-categories, and cover seventy two different topics in total. A score of 1 is assigned to a firm for each attribute disclosed in the annual report and 0 if otherwise.

The fiscal year-end restriction is not applied, and therefore companies are included that have reporting periods other than for the calendar year, together with those companies that changed the reporting-year end one or more times during the period. The observed stock price dates are matched to three months after the corresponding accounting year-ends and the return figures annualized to a standard 52-week-year accordingly.

Table 1 reports summary statistics for the study's sample. Panel A reports the mean, median, standard deviation, minimum and maximum of the variables employed in the study, and Panel B reports the correlations. It can be seen that more disclosure is associated with more non-current accruals and the opposite with respect to current accruals supporting the managers' attempts to provide more reliability in the recognition of non-current accruals.

5. EMPIRICAL ANALYSIS

(i) Effects of disclosure on the share price anticipation of earnings and cash flows

In this section we develop empirical models which attempt to examine the interplay between levels of corporate disclosure and different dimensions of accruals in the context of anticipation of future earnings in current returns.

The empirical approach here is based on a multiple regression model proposed by Collins et al. (1994) and further employed in Lundholm and Myers (2002) and in

Walker and Hussainey (2008) to investigate the differential influence of disclosure level on the association between contemporaneous returns and future earnings:

$$R_{i,t} = \alpha_0 + \alpha_1 X_{i,t-1} + \alpha_2 X_{i,t} + \alpha_3 X_{i,t+1} + \alpha_4 R_{i,t+1} + u_{i,t} \quad (3)$$

where $R_{i,t}$ is stock return of the i^{th} firm for year t measured over 12 month period ending three months after the fiscal year end, $X_{i,t}$ is earnings before extraordinary items in year t scaled by the market capitalization of three months after the year $t-1$ fiscal year end, and DIS_i is the Standard and Poor's Financial Transparency and Disclosure Score of firm i . It could be argued that controls for size, a proxy for the firm's visibility, and analysts' following, a proxy for the influence of information intermediaries, could be added furthermore to the regression. However, given that the firms included in the S&P survey are large and highly visible in the European market, it is assumed that there is no variation in visibility and the influence of information intermediaries to be accounted for. On the other hand, all regressions in the current study include a control for country effects that is employed here to proxy for cross-jurisdiction differences in institutional arrangements.

The coefficients on X_{t-1} and X_t are expected to be negative and positive respectively, reflecting the mean-reverting nature of earnings which is consistent with prior literature (Collins et al., 1994). Collins et al. (1994) argue that using the actual future earnings introduces an error in variables problem in the regression of current returns on current earnings and future earnings as the theoretically correct regressor is the unobservable expected future earnings. This measurement error problem biases downward estimates of the future earnings coefficients. Collins et al. (1994) address this problem by including future share price returns $R_{i,t+1}$ as a control variable, whose

coefficient is expected to be negative. The coefficient on X_{t+1} is the future earnings response coefficient (FERC) that captures the share price anticipation of earnings in terms of the association between current stock returns $R_{i,t}$ and future earnings $X_{i,t+1}$; its magnitude indicates the amount of information about future earnings contained in current stock returns. The coefficient on $DIS*X_{t+1}$ measures the extent to which price anticipation of future earnings is greater for high disclosers. The results from regression (3) reported in Model 1 in Table 2 suggest that current returns appear to be strongly associated with current earnings (coefficient on X_t is 1.348, p-value<0.01) and at a lesser degree with future earnings (the coefficient on X_{t+1} is 0.2077 with a p-value=0.03) for firms with a minimum disclosure. On the other hand, the negative and significant interaction coefficient $DIS*X_t$ (-0.1278, p-value<0.01) suggests that the relevance of current earnings declines as disclosure activity reveals more future earnings news⁹. Also, the positive coefficient on $DIS*X_{t+1}$ (0.0766, p-value<0.01) suggests that disclosure reveals value relevant information that enhances the association between current returns and future earnings. These findings are in line with the prior evidence documented by Gelb and Zarowin (2002), Lundholm and Myers (2001) and Hussainey and Walker (2008).

Following Tucker and Zarowin(2006), the study also provides evidence with the respect to the anticipation of future cash flows and examines the share price anticipation of future earning cash flow components and their interactions with disclosure. Future earnings X_{t+1} are decomposed into its accrual and cash components as follows:

⁹ This finding is consistent with the theoretical proposal by Francis, Shipper and Vincent (1999) and by Lundholm and Myers (2002); however, the latter study fails to provide corresponding empirical evidence to support it.

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} \quad (4)$$

where AX_{t+1} is the accrual component of future earnings X_{t+1} and CFX_{t+1} is the cash flow component of future earnings. The coefficients of our interest here are CFX_{t+1} and $DIS*CFX_{t+1}$. If good disclosure activities assist stock market in anticipating future cash flows we expect to see a positive coefficient on $DIS*CFX_{t+1}$. The results from regression (4) are reported in Model 2 in Table 2. The findings suggest that under minimum disclosure, there are no cash-flow effects (coefficient on CFX_{t+1} is 0.1539, p-value=0.1). On the other hand, the coefficient on $DIS*CFX_{t+1}$ is significantly positive (0.0825 with a p-value<0.01) suggesting that disclosure improves stock market anticipation of cash flow components of future earnings.

(ii) Effects of disclosure and accruals on the price anticipation of earnings

The focus of our empirical analysis is to investigate the extent at which accrual estimates made in *current* financial statements contribute to the price anticipation of earnings in terms of the amount of information they reveal about future earnings expectations. Moreover, in our empirical approach we emphasise the importance of giving consideration to different accruals' dimensions in terms of their nature (current and non-current), their magnitude and their sign (positive and

negative). Also, we observe the *interplay* between levels of corporate disclosure and accruals dimensions in the context of the price anticipation of earnings.

In this respect, we develop a measure of accrual accounting defined as the decile rankings of sample observations based on the absolute value of different category of accruals at time t (as set in Section 4, current operating accruals and non-current operating accruals), where observations with the highest (lowest) 10% of absolute values of accruals are assigned a rank of 10 (1). Next, we extend our model in equation (3) by incorporating and interacting decile ranks of different categories of accruals ACC (current operating accruals and non-current operating accruals) with each of the explanatory variables:

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \beta ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \gamma DIS_i \times ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} \quad (5)$$

where ACC_i is the decile ranking based on the absolute values of ACC .

Table 3 Panel A reports results regarding the effects of the magnitude of current (ΔCO) and non-current (ΔNCO) accruals on the share price anticipation of earnings across varying levels of corporate disclosure (DIS). The coefficient on $ACC \times X_{t+1}$ is positive and significant (0.3018, p-value < 0.01) suggesting that current accruals contribute in providing timely information on future earnings for firms even at a minimum level of corporate disclosure. This evidence is in line with the empirical findings documented in Dechow (1994) and the arguments in Pope (2003) regarding

the role of accruals in enhancing the predictability of earnings components and firm's short term performance. On the other hand, greater magnitude of current accruals may reflect incorporation of unreliable accrual components that are likely to generate over-optimistic or pessimistic expectations of future earnings (Hirscheifer et al., 2004). To the extent that corporate disclosure activities either via good quality accounting standards (e.g., U.S. GAAP or IAS) or via complementary voluntary narrative information (e.g., management earnings forecasts, investment plans) provide relevant input to market participants for making informed trading decisions, the overstatements of future earnings expectations in current returns are mitigated. This is confirmed by a negative and significant interaction coefficient (-0.0260, p-value<0.01) on $DIS*ACC*X_{t+1}$ and is shown in Figure 1.¹⁰

In addition, results regarding the effects of non current (ΔNC) accruals on share price anticipation of earnings for low disclosers suggest that their contribution in incorporating information on future earnings into current prices is smaller relative to current accruals, as indicated by coefficient on $ACC*X_{t+1}$ that is lower in magnitude (-0.0970) and in statistical significance (p-value = 0.08) than the corresponding coefficient for current accruals (0.3018, p-value<0.01). This result is not surprising given the fact that matching and timing is slower and less-pronounced for non-current accruals (Guay and Sidhu, 2001). However, positive and significant coefficient $DIS*ACC*X_{t+1}$ (0.0158, p-value=0.04) suggests that better disclosure and transparency have a reinforcing effect in unravelling future earnings implications arising from non-current current accruals. The interactive effects of varying disclosure levels and accruals on share price anticipation of earnings are also evident in Figure 1.

¹⁰ Walker and Hussainey(2008) also apply this type of interaction and interpret the coefficient by arguing that when this is positive it implies complementary information and when this is negative, substitute information from accruals and disclosure.

We also carry out a similar analysis by fitting the regression (5) separately for positive and negative (in absolute values) accruals acknowledging that due to the impact of conservatism, negative accruals are likely to provide more timely information than positive accruals, especially in the case of non-current accruals. Results regarding the effects of negative and positive (current and non current) accruals on share price anticipation of earnings are set out in Table 3 Panels B and C respectively. The focus is on the results reported in Panel B regarding the effects of negative current (ΔCO) and non current (ΔNCO) accruals. The coefficient on $ACC * X_{t+1}$ for current accruals is positive and statistically significant (0.1760, p-value < 0.01) implying that very negative current accruals signal to market participants accelerated recognition of losses by means of short-term conservative accounting that will reverse in the future¹¹. Extreme negative current accruals are likely to be related to suppressing of current earnings; it appears that market participants are able to “see through” such accounting practices (e.g., earnings management) and anticipate their future reversal reflected in expected higher future earnings even for firms that score low in disclosure. The coefficient on $ACC * X_{t+1}$ for non current accruals is negative and statistically significant (-0.3119, p-value < 0.01). This suggests that very negative non current accruals (e.g., asset write-downs, restructuring charges) provide timely information regarding losses of future economic benefits resulting in decreases in share prices. The effect of negative non current accruals on share price decreases is in line with prior findings of Ball and Shivakumar (2005) and Dechow and Ge (2006).

An important note here is that the extreme negative accruals may guide over pessimistic future earnings anticipation in current prices. We find evidence that increased levels of disclosure mitigate over-pessimistic earnings expectations. This is

¹¹ Expected future reversals of current conservative accounting in terms of economic loss recognition is examined and documented empirically by Dargenidou, McLeay and Raonic (2007).

indicated by a positive and significant coefficient on $DIS*ACC*X_{t+1}$ (0.0361, p-value<0.01). Observing the effects of positive current and non current accruals on future earnings anticipation, we find that the coefficient $ACC*X_{t+1}$ is positive and statistically significant for current accruals (0.1775, p-value=0.01) and insignificant for non current accruals (0.0806, p-value=0.22). Thus, positive current accruals improve stock market ability to anticipate future short-term earnings performance by means of resolving timing and matching issues. On the other hand, positive non current accruals appear to be less successful in anticipating one year-ahead earnings. This is not surprising considering that non current accruals are more relevant and useful in resolving matching and timing problems over longer time horizons. This evidence is similar to that shown by Guay and Sidhu (2001).

The study also provides estimated of the share price anticipation of future cash flows stemming from current, non-current accruals, disclosure and their respective interactions.

We decompose future earnings X_{t+1} into its accrual and cash components and we extend equation (5):

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \beta ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \gamma DIS_i \times ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} \quad (6)$$

where AX_{t+1} is the accrual component of future earnings X_{t+1} calculated as the proportion of future short term accruals in X_{t+1} and CFX_{t+1} is the cash component of future earnings calculated as the proportion of cash flow in X_{t+1} . The coefficients of

our interest here are $DIS*CFX_{t+1}$, $ACC*CFX_{t+1}$ and $DIS*ACC*CFX_{t+1}$. In Table 4 we report relevant results.

We find that much of the results reported in Table 3 Panel A regarding the anticipation of future earnings is related to the anticipation of *cash flow* components of future earnings. For example, we find that improved disclosure assists in revealing future cash flow estimates as it is documented by a positive and significant coefficient on $DIS*CFX_{t+1}$ (0.1871, p-value<0.01) for current accruals. Also, we find that current accruals anticipate one year ahead cash flow components of earnings for firms at minimum levels of corporate disclosure (the coefficient on $ACC*CFX_{t+1}$ is 0.2721 with a p-value of 0.00) more successfully than non current accruals (the coefficient on $ACC*CFX_{t+1}$ is -0.0943 with a p-value of 0.08). Again, this result is in line with earlier findings suggesting the greater usefulness of current accruals in solving timing and matching problems over short term intervals. The effects of the interplay between disclosure and current (non current) accruals on share price anticipation of earnings documented in Table 3 Panel A appears to be related to anticipation of mostly cash flow components of future earnings. For example, coefficient on $DIS*ACC*CFX_{t+1}$ for current accruals is -0.0226 with a p-value of 0.00 pointing to the role of disclosure in curbing over-optimistic cash flow expectations in current returns. On the other hand, coefficient on $DIS*ACC*CFX_{t+1}$ for non current accruals is 0.0153 with a p-value of 0.05 suggesting that disclosure can be useful in interpreting implications of non current accruals on future earnings cash flow components that would otherwise be difficult to unravel. These findings are in line with the arguments presented by Lambert, Leuz and Verrecchia (2006) regarding the effects of disclosure on the distribution of future cash flow estimates.

7. CONCLUSION

Previous research (Lundholm and Myers, 2002; Gelb and Zarowin, 2002; Hope, Kang, Thomas and Vasvari, 2008; Ettredge, Kwon, Smith and Zarowin, 2005) has shown that disclosure enhances the inclusion of future earnings news in current returns. Others have examined the inclusion of future earnings news in current returns with respect to financial decisions, accounting numbers and practices (e.g. dividends by Hanlon, Myers and Shevlin, 2007 and Walker and Hussainey, 2008; R&D expenditures by Oswald and Zarowin, 2007; income smoothing practices by Tucker and Zarowin, 2006) The current study contributes by showing that the impact of the various characteristics (magnitude, sign, ability of accruals to resolve timing and matching issues) of accruals on market participants' future earnings expectations is conditional upon disclosure. More specifically, by clearly differentiating between current and non-current accruals and pointing to their ability to resolve timing issues, we provide evidence that disclosure has incremental effects which depend on the timing and the sign of the accruals but also and more importantly, the information in accruals and disclosure interact in order to correct overstated expectations arising mostly from the extensive use of current accruals and negative non-current accruals.

The findings in this study have implications for the interpretation of a great number of accounting research studies which claim that market participants can be misled by (current and non-current) accruals manipulation. The evidence provided here shows that this evidence should be interpreted critically upon the level of disclosure around these accounting numbers.

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Table 1

Panel A: Descriptive Statistics

	Current returns R_t	Current earnings X_t	Disclosure score S&P	$\Delta CO /\text{Average}$ Total Assets	$\Delta NCO /\text{Average}$ Total Assets
Mean	-0.1264	0.0311	64.6972	0.0338	0.1172
Median	-0.1188	0.0440	66.6700	0.0232	0.0695
Standard deviation	0.3244	0.1045	11.1381	0.0376	0.1494
Minimum	-0.9320	-0.9530	32.9800	0.0000	0.0001
Maximum	1.7709	0.4420	88.7800	0.4030	0.9725

Panel B: Correlations

	Current returns R_t	Current earnings X_t	Disclosure score S&P	$\Delta CO /\text{Average}$ Total Assets	$\Delta NCO /\text{Average}$ Total Assets
Current returns R_t	1				
Current earnings X_t	0.3285	1			
Disclosure score S&P	-0.0147	-0.1256	1		
$\Delta CO /\text{Average}$ Total Assets	-0.0053	-0.0117	-0.1859	1	
$\Delta NCO /\text{Average}$ Total Assets	-0.037	-0.1788	0.1309	0.1059	1

Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. ΔCO and ΔNCO stand for current operating accruals and non-current operating accruals. Disclosure is measured by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end.

Table 2

Effect of disclosure on share price anticipation of earnings and cash flows

Model 1:

$$R_{i,t} = \alpha_0 + \alpha_1 X_{i,t-1} + \alpha_2 X_{i,t} + \alpha_3 X_{i,t+1} + \alpha_4 R_{i,t+1} + \alpha_5 DIS_i + \alpha_6 DIS_i * X_{i,t-1} + \alpha_7 DIS_i * X_{i,t} + \alpha_8 DIS_i * X_{i,t+1} + \alpha_9 DIS_i * R_{i,t+1} + u_{i,t}$$

Model 2: (Decomposition of earnings):

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix}$$

	Model 1		Model 2	
X_{t-1}	0.7163	0.00	0.6814	0.00
X_t	1.3482	0.00	1.2454	0.00
X_{t+1}	0.2077	0.03		
AX_{t+1}			0.3425	0.00
CFX_{t+1}			0.1539	0.10
R_{t+1}	-0.3911	0.00	-0.3385	0.00
DIS	0.0004	0.60	-0.0005	0.60
$DIS * X_{t-1}$	-0.0628	0.02	-0.0590	0.03
$DIS * X_t$	-0.1278	0.00	-0.1149	0.00
$DIS * X_{t+1}$	0.0766	0.00		
$DIS * A X_{t+1}$			0.0599	0.00
$DIS * CFX_{t+1}$			0.0825	0.00
$DIS * R_{t+1}$	0.0153	0.00	0.0092	0.05
Intercept	-0.1335	0.03	-0.0459	0.46

Number of observations: 683
Wald chi-square (p-value): <0.001

Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. Future earnings X_{t+1} (Lagged earnings X_{t-1}) are the income before extraordinary items-available to common for the year following (preceding) the current year, scaled by market value three months after year t fiscal year end. CFX_{t+1} and AX_{t+1} are correspondingly the cash and accrual component of X_{t+1} . DIS is the

decile rank of disclosure, where disclosure is measured by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end. Future returns R_{t+1} are the annual buy-and-hold returns for the year following the current year (starting three months after the current fiscal year-end). The model is estimated by feasible generalized least squares regression in order to control for the presence heteroskedasticity and observations that belong to the same firm. Country effects also are taken into account. The Hadi (1994) procedure has been applied for outliers detection.

Table 3

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \beta ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \gamma DIS_i \times ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix}$$

Panel A: The effects of the magnitude of (current and non-current) accruals and disclosure on the share price anticipation of earnings

ACC	ΔCO		ΔNCO	
	AverageTotalAsset		AverageTotalAssets	
X_{t-1}	1.8062	0.00	0.7405	0.21
X_t	2.1028	0.00	0.6932	0.11
X_{t+1}	-1.2779	0.00	0.9253	0.01
R_{t+1}	-0.4106	0.00	-0.4873	0.00
<i>DIS</i>	0.0006	0.48	-0.0001	0.87
<i>DIS</i> * X_{t-1}	-0.1567	0.01	-0.0742	0.33
<i>DIS</i> * X_t	-0.2211	0.00	0.0557	0.38
<i>DIS</i> * X_{t+1}	0.1978	0.00	-0.0485	0.33
<i>DIS</i> * R_{t+1}	0.0188	0.05	0.0102	0.28
<i>ACC</i>	0.0060	0.04	0.0002	0.94
<i>ACC</i> * X_{t-1}	-0.1865	0.01	0.0003	1.00
<i>ACC</i> * X_t	-0.1449	0.01	0.0795	0.26
<i>ACC</i> * X_{t+1}	0.3018	0.00	-0.0970	0.08
<i>ACC</i> * R_{t+1}	0.0017	0.86	0.0242	0.02
<i>DIS</i> * <i>ACC</i> * X_{t-1}	0.0154	0.12	0.0059	0.61
<i>DIS</i> * <i>ACC</i> * X_t	0.0187	0.03	-0.0202	0.04
<i>DIS</i> * <i>ACC</i> * X_{t+1}	-0.0260	0.00	0.0158	0.04
<i>DIS</i> * <i>ACC</i> * R_{t+1}	-0.0005	0.71	0.0002	0.88
Intercept	-0.1509	0.02	-0.1206	0.09
Number of observations: 683				
Wald chi-square (p-value): <0.001				

Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. Future earnings X_{t+1} (Lagged earnings X_{t-1}) are the income before extraordinary items-available to common for the year following (preceding) the current year, scaled by market value three months after year t fiscal year end. ACC is the decile rank of either ΔCO or ΔNCO which stand for current operating accruals and non-current operating accruals. DIS is the decile rank of disclosure, where disclosure is measured

by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end. Future returns R_{t+1} are the annual buy-and-hold returns for the year following the current year (starting three months after the current fiscal year-end). The model is estimated by feasible generalized least squares regression in order to control for the presence heteroskedasticity and observations that belong to the same firm. Country effects also are taken into account. The Hadi (1994) procedure has been applied for outliers detection.

Table 3

Panel B: The effect of (current and non-current) *negative* accruals and disclosure on share price anticipations of earnings

ACC<0	Δ CO		Δ NCO	
	AverageTotalAsset		AverageTotalAssets	
X_{t-1}	1.1990	0.08	0.8615	0.22
X_t	1.8670	0.00	-0.1263	0.64
X_{t+1}	-0.5477	0.13	2.3141	0.00
R_{t+1}	-0.4632	0.00	-0.4886	0.00
<i>DIS</i>	0.0014	0.10	0.0023	0.02
<i>DIS</i> * X_{t-1}	-0.0608	0.61	-0.1006	0.30
<i>DIS</i> * X_t	-0.2181	0.01	0.1267	0.00
<i>DIS</i> * X_{t+1}	0.0768	0.23	-0.1949	0.00
<i>DIS</i> * R_{t+1}	0.0099	0.49	0.0029	0.74
<i>ACC</i>	0.0135	0.00	0.0001	0.96
<i>ACC</i> * X_{t-1}	-0.1156	0.22	-0.0276	0.79
<i>ACC</i> * X_t	-0.0291	0.69	0.1352	0.01
<i>ACC</i> * X_{t+1}	0.1760	0.00	-0.3119	0.00
<i>ACC</i> * R_{t+1}	0.0168	0.19	0.0262	0.00
<i>DIS</i> * <i>ACC</i> * X_{t-1}	-0.0071	0.66	0.0033	0.81
<i>DIS</i> * <i>ACC</i> * X_t	0.0097	0.41	-0.0274	0.00
<i>DIS</i> * <i>ACC</i> * X_{t+1}	-0.0068	0.48	0.0361	0.00
<i>DIS</i> * <i>ACC</i> * R_{t+1}	0.0001	0.95	0.0000	0.98
Intercept	-0.2653	0.00	-0.51561	0.00
Number of obs	330		418	
Wald chi-square (p-value):	<0.001			

Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. Future earnings X_{t+1} (Lagged earnings X_{t-1}) are the income before extraordinary items-available to common for the year following (preceding) the current year, scaled by market value three months after year t fiscal year end. Δ CO and Δ NCO stand for current operating accruals and non-current operating accruals. *DIS* is the decile rank of disclosure, where disclosure is measured by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end. Future returns R_{t+1} are the annual buy-and-hold returns for the year following the current year (starting three months after the current fiscal year-end). The model is estimated by feasible generalized least squares regression in order to control for the presence heteroskedasticity and observations that belong to the same firm. Country effects also are taken into account. The Hadi (1994) procedure has been applied for outliers detection.

Table 3

Panel C: The effect of *positive* (current and non-current) accruals and disclosure on share price anticipation of earnings

ACC>0	Δ CO		Δ NCO	
	Average	TotalAsset	Average	TotalAssets
X_{t-1}	0.7851	0.23	-1.1430	0.16
X_t	2.3453	0.00	2.8001	0.00
X_{t+1}	-0.3959	0.33	0.1325	0.77
R_{t+1}	-0.2234	0.00	-0.4814	0.00
<i>DIS</i>	0.0016	0.10	-0.0023	0.02
<i>DIS</i> * X_{t-1}	-0.0582	0.48	0.2291	0.06
<i>DIS</i> * X_t	-0.2690	0.00	-0.1297	0.37
<i>DIS</i> * X_{t+1}	0.1325	0.03	-0.0081	0.91
<i>DIS</i> * R_{t+1}	0.0039	0.64	0.0202	0.05
<i>ACC</i>	-0.0041	0.17	-0.0023	0.02
<i>ACC</i> * X_{t-1}	0.0644	0.53	0.1042	0.41
<i>ACC</i> * X_t	-0.2301	0.00	-0.0452	0.74
<i>ACC</i> * X_{t+1}	0.1775	0.01	0.0806	0.22
<i>ACC</i> * R_{t+1}	-0.0210	0.04	0.0219	0.08
<i>DIS</i> * <i>ACC</i> * X_{t-1}	-0.0042	0.75	-0.0133	0.44
<i>DIS</i> * <i>ACC</i> * X_t	0.0260	0.03	-0.0017	0.93
<i>DIS</i> * <i>ACC</i> * X_{t+1}	-0.0098	0.32	0.0046	0.65
<i>DIS</i> * <i>ACC</i> * R_{t+1}	0.0005	0.75	0.0004	0.87
Intercept	-0.3103	0.00	-0.0274	0.75
Number of obs	352		265	
Wald chi-square (p-value):	<0.001			

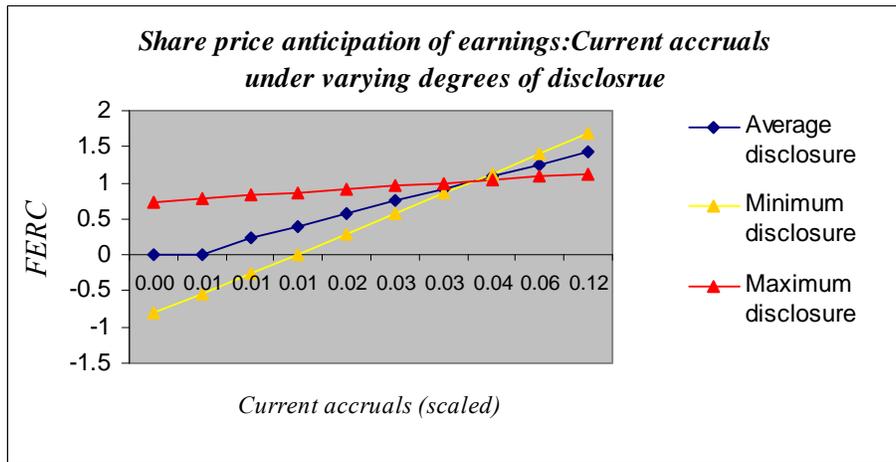
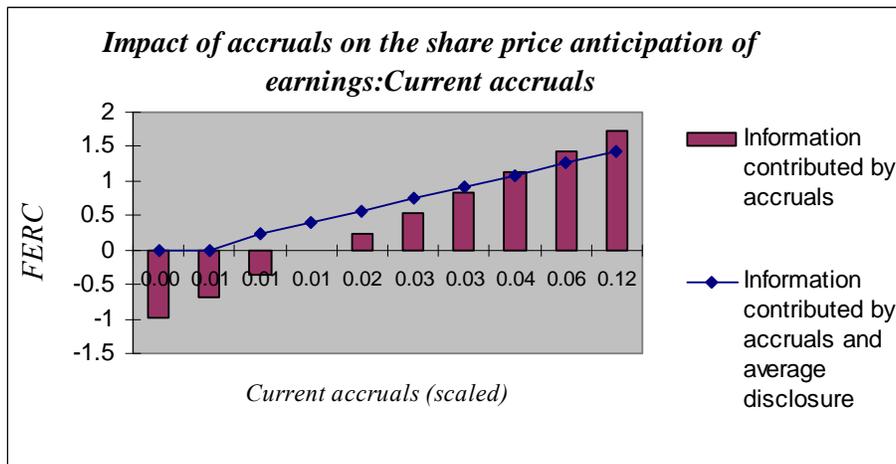
Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. Future earnings X_{t+1} (Lagged earnings X_{t-1}) are the income before extraordinary items-available to common for the year following (preceding) the current year, scaled by market value three months after year t fiscal year end. *ACC* is the decile rank of either Δ CO or Δ NCO which stand for current operating accruals and non-current operating accruals. *DIS* is the decile rank of disclosure, where disclosure is measured by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end. Future returns R_{t+1} are the annual buy-and-hold returns for the year following the current year (starting three months after the current fiscal year-end). The model is estimated by feasible generalized least squares regression in order to control for the presence heteroskedasticity and observations that belong to the same firm. Country effects also are taken into account. The Hadi (1994) procedure has been applied for outliers detection.

Figure 1

The effect of accruals and disclosure on share price anticipation of earnings

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \beta ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \gamma DIS_i \times ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ X_{i,t+1} \\ R_{i,t+1} \end{bmatrix}$$

Panel A: Current accruals

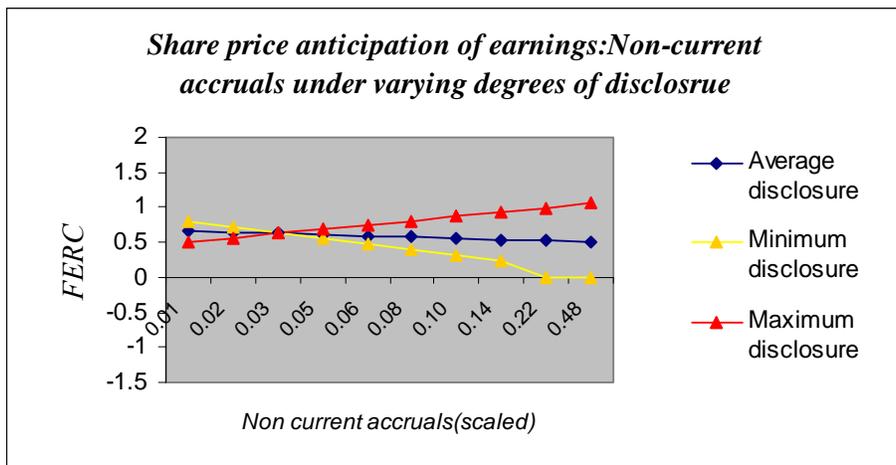
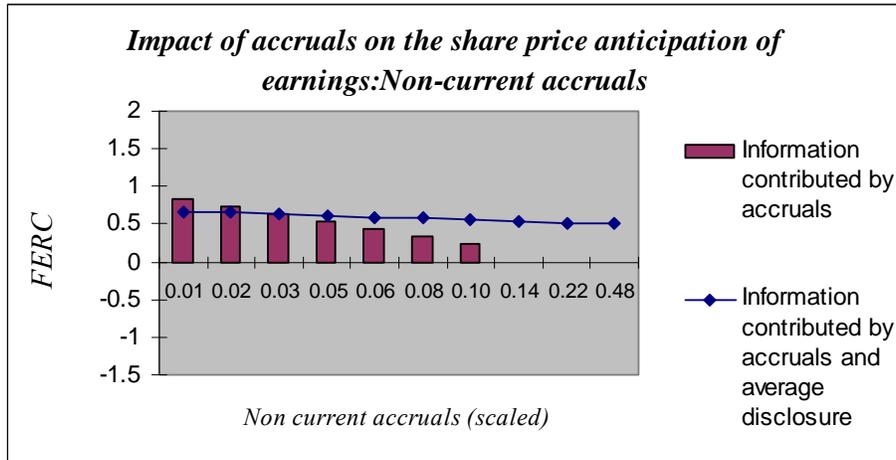


Notes: FERC refers to the future earnings response coefficient. More specifically, it refers to the coefficients $a_{13} ACC * X_{t+1}$ in order to assess information contributed by accruals and to $(a_{13} ACC * X_{t+1} + a_8 DIS * X_{t+1} + a_{17} ACC * X_{t+1})$ in order to assess the information contributed by both accruals and disclosure. If a coefficient is not statistically significant at 10%, then it is assumed to be equals to 0. Average disclosure is represented by the fifth decile of disclosure; maximum disclosure by the tenth and minimum by the first one. The level of accruals is represented here by the median scaled accruals per decile.

Figure 1

The effect of accruals and disclosure on share price anticipation of earnings

Panel B: Non-current accruals



Notes: FERC refers to the future earnings response coefficient. More specifically, it refers to the coefficients $a_{13} ACC * X_{t+1}$ in order to assess information contributed by accruals and to $(a_{13} ACC * X_{t+1} + a_8 DIS * X_{t+1} + a_{17} ACC * X_{t+1})$ in order to assess the information contributed by both accruals and disclosure. If a coefficient is not statistically significant at 10%, then it is assumed to be equals to 0. Average disclosure is represented by the fifth decile of disclosure; maximum disclosure by the tenth and minimum by the first one. The level of accruals is represented here by the median scaled accruals per decile.

Table 4

The effect of current and non-current accruals and disclosure on share price anticipation of cash flows

$$R_{i,t} = \alpha \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \alpha DIS_i \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \beta ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix} + \gamma DIS_i \times ACC_{i,t} \times \begin{bmatrix} X_{i,t-1} \\ X_{i,t} \\ AX_{i,t+1} \\ CFX_{i,t+1} \\ R_{i,t+1} \end{bmatrix}$$

ACC	ΔCO		ΔNC	
	AverageTotalAssets		AverageTotalAssets	
X_{t-1}	2.0266	0.00	0.7402	0.22
X_t	1.8294	0.00	0.6926	0.13
AX_{t+1}	-0.7330	0.02	0.9700	0.01
CFX_{t+1}	-1.1927	0.00	0.7939	0.02
R_{t+1}	-0.3196	0.00	-0.4659	0.00
DIS	-0.0008	0.40	-0.0009	0.32
$DIS * X_{t-1}$	-0.1858	0.01	-0.0731	0.38
$DIS * X_t$	-0.1878	0.00	0.0555	0.41
$DIS * AX_{t+1}$	0.1285	0.00	-0.0510	0.31
$DIS * CFX_{t+1}$	0.1871	0.00	-0.0345	0.50
$DIS * R_{t+1}$	0.0065	0.55	0.0068	0.58
ACC	0.0039	0.28	0.0001	0.99
$ACC * X_{t-1}$	-0.2200	0.01	-0.0005	1.00
$ACC * X_t$	-0.1244	0.05	0.0660	0.36
$ACC * A X_{t+1}$	0.2352	0.00	-0.0852	0.11
$ACC * CF * X_{t+1}$	0.2721	0.00	-0.0943	0.08
$ACC * R_{t+1}$	-0.0033	0.73	0.0265	0.03
$DIS * ACC * X_{t-1}$	0.0200	0.07	0.0069	0.57
$DIS * ACC * X_t$	0.0167	0.06	-0.0185	0.06
$DIS * ACC * AX_{t+1}$	-0.0180	0.02	0.0146	0.05
$DIS * ACC * CFX_{t+1}$	-0.0226	0.00	0.0153	0.05
$DIS * ACC * R_{t+1}$	0.0004	0.81	0.0004	0.84
Intercept	-0.0258	0.75	-0.0309	0.67
Number of observations: 683				
Wald chi-square (p-value): <0.001				

Notes: Current returns R_t for year t are buy-and-hold returns for the 12-month period starting three months after year $t-1$ fiscal year end. Current earnings X_t for year t is income before extraordinary items-available to common, scaled by market value three months after year $t-1$ fiscal year end. Future

earnings X_{t+1} (Lagged earnings X_{t-1}) are the income before extraordinary items-available to common for the year following (preceding) the current year, scaled by market value three months after year t fiscal year end. CFX_{t+1} and AX_{t+1} are correspondingly the cash and accrual component of X_{t+1} . ACC is the decile rank of either ΔCO or ΔNCO which stand for current operating accruals and non-current operating accruals. DIS is the decile rank of disclosure, where disclosure is measured by the S&P rating. Market value (closing price multiplied by the number of shares outstanding) is measured three months after year $t-1$ fiscal year-end. Future returns R_{t+1} are the annual buy-and-hold returns for the year following the current year (starting three months after the current fiscal year-end). The model is estimated by feasible generalized least squares regression in order to control for the presence heteroskedasticity and observations that belong to the same firm. Country effects also are taken into account. The Hadi (1994) procedure has been applied for outliers detection.

