Managing Earnings Using Classification Shifting: UK Evidence

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1. Introduction

The objectives of this study are twofold. First, to examine the misclassification of recurring items as non-recurring or exceptional items (Classification Shifting) by UK firms. Second, to provide evidence on how credit rating agencies interpret such behaviour. The bulk of prior studies on earnings management have focused on either accruals or real earnings management and little evidence on classification shifting is available, especially in the post-IFRS era. In contrast to previous UK GAAP, which was relatively prescriptive regarding the treatment and disclosure of non-recurring items under FRS3[1] (ASB, 1992), IFRS is relatively silent regarding this issue. Thus, IAS1 requires the presentation of additional line items, headings or subtotals when such information is relevant to an understanding of the entity's financial position, taking into account its materiality and the nature and function of the items of income and expense. Indeed, it does not prohibit firms from disclosing as many subtotals as they wish including earnings before non-recurring items, and companies have considerably more scope under IFRS to report various non-GAAP measures of income.

Companies contend that they use this discretion to provide information useful for improving investors' understanding of their profitability, and to remove potentially confusing volatility in reported earnings. For example, Cobham Company in its 2009 annual report stated that:

> *"In addition to the information required by IFRS and to assist with the understanding of earnings trends, the Group has included within its published statements trading profit and underlying earnings results".*

[1] FRS3 required companies to separately disclose after operating profit and before interest, any profits or losses on sale or termination of operations, costs of fundamental reorganisations and profits or losses on disposal of Noncurrent Assets. All other exceptional items had to be included under the relevant statutory format headings and disclosed by way of note or on the face of the statement. Each item was to be described to ensure its nature may be understood.

J Sainsbury plc in its 2010 annual report similarly stated that:

Certain items recognised in reported profit before tax can vary significantly from year to year and therefore create volatility in reported earnings which does not reflect the Group's underlying performance. The Directors believe that the 'underlying profit before tax' ("UPBT") and 'underlying diluted and basic earnings per share' measures presented provide a clear and consistent presentation of the underlying performance of Sainsbury's ongoing business for shareholders.

While Millenium Hotels, 2009, stated that:

In presenting the Group's profitability, headline operating profit, headline EBITDA, headline profit before tax, headline profit after tax and headline earnings per share are calculated. .... The Group believes that it is both useful and necessary to report these measures for the following reasons:
• they are measures used by the Group for internal performance analysis; and
• they are useful in connection with discussions with the investment analyst community.

While the desire to provide more meaningful information may be a motive, such disclosures may instead be due to their desire to mislead investors. The greater flexibility under IAS1, coupled with relatively higher scrutiny of accruals-based earnings management, might provide incentives for the misclassification of recurring expenses as non-recurring within the Income Statement in order to report more favourable core earnings[2] and underlying or persistent profitability.

Thus it remains an open question, how UK firms treat non-recurring items in the absence of detailed guidance by the IASB. This an important research question because of the debate between IASB and FASB regarding the treatment of non-recurring items and therefore our results would provide evidence on the validity of the arguments put forward by FASB or IASB. More specifically, while FASB and IASB chose not to address non-recurring items under their conversion project, they had significantly different views on the importance of a standard in this area. In their Discussion Paper "Preliminary Views on

[2] Core earnings are also referred to as Pro-forma earnings and non-GAAP earnings and these terms may be used interchangeably to refer to earnings before non-recurring items.

Financial Statement Presentation" (IASB, 2008), the FASB opinion was that each entity should disclose information about unusual or infrequent events or transactions to improve users' understanding about components within a line item that are less persistent and more subjective, while in contrast, the IASB did not support this because there is no notion of unusual or infrequent events or transactions in IFRSs[3].

The extant research on earnings management has focused mainly on equity markets; there is a lack of evidence over the use of published financial information in debt markets and, in particular, how this might affect firms' attitudes towards classification shifting. Whilst extant studies have investigated how investors react to published information, this analysis cannot be complete without an investigation of debt markets. From a standard setters' perspective, the purpose of financial statements in general and earnings in particular is to serve the decision making needs of all stakeholders (Callen, Livnat, & Segal, 2009). Therefore, it is worth investigating whether the debt market has a different behaviour towards accounting information. Some of the key players in the debt markets are credit rating agencies. Their ratings are seen as efficient benchmarks for default risk and therefore the cost of debt is determined based on their rating information (Frost, 2007). Arguably, credit rating agencies have an information advantage regarding firms' prospects; they are also more sophisticated and potentially less likely to rely on published information to assign their ratings. For example, credit rating agencies have access to unpublished information such as board meeting minutes, internal capital allocations, and breakdown of profit by product (Ederington & Yawitz, 1987; Jiang, 2008*).* Accordingly, it is an open empirical question whether credit rating agencies are attentive to published accounting information and use earnings benchmarks in assigning their ratings. If they do, it might provide evidence on a new motivation for firms to beat core earnings benchmarks.

[3] Whilst this project resulted in a joint staff draft of a proposed standard, the project was paused in 2011

The current study addresses the ongoing debate on whether credit rating agencies use accounting information. We investigate whether credit rating agencies utilise core earnings benchmarks in assigning their ratings by examining the relationship between credit rating change and earnings benchmarks. We also investigate whether credit rating agencies are completely rational in using these earnings benchmarks by examining whether credit rating agencies penalize firms that use classification shifting to achieve these benchmarks. Our analysis could provide evidence on a new deterrent of earnings management.

Using a sample of UK firms over the period from 2008 to 2010, we investigate whether UK firms engage in classification shifting and whether credit rating agencies can see through this behaviour. The results show a significant positive relationship between non-recurring expenses and unexpected core earnings, providing evidence that UK firms consider classification shifting to be a viable manipulation method. We also find that classification shifting is more pervasive when it allows firms to avoid reporting a core earnings decrease. However, unlike prior accruals-based earnings management studies (e.g. Gore, Pope, & Singh, 2007), we find no evidence that classification shifting is more prevalent when it allows firms to avoid reporting a core loss. However, our results suggest that this may be logical behaviour in that, while credit rating agencies significantly penalise or reduce their rating of firms who use classification shifting to avoid reporting core losses, they do not penalise firms who instead use it to avoid reporting core earnings decreases.

Our study makes several contributions to the earnings management literature. First, it adds to our understanding of financial accounting practices in the post-IFRS period. While most prior studies of classification shifting motivations were conducted in a more rule-based accounting standards setting environment, such as the USA, this study provides evidence of core earnings manipulation through classification shifting in companies using the more principle-based IFRS. Specifically, while prior literature showed that IFRS have tended to lead to a decrease in accruals-based earnings management (e.g. Aussenegg, Inwinkl, & Schneider, 2008; Barth, Landsman, & Lang, 2008; Iatridis, 2010), this study shows that, in contrast, classification shifting is common practice, at least in the UK, in the post-IFRS period, suggesting that firms may have switched to a manipulation method that is harder to detect. This evidence forms an important consideration in the debate on the costs and benefits of IFRS.

Second, this study extends prior classification shifting studies into new territory. While prior studies focused on investor response to classification shifting, this study examines the impact on credit rating agencies. It provides direct evidence on the incentive to engage in classification shifting to achieve a desired credit rating outcome. The results show that firms using classification shifting to report core earnings increases tend to be rewarded by receiving a higher credit rating while, in contrast, the potential impact upon credit ratings provides no motive for using classification shifting to avoid reporting core losses.

Finally, our results have important public policy implications for standard setters. They raise the need for closer scrutiny of classification shifting by standard setters, and suggest that the decision by the IASB and the FASB not to address pro forma disclosure under their convergence project on financial statement presentation may be premature.

The rest of the paper is organized as follows, section two provides a literature review and develops the hypothesis, section three describes the research design, section four details the empirical results and robustness checks, and section five offers the conclusions.

2. Literature Review and Hypothesises Development

There is a growing trend for firms to disclose non-GAAP or core earnings and studies show that stakeholders appear to consider core earnings as more informative and thus price them differently from bottom line income (GAAP earnings). For example, Bradshaw and Sloan (2002) found that stock returns are significantly more related to non-GAAP earnings than to GAAP earnings. Similarly, Bhattacharya, Black, Christensen, and Larson (2003) and Brown and Sivakumar (2003) found that investors place more emphasis on non-GAAP earnings than audited GAAP numbers although, Allee et al. (2007) and Bhattacharya, Black, Christensen, and Mergenthaler (2007) showed that only less sophisticated investors place more emphasis on non-GAAP earnings. In addition, extant research suggests that most debt agreements are influenced by non-GAAP earnings numbers, especially earnings before non-recurring items (Li, 2010; Dyreng, Vashishtha, & Weber, 2016).

This might motivate some managers to shift some expenses from recurring items to non-recurring or exceptional items, and thereby inflate their core earnings number but not their bottom line net income. Managers who are motivated to manage earnings may focus on such classification shifting because this may be less likely to be challenged than accrual-based earnings management. Because it does not change bottom line net income and thereby regulators or external auditors may pay it less attention. However, even if this is not the case, firms with misclassified nonrecurring items will tend to be declining in performance. Thus, albeit artificially high, reported core income may still fall below either the previous period's figure or relevant industry benchmarks (McVay, 2006), meaning that the improper categorization of items is not as obvious to monitors. Managers may also be motivated to use classification shifting as it provides them with a lower cost method to inflate core earnings as it involves neither accruals that reverse in subsequent periods, nor the foregone returns or increased costs of real business manipulations (Athanasakou, Strong, & Walker, 2009).

Despite the apparent advantages of classification shifting to managers, few studies have investigated classification shifting and most of these have focused on the use of classification shifting to meet/beat analysts' forecasts. While US studies (McVay, 2006; Barua, Lin, & Sbaraglia, 2010; Fan, Barua, Cready, & Thomas, 2010) showed that managers use classification shifting to avoid negative earnings surprises, there is only weak evidence of this happening in the UK in the period prior to the adoption of IFRS (Athanasakou et al. 2009). Instead, most UK firms appeared to prefer to avoid negative earnings surprises by managing analysts' expectations rather than by earnings manipulation and only a small subsample of large companies used classification shifting to meet/beat analysts' forecasts. These findings confirm Brown and Higgins (2005) suggestion that firms in a high investor protection environment prefer to affect analysts' behaviour, and support the survey results of Choi, Young, & Walker (2006) (cited in Athanasakou et al., 2009) showing that investment professionals and financial managers consider forecast guidance to be a common practice in the UK. In addition, the UK stock market does not reward firms that meet/beat analysts' forecasts through classification shifting (Athanasakou, Strong, & Walker, 2011) which further reduces managers' motivation to meet/beat analysts' forecasts through classification shifting. That is, firms are less likely to manipulate their earnings in order to meet analysts' expectations because of its relatively high cost.

Earnings manipulation is more likely to occur when the benefit of earnings management is higher than its costs and managers are able to obtain benefit from the inflated earnings (Schipper, 1989; Cheng & Warfield, 2005; McVay, 2006***).*** Therefore, in order to provide compelling evidence on whether UK companies see classification shifting as a viable manipulation method, we identify other settings where the cost of earnings management seems to be lower than its benefits. One such setting is when it helps firms to avoid reporting core loss or core earnings decrease.

There is an increasing body of empirical studies showing that managers are motivated to avoid reporting losses and earnings decreases and if they failed to achieve these benchmarks through operating strategies, they would mask the true economic performance of their firms through accruals or real earnings management (i.e. Gore et al. 2007; Koh Matsumoto, & Rajgopal, 2008; Bartov, & Cohen, 2009; Osma & Young, 2009). The precise reasons why managers do so are not entirely clear (Osma & Young, 2009). Influencing creditors' perception might represent one motivation for this behaviour. Arguably, earnings represent one of the important factors used by creditors to evaluate firms' credit risk and predict bankruptcy (Callen et al. 2009). Extant studies show that current earnings can be used to predict future earnings (Finger 1994; Nissim & Penman 2001), higher earnings today implies higher earnings in the future, and therefore less probability of default. Furthermore, Callen et al. (2009) and Bhat, Callen, and Segal (2014) noted that earnings number comprise a significant portion of the short-term change in assets (via clean surplus) and, therefore, provide information to creditors about the firm's asset and wealth dynamics that represent crucial variables in the evaluation of credit risk (Duffie & Lando, 2001). This might motivate firms to avoid reporting a loss or a decrease in their profitability. Consistent with this empirical work, Burgstahler and Dichev (1997) highlight the importance of two theories. According to transaction cost theory, firms' stakeholders, including creditors, rely on heuristic cut-offs in order to decrease the costs of processing information and so may screen out companies based upon core earnings changes. When doing this, prospect theory suggests that they will be more sensitive to losses and less sensitive to gains with respect to a reference point. That is, management are in turn expected to improve their core earnings number and achieve their earnings benchmarks through operating strategies. However, failed firms might try to mask the true economic performance of their firms through earnings manipulation.

Given these theoretical explanations of managerial behaviour coupled with empirical evidence demonstrating the importance of these two targets as explicators of both accruals and real earnings management, it is expected that managers may also use classification shifting for the same purposes. Empirical work shows that US managers do this. In particular, Barua et al. (2010) found that they classify some core expenses as discontinued operations in order to either avoid reporting a loss or to report core earnings growth. Similarly, Fan et al. (2010) found that US managers are more likely to engage in classification shifting when it enables them to avoid reporting a quarterly loss or a quarterly earnings decrease. Anecdotal evidence also supports the fact that some UK firms are motivated to report underlying profit or growth in their underlying profit. For example, in their 2008 annual report, Johnson Matthey states that 'the first financial objective of the company is "to continue to achieve consistent and above average growth in underlying earnings per share'. Similarly, in its 2010 annual report, the first KPI listed by Kingfisher is 'Driving up B&Q's UK and Ireland profits' while Easyjet's (2010) first KPI is 'profit before tax (underlying)'. Therefore, we investigate whether UK companies engage in classification shifting to either avoid reporting core losses or to sustain last year's reported core earnings. Specifically, we expect that managers will misclassify recurring expenses as non-recurring when such practices allow them to avoid reporting a core loss or a core earnings decrease.

H1: Ceteris paribus, there is a significant positive relationship between classification shifting and meeting/beating earnings benchmarks.

The classification shifting motivations discussed above depend crucially upon the ability to affect creditors' perceptions; hence it is informative to investigate how creditors interpret favourable earnings information. The extant research focused on how equity investors interpret favourable GAAP earnings information. In particular, it finds that equity investors reward firms that avoid reporting GAAP loss or GAAP earnings decrease (i.e. Barth, Elliot, & Finn. 1999; Osma & Young, 2009; Athanasakou et al., 2011). However, little is known about how credit rating agencies respond to favourable core earnings performance.

As noted by Wu and Zhang (2014) debtholders set their debt covenants based on financial statements information, and so they likely to be sensitive to changes in accounting information, whilst Duffie and Lando (2001) developed a theoretical model showing how accounting information explicitly impacts firms' default probabilities. Consistent with this, Jiang (2008) shows that US firms reporting positive or increased GAAP net income have a greater probability of a credit rating upgrade and other studies show that firms' credit ratings is based upon published accounting information such as profit, interest coverage and leverage (Pittman & Fortin 2004; Doumpos & Pasiouras 2005). Therefore, to the extent that credit rating agencies capture the information incorporated in reported core earnings, we should expect that firms' credit ratings are associated with the avoidance of reported core losses or earnings decreases.

H2: Ceteris paribus, there is a significant positive relationship between credit rating change and meeting/beating earnings benchmarks.

However, if credit ratings reward companies that meet these earnings benchmarks, some companies might engage in classification shifting to avoid reporting core loss or an earnings decrease. This leads to another research question; whether credit rating agencies discriminate between benchmarks achieved by real economic considerations and benchmarks achieved through classification shifting. Prior studies postulated that investors are rational and will not reward firms that use earnings management to meet earnings benchmarks. Consistent with this conjecture, Bartov, Givoly, and Hayn (2002) found that firms that managed their accruals to meet/beat earnings thresholds experience lower stock returns relative to other firms. Similarly, Osma and Young (2009) found that firms that report earnings growth by cutting R&D experienced lower returns relative to firms reporting genuine earnings growth. For classification shifting, Athanasakou et al. (2011) found that firms using classification shifting to meet/beat analysts' forecasts have lower market reward than other firms. Given this, one might expect that if the credit rating agencies are rational and can see through classification shifting, the reward (credit rating upgrade) for genuine achievers will be more than the reward for firms instead using classification shifting to meet their predetermined thresholds.

On the other hand, since companies pay for their credit rating, a conflict of interest might exist. In particular, Frost (2007) noted that to the extent that credit rating agencies depend on subscription fees, they might issue more favourable ratings and be less diligent in probing for negative information. In other words, they might tolerate classification shifting used to achieve earnings benchmarks. In contrast, Cantor and Packer (1994) argued that credit rating agencies have an overriding incentive to maintain their reputation for accurate rating. Since credit rating agencies have an information advantage regarding firms' prospects, and may, for example, have access to unpublished information such as board meeting minutes, internal capital allocation, and breakdown of profit by product (Ederington &Yawitz, 1987; Jiang, 2008*),* then they may be able to see through such behaviour. We expect that rating agencies are able to discriminate between genuine achievers and firms engaged in classification to meet earnings benchmarks and therefore they will penalize firms using classification shifting to avoid reporting core loss or core earnings decrease, leading to the following hypothesis:

H3: Ceteris paribus, there is a negative relationship between credit rating change and meeting/beating earnings benchmark through classification shifting.

3. Research design

3.1 Models

To investigate whether firms engage in classification shifting in post-IFRS period, we follow McVay (2006) and focus on the misclassification of recurring expenses. We test the association between abnormal core earnings and non-recurring expenses, and expect that firms' core earnings will be overstated in the year that non-recurring expenses are recognized. The first step in classification shifting studies is to reach a measure of normal core earnings. McVay (2006) introduced the first model that relates firms' core earnings with other performance measures that capture normal core earnings. In particular, she assumed that normal core earnings for a given firm is based on prior period core earnings, asset turnover, and change in sales, and contemporaneous and previous period accruals. Fan et al. (2010) noted that the main limitation of McVay's (2006) model is that it conditions core earnings on contemporaneous accruals including non-recurring items accruals which may create a mechanical positive relationship between non-recurring items and unexpected core earnings. Therefore, following Fan et al. (2010) recommendation, we exclude contemporaneous accruals from the McVay (2006) expectation model and determine a proxy for normal core earnings for each firm using the following expectation model;

$$CE_{i,t} = \gamma_0 + \gamma_1 CE_{i,t-1} + \gamma_2 ATO_{i,t} + \gamma_3 ACCRUALS_{i,t-1} + \gamma_4 \Delta SALES_{i,t} + \gamma_5 NEG\_\Delta SALES_{i,t} + u_{i,t} \quad (1)$$

CE is core earnings measured as I/B/E/S actual earnings per share[4] multiplied by the average number of shares (both unadjusted for stock splits) scaled by sales. Since total assets might be systematically misstated for firms with non-recurring items, we used sales as scaler (McVay, 2006). The model includes lagged core earnings (CE_{t-1}), as core earnings tend to be persistent. Asset turnover (ATO) is included to control for the inverse relationship between asset turnover and profit margin. This is important especially for firms with large income-increasing nonrecurring items as these firms are more likely to make changes to their operating strategies. ATO is defined as sales / average net operating assets whilst net operating assets is the difference between operating assets and operating liabilities. Operating assets are calculated as total assets less cash and cash equivalents. Operating liabilities are calculated as total assets less total debt, less book value of common and preferred equity, less non-controlling interests. Operating accruals or ACCRUALS are calculated as (Net income before extraordinary items – cash flow from operation) / Sales. Since future performance is related to past accruals, lagged accruals ($ACCRUALS_{t-1}$) is added to capture the information content of last period accruals for current period earnings. Sales growth ($\Delta SALES_{i,t}$) is measured as the percentage change in sales, or ($Sales_t$ – $Sales_{t-1}$)/ $Sales_{t-1}$. This is included in order to control for the impact of sales growth on fixed costs (as sales grow, fixed cost per unit decline). To allow for different slopes for sales decreases and increases (Anderson, Banker, & Janakiraman, 2003; Fan et al. 2010), negative sales

[4] Whilst McVay (2006) calculated core earnings as sales- cost of goods sold - selling, general, and administrative, Athanasakou et al. (2009) used I/B/E/S actual EPS (which exclude non-recurring items) multiplied by average number of shares. They pointed out that I/B/E/S adjust realised earnings by excluding non-recurring items on a case by case basis instead of on a category by category basis as followed by DataStream, implying that I/B/E/S treat non-recurring items selectively according to each firms characteristics, leading to an estimate of core earnings closer to management estimation. Accordingly, this study also uses I/B/E/S actual earnings per share as a proxy of core earnings.

(NEG_SALES) is added to the model. This is measured as the percentage change in sales if sales have fallen and 0 otherwise[5].

The unexpected core earnings (UCE) for each firm is then calculated as the difference between reported core earnings and normal or expected core earnings. Expected or normal core earnings is calculated using coefficients from model (1) above, estimated separately by industry and fiscal year. We then estimate the following model to investigate whether UK firms misclassify recurring expenses as non-recurring.

$$UCE_t = \beta_0 + \beta_1 NREC_t + \beta_2 SIZE + \beta_3 LEV + \beta_4 OCF + \beta_5 ROA + \beta_6 MBV \qquad (2)$$

Similar to Athanasakou et al. (2009) and Zalata and Roberts (2016), non-recurring expenses (NREC) is the difference between reported core earnings and bottom line net income scaled by sales (positive differences correspond to income-decreasing items, while negative differences correspond to income-increasing items and are set to zero)[6]. We control for firms' characteristics that can affect the level of earnings management. A review of prior studies showed that five variables might affect the level of earnings management, namely: firm size (SIZE), leverage (LEV), cash flow from operations (OCF), firm performance (ROA) and firm growth (MBV) and these are all employed in this model and model 3 below.

To investigate the impact of earnings benchmarks (H1), we interact between NREC and earnings benchmarks. In addition to the control variable included in equation (2), we add debt financing in the next year (DF) and the interaction between NREC and DF as

[5]We follow prior studies (i.e McVay, 2006; Barua et al., 2010; Fan et al. 2010; and Haw, Ho, and Li 2011) and measure NEG_SALES in this way. However, as a robustness test we add an indicator variable for negative sales and the results are qualitatively similar.
[6] After the merger of Datastream with Worldscope in 2003, data on non-recurring or exceptional items are not available on Datastream and therefore we calculate them as the difference between core earnings and bottom line earnings.

control variables. Prior studies show that firms engage in accruals-based earnings management to mislead debt providers (Lui, Ning, & Davidson, 2010; Caton, Chiyachantana, & Chua, 2011). Therefore, we expect that similar or stronger evidence of classification shifting will be found. Accordingly, this study predicts that firms seeking debt finance will manipulate their core earnings before the offerings. The regression model takes the following form[7];

$$UCE_t = \beta_0 + \beta_1\ NREC_t + \beta_2\ BENCHMARK_t + \beta_3\ DF_{t+1} + \beta_4\ NREC_t \times BENCHMARK_t + \beta_5\ NREC_t \times DF_{t+1} + \beta_6\ SIZE + \beta_7\ LEV + \beta_8\ OCF + \beta_9\ ROA + \beta_{10}\ MBV \qquad (3)$$

Hypothesis 1 predicts that β_4, will be positive.

Where;

UCE = unexpected core earnings, measured as the difference between reported and expected core earnings scaled by sales.

NREC = total non-recurring expenses, measured as the difference between reported core earnings and bottom line net income scaled by sales.

DF = is an indicator variable set to 1when Δlong term debt is at least 3% of average total assets, and zero otherwise[8].

ΔLong term debt = cash flows received from new debt issuance and cash flows used for debt repayments in year t+1.

BENCHMARK = earnings targets; this study uses two alternative earnings targets; either reporting positive core earnings (PCE) or core earnings increase (CEI).

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[7] Similar to Fan et al (2010) & Behn, Gotti, Herrmann, and Kang (2013), we focused on the levels of unexpected core earnings. To the extent that companies engage in CS in any two consequent years, using first differences does not work. As McVay (2006) noted, it is possible for a manager to classify recurring expenses as non-recurring for several years in a row. In these cases, non-recurring items will have no predictive power for future operating earnings regardless of whether or not they are all transitory; i.e., all non-recurring will be judged as perfectly transitory. In our sample, most companies have non-recurring items in the next year.

[8] As a robustness test, we used the total debts as well.

PCE = indicator variable, set to 1 if the firm reports core earnings per share between £0.00 and £0.03, and zero otherwise.

CEI = indicator variable, set to 1 if the firm reports a change in its core earnings per share between £0.00 and £0.03, and zero otherwise.

We focus on reporting small core profit or small increase in core earnings because prior studies suggest that firms are more likely to manipulate earnings when it enables them to just avoid reporting a loss or earnings decrease (Burgstahler & Dichev, 1997; Degeorge, Patel, & Zeckhauser, 1999). Therefore, the probability of firms reporting small positive core profit or small increase in core earnings is used. These cut-off points are similar to those reported in Fan et al., (2010).

To investigate whether credit rating companies reward firms reporting positive core profit or core profit increases, the following model is employed;

$$\Delta CR_t = \beta_0 + \beta_1\, CS + \beta_2\, BENCHMARK_t + \beta_3\, CS_t \times BENCHMARK_t + \beta_4 \Delta SIZE + \beta_5 \Delta LEV + \beta_6 \Delta INTCOV + \beta_7 \Delta PPE + \beta_8 \Delta OCF + \beta_9 \Delta QUICK \quad (4)$$

The interaction between CS and BENCHMARK captures the incremental effect on credit rating of beating benchmarks through classification shifting. If credit rating agencies reward firms reporting positive core earnings or increase in their core earnings, β_2 should be positive (H2), and if they are rational in their rating, β_3 should be negative suggesting that they reduce their rating for firms avoid reporting core loss or core earnings decrease using classification shifting (H3).

Where:

ΔCR = Percentage change in credit rating measured as the difference between current and previous year credit rating scaled by the previous year credit rating[9].

BENCHMARK = earnings targets, as described in model 3.

CS = indicator variable for firms engaged in classification shifting, set to 1 when a firm engages in classification shifting, and zero otherwise[10]. Since classification of recurring items as non-recurring increase firms' core earnings, the current study follows Athanasakou et al. (2011) and considers a firm as classification shifting (CS= 1) if it has both positive unexpected core earnings and actual core earnings higher than GAAP net income. For the credit rating model, following Dedman and Kausar (2012), we also control for changes in firm size (*ΔSIZE)*, leverage (*ΔLEV)*, interest coverage (*ΔINTCOV))*, tangible assets (*ΔPPE),* operating cash flows (*ΔOCF)* and liquidity (*ΔQUICK)*.

3.2 Sample Selection and Data Sources:

The sample frame comprises the DataStream population for UK firms with available data on both I/B/E/S and FAME databases. To maximise the sample, both AIM and main market listed companies are used. Therefore, since lagged core earnings data is required and AIM companies only had to comply with IFRS for financial periods starting on or after 1st January 2007, data for the period 2008 – 2010[11] are used. Firm-year observations with a change in their year-end are excluded to ensure that the accounting data used are comparable across years. Since financial firms have a different financial reporting environment, and since utilities companies are more regulated and their earnings growth more predictable, the

[9] Similar to Dedman and Kausar (2012), credit rating for a firm i over a year t is defined as the reported Qui Score by FAME database.

[10] In order to use classification shifting (CS) as an independent variable in the above model, we follow Athanasakou et al. (2011) and use a dummy variable of CS.

[11] Whilst our sample covers the financial crisis period it is unclear if this affects corporate behaviour, for example, Kousenidis et al (2013) found that most firms increased their earnings quality during the financial crises and only some appeared to instead increase their earnings management.

current study, similar to prior studies such as McVay, (2006), Athanasakou et al. (2009), Barua et al. (2010) and Fan et al. (2010), excludes both financial and utilities industries observations. Since the calculation of abnormal core earnings calculation starts by running equation (1) at the industry level, a minimum of seven observations in each industry are required in order to ensure sufficient data for coefficient estimation (Athanasakou et al. 2009; Peasnell, Pope, & Young, 2005). Finally, since sales is used as the deflator for most variables, observations with sales less than £0.5 million are excluded to avoid potential outliers, similar to Zalata and Roberts (2016). The resulting sample with full data on DataStream and I/B/E/S is 1,552 firm year-observations distributed over the sample period from 2008 to 2010.

4. Empirical results

4.1 Descriptive statistics

Table 1 reports the descriptive statistics for the main variables used in the analysis. The mean (median) of unexpected core earnings (UCE) is 0.00% (0.00%) as expected, as they are the residuals from the expectation model. On the other hand, mean of non-recurring items (NREC) as a percentage of sales is 6% which is substantially larger than the 2.1% reported before the introduction of IFRS (Athanasakou et al., 2009).

Looking at the possible incentives to classification shifting, Table 1 also shows that 15% of the sample reported small positive core earnings (PCE) and 27% reported an increase in their core earnings (CEI). In addition, it shows that 13% of the sample raised long term debt (DF).

Insert Table 1 here

Our results also indicate that the magnitude of NREC is greater in our sample than that found by other studies. One might argue that during the financial crisis years many firms might make large restructuring efforts and large impairments and therefore they might outperform firms that did not react to the economic downturn. Consequently, we tabulate the descriptive statistics for the key variables on a yearly basis. Table 2 shows that while UK firms, on average, spent more NREC during 2008, they experienced the lowest UCE in 2008. However, the differences between the three years are not significant for either of these variables. Table 2 shows the percentage of firms reporting small PCE in 2008 was significantly lower than the percentage in either 2009 or 2010, while there is no significant difference in either CEI or DF across the three years. Finally, the percentage of ΔCR increased significantly in 2010 in comparison with 2008 and 2009 suggesting that credit rating agencies were, to some extent, cautious during the crisis period.

Table 3 shows the correlations across the main variables. As expected, there is a positive relationship between credit rating change (ΔCR) and reporting positive core earnings (PCE). Similarly, it shows a positive relationship between ΔCR and reporting an increase in core earnings (CEI).

Insert Table 2 here

Insert Table 3 here

4.2 Classification shifting evidence:

Before investigating the determinants of classification shifting, we investigate whether UK firms currently appear to see it as a viable manipulation method. Table 4 reports basic regression testing of whether there is a positive relationship between NREC and UCE when also including control variables. Since not all firms are able to use classification shifting, the analysis is conducted using two samples based upon NREC; A) a full sample of all 1,552 firm-year observations, and B) a smaller sample of 1,069 firm-year observations that have a greater opportunity to classification shift. For the second sample, McVay (2006) postulates that managers deliberately misclassify some recurring expenses as non-recurring in the year that non-recurring expenses is recognized. In other words, firms with non-recurring expenses are more able to classification shift than others. Hence, firms with non-recurring revenues are removed and so the analysis is narrowed down to those firms that might have greater opportunity to classification shift.

Insert Table 4 here

As expected, Table 4 indicates that, unlike Athanasakou et al. (2009), there is a significant positive relationship between NREC and UCE at 1% for both samples, suggesting that companies might have shifted some recurring expenses to non-recurring items to inflate their core profits. This demonstrates that the variation in UCE is systematically related to NREC and thus that now UK firms are more likely to see classification shifting as a viable manipulation method, probably because of the more flexible disclosure regulations under IFRS.

Looking at control variables, Table 4 shows a negative relationship between UCE and SIZE providing support for the expectation that big firms are less likely to engage in earnings manipulation. Other control variables exhibit similar relationships to those reported by prior studies of classification shifting (e.g. Barua et al., 2010). Since ROA were found to have a negative relationship with discretionary accruals (e.g. Peasnell et al., 2005), the significant positive relationship found here between UCE and ROA may suggest that while firms with strong performance are less likely to engage in accrual-based earnings management, they are more likely to engage in manipulation through classification shifting.

4.3 Motivation for Classification Shifting:

This section investigates when classification shifting is more pervasive. We predict, in hypothesis one, that firms are more likely to engage in classification shifting when it allows them to meet earnings benchmarks. Given the ongoing controversy on which benchmarks are most important (e.g. Graham, Harvey, & Rajgopal, 2005; Barua et al., 2010; Fan et al., 2010), we use two alternative earnings benchmarks; either to avoid reporting core loss or to avoid reporting a decrease in core earnings. To examine this, an indicator variable (PCE) is set to one if the firm ex post reported small positive core earnings per share between £0.00 and £0.03, and zero otherwise, and another indicator variable (CEI) is set to one if the firm ex post reported an increase in its core earnings per share of between £0.00 and £0.03 and zero otherwise. Finally, PCE, CEI, and the interaction between NREC and PCE and CEI are added to the model. The variables of interest are NRECxPCE and NRECxCEI which are expected to be positive.

Insert Table 5 here

Insert Table 6 here

Table 5 shows that whilst the coefficient of NRECxPCE is positive, it is not significant in either samples, suggesting that UK firms are not motivated to engage in classification shifting to avoid reporting a core loss, despite the predictions of prospect and transaction cost theories. On the other hand, consistent with our expectation, Table 6 shows that NRECxCEI is positive and significant at 5% in both the full sample and for firms with non-recurring expenses (the second sample), demonstrating that firms with small CEI have a greater degree of misclassification, a result that is consistent with Osma and Young (2008), Barua et al. (2010) and Fan et al. (2010). Finally, Table 5 and 6 show that NREC is positive but insignificant, suggesting that firms with no DF and CEI are less likely to engage in classification shifting than other firms.

As reported in both Tables 5 and 6, the coefficient of NRECxDF is positive and significant at 5% in the first sample. When the analysis is narrowed down to firms with greater opportunity to misclassify their expenses (firms reporting NREC expenses; the second sample), NRECxDF becomes significant at 1% in both tables, providing evidence that firms are also motivated to classification shift before seeking new debt financing especially when they have a greater opportunity to do so. This provides evidence consistent with Lui et al., (2010) and Caton et al., (2011) who found higher levels of accrual-based earnings management before issuing new debt.

While the above analysis investigates those occasions when UK companies misclassify recurring items within the income statement, we now turn to examining why firms are motivated to report positive core earnings or increased core earnings or why these particular benchmarks are important to firms. More specifically, following hypothesis two, we investigate whether this is motivated by the fact that credit rating agencies improve their rating for firms reporting positive core earnings or an increase in core earnings as compared to other companies that do not.

Insert Table 7 here

To test this, as reported in Table 7, we regress credit rating change (ΔCR) on classification shifting (CS) and the two alternative earnings benchmarks PCE and CEI plus the control variables. Since classification shifting requires a positive relationship between UCE and NREC, then, similar to prior studies (e.g. Athanaskou et al., 2011), classification shifting (CS) can be employed as an independent variable if a firm is assumed to classification shift when it has both NREC expenses and positive UCE. Table 7 shows that PCE is positive and significant at 1% providing support for our expectation that credit rating agencies increase their rating for firms reporting core profit. In accordance with our expectation, Table 7 shows that the coefficient of CEI is both positive and significant at 5% suggesting that credit rating agencies increase their rating for firms reporting core earnings increase compared to average firms. This result is consistent with Jiang (2008) who found that firms reporting bottom line net income or bottom line net income increase receive higher reward in terms of a higher rating than average firms.

Finally, we examine whether credit rating agencies are completely rational in rewarding firms that report positive core earnings or core earnings increase. In other words, we examine whether credit rating agencies penalize firms that use classification shifting to report positive core earnings or core earnings increase. To examine this, an interaction between CS and either PCE or CEI is added to the model. The interaction terms capture the incremental effect on credit ratings of beating benchmarks through classification shifting.

Table 8 shows that while PCE is positive and significant at 1%, CSxPCE, is negative and significant at 10% suggesting that while credit rating agencies reward firms reporting positive core earnings, they may penalize firms (reduce their rating) that use classification shifting to achieve this. On the other hand, Table 8 shows that while CEI is still positive and significant at 10%, CSxCEI is insignificant, providing no evidence that credit rating agencies penalize firms that use classification shifting to avoid reporting core earnings decrease.

Insert Table 8 here

The overall results suggest that credit rating companies reward firms reporting a core earnings increase and do not significantly penalize them when using classification shifting to do so, which provides evidence on why UK firms use classification shifting to report core earnings increase. On the other hand, there is evidence suggesting that whilst credit rating agencies improve their rating for firms reporting positive core earnings, instead they reduce their rating for firms using classification shifting to achieve this, which may explain why UK firms do not use classification shifting to report positive core earnings. One explanation of this result is that debtholders, unlike shareholders, have a fixed claim against firm value implying that when a firm achieves a loss they bear the downside risk and when it instead achieves a profit increase they do not share the upside growth of firm value (Fischer & Verrecchia, 1997; Plummer & Tse, 1999, Jiang, 2008). The extant research shows that the debt market deals with these two benchmarks asymmetrically. For example, Begley and Freeman (2004) found that creditors do not treat losses and profits equally. Indeed they found that if a dividend covenant is used, only 50% of profit is available for dividends, while dividend paying ability is reduced by 100% of net losses. Similarly, Beatty, Yu and Weber (2008) found anecdotal evidence confirming lenders' asymmetric treatment of losses and profits. In particular, they showed that when lenders use a net worth covenant, covenant slack might be increased if the company reported a profit while it should be tightened by 100% of loss if it reported a loss. Finally, among other earnings benchmarks, Jiang (2008) found that reporting profit has the largest impact upon firms' cost of debt. That is, it seems that lenders penalize losses more than they reward profits. As such, credit rating agencies may be much more likely to apply simple heuristic rules to companies that increase earnings but instead apply more sophisticated analysis to firms instead reporting small positive profit as they might do this using classification shifting.

4.5 Post Financial Crisis Subsample:

Under the main analysis, we used a sample of UK firms over a period from 2008 to 2010. That is, it includes some observations during the financial crisis year (2008)[12]. In such a period, firms may react to the economic downturn by making large restructuring efforts and large impairments. In such circumstances, firms should report both high abnormal core earnings and high non-recurring expenses, and therefore our research design will capture these firms as classification shifters albeit they are not. In order to avoid this misinterpretation, we repeat the analysis using the year 2010 only.

[12] We thank an anonymous referee for pointing out this point.

Insert Table 9 here

Insert Table 10 here

As reported in Table 9 and 10, NRECxPCE and NRECxCEI are positive and significant providing support for our hypothesis. Similarly, we repeated the credit rating analysis for the 2010, however, untabulated results show that PCE and CEI are still positive but insignificant. In addition, while CSxPCE is negative and insignificant, CSxCEI is positive and insignificant providing only modest support for our results under the main analysis. However, these insignificant results may be because the sample size has been reduced substantially to only 499 observations which is likely to have impacted the significance level of the variables.

4.6 Robustness Analysis:

This part investigates whether our results are sensitive to the use of specific definitions of the variables of interest.

Under the main analysis, similar to Fan et al. (2010), PCE was set to 1 if the firm reported core earnings per share between £0.00 and £0.03, and zero otherwise. Similarly, CEI was set to 1 if the firm reported a change in its core earnings per share between £0.00 and £0.03, and zero otherwise. However, these cut off point are still arbitrary, and therefore we reduce them to £0.02 and £0.01 for both PCE and CEI. However, unreported results are qualitatively similar to those reported under the main analysis.

Athanasakou et al. (2009) and Doyle, Jennings, and Soliman. (2013) argued that focusing on the observations that just meet or just missed their benchmarks will give a more powerful test of earnings management to hit pre-determined benchmarks. Accordingly, the analysis was repeated focusing on firm-year observations that just meet and just missed predetermined benchmarks. In particular, a firm is defined as just meeting a benchmark if it reported either I/B/E/S EPS or an increase in I/B/E/S EPS of between £0.00 and £0.03, and defined as just missing it, if it reported absolute or decreased I/B/E/S EPS between £-0.03 and £0.00[13]. The unreported results still show UK firms are more likely to engage in classification shifting when it enables them to avoid reporting a core earnings decrease. Finally, similar to Barua et al. (2010), PCE is set to one if the firm reported positive core earnings per share, and zero otherwise. Similarly, ICE is set to one if firms reported an increase in core earnings per share, and zero otherwise. These measures premise that firms reporting either positive or increasing core earnings are more likely to have used classification shifting. Unreported results are again qualitatively similar to those reported under the main analysis.

5. Conclusion

In this study we investigate whether UK firms engage in classification shifting in the post-IFRS era, and whether credit rating agencies can see through classification shifting. Our evidence is consistent with firms opportunistically classifying some of their recurring expenses as non-recurring and thereby inflating their core earnings. In particular, we found that classificatory manipulation is more pervasive when it allows firms to avoid reporting a core earnings decrease. In contrast, the results do not support the view that firms are more likely to classification shift when it helps them to avoid reporting any core earnings loss. Our results also suggest that firms are also motivated to classification shift before seeking new debt financing. These results are robust to various model specifications and tests.

[13] Similar to Athanasakou et al. (2009), in order to ensure similarly sized intervals, observations with £0.05 profit increase are excluded from the interval of firms that just meet profit increase benchmark, and observations with £-0.05 profit increase are included in the interval of firms that just missed profit increase benchmarks.

Furthermore, the analysis reveals that while credit rating agencies significantly reward firms reporting positive core earnings, they do penalize those firms that use classification shifting to avoid reporting core losses. In contrast, they significantly reward firms that increase their core earnings but do not reduce their rating for firms using classification shifting to avoid reporting core earnings decreases. The overall results suggest that while UK firms are more likely to misclassify their recurring items within the income statement to avoid reporting core earnings decreases, credit rating agencies play an indirect role in constraining it by penalizing firms who use classification shifting to avoid reporting core loss.

The finding of this study should be of interest to standard setters. While prior studies show that classification shifting practice was not common in the UK prior to IFRS because of the rigorous transparency requirements under FRS3 (Athanasakou et al., 2009), the results of this study show that classification shifting has become more pervasive in the post-IFRS era because of the less strict regulations on the disclosure of non-recurring items under IFRS. These results have important implication for IASB and other standard setters. In particular, our results suggest the need for a closer scrutiny of classification shifting by standard setters. While standard setters tend to focus on recognition and measurement issues (Haw et al., 2011), these results suggest that they should pay more attention to the proper classification of items within the income statement. Hence, these results demonstrate that the decision by the IASB and the FASB not to address pro forma disclosure under their convergence project on financial statement presentation may be premature.

Classification shifting is still a relatively new area of research and this study focused only on certain settings where classification shifting might be more prevalent. Future research still needs to investigate whether management engage in classification shifting in order to affect the value of their wealth. For example, future research might usefully investigate whether management misclassify recurring items prior to the selling of shares or the exercise of stock options. Finally, our sample has focused only on post-IFRS period, and therefore we did not investigate the changes in firms' behaviour in pre and post IFRS. Future studies might investigate this research question.

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Table 1
Descriptive statistics

Variables	Mean	Median	Standard Deviation	0.25	0.75
UCE	0.00	0.00	0.28	-0.02	0.03
NREC	0.06	0.00	0.20	0.00	0.03
PCE	0.15	0.00	0.35	0.00	0.00
CEI	0.27	0.00	0.44	0.00	1.00
DF	0.13	0.00	0.34	0.00	0.00
ΔCR	0.01	0.00	0.08	-0.01	0.02
SIZE	11.92	11.76	2.03	10.49	13.27
LEV	0.48	0.27	0.28	0.01	0.65
OCF	0.08	0.09	0.11	0.03	0.15
ROA	0.02	0.04	0.16	-0.01	0.08
MBV	1.97	1.42	3.49	0.77	2.49
ΔSIZE	0.08	0.05	0.29	-0.06	0.19
ΔLEV	0.06	0.00	4.05	-0.12	0.07
ΔQUICK	0.04	-0.29	1.11	-0.17	0.27
ΔINTCOV	0.47	0.35	6.38	-5.92	8.78
ΔCFO	0.01	0.00	0.12	-0.04	0.05
ΔPPE	0.14	0.06	0.39	-0.05	0.24

Variable Definitions:

UCE is the unexpected core earnings measured as the difference between reported and normal core earnings.

NREC is non-recurring expenses measured as the difference between reported core earnings and bottom line net income.

PCE is an indicator variable set to 1 when firm reports positive core earnings, and zero otherwise.

CEI is an indicator variable set to 1 if current year core earnings is more than previous year, and zero otherwise.

DF is an indicator variable set to 1when ΔDebt is more than 3% of average total assets, and zero otherwise.

ΔCR is percentage change in credit rating change measured as the difference between current and previous year credit rating to the previous year credit rating.

SIZE is size, measured as the natural log of total assets.

LEV is leverage, measured as long term debt scaled by equity.

OCF is cash flows from operations scaled by lagged total assets.

ROA is return on assets measured as net income divided by lag total assets.

MBV is market value to book value measured as market capitalization divided by book value of equity.

PPE is net property, plant, and equipment over total assets.

QUICK is quick ratio measured as ratio of current assets excluding inventory to current liabilities.

ΔVariable = value of variable measured in the current year less value in the previous year.

Variables are winsorized at 1 percent and 99 percent.

Table 2
Yearly Descriptive statistics for main variables

Variables	Mean			Statistical Difference between years		
	2008	2009	2010	2008vs2009	2008vs2010	2009vs2010
UCE	0.002	0.002	0.004	0.003	-0.13	-0.14
NREC	0.08	0.06	0.06	-0.62	1.23	0.22
PCE	0.11	0.17	0.16	-2.92***	-2.19**	0.69
CEI	0.29	0.21	0.30	2.98***	-0.34	-3.29***
DF	0.13	0.12	0.15	0.92	-0.52	-1.44
ΔCR	0.00	0.00	0.02	-0.002	-2.59***	-2.57***

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively.

Variables as defined in table 1.

Table3
Spearman Correlation Matrix

	UCE	CR	NREC	PCE	CEI	DF	SIZE	LEV	OCF	ROA	MBV
UCE	1.000										
ΔCR	0.082***	1.000									
NREC	0.012	-0.084***	1.000								
PCE	0.070***	0.090***	-0.007	1.000							
CEI	0.010***	0.097***	-0.063**	0.150***	1.000						
DF	0.033	0.000	0.009	-0.022	0.062**	1.000					
SIZE	0.026	-0.045*	-0.022	-0.286***	-0.164***	0.047*	1.000				
LEV	0.006	-0.020	0.056**	-0.004	-0.077***	0.022	0.145***	1.000			
OCF	0.091***	0.005	-0.117***	-0.014	-0.044*	0.023	0.268***	0.011	1.000		
ROA	0.170***	0.089***	-0.263***	0.032	0.037	0.033	0.243***	-0.010	0.750***	1.000	
MBV	-0.009	0.046*	0.004	-0.047*	-0.022	0.084***	0.007	0.631***	0.109***	0.093***	1.000

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively.

Variables as defined in table 1.

Table 4
Regression of unexpected core earnings on non-recurring items

Variables	All Firms		Firms with NREC Expenses	
	Coefficient	t-statistic	Coefficient	t-statistic
NREC	0.081	2.67***	0.074	2.58***
SIZE	-0.002	-0.62	-0.011	-2.51**
LEV	0.004	0.65	-0.001	-0.13
OCF	-0.261	-2.81***	-0.358	-3.41***
ROA	0.461	7.51***	0.477	6.75***
MBV	-0.003	-1.28	0.000	0.12
Constant	0.030	0.4	0.217	2.9***
Year Fixed Effect	YES		YES	
Industry Fixed Effect	YES		YES	
Adj R^2	3%		5%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively. The parameters are estimated based on the following model:

$$UCE_t = \beta_0 + \beta_1\, NREC_t + \beta_2\, SIZE + \beta_3\, LEV + \beta_4\, OCF + \beta_5\, ROA + \beta_6\, MBV$$

Variables as defined in table 1.

Table 5
Regression of unexpected core earnings on non-recurring items and positive earnings target

Variables	All Firms		Firms with NREC Expenses	
	Coefficient	**t-statistic**	**Coefficient**	**t-statistic**
NREC	0.039	1.09	0.030	0.93
PCE	0.045	2.12**	0.037	1.59
DF	0.024	1.13	0.002	0.1
NREC x PCE	0.082	0.84	0.067	0.75
NREC x DF	0.186	2.39**	0.199	2.81***
SIZE	0.000	0	-0.008	-1.86*
LEV	0.003	0.46	-0.002	-0.26
OCF	-0.240	-2.59***	-0.334	-3.19***
ROA	0.436	7.04***	0.452	6.36***
MBV	-0.004	-1.27	0.000	0.08
Constant	-0.010	-0.14	0.174	2.18**
Year Fixed Effect	YES		YES	
Industry Fixed Effect	YES		YES	
Adj R^2	4%		6%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively. The parameters are estimated based on the following model:

$UCE_t = \beta_0 + \beta_1 NREC_t + \beta_2 BENCHMARK_t + \beta_3 DF_{t+1} + \beta_4 NREC_t \, x \, BENCHMARK_t + \beta_5 NREC_t \, x \, DF_{t+1} + \beta_6 SIZE + \beta_7 LEV + \beta_8 OCF + \beta_9 ROA + \beta_{10} MBV$

Variables as defined in table 1.

Table 6
Regression of unexpected core earnings on non-recurring items and Earnings increase target

Variables	All Firms		Firms with NREC Expenses	
	Coefficient	t-statistic	Coefficient	t-statistic
NREC	0.026	0.72	0.021	0.65
CEI	0.003	0.17	0.025	1.37
DF	0.024	1.16	0.000	0
NREC x CEI	0.193	2.11**	0.164	1.97**
NREC x DF	0.191	2.46**	0.202	2.87***
SIZE	-0.002	-0.61	-0.010	-2.26**
LEV	0.005	0.78	0.000	-0.04
OCF	-0.250	-2.7***	-0.343	-3.29***
ROA	0.460	7.46***	0.466	6.57***
MBV	-0.004	-1.48	0.000	0.07
Constant	0.028	0.37	0.134	2.45**
Year Fixed Effect	YES		YES	
Industry Fixed Effect	YES		YES	
Adj R^2	4%		6%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively. The parameters are estimated based on the following model:

$UCE_t = \beta_0 + \beta_1 NREC_t + \beta_2 BENCHMARK_t + \beta_3 DF_{t+1} + \beta_4 NREC_t \, x \, BENCHMARK_t + \beta_5 NREC_t \, x \, DF_{t+1} + \beta_6 SIZE + \beta_7 LEV + \beta_8 OCF + \beta_9 ROA + \beta_{10} MBV$

Variables as defined in table 1.

Table 7
Regression of credit rating on classification shifting and meet/beat earnings benchmarks

Variables	Reporting Positive Core earnings		Reporting Core Earnings Increase	
	Coefficient	**t-statistic**	**Coefficient**	**t-statistic**
CS	-0.004	-0.96	-0.005	-1
PCE	0.020	3.17***		
CEI			0.010	2.01**
ΔSIZE	0.022	1.95*	0.021	1.86*
ΔLEV	-0.001	-1.44	-0.001	-1.39
ΔINTCOV	0.003	10.01***	0.003	9.74***
ΔPPE	0.002	0.16	0.001	0.12
ΔOCF	0.016	0.85	0.019	0.99
ΔQUICK	0.000	0.17	0.000	0.14
Constant	0.025	1.39	0.024	1.29
Year Fixed Effect	YES		YES	
Industry Fixed Effect	YES		YES	
Adj R^2	9%		8%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively.

The parameters are estimated based on the following model:

$\Delta CR = \beta_0 + \beta_1 CS + \beta_2 BENCHMARK + \beta_3 \mathit{\Delta SIZE} + \beta_4 \mathit{\Delta LEV} + \beta_5 \mathit{\Delta INTCOV} + \beta_6 \mathit{\Delta PPE} + \beta_7 \mathit{\Delta OCF} + \beta_8 \mathit{\Delta QUICK}$

Variables as defined in table 1.

Table 8
Regression of credit rating on classification shifting and meet/beat earnings benchmarks through classification shifting

Variables	Reporting Positive Core earnings		Reporting Core Earnings Increase	
	Coefficient	t-statistic	Coefficient	t-statistic
CS	-0.002	-0.31	-0.006	-1.14
PCE	0.028	3.6***		
CEI			0.008	1.67*
CSxPCE	-0.022	-1.74*		
CSxCEI			0.005	0.55
ΔSIZE	0.021	1.92*	0.021	1.87*
ΔLEV	-0.001	-1.41	-0.001	-1.4
ΔINTCOV	0.003	10.05***	0.003	9.74***
ΔPPE	0.002	0.18	0.001	0.12
ΔOCF	0.017	0.88	0.019	1.01
ΔQUICK	0.000	0.17	0.000	0.14
Constant	0.024	1.3	0.025	1.34
Year Fixed Effect	YES		YES	
Industry Fixed Effect	YES		YES	
Adj R^2	9%		8%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively.

The parameters are estimated based on the following model:

$\Delta CR = \beta_0 + \beta_1 CS + \beta_2 BENCHMARK + \beta_3 CS \times BENCHMARK + \beta_4 \Delta SIZE + \beta_5 \Delta LEV + \beta_6 \Delta INTCOV + \beta_7 \Delta PPE + \beta_8 \Delta OCF + \beta_9 \Delta QUICK$

Variables as defined in table 1.

Table 9
Regression of unexpected core earnings on non-recurring items and positive earnings target (Post-Financial Crisis sample)

Variables	All Firms		Firms with NREC Expenses	
	Coefficient	t-statistic	Coefficient	t-statistic
NREC	-0.091	-2.32**	-0.085	-2.1**
PCE	0.016	0.56	0.035	0.98
DF	0.010	0.24	0.018	0.35
NREC x PCE	0.942	2.62***	0.993	2.73***
NREC x DF	0.422	0.66	0.343	0.53
SIZE	0.003	0.51	-0.002	-0.37
LEV	-0.012	-1.42	-0.011	-1.14
OCF	-0.621	-5.03***	-0.582	-3.95***
ROA	0.568	6.4	0.623	5.65***
MBV	0.002	0.56	-0.003	-0.78
Constant	-0.021	-0.22	0.019	0.14
Industry Fixed Effect	YES		YES	
Adj R^2	9%		12%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively. The parameters are estimated based on the following model:

$$UCE_t = \beta_0 + \beta_1 NREC_t + \beta_2 BENCHMARK_t + \beta_3 DF_{t+1} + \beta_4 NREC_t \, x \, BENCHMARK_t + \beta_5 NREC_t \, x \, DF_{t+1} + \beta_6 SIZE + \beta_7 LEV + \beta_8 OCF + \beta_9 ROA + \beta_{10} MBV$$

Variables as defined in table 1.

Table 10
Regression of unexpected core earnings on non-recurring items and Earnings increase target (Post-Financial Crisis sample)

Variables	All Firms		Firms with NREC Expenses	
	Coefficient	t-statistic	Coefficient	t-statistic
NREC	-0.139	-3.36***	-0.128	-3.1***
CEI	0.049	2.6***	0.063	2.95***
DF	-0.007	-0.18	-0.005	-0.1
NREC x CEI	0.394	4.02***	0.410	4.29***
NREC x DF	0.213	0.34	0.170	0.27
SIZE	0.006	1.17	0.001	0.21
LEV	-0.006	-0.77	-0.002	-0.26
OCF	-0.606	-4.98***	-0.572	-3.99***
ROA	0.577	6.66***	0.665	6.19***
MBV	0.001	0.31	-0.004	-1.1
Constant	-0.080	-0.86	-0.041	-0.31
Industry Fixed Effect	YES		YES	
Adj R^2	11%		16%	

***, **, * Indicate significance at 1 percent, 5 percent, and 10 percent levels in a two-tailed test, respectively. The parameters are estimated based on the following model:

$$UCE_t = \beta_0 + \beta_1 NREC_t + \beta_2 BENCHMARK_t + \beta_3 DF_{t+1} + \beta_4 NREC_t \times BENCHMARK_t + \beta_5 NREC_t \times DF_{t+1} + \beta_6 SIZE + \beta_7 LEV + \beta_8 OCF + \beta_9 ROA + \beta_{10} MBV$$

Variables as defined in table 1.