External Monitoring Mechanisms and Earnings Management using Classification Shifting

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Abstract

I examine whether managers resort to the classification shifting when their ability to manipulate accruals is constrained by enhancing external monitoring mechanisms. Using three external monitoring factors: audit quality, analyst following and institutional ownership, I find that managers are more likely to use classification shifting when the level or quality of external monitoring increases. While the existing academic studies focus on the monitoring effectiveness of auditors, analysts and institutional investors on accrual-based earnings management, this study sheds light on managers' propensity to use a less costly earnings management mechanism-classification shifting.

Key Words: classification shifting, audit quality, analyst following, institutional ownership

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I. INTRODUCTION

This study examines how different external monitoring mechanisms are associated with the use of classification shifting to manage earnings. Specifically, I focus on three external monitoring mechanisms: audit quality, analyst following and institutional investors' ownership, and examine their relationship with earnings management through classification-shifting. Prior studies document that external monitoring mechanisms (e.g., Becker et al. 1998; Johnson et al. 2002; Balsam et al. 2003; Yu 2008; Mitra and Cready 2005) constrain accrual-based earnings management. Extant research (e.g., Ewert and Wagenhofer 2005; Cohen et al. 2008; Badertscher 2011; Zang 2012) also suggests when accrual-based earnings management is constrained or becomes costlier managers tend to use alternative ways to manage earnings to achieve their reporting objectives. I posit that when accrual-based earnings management is restrained by external monitoring mechanisms managers are more likely to use classification shifting to manage earnings.

Extant research documents that governance mechanisms play monitoring roles on corporate financial reporting system, especially in the context of accrual-based and real earnings management. The auditing process is one of the most important external governance mechanisms that provide assurance to external stakeholders by monitoring financial reporting process. Prior studies (Becker et al. 1998; Francis et al. 1999; Balsam et al. 2003; Krishnan 2003; Zhou and Elder 2004) consistently show that higher quality auditors are effective in constraining earnings management using accruals. Analysts also act as monitors on corporate managers through collecting private information and uncovering accounting distortions (e.g., Jensen and Meckling 1976; Healy and Palepu 2001; Miller 2006). Yu (2008) provides empirical evidence suggesting that analysts serve as external monitors and are effective in restricting accrual-based earnings

management. Prior research (e.g. Bushman et al. 2004; Ajinkya et al., 2005; Bhojraj and Sengupta, 2003) also suggests that institutional investors serve as monitors on corporate financial reporting system, and provides evidence that institutional ownership is associated with lower level of accruals management (Chung et al. 2002, 2005; Mitra and Cready 2005) and lower level of real earnings management through research and development (R&D) expenditure to meet short-term earnings goals (Bushee 1998; Bange and DeBondt 1998).

Classification shifting is another mechanism of earnings management that involves misclassifying line items within the income statement to inflate core earnings. McVay (2006) and Fan et al. (2010) provide empirical evidence consistent with managers shift core expenses to special items. Anecdotally, Borden, Inc., misclassified $192 million selling, general and administrative expenses as restructuring charge (Hwang, 1994). While accruals management and real earnings management are subject to future earnings implications due to the reversing nature of accruals and potential negative consequences of real activity management on future cash flows, classification shifting is a relatively less costly way to manage earnings as it does not change the bottom-line income.[1] Recent studies (Chi et al. 2011 and Zang 2012) provide evidence that managers trade off accruals management with real earnings management. I argue that since classification shifting is less costly compared to other earnings management mechanisms, managers are more likely to use classification shifting when their ability to manage accruals and real activities is constrained by external governance mechanisms.

I examine the association between classification shifting and three external monitoring factors: audit quality, number of analysts following and percentage of institutional ownership. I

[1] Survey findings in Nelson et al. (2002) suggest that auditors are less like to scrutinize and require audit adjustments when firms' bottom-line earnings numbers do not increase.

use the McVay(2006) expectation model as modified in Fan et al. (2010) to estimate unexpected core earnings and test how unexpected core earnings is associated with special items and its interaction terms with external monitoring variables after controlling for other factors. I use two proxies for auditor quality: (a) *BIG-N*, an indicator variable for firms audited by Big N auditors, and (b) auditor industry specialization (*ISPEC*) measured as the sum of square root of the total assets of an auditor's clients in a particular industry divided by the sum of square root of the total assets of all the clients for that auditor following Behn et al. (2008). I find both proxies for higher audit quality are associated with higher level of classification shifting and results become stronger when both proxies are used as interaction variable in the same regression. I also find that analyst following and institutional ownership are associated with higher level of classification shifting. However, when both analyst following and institutional ownership are used in the same regression, the effect of analyst following disappears. Overall, the empirical findings are consistent with the conjecture that managers are more likely to use classification shifting when the level or quality of external monitoring increases.

This study contributes to the external governance and earnings management literature by documenting empirical evidence suggesting that while external mechanisms are effective in curbing accrual-based earnings management, it may have unintended consequences, like the increase in the level of classification shifting. This study also contributes by extending the recent studies (Chi et al. 2011 and Zang 2012) that document the trade-off between accruals management and real earnings management. While the existing academic research focuses on the monitoring effectiveness of auditors, analysts and institutional investors on accrual-based earnings management, this study sheds light on managers' propensity to use a less costly earnings management mechanism- classification shifting.

In the next section, I review the related literature and develop the hypotheses. Section III describes the data, sample and descriptive statistics. Section IV discusses the research design. Section V reports the empirical results. Section VI concludes the study.

II. LITERATURE REVIEW AND HYPOTHESES

Earnings Management Mechanisms

A wide range of research provides evidence that corporate executives manage earnings using accruals to achieve their diverse reporting goals (see Healy and Wahlen 1999, Dechow and Skinner 2000, and Kothari 2001 for extensive reviews). A growing number of studies investigate whether corporate managers engage in real activity management to achieve earnings targets. Real activity management includes reducing discretionary expenses (e.g., research and development, advertising, maintenance, and training expenses), over producing inventory to reduce costs of goods sold, selling long-term assets and other ways of structuring transactions (Roychowdhury 2006 and Xu et al. 2007 for a review of the real activity-based earnings management literature). In a survey study, Graham et al. (2005) report that Chief Financial Officers (CFOs) engage in real activities manipulation to deliver earnings.

Classification shifting to manage earnings involves managers shift core expenses to special items to inflate core earnings. McVay (2006) provides empirical evidence consistent with managers misclassifying core expenses to special items to overstate core earnings, with the bottom-line net income unaffected. Fan et al. (2010) provide evidence of classification shifting by using quarterly data and find that managers use classification shifting more in the fourth quarter than in interim quarters. They also find that firms engage in more classification shifting when their ability to manipulate accruals is constrained. My study is closely related with Fan et

al (2010) in that I examine the association between classification shifting and specific external monitoring mechanisms, which arguably constrain accrual-based earnings management.

Prior research also provides evidence that firms switch from accrual-based to real earnings management when their ability to engage in accruals management is constrained. After the passage of the Sarbanes-Oxley Act (SOX), firms switch from accrual-based to real earnings management since the latter is less likely to draw auditor or regulatory scrutiny (Cohen et al. 2008). When firms are audited by higher quality auditors, they are more likely to engage in real earnings management since their ability to manipulate accruals is constrained (Chi et al. 2011). Badertscher (2011) examines a sample of overvalued firms and finds that during the period of overvaluation firms use accrual-based earnings management at the beginning and then move to real earnings management to sustain their overvalued equity as they run out of accruals management choices.

There is evidence on trade-offs between accruals and real activities to manage earnings. Cohen and Zarowin (2010) find that around the time of seasoned equity offerings (SEOs), firms choose to engage in real earnings management based on their ability and costs related to accruals management. Zang (2012) provides further evidence that managers use the two earnings management tools as substitutes. By considering the costs and the sequential nature of the two methods, she finds that the trade-off decision is based on their relative costliness, and managers adjust the level of accruals management according to the realized level of real activities manipulation[2]. While considerable number of studies investigate the switch or trade-off between accruals management and real activity management, similar study with classification shifting and

[2] Since real earnings management must be conducted during the fiscal year and realized by the fiscal year end, managers can still manipulate accruals at the year end to adjust for the desired earnings level that not achieved by the real activities manipulation (Zang 2012).

other earnings management mechanisms is scarce. My study fills the void by focusing on how external monitoring mechanisms are associated with managers' use of classification shifting.

Monitoring Roles of Auditors, Analysts and Institutional Investors on Earnings Management

Auditors serve as external monitors on firms' financial reporting process. Prior studies using different proxies for audit quality have provided empirical evidence that higher audit quality is effective in constraining accrual-based earnings management. For example, firms audited by Big 6 auditors have lower level of estimated discretionary accruals (e.g., DeFond and Jiambalvo 1991; Becker et al. 1998; Francis et al. 1999); firms audited by industry specialist auditors also report lower level of discretionary accruals (e.g., Balsam et al. 2003; Krishnan 2003; Zhou and Elder 2004). Unlike accruals management, real earnings management is less likely to be detected by auditors. Chi et al. (2011) provide empirical evidence that when managers' ability to manipulate accruals is restricted by higher audit quality, they tend to switch to real earnings management.

Prior studies on agency theory (Jensen and Mecling 1976; Fama 1990) suggest that financial analysts play an important role on corporate governance. Analysts interact directly and indirectly with corporate managers of their covered firms. Healy and Palepu (2001) argue that analysts play monitoring roles through engaging in collecting private information and uncovering managers' superior information. Miller's (2006) study on press releases related to a sample of firms subject to the SEC enforcement action suggests that analysts play a very important role in detecting corporate accounting frauds. More recently, Dyck et al. (2010) report similar evidence by analyzing a sample of corporate frauds taking place between 1996 and 2004. In the context of earnings management, Yu (2008) provides direct evidence by examining the

relation between analyst following and abnormal accruals measures and finds significant negative association. In a survey on a sample of Chief Financial Officers (CFOs), Graham et al. (2005) find that CFOs consider financial analysts and institution investors as two most important groups in setting company's stock price.

Institutional investors also play a monitoring role on managers' self-serving behavior. Prior research has found the effective role of institutional investors in constraining earnings management. Bushee (1998) finds that when institutional ownership is higher, there is smaller likelihood that the level of research and development (R&D) expenditures are cut by managers to meet short-term earnings goals. Bange and De Bondt (1998) report a negative association between earnings management related to R&D expenditure and institutional shareholdings. Chung et al. (2002) find that large institutional shareholdings are effective in restricting managers' ability to manipulate earnings using accruals. Mitra and Cready (2005) document a negative association between institutional ownership and discretionary accruals. They also find that the relation is stronger for smaller firms. Chung et al. (2005) report that institutional investors are effective in moderating the manipulation of accruals for the low-growth companies with high free cash flow.

Hypotheses Development

Overall previous discussion on the extant literature suggests that auditors, financial analysts and institutional investors serve as monitors on corporate managers and financial reporting system, and that their monitoring roles are effective in constraining accruals management. Prior research also suggests that when accrual-based earning management is constrained managers are likely to engage in alternative earning management behavior like real earnings management.

While accruals management and real earnings management are subject to future earnings implications since accruals are subject to reversal in subsequent periods and real activity managements may have potential negative consequences on future cash flows, classification shifting is a relatively less costly way to manage earnings as itdoes not change the bottom-line income. Auditors and regulators are less likely to pay attention and scrutinize the reporting issues related to classification shifting since the bottom-line income numbers are not changed (Nelson et al. 2002).

Above discussions lead to the hypotheses that managers are more likely to commit classification shifting for managing reported earnings when accruals management is constrained by external monitoring of higher quality auditors, increased analysts coverage and institutional investors ownership. Formally my hypotheses are stated as follows:

H1: Firms with high quality auditors are more likely to shift core expenses to special items;

H2: Firms followed by more analysts are more likely to shift core expenses to special items;

H3: Firms with higher level of institutional ownership are more likely to shift core expenses to special items;

III. DATA

I collect data for the years 1988 to 2007[3] from Compustat Annual Database. Analyst coverage data are from the I/B/E/S Detail File. Institutional holdings data are from Thomson Reuters Master File. The observations with sales less than one million are deleted to avoid occurrence of outliers since sales is used as a deflator for most variables. The observations that

[3] The financial crisis years are excluded from the sample period

have less than 15 per industry per fiscal year are deleted so as to have enough observations in the industry-year regressions (McVay 2006). Besides, missing values resulted from taking lag variables are also deleted. There are 69,202 firm-year observations after the above selection process before defining the control variables. After defining all the variables in the regression models, the sample for audit quality tests contains 39,825 firm-year observations; the sample for analyst coverage test contains 17,574 observations; the sample for institutional ownership test contains 25,180 observations.

Table 1 provides descriptive statistics for the main variables, which are winsorized at 1 percent and 99 percent. The mean core earnings scaled by sales (*CE*) is 0.023. The mean income decreasing special items as a percentage of sales is 3%. The mean and median for the variables are comparable to McVay (2006). The mean industry specialization (*ISPEC*) is 0.044, which is comparable to Behn et al. (2008). Table 2 provides the Pearson Correlation Matrix for the variables.

IV. RESEARCH DESIGN

I use the McVay (2006) expectation model for core earnings as modified in Fan et al. (2010) to estimate unexpected core earnings.[4]

$$CE_t = \beta_0 + \beta_1 CE_{t-1} + \beta_2 ATO_t + \beta_3 ACCRUALS_{t-1} + \beta_4 RETURN_t + \beta_5 RETURN_{t-1}$$

$$+\beta_6 \Delta SALES_t + \beta_7 NEG\_\Delta SALES_t + \varepsilon_t \quad (1)$$

[4] McVay (2006) uses current accruals in the expectation core earnings model, and Fan et al (2010) improve the model by substituting current accruals with current return. Current returns are used to control for current performance, and prior-period returns are included since market may detect deteriorating performance and decrease its expectations of core earnings before it is reported in the current period.

The definitions of the variables in equation (1) are listed in Appendix A. Equation (1) is estimated by industry-year, excluding firm *i* from the estimation. The expected core earnings are calculated using the coefficients obtained from the industry-year regressions multiplied by the value of the variables in equation (1) for firm *i*. The unexpected core earnings (*UE_CE*) are calculated as the difference between actual core earnings and expected core earnings.

To measure audit quality variables, I follow prior studies (e.g., Behn et al. 2008; Chi et al. 2010), and use two proxies for auditor quality: (a) *BIG_N* - an indicator variable taking a value of 1 if a firm is audited by Big N (Big 8, 6 and 4) auditors and 0 otherwise; and (b) Auditor industry specialization (*ISPEC*) is measured as the sum of square root of the total assets of an auditor's clients in a particular industry divided by the sum of square root of the total assets of all the clients for that auditor (Behn et al. 2008). To test the first hypothesis (H1), I follow the methods used in prior studies to test classification shifting, and formulate empirical models by extending the model used in McVay (2006) by incorporating audit quality variables.

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 BIG\_N + \alpha_3 BIG\_N * \%SI_t + \alpha_4 REM + \alpha_5 SIZE + \alpha_6 OCF + \alpha_7 MB + \varepsilon_t \quad (2)$$

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 ISPEC + \alpha_3 ISPEC * \%SI_t + \alpha_4 REM + \alpha_5 SIZE + \alpha_6 OCF + \alpha_7 MB + \varepsilon_t \quad (3)$$

%SI is the magnitude of income-decreasing special items as percentage of sales (income-decreasing special items is multiplied by -1 and income-increasing special items are set to 0). Proxies for audit quality are interacted with *%SI* in model (2) and (3) to test the effect of audit quality on classification shifting. The coefficients on the interaction terms in both models are predicted to be positive, indicating higher audit quality is associated with more classification shifting,

Four control variables are included to control for current performance, growing opportunities, and other factors causing changes in unexpected core earnings respectively. *SIZE* is the logarithm of firm's market value; *OCF* is current operating cash flows scaled by sales; *MB* is the market to book ratio; *REM* is the measure for real earnings management, which can also affect the unexpected core earnings[5].

To further isolate the effects of Big N auditors and auditors' industry specialization on classification shifting, I use both variables (*BIG_N* and *ISPEC*) and three-way interaction in the same regression model.

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 BIG\_N + \alpha_3 ISPEC + \alpha_4 BIG\_N * \%SI_t + \alpha_5 ISPEC * \%SI_t + \alpha_6 BIG\_N * ISPEC * \%SI_t + \alpha_7 SIZE + \alpha_8 OCF + \alpha_9 MB + \varepsilon_t \quad (4)$$

To test hypotheses (H2 and H3) related to other two external monitoring mechanisms (analyst coverage and institutional ownership) and their association with classification shifting, the following models are used.

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 ANALYST + \alpha_3 ANALYST * \%SI_t + \alpha_4 REM + \alpha_5 SIZE + \alpha_6 OCF + \alpha_7 MB + \varepsilon_t \quad (5)$$

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 INST + \alpha_3 INST * \%SI_t + \alpha_4 REM + \alpha_5 SIZE + \alpha_6 OCF + \alpha_7 MB + \varepsilon_t \quad (6)$$

[5] REM may measure good performance, not necessarily real earnings management. Thus, I do not rule out the possibility that the change in unexpected core earnings is due to good performance rather than the results of manipulating real activities. I measure REM as follows:
REM_t = - Equation (i) residual + Equation (i) residual

$$DISEXP_t = \beta 0 + \beta 1(1/AT_{t-1}) + \beta 2(Sales_t/AT_{t-1}) + \varepsilon_t \quad (i)$$

$$PROD_t = \beta 0 + \beta 1(1/AT_{t-1}) + \beta 2(Sales_t/AT_{t-1}) + \beta 3(\Delta Sales_t/AT_{t-1}) + \beta 4(\Delta Sales_{t-1}/AT_{t-1}) + \varepsilon_t \quad (ii)$$

ANALYST is the square root of number of analysts following the firm. For robustness, I also use the logarithm of number of analysts, and the results are consistent. *INST* is the percentage of institutional investors' shareholdings. Other variables are defined the same way as in the previous models.

Finally, both analyst following and institutional ownership variables are included in the same model since the prior studies (e.g., O'Brien and Bhushan 1990) suggest that the two variables are highly correlated.

$$UE\_CE_t = \alpha_0 + \alpha_1 \%SI_t + \alpha_2 ANALYST + \alpha_3 ANALYST * \%SI_t + \alpha_4 INST + \alpha_5 INST * \%SI_t + \alpha_6 REM + \alpha_7 SIZE + \alpha_8 OCF + \alpha_9 MB + \varepsilon_t \quad (7)$$

V. RESULTS

Audit Quality and Classification Shifting

To test the association between audit quality and classification shifting, I use two measures for audit quality and estimate separate regression models (equation 2 and 3) with both measures and also estimate a single model (equation 4) by incorporating both proxies for audit quality. Results are presented in table 3 to table 5.

Table 3 provides the regression results of equation (2), where auditor size (*BIG_N*) is used as a proxy for audit quality. I estimate the equation by using all observations with available data (results presented in column 2) and also by using a subsample with only non-zero income-decreasing special items (results presented in column 3). Consistent with Fan et al. (2010), the coefficient of %*SI* is negative and significant in both estimations, suggesting the dominance of

performance effect[6]. The variable of interest is the interaction between *BIG_N* and %*SI.* In both estimations, the coefficient of *BIG_N*%SI* is positive (0.085 in whole sample and .068 in subsample) and significant, suggesting higher audit quality measured by the presence of Big N auditors is associated with more classification shifting. The positive coefficient on *BIG_N*%SI* indicates that with the presence of Big N auditors, the association between special items and unexpected core earnings increases, which is consistent with hypothesis 1 that when Big N auditors constrain the opportunities to manipulate accruals, firms are more likely to engage in classification shifting, i.e., misclassify core expenses and special items to inflate core earnings, resulting an increase in unexpected core earnings. I include *REM* variable as a proxy for real earning management, which can affect unexpected core earnings. REM is negative in both estimations and significant in the sub-sample with non-zero income-decreasing special items. This finding suggests that unexpected core earnings are likely to increase with the potential real earnings management and that controlling for REM is important in this context. Coefficients for *SIZE (OCF*) are significantly negative (positive) and consistent in both estimations. The adjusted R^2 increases from 18.23% to 21.92%, as the samples include firms with more opportunities to engage in classification shifting.

Table 4 presents the regression results of equation (3), where auditors' industry specialization (*ISPEC*) is used as a proxy for audit quality. As earlier, I estimate the equation by using all observations with available data (results presented in column 2) and also by using a subsample with only non-zero income-decreasing special items (results presented in column 3). The variable of interest is the interaction between *INSPEC* and %*SI.* In both estimations, the

[6] McVay(2006) finds a positive association between unexpected core earnings and the magnitude of income-decreasing special items, which is interpreted as the evidence of classification shifting. However, she admits the possibility of inadequate controls may lead to such a positive association. More discussions on the concern relating to controlling performance in the expectation model are provided in Fan et al. (2010) and they modified the expectation model, which is followed in this paper.

coefficients for *INSPEC*%S* are positive but significant in only with all observations. Coefficients and significance of all other control variables are consistent with the results reported in previous table.

To isolate distinct as well as combined effects of both measures of audit quality, I estimate equation (4), where both proxies are included as individually interacted with *%SI* as well as a three-way interaction (*BIG_N*ISPEC*%SI)*. Results are presented in Table 5. As earlier, I estimate the equation by using all observations with available data (results presented in column 2) and also by using a subsample with only non-zero income-decreasing special items (results presented in column 3). After the inclusion of both proxies for audit quality, individual effects of each measure disappear, the coefficient for the three-way interaction *BIG_N*ISPEC*%SI* is highly significant and positive for both samples. This finding suggests that BIG_N auditors with industry specialization play a stronger monitoring role in constraining accruals management, which lead to higher level of classification shifting.

Analysts following, Institutional Ownership and Classification Shifting

To test the hypothesis related to the association between financial analyst coverage and classification shifting, I estimate equation (5) and results are reported in Table 6. As earlier, I estimate the equation by using all observations with available data (results presented in column 2) and also by using a subsample with only non-zero income-decreasing special items (results presented in column 3). The variable of interest is the interaction between *ANALYST* and %*SI.* In both estimations, the coefficient for *ANALYST *%SI* is positive (0.033 in whole sample, and 0.034 in subsample) and significant (t-stat=3.07 and 3.03 respectively), suggesting firms with more analysts following engage in more classification shifting. To standardize the number of

analysts following, the variable used in the regression (*ANALYST*) is the square root of number of analysts following the firm. For robustness check, I also use the logarithm of number of analysts, and the results are consistent.[7] Coefficients of *REM* are negative and highly significant in both regressions, suggesting that real activity management also associated with unexpected core earnings. All other control variables are consistent with results reported in previous tables.

The monitoring role of institutional investors on classification shifting is investigated by estimating equation (6) and results are presented in Table 7. The variable of interest is the interaction between percentage of institutional ownership and the magnitude of income-decreasing special items. In both estimations, the coefficient for *INST *%SI* is positive (0.150 in whole sample, and 0.179 in subsample) and significant (t-stat=4.00 and 4.79 respectively), suggesting firms with higher level of institutional investors are associated with more classification shifting. This finding suggests managers' ability to manipulating accruals is constrained when institutional ownership is high, thus they are more likely to engage in classification shifting as an alternative way to manage earnings.

Table 8 includes both analyst coverage and institutional ownership. The coefficient for *INST*%SI* is positive and significant for both samples whereas the coefficient for *Analyst*%SI* is insignificant, suggesting when analyst coverage is controlled, institutional ownership plays a dominating role on the switching behavior from accrual-based earnings management to classification shifting.

Sensitivity Analyses

[7]In the regression, the coefficient on the interaction term (log_analyst*%SI) is positive (0.044) and significant at 0.001 level for both samples.

To test whether the results reported in this study holds when the original expectation model used by McVay (2006), I also use the following expectation model:

$$CE_t = \beta_0 + \beta_1 CE_{t-1} + \beta_2 ATO_t + \beta_3 ACCRUALS_{t-1} + \beta_4 ACCRUALS_t + \beta_5 \Delta SALES_t + \beta_6 NEG\_\Delta SALES_t + \varepsilon_t \quad (8)$$

Using *UE_CE* estimated from equation (8), I rerun all the analyses reported in table 3 through table 8. In all analyses (not tabulated), I find positive associations between *UE_CE* and %*SI* in all regressions consistent with the results reported in McVay (2006). Consistent with the results reported in previous tables, coefficients for variables with interacting between proxies for monitoring mechanisms (*BIG_N*, *INSPEC*, *ANALYST* and *INST)* and %*SI* are positive and significant in all estimations.

VI. CONCLUSION

Prior studies document that external monitoring mechanisms constrain accrual-based earnings management. These studies find that higher audit quality, higher analyst coverage and higher institutional ownership constrain accruals management. Extant research also suggests when accrual-based earnings management is constrained or become costlier managers tend to use alternative ways to manage earnings to achieve their reporting objectives. In this paper I examine the relation between these external monitoring factors and classification shifting - another form of earnings management. I find that higher audit quality measured by Big N auditors and auditors' industry specialization is associated with more classification shifting, indicating that managers are more likely to use classification shifting when their ability to manage earnings using accruals is constrained by higher audit quality. I also find that both higher level of analyst coverage and higher institutional ownership are associated with more classification shifting,

suggesting when accruals management is restricted by analysts and institutional investors, managers tend to switch to classification shifting as an alternative way to manage earnings.

Overall, the empirical evidence provided in this study is consistent with the prediction that firms are more likely to use classification shifting when the level or quality of external monitoring increases. Firms will choose alternative tools to manipulate earnings when the opportunities to manage accruals are restricted. The implication of this study should be of interest to regulators. While the regulation is aimed to enhance external monitoring on corporate governance and constrain the major mechanisms of earnings management, there may be unintended consequence of promoting other less costly and less scrutinized earnings management mechanisms.

REFERENCES

Ajinkya, B., S. Bhojraj, and P. Sengupta. 2004. The association between outside directors, institutional investors and the properties of management earnings forecasts. *Journal of Accounting Research* 43 (3): 343-376.

Badertscher, B. 2011. Overvaluation and the choice of alternative earnings management mechanisms. *The Accounting Review* 86 (September): 1491–1518.

Balsam, S., J. Krishnan, and J. Young. 2003. Auditor industry specialization and earnings quality. *Auditing: A Journal of Practice & Theory* 22 (2): 71-97.

Bange, M., and W. De Bondt. 1998. R&D budgets and corporate earnings targets. *Journal of Corporate Finance* 4:153–184.

Beasley, M. S., and K. Petroni. 2001. Board independence and audit firm type. *Auditing: A Journal of Practice & Theory* 20 (March): 97-114.

Becker, C., M. DeFond, J. Jiambalvo, and K. R. Subramanyam. 1998. The effect of audit quality on earnings management. *Contemporary Accounting Research* 15 (1): 1-24.

Behn, B. K., J. H. Choi, and T. Kang. 2008. Audit quality and properties of analyst earnings forecasts. *The Accounting Review* 83 (2): 327-349.

Bhojraj, S., and P. Sengupta. 2003. Effect of corporate governance on bond Ratings and yields: the role of institutional investors and outside directors. *The Journal of Business* 76 (3): 455-475.

Bradshaw, M. T., and R. G. Sloan. 2002. GAAP versus the street: an empirical assessment of two alternative definitions of earnings. *Journal of Accounting Research* 40 (March): 41-66.

Brown, L., and A. Pinello. 2007. To what extent does the financial reporting process curb earnings surprise games? *Journal of Accounting Research* 45(5): 1–35.

Bushee, B.J. 1998. The influence of institutional investors on myopic R&D investment behavior. *The Accounting Review* 73(3): 305– 333.

Bushman, R., Q. Chen, E. Engel, and A. Smith. 2004. Financial accounting information, organizational complexity and corporate governance systems. *Journal of Accounting and Economics.* 37 (2): 167-201.

Chi. W., L. L. Lisic, and M. Pevzner. 2011. Is enhanced audit quality associated with greater real earnings management? *Accounting Horizons* 25 (2): 315-335.

Cohen, D., A. Dey, and T. Lys. 2008. Real and accrual-based earnings management in the pre- and post-Sarbanes-Oxley periods. *The Accounting Review* 83 (3): 757-787.

_____, and P. Zarowin. 2010. Accrual-based and real earnings management activities around seasoned equity offerings. *Journal of Accounting and Economics* 50 (1): 2–19.

Chung, R., M. Firth, and J. B. Kim. 2002. Institutional monitoring and opportunistic earnings management. *Journal of Corporate Finance* 8: 29–48.

_____, _____ and _____. 2005. Earnings management, surplus free cash flow, and external monitoring. *Journal of Business Research* 58: 766-776.

Dechow, P., and D. Skinner. 2000. Earnings management: Reconciling the views of accounting academics, practitioners, and regulators. *Accounting Horizons* 14 (2): 235–250.

DeFond, M. L., and J. Jiambalvo.1991. Incidence and circumstances of accounting errors. *The Accounting Review* 66 (3): 643-655.

Dyck, A., A. Morce, and L. Zingales. 2010. Who blows the whistle on corporate fraud. *The Journal of Finance.* LXV (6): 2213-2253.

Ewert, R., and A. Wagenhofer. 2005. Economic effects of tightening accounting standards to restrict earnings management. *The Accounting Review* 43: 1101–1124.

Fama, E. 1990. Contract costs and financing decisions. *The Journal of Business* 63: S71–S91.

Fan, Y., A. Barua, W. M. Cready, and W. B. Thomas. 2010. Managing earnings using classification shifting: Evidence from quarterly special items. *The Accounting Review* 85 (4): 1303-1323.

Francis, J. R., E. L. Maydew, and H. C. Sparks. 1999. The role of Big 6 auditors in the credible reporting of accruals. *Auditing: A Journal of Practice & Theory* 18 (2): 17-34.

Graham, J., C. Harvey, and S. Rajgopal. 2005. The economic implications of corporate financial reporting. *Journal of Accounting and Economics* 40 (1-3): 3–73.

Healy, P. 1985. The effect of bonus schemes on accounting decisions. *Journal of Accounting and Economics* 7 (1-3): 85–107.

_____, and Palepu. K. 2001. Information asymmetry, corporate disclosure, and the capital markets: a review of the empirical disclosure literature. *Journal of Accounting and Economics* 31: 405–440.

_____, and J. Wahlen. 1999. A review of the earnings management literature and its implications for standard setting. *Accounting Horizons* 13 (4): 365–383.

Hwang, S. 1994. Borden to reverse, reclassify 40% of 1992 charge. *Wall Street Journal* (March 22).

Jensen, M., and Meckling. W. 1976. Theory of the firm: Managerial behavior, agency costs, and ownership structure. *Journal of Financial Economics* 3, 305–360.

Johnson, V., A. Khurana, and K. Reynolds. 2002. Audit-firm tenure and the quality of financial reports. *Contemporary Accounting Research* 19 (4): 637–660.

Jones, J. 1991. Earnings management during import relief investigations. *Journal of Accounting Research* 29 (2): 193–228.

Kothari., S. P. 2001. Capital markets research in accounting. *Journal of Accounting and Economics* 31: 105-231.

Krishnan, G. 2003. Does Big 6 auditor industry expertise constrain earnings management? *Accounting Horizons* 17: 1-16.

McVay. S. 2006. Earnings management using classification shifting: An examination of core earnings and special items. *The Accounting Review* 81 (3): 501-531.

Miller, G. 2006. The press as a watchdog for accounting fraud. *Journal of Accounting Research* 44, 1001–1033.

Mitra, S., and W. M. Cready. 2005. Institutional stock ownership, accrual management, and information environment. *Journal of Accounting, Auditing & Finance* 20 (3): 257-286.

Nelson, M. W., J. A. Elliott, and R. L. Tarpley. 2002. Evidence from auditors about managers' and auditors' earnings management decisions. *The Accounting Review* 77 (supplement): 175-202.

O'Brien, P. C., and Bhushan, R. 1990. Analyst following and institutional ownership. *Journal of Accounting Research* 28 (supplement): 55-76.

Roychowdhury, S. 2006. Earnings management through real activities manipulation. *Journal of Accounting and Economics* 42 (3): 335–370.

Xu, R., G. K. Taylor, and M. T. Dugan. 2007. Review of real earnings management literature. *Journal of Accounting Literature* 26: 195–228.

Yu, F. 2008. Analyst coverage and earnings management. *Journal of Financial Economics* 88: 245-271.

Zhou, J., and R. Elder. 2004. Audit quality and earnings management by seasoned equity offering Firms. *Asia-Pacific Journal of Accounting and Economics* 11 (2): 95-120.

Zang, A.Y. 2012. Evidence on the trade-off between real activities manipulation and accrual-based earnings management. *The Accounting Review* 87 (2): 675-703.

Appendix A: Variable Definitions

CE = core earnings, calculated as: (sales – cost of goods sold – selling, general and administrative expenses) / sales;

ATO = asset turnover ratio, calculated as: sales / average net operating assets;

RETURNS= market-adjusted return;

$\Delta SALES$ = percentage change in sales;

$NEG\_\Delta SALES$ = 1 if the percentage change in sales is negative, 0 otherwise;

ΔATO = change in asset turnover ratio;

REM_t = - Equation (4) residual + Equation (5) residual

$$DISEXPt = \beta0 + \beta1(1/ATt\text{-}1) + \beta2(Salest/ATt\text{-}1) + \varepsilon t \quad (4)$$

$$PRODt = \beta0 + \beta1(1/ATt\text{-}1) + \beta2(Salest/ATt\text{-}1) + \beta3(\Delta Salest/ATt\text{-}1) + \beta4(\Delta Salest\text{-}1/ATt\text{-}1) + \varepsilon t \quad (5)$$

BIGN = 1 if Big N auditors, 0 otherwise;

ISPEC = auditor industry specialization, measured as the sum of square root of the total assets of an auditor's clients in a particular industry divided by the sum of square root of the total assets of all the clients for that auditor;

ANALYST = analyst coverage, measured as the square root of number of analyst following firm i in year t;

INST = institutional percentage stock ownership for firm i in year t.

TABLE 1

Descriptive Statistics

Variables	Mean	Median	Standard Deviation	25%	75%
$SALES_t$ (in millions)	974.564	99.397	3065.238	23.415	453.749
Percent change in $SALES_{t-1,t}$	23.4%	10.2%	0.602	-2.5%	29.6%
Core Earnings (CE)	0.023	0.091	0.446	0.017	0.174
Change in Core $Earnings_{t-1,t}$	0.011	0.001	0.253	-0.032	0.032
Change in Core $Earnings_{t,t+1}$	0.003	0.000	0.268	-0.035	0.032
Unexpected Core Eearnings (UE_CE)	0.0004	0.006	0.223	-0.042	0.065
Unexpected Change in Core Earnings	-0.0002	0.000	0.171	-0.040	0.042
Income-Decreasing Special $Items_t$ (in millions)	8.636	0.000	34.152	0.000	1.100
Income-Decreasing Special Items/SALES (%SI)	3.0%	0.0%	0.101	0.0%	0.9%
Asset Turnover Ratio (ATO)	2.57	1.86	4.19	0.98	3.18
Industry Specialization (ISPEC)	0.015	0.013	0.014	0.005	0.028
RETURNS	0.161	0.017	0.817	-0.261	0.338
Real Earnings Management (REM)	0.055	0.183	0.763	-0.187	0.342
Square root of Analyst Following (ANALYST)	2.413	2.236	1.164	1.414	3.162
Institutional Ownership (INST)	0.392	0.291	9.422	0.01	0.558
SIZE	4.620	4.551	2.283	3.010	6.166
OCF	0.009	0.054	0.356	-0.011	0.130
MB	2.68	1.79	4.67	0.99	3.25

There are 69,202 firm-year observations (28,738 after defining analyst coverage and institutional ownership) from year 1988 to 2007.

TABLE 2

Pearson Correlation Matrix

	CE_t	$ACCRUALS_{t-1}$	ATO_t	$RETURN_t$	$RETURN_{t-1}$	$\Delta SALES_t$	$NEG\_\Delta SALES_t$	UE_CE_t	$\%SI_t$	$ANALYST_t$	$INST_t$
CE_t	1.000	**0.187**	**-0.022**	**0.065**	**0.015**	**0.070**	**0.312**	**0.476**	**-0.263**	**0.171**	0.003
$ACCRUALS_{t-1}$	**0.187**	1.000	**0.040**	**-0.042**	**0.023**	**-0.049**	**0.055**	-0.001	**-0.140**	**-0.020**	0.003
ATO_t	**-0.022**	**0.040**	1.000	**0.031**	**0.041**	**0.029**	**0.053**	**-0.020**	**-0.056**	-0.007	-0.002
$RETURN_t$	**0.065**	**-0.042**	**0.031**	1.000	**-0.072**	**0.194**	**0.117**	**0.035**	**-0.105**	**-0.053**	0.002
$RETURN_{t-1}$	**0.015**	**0.023**	**0.041**	**-0.072**	1.000	**0.196**	**0.103**	**0.019**	**-0.049**	**-0.025**	-0.003
$\Delta SALES_t$	**0.070**	**-0.049**	**0.029**	**0.194**	**0.196**	1.000	**0.416**	**-0.044**	**-0.036**	**0.068**	0.001
$NEG\_\Delta SALES_t$	**0.312**	**0.055**	**0.053**	**0.117**	**0.103**	**0.416**	1.000	**-0.052**	**-0.240**	**0.101**	0.004
UE_CE_t	**0.476**	-0.001	**-0.020**	**0.035**	**0.019**	**-0.044**	**-0.052**	1.000	**-0.130**	**0.057**	0.000
$\%SI_t$	**-0.263**	**-0.140**	**-0.056**	**-0.105**	**-0.049**	**-0.036**	**-0.240**	**-0.130**	1.000	**0.014**	-0.001
$ANALYST_t$	**0.171**	**-0.020**	-0.007	**-0.053**	**-0.025**	**0.068**	**0.101**	**0.057**	**0.014**	1.000	0.004
$INST_t$	0.003	0.003	-0.002	0.002	-0.003	0.001	0.004	0.000	-0.001	0.004	1.000

There are 28,738 firm-year observations. Pearson correlations are below (above) the diagonal. All variables are winsorized at 1st and 99th percentile. Amounts in bold are significant at the 0.01 level.

TABLE 3

Regression Analysis: Classification Shifting and Audit Quality measured as *BIG_N* auditor

	Dependent Variable: UE_CE_t	
Independent Variables	**All Observations**	**Non-zero income-decreasing special items**
Intercept	**0.023**	**0.030**
	(8.44)	(5.84)
%SI	**-0.133**	**-0.119**
	(-7.24)***	(-5.63)***
BIG_N	**0.007**	**0.010**
	(2.44)**	(1.83)*
BIG_N*%SI	**0.085**	**0.068**
	(3.92)***	(2.86)***
REM	**-0.001**	**-0.006**
	(-0.78)	(-2.16)**
SIZE	**-0.007**	**-0.007**
	(-11.84)***	(-7.64)***
OCF	**0.293**	**0.322**
	(86.12)***	(57.16)***
MB	**0.0005**	**-0.0002**
	(1.96)*	(-0.61)
Adjusted R^2	18.23%	21.92%
Number of observations:	39,825	16,496

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TABLE 4

Regression Analysis: Classification Shifting and Audit Quality measured as Auditors' Industry Specialization

	Dependent Variable: UE_CE_t	
Independent Variables	**All observations**	**Non-zero income-decreasing special items**
Intercept	**0.024**	**0.028**
	(9.02)	(5.98)
%SI	**-0.102**	**-0.087**
	(-6.02)***	(-4.68)***
ISPEC	**-0.009**	**0.063**
	(-0.56)	(1.93)*
ISPEC*%SI	**0.487**	**0.292**
	(2.05)**	(1.17)
REM	**-0.001**	**-0.005**
	(-0.84)	(-1.94)*
SIZE	**-0.006**	**-0.005**
	(-11.41)***	(-6.90)***
OCF	**0.294**	**0.323**
	(87.27)***	(57.52)***
MB	**0.0004**	**-0.0003**
	(1.64)	(-0.80)
Adjusted R^2	18.20%	21.93%
Number of observations	39,899	16,543

TABLE 5
Regression Analysis: Classification Shifting and Audit Quality measured as *BIG_N* Auditor and Industry Specialization

	Dependent Variable: UE_CE_t	
Independent Variables	**All observations**	**Non-zero income-decreasing special items**
Intercept	**0.024**	**0.027**
	(8.23)	(5.10)
%SI	**-0.187**	**-0.149**
	(-5.50)***	(-4.13)***
BIG_N	**0.007**	**0.012**
	(2.48)**	(2.35)**
ISPEC	**-0.012**	**0.032**
	(-0.74)	(0.95)
BIG_N*%SI	**-0.058**	**-0.084**
	(-1.32)	(-1.89)*
ISPEC*%SI	**1.214**	**0.787**
	(1.72)*	(1.05)
BIGN*ISPEC*%SI	**3.218**	**3.368**
	(3.56)***	(3.69)***
REM	**-0.0008**	**-0.004**
	(-0.45)	(-1.44)
SIZE	**-0.007**	**-0.007**
	(-12.04)***	(-8.22)***
OCF	**0.294**	**0.323**
	(86.31)***	(57.54)***
MB	**0.0004**	**-0.0002**
	(1.82)*	(-0.65)
Adjusted R^2	18.37%	22.26%
Number of observations	39,902	16,543

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TABLE 6

Regression Analysis: Classification Shifting and Analyst Coverage

	Dependent Variable: UE_CE_t	
Independent Variables	**All observations**	**Non-zero income-decreasing special items**
Intercept	**-0.005**	**0.003**
	(-1.06)	(0.47)
%SI	**-0.154**	**-0.177**
	(-5.02)***	(-5.29)***
ANALYST	**-0.007**	**-0.010**
	(-4.62)***	(-4.09)***
ANALYST*%SI	**0.033**	**0.034**
	(3.07)***	(3.03)***
REM	**-0.010**	**-0.012**
	(-4.25)***	(-3.64)***
SIZE	**0.002**	**0.003**
	(1.64)	(1.72)*
OCF	**0.315**	**0.324**
	(55.15)***	(37.18)***
MB	**-0.0001**	**-0.0005**
	(-0.26)	(-0.92)
Adjusted R^2	17.80%	20.13%
Number of observations	17,574	8,264

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TABLE 7

Regression Analysis: Classification Shifting and Institutional Ownership

	Dependent Variable: UE_CE_t	
Independent Variables	**All observations**	**Non-zero income-decreasing special items**
Intercept	**0.016**	**0.028**
	(5.15)	(5.45)
%SI	**-0.117**	**-0.145**
	(6.65)***	(-7.21)***
INST	**0.010**	**-0.010**
	(2.13)**	(-1.28)
INST*%SI	**0.150**	**0.179**
	(4.00)***	(4.41)***
REM	**-0.008**	**-0.013**
	(-4.11)***	(-4.22)***
SIZE	**-0.005**	**-0.004**
	(-6.54)***	(-3.62)***
OCF	**0.277**	**0.290**
	(67.35)***	(42.70)***
MB	**-0.0002**	**-0.0003**
	(-0.64)	(-0.69)
Adjusted R^2	17.69%	20.15%
Number of observations	25,180	10,615

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TABLE 8

Regression Analysis: Classification Shifting and Analyst Coverage and Institutional Ownership

	Dependent Variable: UE_CE_t	
Independent Variables	**All observations**	**Non-zero income-decreasing special items**
Intercept	**-0.008**	**0.004**
	(-1.71)	(0.53)
%SI	**-0.184**	**-0.219**
	(-5.69)***	(-6.15)***
ANALYST	**-0.009**	**-0.009**
	(-5.19)***	(-3.79)***
ANALYST*SI%	**0.012**	**0.009**
	(1.01)	(0.73)
INST	**0.006**	**-0.015**
	(1.18)	(-1.78)*
INST*%SI	**0.191**	**0.236**
	(4.41)***	(4.96)***
REM	**-0.011**	**-0.014**
	(-4.91)***	(-4.02)***
SIZE	**0.002**	**0.004**
	(1.94)*	(2.28)**
OCF	**0.308**	**0.316**
	(53.26)***	(35.59)***
MB	**-0.0001**	**-0.0004**
	(-0.23)	(-0.74)
Adjusted R^2	17.74%	20.24%
Number of observations	17,099	8,031