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The Relationship between Financing Policy, Earnings Management and Governance Practices

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Abstract

This paper examines the effect of managers manipulated earnings management methods on the firm's financing policies and investigates the relationship between internal control, audit quality, and earnings management. We adopt the two-stage model to control self-selection of earnings management and the principal component analysis to extract the first principal component as the corporate governance. The findings show that firms choose the earning management tools in advance in year -1. Corporate governance can restrain real earnings management, but the effect decline when firms engaged in financing activities. Only the larger shareholdings of institutional investors and firms audited by industry specialist can restrain real earnings management when firms undertake financing policies. The firms of issuing bonds choose real earnings management to avoid frequent outsider monitoring. And then, it causes operating performance to decline continuously two years after bond financing. Moreover, investors don't correct the price impact of earlier earnings overstates for SEOs and bonds sample.

Keywords: Accrual-based earnings management, Real activities, Seasoned equity offering, Corporate bond, Corporate governance

JEL Codes: G32, M20, M42, M48

1. Introduction

Trade liberalization and investment have developed rapidly, and the need for capital has grown. In addition, the recent trend towards lower profits has made managers take financing decisions very seriously. There are three sources of corporate financing, internal funds, debt and new equity issues. Myers and Majluf (1984) propose the pecking order theory in the context of information asymmetry; financing new projects has an effect on a firm's capital structures. Internal financing is the most-preferred source, of course, followed by low-risk debt, and equity issuance is the least-preferred source. The trade-off theory of capital structure posits that a company balances costs and benefits to choose how much debt and equity to use in its financing. Once a firm has financed projects, managers might manipulate earnings[1] to achieve their desired objectives or to satisfy the projections made by financial analysts. The aim of earnings management is to influence share prices so that new shares are issued at higher prices, to issue debt financing at lower costs or to avoid violating debt covenants. The prior literature suggests that IPOs (Ducharme, Malatesta, and Sefcik, 2001; Cotten, 2008), seasoned equity offerings (thereafter SEOs) (Teoh, Welch, and Wong, 1998; Zhou and Elder, 2004; Kim and Park, 2005; Cohen and Zarowin, 2010), convertible bonds issuance (Chou et al., 2009), debt financing (Jelinek, 2007; Liu, Ning, and Davidson, 2010), and financial crises (Jaggi and Lee, 2002) offer incentives for earnings management. Healy and Wahlen (1999) and Kim and Park (2005) show that managers manipulate earnings to acquire more capital by means of a higher issuing price in an IPO. Jelinek (2007) notes that firms with debt contracts may have incentives to manage earnings to avoid debt covenant violations. Liu, Ning, and Davidson (2010) find significant income-increasing earnings management prior to bond offerings. They also find that firms that managed earnings upward issue debt at lower costs after controlling for various bond issuer and bond issue characteristics.

Most papers measure earnings management with discretionary or abnormal accruals and few discuss real earnings management. Dechow, Kothari, Watts (1998) are the first to have established an empirical model for real earnings management. Roychowdhury (2006) finds that managers manipulate business activities to avoid reporting losses, such as price discounts to temporarily increase sales, overproducing to report lower costs of goods sold, and reducing discretionary expenditures to improve reported margins. In practice, different earnings management devices have different costs and benefits, and managers may consider their characteristics in choosing the appropriate devices to engage in earnings management; moreover, certain devices may be applied concurrently. In response to the Sarbanes-Oxley Act in the United States that aimed at improving corporate governance, certain companies switched from accrual-based earnings management to real earnings management,[2] which is difficult to monitor. Therefore, this paper explores whether management chooses different earnings management methods with different financing types, whether by issuing bonds or

[1] Healy and Wahlen (1999) define earnings management as managers using their influence in reporting and in structuring transactions to alter financial reports to either mislead certain stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers.

[2] Most prior studies on earnings management use accruals as a proxy. In fact, management may simultaneously adopt accrual-based and real earnings management to achieve earnings targets.

SEOs.

Additionally, the government try to improve investment environment to attract foreign investment in Taiwan, corporate governance become an important critical factor. The business economic scales are small in Taiwan. Most of Taiwanese businesses are family owned companies. They may use cross-shareholding of affiliated companies or pyramidal ownership structures to ensure a disproportionately high level (almost 50%) of controlling rights to strengthen their control of listed companies. Moreover, the management and monitor in family owned firms are under the table because board of directors and supervisors are linear, collateral relatives or relatives by marriage and hence the information is asymmetric. High percentage of individual investor and "head account"[3] culture make controlling shareholders in high position management. The controlling shareholders ignore minority shareholders and business risk. Hence minority shareholders become disadvantaged, and the board of directors that control companies become advantaged (Wei, Lee, and Deng, 2007). Recently, the capital market of Taiwan faces competition from Hong Kong, China, and Singapore. Taiwan faces serious crisis to be on the edge of the global capital market. On the other hand, foreign institutional investors are more likely to request high quality corporate governance. If the whole performance of the Taiwan corporate governance doesn't make progress, we might be caught up by the other Asian country. Hence, we try to find out effective Taiwan's corporate governance variables as a reference for Taiwan government.

Since the United States Congress passed the Sarbanes-Oxley Act in July 2002, substantial research has focused on the effects of corporate governance. Xie, Davidson, and DaDalt (2003) suggest that earnings management is less likely when there are outside directors on the board and when those directors have backgrounds in corporate governance or finance. Krishnan (2003) indicates that the absolute discretionary accruals of companies audited by non-specialist auditors report 1.2 percent of total assets, which is higher than companies audited by specialist auditors. Balsam, Krishnan, and Yang (2003) also note that firms audited by industry specialists exhibit higher earnings quality than firms audited by non-specialists. Myers, Myers, and Omer (2003) and Ghosh and Moon (2005) suggest that audit quality is higher when auditor tenure is longer; thus, earnings quality improves with auditors who have longer tenure. Zhou and Elder (2004) indicate that companies audited by Big 5 report lower levels of earnings management than the previous year, during the year of the audit, and in the years following SEOs. Davidson, Goodwin-Stewart, and Kent (2005) find a majority of non-executive directors on the board and on the audit committee are found to be significantly associated with a lower likelihood of earnings management. Basiruddin (2011) suggests that higher quality auditors (who either charge higher audit fees or are industry specialist auditors) are likely to reduce earnings manipulation. Robust corporate governance (CG) can suppress earnings management. Brown, Beekes and Verhoeven (2011) stress the importance of how CG is measured and in particular, the construction of CG indices, which should be sensitive to local institutional arrangements, and the need to capture both internal and external aspects of governance. Therefore, we choose several special corporate governance variables in Taiwan to explore whether these variables can restrain Taiwanese company from

[3] "head account" means people open dummy or fraud bank accounts, but they doesn't have the ownership of accounts.

manipulating real earnings management or not. Because real earnings management can harm enterprise value, this paper finally examines whether the operational performances of firms engaging in real earnings management that issue bonds or SEOs deteriorate after financing compared to firms financing through bond issuance or SEOs who have adopted accrual based earnings management.

This paper extends past studies by considering real earnings management to explore whether stronger corporate governance can restrain real earnings management. Two related studies by Liu, Ning, and Davidson (2010) and Cohen and Zarowin (2010) examine earnings management for firms issuing bonds and offering SEOs, respectively. Liu et al. (2010) find significant income-increasing earnings management prior to bond offerings by using accrual-based accounting as a proxy variable of earnings management. Cohen and Zarowin (2010) examine both accrual-based and real earnings management from SEOs and find that real activities-based earnings management at the time of the SEO is strongly associated with the deterioration of the post-SEO operating performance. According to the pecking order theory, internal financing is the most preferred, followed by low-risk debt, and equity is the least preferred. This paper is the first to examine two methods of earnings management from two types of firm financing, i.e., bond issuances and SEOs. The contribution of the paper is that the paper expands the two previously mentioned studies by exploring the correlation between financing vehicles (debt or equity) and earnings management methods. Moreover, we also use the principal components analysis to extract the first principal component as the corporate governance index. We also choose several special corporate governance variables in Taiwan to explore whether these variables can restrain Taiwanese company from manipulating real earnings management or not. In addition, we consider market reaction to examine whether the rational expectations models differs with respect to equity compared with debt rising.

The remainder of this paper is organized as follows. Section 2 presents a review of the literature and develops the hypotheses. Section 3 explains the research design, research periods, sampling criteria, and variable definitions; it also proposes the empirical model. Section 4 summarizes the empirical findings and analyses. Section 5 offers conclusions and suggestions.

2. Literature review and hypotheses development

Myers and Majluf (1984) suggest the pecking order theory based on the concept of information asymmetry.[4] Dye (1988) and Trueman and Titman (1988) posit that information asymmetry between managers and shareholders results in earnings management because it is difficult for shareholders to monitor corporate performance and prospects, and managers can use accounting flexibility to manage earnings.[5] Healy and Wahlen (1999) indicate that the

[4] Pecking order theory explains that firms with high profitability have fewer debts because they are able to apply internal funds and do not depend on external financing. Thus, the debt ratio is lower; firms with lower profitability do not have sufficient internal funds and must depend on external financing. Based on pecking order theory, external financing by debt is preferred over equity financing.

[5] Schipper (1989) focuses on the following three issues: defining the object of earnings management, exploring conditions that give rise to earnings management, and designing empirical tests of earnings management. Under an informational perspective, earnings are one of the signals that may be used to make certain decisions and

motivation of managing earnings is to affect the stock price for specific purposes, particularly for initial public offerings and seasoned equity offerings. Richardson (2000) finds that information asymmetry (measured by bid-ask spreads and analyst forecast dispersion) is positively related to earnings management.

The methods of earnings management are typically either actual earnings management (real) or artificial earnings management (accrual-based).[6] Real earnings management is typically defined as management actions that deviate from actual operating activities with the purpose of meeting earnings thresholds. Compared to accrual-based earnings management, real earnings management does affect cash flow. Roychowdhury (2006) suggests that real earnings management impairs corporate value. The activity in the current period may increase current earnings but will reduce cash flow in the future period. For example, increasing a price discount can increase sales volume to meet short-term earnings targets; however, customers may anticipate the same discount in the future and the future gross profit of the company will most likely decrease. Therefore, real earnings management affects earnings through real economic action, the timing of expenditures that are subject to managerial discretion, and the use of working capital management to affect earnings. This method will affect real performance and will have economic consequences.[7] Accrual-based earnings management refers to earnings that are manipulated through accounting flexibility during the financial reporting process, such as accounting estimates or the choice of accounting methods. This method will affect accounting earnings but will not affect economic consequences. Graham, Harvey, and Rajgopal (2005) suggest that real and accrual-based earnings management are different because real earnings management directly affects cash flow and is not easily detected by auditors and regulators. Managers can achieve earnings target through different earnings management methods. Do different earnings management methods act as substitutes or complements? Zang (2012) conducts a cost analysis to test the trade-off between accrual-based and real earnings management and finds that real earnings management is positively correlated with the cost of accrual-based earnings management – managers treat the two as substitutes.

Myers and Majluf (1984) propose the pecking order theory, which creates a preference ranking over financing sources, beginning with internal funds, followed by debt, and then equity. Myers (1984) argues that a firm follows the trade-off theory to set a target debt-to-value ratio and then gradually moves towards the target. The target is determined by balancing debt tax shields against the costs of bankruptcy. Market timing also influences the financing policy. Managers attempt to sell highly priced shares when stock market conditions are favorable. Different incentives and characteristics cause various financing decisions.

judgments, such as valuing securities. The informational perspective on earnings management assumes that managers have private information that they can use in making decisions.

[6] McVay (2006) suggests another method of earnings management in which current-period operating expenses in the income statement are misclassified as special items. The findings show that this method will not affect net income; thus, it is not detected by auditors or regulatory agencies. Barua, Lin, and Sbaraglia (2010) study whether management uses classification shifting to manipulating earnings when reporting discontinued operations and find that companies will shift operating expenses to discontinued departments to reduce the net income of discontinued departments and to increase the core earnings of operating departments. Above earnings management methods are not discussed in this paper.

[7] Previous studies indicate most real earnings management through real activities occurs in investment, such as reduction of research and development cost.

Frank and Goyal (2008) find that private firms appear to favor retained earnings and bank debt, small public firms make active use of equity financing, and large public firms primarily use retained earnings and corporate bonds.

Teoh et al. (1998) find that earnings growth in the year of issuance of SEOs is higher than matched non-issuance industry peers and underperform those matches after the issuance of the SEOs.[8] Decomposing net income into cash flow from operations and accruals, the key factor in the performance difference for the year of the SEOs and post-SEOs is accruals. Similarly, Barton (2001) indicates that companies may use derivatives and accruals to reduce earnings volatility. Zhou and Elder (2004) indicate that companies issuing a SEO are motivated to conduct earnings management to increase reported net income and ensure the success of the SEO. Kim and Park (2006) find that the discount of the SEO's offer price is negatively correlated to discretionary accruals. Thus, SEO companies may conduct aggressive earnings management to increase the offering price and obtain more capital.

Cohen and Zarowin (2010) consider two types of measurement methods for earnings management, indicating that downward performance of post-SEO is greater than accrual-based earnings management when companies conduct real earnings management activities during the SEOs. After SEOs, performance declines are attributed to the reversal of accruals and to the decision to engage in real earnings management.

Because differential characteristics and incentives lead managers to finance differently and to utilize different earnings management tools, this study focuses on companies conducting financing and to discuss whether they show differences in earnings management methods when companies engage in equity financing and debt financing, which leads to the following hypothesis:

H1: Companies engage in equity and debt financing policies which lead the differences in the use of earnings management methods.

There have been many studies on the effects of corporate governance on earnings management. Dechow et al. (1998) find that the problem of earnings management is more serious in companies whose CEO is also the chairman of its board, and the company has large number of inside directors and a higher percentage of outstanding shares owned by inside directors, and when the audit committee is not established. Xie et al. (2003) indicate that the possibility of earnings management is small when the board of directors has more outside independent directors with richer corporate and financial experience. Rajgopal and Venkatachalam (1997) indicate the absolute value of earnings management and positive earnings management will be reduced with an increase in the percentage of shares owned by institutional investors, i.e., a high proportion of institutional shareholders can restrain earnings management.

Zhou and Elder (2004) indicate that companies with financial statements audited by the Big Five auditing firms have lower earnings management before, during and after SEOs;

[8] Teoh et al. (1998) decompose accruals into long-term discretionary accruals, short-term discretionary accruals, long-term nondiscretionary accruals, and short-term nondiscretionary accruals, according to time period and manager control. The empirical results indicate short-term discretionary accruals have better predictability for underperformance after SEOs.

therefore, they suggest that larger audit firms can restrain earnings management. Johnson, Khurana, and Reynolds (2002) suggest that the financial report quality from a new auditor is lower, and the audit quality is better if the tenures of auditors exceed four years. Myers et al. (2003) and Ghosh and Moon (2005) indicate that the longer the tenure of the CPA, the better the quality of corporate earnings. Krishnan (2003) indicates that the absolute values of discretionary accruals for companies audited by non-specialist auditors are higher than that of companies audited by industry experts. Balsam et al. (2003) also indicate that the quality of audits by industry specialist auditors is better.

Based on the above literature, earnings management conducted by management may be constrained when corporate governance is stronger, which leads to the following hypothesis:

H2: Companies with stronger internal control and audit quality may conduct less real earnings management.

Accruals often may be reversed. For example, an allowance for doubtful accounts, which can be manipulated by companies, makes future earnings look better at the expense of current earnings. A higher recognition for bad debts expense in the current period but it will be decreased recognized in the next period. Similarly, underestimates of bad debt losses in the last period should be corrected by increased provisions for bad debts in the current period. Thus, to the extent that companies conduct accrual-based earnings management, the earnings management will be reversed in the following period. DuCharme et al. (2001) show that the abnormal accruals of companies prior to initial public offerings are positively correlated to the value of the companies engaging in the IPO. This indicates that, prior to the IPO, companies can manipulate earnings through accruals to increase the offering price. The abnormal accruals during the offer year are negatively correlated to the performance of the companies, which indicates that companies conduct income-increasing earnings management to raise more capital during the IPO. After the IPO, the performance and stock returns of companies decrease because of the reversal of the pre-IPO accrual-based earnings management.

Ducharme, Malatesta, and Sefcik (2004) find that the abnormal accruals of companies around stock offers are higher on average than those without stock offers. After the stock offers, the accruals are negative because of the reversal of the positive abnormal accruals around stock offers.[9] Gunny (2005) indicates that firms that engage in real earnings management from real activities increase income by reducing research and development expenses, cut prices to boost sales in current period, overproduce to deduct COGS expenses, and time income recognition by selling long-term assets. The findings indicate real earnings management is significantly and negatively correlated with subsequent earnings and operating cash flow. Cotten (2008) indicates that firm issuing only primary shares will manipulate earnings management upward in the IPO; firms issuing both primary shares and secondary shares[10] will not manipulate earnings management upward or downward. However, firms issuing only secondary shares will manipulate earnings management downward during the IPO. In

[9] Lewis, Rogalski, and Seward (2001) indicate that operating performance and stock price are reduced by 4%-8% up to five years following the issue date compared to corporations that have no issuance of convertible debts.
[10] The author defined primary shares as the shares issued by a company, and secondary shares as those sold by insiders.

addition, earnings management is the reason for corporate underperformance in the five years following the IPO. Chou et al. (2009) indicate that companies will have inferior operation performance and stock returns over the five-year period after the issuance of convertible bonds because these companies may increase their reported earnings through discretionary accruals prior to the issuance of convertible corporate bonds.

After the passage of the Sarbanes-Oxley Act (SOX) in the United States, Taiwan also reviewed and standardized its corporate governance system. This study expects that the effect of accrual-based earnings management has limitations. If financing companies must manage higher earnings, they will tend to conduct real earnings management, which affects economic essence. After financing, the operating performance of the companies will be worse than those conducting accrual-based earnings management, which leads to the following hypothesis:

H3: After financing, companies have different financial performances under conducting real activities and accrual-based earnings management.

3. Data and method

3.1 Sample selection

This study retrieves data for Taiwan Stock Exchange (TSE) or Over-The-Counter Securities Exchange (OTC) stocks from the database of Economic Journal database (TEJ) for the period of 2004-2009. To be included in the sample, this study requires that a stock be continually listed on the TSE and OTC throughout the research period and have all the data required for estimating the variables involved. This paper excludes firms in financial distress and newly listed firms during the research period. We also exclude financial and insurance firms due to their characteristics of operations and financial structures, which are different from firms in other industries. Observations with missing information are also excluded. Moreover, audit fees and non-audit fees are disclosed by the companies only when certain requirements are met in Taiwan. Thus, we delete observations which missing these two variables once we discuss audit fees and non-audit fees. Because the number of our samples is not many, we analyze our data by Winsorized method[11] to avoid biased estimators because of the deleted observations.

Our data are based on the Taiwan Economic Journal database (TEJ). Table 1 summarized the sample selection process. It presents a final sample contains 5,916 observations from 2004 to 2009, after deleting the sample that had missing variables. Table 2 reports the industries distribution of the test sample. The 3,512 observations are concentrated in the electronics industry, 59.36% of the sample, comprised the highest percentage.

[11] To reduce the effect of outliers, variables have been Winsorized at the 1% and the 99% of their empirical distribution. Moreover, our samples are not many, for example, the financing subsample or companies disclosure auditing fees. We also analyze our data by Winsorized method to avoid biased estimators because of the deleted observations.

Table 1. Sample analysis

Initial number of samples obtained from Taiwan	7,013
(1) Exclude missing value of calculating earnings management variable	888
(2) Exclude missing value of Beta variable	209
Available samples (firm - year) (2004~2009)	5,916

Table 2. Industry distribution of sample

TEJ industry	Number of observations(2004~2009)	% of Obs.
Cement (11)	41	0.69
Food Products (12)	114	1.93
Petroleum Refining(13)	157	2.65
Textile(14)	267	4.51
Electric Machinery(15)	205	3.47
Electrical Equipment & Cable(16)	65	1.10
Chemical & Medical Products(17)	207	3.50
Glass &Ceramics(18)	37	0.63
Paper and Paper products (19)	41	0.69
Iron &Steel(20)	153	2.59
Rubber(21)	51	0.86
Automobile(22)	27	0.46
Electronics(23)	3,512	59.36
Construction(25)	370	6.25
Air Transportation(26)	124	2.10
Entertainment(27)	61	1.03
Misc. retail(29)	94	1.59
Other(97、99)	390	6.59
Total	5,916	100

3.2 Empirical models

In order to test Hypothesis 1, the financing companies may have differences in the use of earnings management methods due to different financing policies, this study conducts mean difference analysis on the earnings management of corporations in the four years prior to and in the three years after the announcement date of issuing corporate bonds and SEOs, to examine whether the companies with different financing policies have differences in using earnings management methods. On the other hand, we expect that companies with stronger corporate governance may conduct less real earnings management. In order to test Hypothesis 2, this study uses the two-stage model followed by Heckman (1979) to control the self-section of earnings management. The first stage explains whether financing firms will adopt earnings management, including accrual-based and real activities two tools. We use TEM_T_{it} to judge whether the financing firm engage in earnings management based on

discretionary accruals of Ball and Shivakumar (2006, 2008) or on real activities earnings management. The second stage examines the effects of internal control and audit quality on real earnings management. Following Lin and Hsu (2011), we adopt the following two-stage models.

$$TEM\_T_{it} = a_0 + a_1 FINAN3_{it} + a_2 Beta_{it} + a_3 ROA_{it} + a_4 Size_{it} + a_5 MB_{it} + Indus + e_{it} \quad (1a)$$

$$\begin{aligned} REM_{it} = {} & b_0 + b_1 BrdSize_{it} + b_2 IndeDr_{it} + b_3 MShaHd_{it} + b_4 Inst_{it} + b_5 Big4_{it} \\ & + b_6 CPAChg_{it} + b_7 SpeAud_{it} + b_8 InvsMill_{it} + e_{it} \end{aligned} \quad (1b)$$

where *TEM_T*= a dummy variable and takes the value of 1 if the company performs accruals or real earnings management, and 0 otherwise; *FINAN3*= a dummy variable and sets to 1 if the company issues bonds or seasoned equity offerings and 0 otherwise; *Beta*= systematic risk; *ROA*= return on assets; *Size*= company size; *MB*= market-to-book ratio; *Indus*=industry type; *REM*= real earnings management; *BrdSize*= board size; *IndeDr* = ratio of independent directors; *MShaHd*= shareholdings of directors supervisors and managers; *Inst*= shareholdings of institutional investors; *Big*4= Big 4/non-Big 4 indicator variable; *CPAChg*= auditor change indicator variable in current or previous period; *SpeAud*= industry specialist/non-specialist indicator variable; *InvsMill*= the inverse Mills' ratio that is generated from the first stage regression based on Heckman's two-step estimation procedure (Heckman, 1979). Moreover, in order to drive a comprehensive measure for corporate governance, we use the principal components analysis (PCA) to extract the first principal component as the corporate governance. The empirical model is as follows:

$$REM_{it} = \beta_0 + \beta_1 GI + \beta_2 InvsMill_{it} + \varepsilon_{it} \quad (1c)$$

where *GI*= Corporate Governance Composite index and the definitions of other variables are the same as the above model. To test Hypothesis 3, this study examines whether the post-financing operating performance of the financing companies which engage in real earnings management is worse than accruals-based earnings management. Referring to Lin and Hsu (2011), this paper builds the following model.

$$\begin{aligned} ROA_{it+k} = {} & d_0 + d_1 TEM\_D_{it+(k-1)} + d_2 TEM\_R_{it+(k-1)} + d_3 Beta_{it+(k-1)} + d_4 Size_{it+(k-1)} + d_5 MB_{it+(k-1)} \\ & + d_6 Retun_{it+(k-1)} + d_7 StanRet_{it+(k-1)} + \varepsilon_{it} \end{aligned} \quad (2)$$

where ROA_{it+k} is return of assets, k denotes the period and k=1,2,3. *Return* is stock returns, *StanRet* is volatility of stock returns, and the definitions of other variables are the same as those in the above model.

3.3 Measurement of variables

Real earnings management (REM): Given sales levels, companies that manage earnings upwards are likely to have one or all of these properties: abnormal low cash flow from

operations, and/or abnormal low discretionary expenses, and/or abnormal high production costs, we follow the measure of Cohen and Zarowin (2010).[12] REM is an aggregate measure of real earning management activities and is calculated as the sum of abnormal cash flows multiplied by -1, abnormal discretionary expenses multiplied by -1 and abnormal production costs. Three estimates are as follows:

(1)$ACFO_{it}$: Abnormal operating cash flows, which are estimated as the deviations from the predicted values from the following industry-year regression (residualε).

$$\frac{CFO_{it}}{Assets_{i,t-1}} = h_1 \frac{1}{Assets_{i,t-1}} + h_2 \frac{SALES_{it}}{Assets_{i,t-1}} + h_3 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + \varepsilon_{it} \tag{3a}$$

where *CFO*=operating cash flows, *Assets*=total assets, *SALES*=annual net sales, *ΔSALES* = change in net sales.

(2)$APROD_{it}$: Abnormal production costs, which are estimated as the deviations from the predicted values from the following industry-year regressions (the sum of residuals in (3b) and (3c)).

$$\frac{COGS_{it}}{Assets_{i,t-1}} = h_1 \frac{1}{Assets_{i,t-1}} + h_2 \frac{SALES_{it}}{Asset_{i,t-1}} + \varepsilon_{it} \tag{3b}$$

$$\frac{\Delta INV_{it}}{Assets_{i,t-1}} = h_1 \frac{1}{Assets_{i,t-1}} + h_2 \frac{\Delta SALES_{it}}{Assets_{i,t-1}} + h_3 \frac{\Delta SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \tag{3c}$$

where *COGS*= costs of goods sold, *ΔINV*= the change in inventories during the year.

(3)$ADISX_{it}$: Abnormal discretionary expenses (residualε). We first model discretionary expenses as a function of lagged sales and estimate the following model to derive normal levels of discretionary expenses, and then obtain residuals in the following industry-year regression.

$$\frac{DISX_{it}}{Assets_{i,t-1}} = h_1 \frac{1}{Assets_{i,t-1}} + h_2 \frac{SALES_{i,t-1}}{Assets_{i,t-1}} + \varepsilon_{it} \tag{3d}$$

where $DISX_{it}$= discretionary expenses during the year, and are defined as the sum of advertising expenses, R&D expenses and SG&A expense.

Discretionary accruals (PDEM)：PDEM is accrual-based earnings management. Hribar and

[12] Roychowdhury (2006) and Cohen and Zarowin (2010) use the real earnings management model followed by Dechow et al. (1998).

Collins (2002) find that studies using a balance sheet approach to test for earnings management are potentially contaminated by measurement error in accruals estimates. Therefore, they measure accruals directly from cash flows statement. We calculate the accrual-based earnings management (*PDEM*) based on the model adapted from Ball and Shivakumar (2006, 2008). The measures are as follows:[13]

$$TAC_{it} = g_0 + g_1 \Delta Sales_{it} + g_2 FASSET_{it} + g_3 CFO_{it} + g_4 DCFO_{it} + g_5 DCFO_{it} * CFO_{it} + \varepsilon_{it} \quad (4a)$$

$$NDAC_{jt} = \hat{g}_0 + \hat{g}_1 \Delta Sales_{jt} + \hat{g}_2 FASSET_{jt} + \hat{g}_3 CFO_{jt} + \hat{g}_4 DCFO_{jt} + \hat{g}_5 DCFO_{jt} * CFO_{jt} \quad (4b)$$

$$DAC_{jt} = TAC_{jt} - NDAC_{jt} \quad (4c)$$

where TAC_{it} is total accruals (actual accruals) for firm *i* in year t, CFO_{it} is operating cash flow, $\Delta Sales_{it}$ is the change in sales, and $FASSET_{it}$ is book value of fixed assets (all above variables are scaled by beginning total assets). $DCFO_{it}$ takes the value 1 if CFO_{it} <0 and 0 otherwise. $NDAC_{jt}$ is nondiscretionary accruals (normal accruals). DAC_{jt} is discretionary accruals (abnormal accruals) for firm *j* in year *t*, which is computed as the difference between the actual accruals and estimated normal accruals. PDEM is the absolute value of $DAC_{it.}$

Financing type (FINAN*j*, *j* =1, 2, 3): *j*=1 represents a dummy variable and takes the value of 1 if the firm issues bonds and 0 otherwise; *j*=2 is a dummy variable and sets 1 if the firm issues SEOs and 0 otherwise; *j*=3 is a dummy variable and sets 1 if the firm issues bonds or SEOs and 0 otherwise.

Dummy variable of earnings management (TEM*j*, *j* =D, R, T): TEM_D= 1 if the firm's accrual-based earnings management is higher than the industry-year median and 0 otherwise. TEM_R= 1 if the firm's real earnings management is higher than the industry-year median and 0 otherwise. TEM_T= 1 if the firm performs accruals or real earnings management and 0 otherwise.

Corporate governance variables

Board size (BrdSiz): There are more independent directors with business knowledge or financial experience when the board size is larger, thus they can restrain earnings management behavior (Xie et al. 2003). BrdSiz is measured by the natural logarithm of the number of directors on the board. **Ratio of independent directors (IndeDr)[14]:** Independent directors can facilitate to effectively restrain earnings management (Xie et al. 2003). IndeDr is measured by the percentage of independent directors to the total number of directors. **Shareholdings of managers (MShaHd):** Managers have the incentives to engage in earnings management because their wealth is closely linked to the firm's stock price (Bartov and Mohanram, 2004; Ronen, Tzur, and Yaari, 2006). MShaHd is measured by the shareholdings of directors, supervisors and managers divided by total shareholding at

[13] This paper firsts estimate the parameters g_1, g_2, g_3, g_4 and g_5 in equation (4a) using the industry-specific regression. In robustness check, Section 4.5.3, the model parameters g_1, g_2, g_3, g_4 and g_5 are estimated using contemporaneous data of non-offering firms in the same industry.

[14] We measure the IndeDr variable by calculating the number of independent directors on market observation post system (M.O.P.S) which was set up by the Taiwan Stock Exchange Inc. & Gre Tai Securities Market, 2002. Independent directors in Taiwan require fitting independent director criteria to follow company law and securities law.

year-ending. **Shareholdings of institutional investors (Inst):** There are increased incentives to conduct earnings management when the shareholding of institutional investors is increasing (Rajgopal and Venkatachalam, 1997).

Big 4/non-Big 4 indicator variable (Big4): Francis, Maydew, and Sparks (1999) find that large audit firms are more independent than small audit firms, and they can restrain the manipulation of discretionary accruals. Big4 is a dummy variable and sets to 1 if financial statements of company are audited by Big4 firms and 0 otherwise. **Auditor change indicator variable (CPAChg):** Johnson et al. (2002) indicate that the audit quality is low as the company changes auditor. CPAChg is a dummy variable and sets to 1 if the company has changed independent auditor in current or prior period and 0 otherwise.

Industry specialist/non-specialist indicator variable (SpeAud): The industry market shares are used to classify auditors as industry specialists/non-specialists. Chen, Moroney and Houghton (2005) find a higher proportion of non-executive directors on an audit committee have a positive association with the quality of the audit firm used. Audit quality is proxied by industry specialization. A market share based measure of auditor industry specialization is from Hogan and Jeter (1999) and based on total assets for audited company. The market share (MS) of industry i which is audited by auditor k can be calculated as follows:

$$MS_{ik} = \frac{\sum_{j=1}^{J_{ik}} \sqrt{A_{ijk}}}{\sum_{i=1}^{K_i} \sum_{j=1}^{J_{ik}} \sqrt{A_{ijk}}} \tag{5}$$

where MS_{ik} = Market share of audit firm k in industry i; i = 1, 2,…,i, industry code of listed company (client); j=1,2,…,j, code of listed company(client); k=1,2,…,k, code of accounting (audit) firm; K_i = number of accounting firms in industry i; A_{ijk} = total assets for client j of audit firm k in industry i.

How to decide the auditor is classified as an industry specialist, many researchers have examined the issue of auditor specialization or concentration in a variety of contexts. Craswell, Francis, and Taylor (1995) and Ferguson and Stokes (2002) define an industry specialist as the market share of audit firms is at least 10% (or 20%), and there is more than 30 firms in this industry. But Casterella et al. (2004) adopt 20% cutoff. Another threshold of measuring an industry specialist is to use the industry ranking. Palmrose (1986), and Ferguson and Stokes (2002) suggest the auditor has the largest market share is an industry specialist, and Ferguson, Francis and Stokes (2003) suggest the largest and the second largest market share are the industry specialists. Hogan and Jeter (1999), and DeFond, Francis, and Wong (2000) suggest the top three firms in the market share ranking list are the industry specialists.

This study employs the two thresholds for measuring whether an audit firm is an industry specialist. One threshold is the market share of the audit firm is more than 20% and more than 30 firms in an industry. If less than 30 firms in an industry, then we choose the auditor who has largest and the second largest market share to be industry specialists, total market

share is over 20%. The specialist auditor (SpeAud) is a dummy variable, and takes the value of 1 if financial statements of company are audited by industry specialist auditor and 0 otherwise.

Corporate Governance Composite index (*GI*): GI that comes from principal component analysis.[15] In order to drive a comprehensive measure for corporate governance, we use the principal components analysis (PCA) to extract the first principal component as the corporate governance index. We construct a comprehensive corporate governance metric GI that first incorporates CEO duality, shareholdings of directors and supervisors, shareholdings of blockholders, shareholdings of managers, shareholdings of outside investors (=shareholdings of individual investor + shareholdings of unlisted firm + shareholdings of foundation + shareholdings of listed firm), shareholdings of ultimate controller, shareholdings of natural persons, shareholdings of institutional investors, equity pledge ratio of directors and supervisors, the seats of directors and supervisor, the ratio of the seats of managers to the seats of directors and supervisors, the ratio of the seats of outsiders to the seats of directors and supervisors, the seats of independent directors, the change times of CPA during three years, Big 4 auditor, and industry expert. Next, we use the PCA to extract the first principal component as a comprehensive corporate governance variable. The extraction of the common component using PCA and construction of the index is a parsimonious way to capture corporate governance, and it reduces the measurement error associated with using the individual measure.

Control variable

In general, the higher the profitability of a corporation is or the better the operating performance is, the higher the return on assets will be. Thus, managers will not conduct upward earnings management. Bowen, DuCharme, and Shores (1995) found that managers will not conduct upward earning management when the return on assets is higher. The larger the corporate size is, the higher the possibility of accounting manipulation will be (Jeong and Rho, 2004). The market-to-book ratio can show corporate growth. The company with higher growth opportunities has more discretionary accruals than do corporations with fewer growth opportunities. In addition, Fields, Lys, and Vincent (2001) and Cohen and Zarowin (2010) use return on assets (ROA), company size (Size) and market-to-book ratio (MB) as control variables to control profitability, scale, and growth because these factors affect earnings management.

Hence, our control variables include systematic risk, company size, market-to-book ratio,

[15] The estimation of PCA coefficients and the computation of a composite corporate governance index are conducted as follows: GI= CEO duality×0.058 + shareholdings of directors and supervisors×(-0.119) + shareholdings of blockholders×0.474 + shareholdings of manager×0.055 + shareholding of outside investors (=shareholdings of individual + shareholdings of unlisted firm + shareholdings of foundation + shareholding of listed firm)×0.372 + shareholdings of ultimate controller×(-0.179) + shareholding of natural persons×(-0.270) + shareholding of institutional investors×0.270 + equity pledge ratio of directors and supervisors×(-0.032) + seats of directors and supervisors×(-0.126) + ratio of the seats of managers to the seats of directors and supervisors ×0.039 + ratio of the seats of outsiders to the seats of directors and supervisors×0.018 + seats of independent directors×0.028 + change times of CPA during three years×0.060 + Big 4 auditor×0.016 + industry expert×(-0.024).

stock returns, and volatility of stock returns. The measurements are as follows. Market systematic risk **(Beta)** is measured by CAPM model. Return on assets **(ROA)** is earnings before interest but after taxes divided by average assets. Company size **(Size)** is the natural log of year-end total assets. **(MB)** is measured by market value of net assets divided by book value of equity. Stock return **(Return)** is return on current annul stock price. Volatility or stock returns **(StanRet)** is standard deviation of current, lagged 1 and lagged 2 stock returns.

4. Empirical Results

4.1 Descriptive statistics

Table 3 summarizes the descriptive statistics of all variables. In Panel A, the number of samples is 5,916 for H1 and H2. The means of accrual-based earnings management (PDEM) and real earnings management (REM) are both positive during the current and previous periods. On average, sample companies manage earnings upward. TEM_R and TEM_D represent the dummy variables of real and accrual-based earnings managements, respectively. The value is 1 when each type's earnings management value of the sample companies is greater than the median value in the industry; otherwise, the value is 0. This paper chooses to use medians instead of means, to avoid the influence of extreme values. According to the means in Table 3, 81.35% of the sample company-years are engaged in earnings management, 50.08% of the samples are engaged in real earnings management, 49.13% are engaged in accrual-based earnings management. This means some sample companies are engaged in both real and accrual-based earnings managements. Meanwhile, variables Big4, CPAChg, and SpeAud denote whether auditors are Big 4, whether auditors have been changed, and whether auditors are industry specialist. The table shows that 81.48% of the sample companies are audited by Big 4, and 28.28% has ever changed the auditors, which sample size is small that there may be bias in measurements. About 36.66% of the samples are audited by industry specialist auditors.

Panel B shows the samples for H3, and focuses on only financing firms. There are 521 and 222 sample company-years from the issue of bonds and SEOs, respectively. There are 56 samples issuing bonds and SEOs during the same year. The study does not eliminate these samples, as the purpose is to explore the relationship between financing companies and real earnings management.[16] The means of variables TEM_D (accrual-based) and TEM_R (real activities) are 0.5514 and 0.5014, indicating 55.14% and 50.14% of the financing companies are engaged in accrual-based and real earnings managements, respectively. These figures are higher than the means of TEM_D and TEM_R (50.08% and 49.13%) in Panel A, and suggest that the sample companies are motivated for earnings management as performing financing.

[16] However, if the purpose is to examine the relationship between financing policies and real earnings management, these samples should be eliminated.

Table 3. Descriptive statistics

Variable	Mean	Median	Minimum	Maximum	Sta. Dev.
Panel A: H1 and H2 (N=5,916)					
FINAN3	0.1250	0.0000	0.0000	1.0000	0.3308
PDEM	0.0574	0.0425	0.0000	0.2204	0.0512
REM	0.0017	0.0152	-3.0414	1.5327	0.2050
TEM_T	0.8135	1.0000	0.0000	1.0000	0.3896
TEM_R	0.5008	1.0000	0.0000	1.0000	0.5000
TEM_D	0.4913	0.0000	0.0000	1.0000	0.5000
Beta	0.8335	0.8531	-2.7545	3.2931	0.3613
ROA	0.0468	0.0514	-1.0577	0.5310	0.1124
Size	15.1191	14.9476	11.5533	20.5411	1.3269
MB	0.6259	0.6319	-0.1696	0.9873	0.1697
BrdSize	9.4567	9.0000	1.0000	26.0000	2.3430
IndeDr	0.1466	0.1000	0.0000	0.7500	0.1592
MShaHd	0.2212	0.0285	0.0123	1.0000	0.1394
Inst	0.3459	0.3067	0.0001	1.0000	0.2192
Big4	0.8148	1.0000	0.0000	1.0000	0.3885
CPAChg	0.2828	0.0000	0.0000	1.0000	0.4504
SpeAud	0.3666	1.0000	0.0000	1.0000	0.4819
InvsMill	0.0097	0.3190	-1.8658	0.6243	0.6816
GI	-0.6000	-2.6017	-42.0724	61.9745	15.8036
Panel B: H3 (N=687)					
ROAt+1	0.0468	0.0531	-0.7741	0.5310	0.1072
TEM_D	0.5514	1.0000	0.0000	1.0000	0.4977
TEM_R	0.5014	1.0000	0.0000	1.0000	0.5003
Beta	0.9206	0.9467	-1.1083	1.8471	0.3471
Size	15.5484	15.2064	12.5916	20.5411	1.5488
MB	0.5673	0.5713	0.1237	0.9804	0.1374
Return	0.2752	0.0039	-0.8524	10.2532	1.0595
StanRet	0.5192	0.4049	0.0028	3.4323	0.4732

Note: The definitions of variables are: FINAN3= a dummy variable and takes the value of 1 if the company issues bonds or seasoned equity offerings, and 0 otherwise; PDEM=accruals-based earnings management; REM=real earnings management; TEM_T= a dummy variable and takes the value of 1 if the company performs accruals or real earnings management, and 0 otherwise; TEM_R= a dummy variable and takes the value of 1 if the company's real earnings management is higher than median of its industry, and 0 otherwise; TEM_D= a dummy variable and takes the value of 1 if the company's accruals-based earnings management is higher than median of its industry, and 0 otherwise; Beta=market systematic risk; ROA=return on assets; Size=company size; MB=market-to-book ratio; BrdSize=board size measured by the natural logarithm of the number of directors on the board; InderDr =ratio of independent directors; MShaHd=percentage of shareholdings of managers; Inst=percentage of shareholdings of institutional investors; Big4 = a dummy variable and takes the value of 1 if financial statements of company are audited by Big 4 accounting firms, and 0 otherwise; CPAChg= a dummy variable and takes the value of 1 if the company has changed its independent auditor, and 0 otherwise; SpeAud= a dummy variable and takes the value of 1 if financial statements of company are audited by industry specialist auditor, and 0 otherwise; InvsMill=the inverse Mills' ratio that is generated from the first stage based on Heckman's two-step estimation procedure (Heckman,1978); Return=return on current stock price; StanRet=standard deviation of current, lagged 1 and lagged 2 stock returns.

4.2 Financing policy and earnings management tools

Table 4 shows the results of a mean difference test of earnings management tools used for the issuance of corporate bonds and SEOs. This paper divides real earnings management tools

into abnormal cash flows (ACFO), abnormal production costs (APROD), and abnormal discretionary expenses (ADISX). According to Table 4, ACFO values are all negative; when a company intends to use real earnings management, firms may relax credit terms for customers or provide discounts to boost revenues; this explains why abnormal cash flows will be lower. Abnormal production costs result from a change in inventory and cost of goods sold. Most of APROD values are positive because manufacturers can lower the allocated fixed costs per unit and therefore the cost of goods sold by overproducing. According to GAAP, if the production quantities are larger than the quantities sold, the net profit will be higher under absorption costing. Real earnings management in the form of production cost manipulation leads to abnormally high production costs. Finally, all ADISX values are negative because companies can increase recognized earnings by lowering discretionary expenses. Because abnormal cash flows, abnormal production costs, and abnormal discretionary expenses have different signs, this paper first multiplies both ACFO and ADISX by minus 1, and then sums ACFO, ADISX and APROD to measure real earnings management (REM). The higher the REM values, the higher the degree of involvement in real earnings management.

The results show that once the financing firms adopt accrual-based earnings management (PDEM), the means of discretionary accruals between Bonds issues and SEOs are significantly different during the pre-financing years (year -1, -2, -3, and -4) and post-financing years (year +1 and +2). There is no significant difference in the issuing year of the financing and year +3. It reveals that firms' choose accrual earnings management based on different financing policy except the financing year and year +3. On the other hand, once the financing firms adopt real earnings management (REM), the means of real earnings management between Bonds issues and SEOs are significantly different in the financing year, year -1 and -3. It reveals that firms will choose real earnings management depending on different financing policy during the financing year, year -1 and year -3. Overall, firms choose different earnings management tools depending on whether they issue corporate bonds or SEOs on the first year before financing. That is, firms choose the earning management tools in advance in year -1. The magnitudes of accrual-based earnings management (bonds issues is 0.0664 and SEOs is 0.0730) in the issuing year for financing firms are higher than the magnitudes in the pre-financing periods, indicating that upward earnings management might be one of the motives for firms to finance successfully.

Table 4. Mean Difference Test for Earnings Management of Bonds and SEOs

Variable	Year	Mean of bonds issues	Means of SEOs	Difference of earnings management tools	
				Mean t test	P value
PDEM	-4	0.0593	0.0715	-2.3174	0.0211 **
	-3	0.0618	0.0727	-2.0763	0.0387 **
	-2	0.0634	0.0762	-2.4852	0.0134 **
	-1	0.0657	0.0717	-1.8942	0.0585 *
	0	0.0664	0.0730	-1.2636	0.2067
	1	0.0666	0.0758	-1.7885	0.0742 *
	2	0.0644	0.0744	-2.0817	0.0378 **
	3	0.0629	0.0687	-1.1963	0.2319
REM	-4	0.0239	0.0536	0.9300	0.3554
	-3	0.0194	-0.0147	-2.1623	0.0312 **
	-2	-0.1120	-01020	0.5568	0.5779
	-1	-0.0002	-0.0261	-1.8969	0.0584 *
	0	-0.0043	-0.0389	-2.2612	0.0240 **
	1	0.0387	0.0339	-0.3215	0.7479
	2	0.0333	0.0250	-0.7362	0.4620
	3	0.0273	0.0111	-1.5752	0.1160
ACFO	-4	-0.0125	0.0124	1.3214	0.1874
	-3	-0.0054	-0.0240	-1.7328	0.0854 *
	-2	-0.0772	-0.0635	1.1251	0.2611
	-1	-0.0178	-0.0204	-0.2267	0.8208
	0	-0.0205	-0.0285	-0.7819	0.4345
	1	-0.0175	-0.0253	-0.0078	0.5046
	2	-0.0082	-0.0006	1.0347	0.3014
	3	-0.0069	-0.0061	0.1161	0.9076
APROD	-4	0.0274	0.0353	0.4315	0.6664
	-3	0.0168	0.0025	-1.2166	0.2245
	-2	-0.0468	-0.0458	0.0862	0.9314
	-1	0.0090	-0.0059	-1.4365	0.1522 ***
	0	0.0112	-0.0036	-1.2764	0.2025
	1	0.0360	0.0242	-1.1266	0.2603
	2	0.0290	0.0224	-0.6906	0.4902
	3	0.0254	0.0115	-1.6347	0.1029
ADISX	-4	-0.0097	-0.0111	-0.3626	0.7171
	-3	-0.0078	-0.0056	0.5869	0.5576
	-2	-0.0101	-0.0073	0.9233	0.3563
	-1	-0.0077	-0.0050	0.9535	0.3407
	0	-0.0066	0.0023	3.3363	0.0009 ***
	1	-0.0108	-0.0053	2.1155	0.0347 **
	2	-0.0119	-0.0047	2.9055	0.0038 ***
	3	-0.0083	-0.0066	0.6973	0.4858

Note: 1. Total sample of issuing corporate bonds is 562 and total sample of issuing seasoned equity offerings is 238.
2. PDEM=accruals-based earnings management, REM=real earnings management; ACFO=abnormal cash flows, APROD=abnormal production costs, ADISX=abnormal discretionary expenses.
3. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.3 Internal control, audit quality and real earnings management

This paper runs the two-stage model to control for the self-selection of earnings management. The first stage explains whether financing firms will adopt earnings management, whereas the second stage examines the correlation between corporate governance and real earnings management. According to the empirical results shown in Table 5, the coefficient of InvsMill is significantly positive, which indicates that financing firms are engaged in earnings management.

H2 examines the effects of corporate governance and external monitoring on real earnings management. Corporate governance is measured with proxy variables, such as board sizes (BrdSiz), percentage of independent directors (IndeDr), shareholdings of managers (MShaHd), and shareholdings of institutional investors (Inst). External monitoring (that is, audit quality) is measured with proxy variables, such as Big 4 accounting firms (Big4), changes of auditors (CPAChg), and auditing by industry experts (SpeAud). In addition, we use the principal components analysis (PCA) to extract the first principal component as the corporate governance proxy variable. This paper explores the effects of corporate governance and external monitoring on real earnings management of firms conducting financing activities. All the samples total 5,916 firm-years, but the number of the samples for financing firms is only 739.

Panel A of Table 5 shows that effective corporate governance (as presented by "IndeDr" and "Inst") can effectively control the engagement in real earnings management. All the variables concerning external monitoring show a negative relationship when financial statements are audited by Big 4 (Big4) and when the companies are audited by industry experts (SpeAud). This suggests that auditing by the Big 4 and industry experts may control engagement in real earnings management. Conversely, the results of whether accountants have been changed (CPAChg) is not statistically significant. If we compare full sample to subsample with financing, we find the effect that corporate governance restrain real earnings management declines only when firms' share hold by institutional investors (Inst) and when the companies are audited by industry experts (SpeAud) with both SEOs and bond issuing firms taken into consideration. These findings reveal that when managers suffer capital needs, they are more likely to manipulate real earnings management, although it might cause severe economic consequences in later periods. Also, they are less likely to restrain real earnings management from corporate governance at the same time. However, regardless of full sample or financing subsample, the composite corporate governance index GI is negatively related to REM, implying that firms with poor corporate governance are more likely engaged in real earnings management.

This paper further reclassifies real earnings management into three components, namely, abnormal operating cash flows (ACFO), abnormal production costs (APROD), and abnormal discretionary expenses (ADISX) (the sign direction of ACFO and ADISX are different from APROD), to investigate the relationships among these components and corporate governance factors. The findings show that ratio of independent directors (IndeDr), shareholdings of institutional investors (Inst), and Big4 can restrain three components of real earnings

management in the full sample. We also find that the variables of suppressing real earnings management decline in financing sample. Results on Panel B in the subsample of financing, Board size (BrdSiz), shareholdings of institutional investors (Inst), and Big4 can suppress abnormal operating cash flows (ACFO), but the ratio of independent directors (IndeDr) can't, compared to full sample. Results on Panel C, shareholdings of institutional investors (Inst) and audit by Industry specialist (SpeAud) can suppress abnormal production costs (APROD) in the financing sample, but the ratio of independent directors (IndeDr) can't, compared to full sample. Results on Panel D in the subsample of financing, all variables of corporate governance factor and audit quality are unrelated to abnormal discretionary expenses (ADISX). On the other hand, the composite corporate governance index GI is significantly negatively related to APROD, but is unrelated to ACFO and ADISX in financing subsample. However, GI is significantly related to all three components of real earnings management in full sample. It reveals that corporate governance of firms can restrain real earnings management, but the effect decline when firms engaged in financing activities. Meanwhile, corporate governance cannot effectively control financing firms to manipulate real earnings through abnormal discretionary expenses.

Table 5. Internal Control, Audit Quality and Real Earnings Management

$$TEM\_T_{it} = \alpha_0 + \alpha_1 FINAN3_{it} + \alpha_2 Beta_{it} + \alpha_3 ROA_{it} + \alpha_4 Size_{it} + \alpha_5 MB_{it} + Indus + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 GI + \beta_2 InvsMill_{it} + \varepsilon_{it}$$

Panel A Dependent variable=REM

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	0.0019	0.6856	0.1115***	8.2300	0.0342***	3.9601	0.1241***	2.8067
GI	-	-0.0014***	-7.9351			-0.0016***	-2.7222		
BrdSize	-			-0.0006	-0.4991			-0.0040	- 0.9927
IndeDr	-			-0.1623***	-9.1953			0.0381	0.6984
MShaHd	-			0.0009	0.0438			0.0261	0.3415
Inst	-			-0.1197 ***	-8.5842			-0.1279***	-2.8845
Big4	-			-0.0396***	-5.1028			0.0007	0.0286
CPAChg	+			0.0050	0.8002			-0.0023	-0.1180
SpeAud	-			-0.0195***	-3.1785			-0.0437**	-2.3389
InvsMill	?	0.0178***	4.2987	0.0202 ***	4.9452	- 0.0034	-0.2537	-0.0036	-0.2718
Samples		5,916		5,916		739		739	
Adjusted R^2		0.013		0.03945		0.008		0.017	
F value (p value)		38.949 (<.0001)		35.814 (<.0001)		3.805 (<.05)		2.630 (<.01)	

Panel B Dependent variable=ACFO

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	- 0.0005	-0.3288	-0.0533***	-6.9000	-0.0249***	-4.5614	-0.0884***	-3.1729
GI	+	0.0006***	6.0298			0.0005	1.3726		
BrdSize	+			0.0014**	2.0260			0.0016*	0.6301
IndeDr	+			0.0372***	3.7041			- 0.0604	-1.7586
MShaHd	+			0.0033	0.2683			0.0373	0.7742

Inst	+			0.0479***	6.0568		0.0522*	1.8682
Big4	+			0.0186***	4.2214		0.0286*	1.7537
CPAChg	-			- 0.0015	-0.4292		0.0051	0.4114
SpeAud	+			0.0043	1.2182		0.0135	1.1458
InvsMill	?	0.0261***	11.1945	0.0254***	10.9766	0.0372***	4.4171	0.0373***	4.4324
Samples		5,916		5,916		739		739	
Adjusted R^2		0.028		0.039		0.027		0.042	
F value (p value)		84.845 (<.0001)		31.271 (<.0001)		11.183 (<.0001)		5.024 (<.0001)	

Panel C Dependent variable=APROD

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	0.0011	0.5835	0.0507***	5.3815	0.0061	1.0009	0.0371	1.1769
GI	-	-0.0007***	-5.9788			-0.0010**	-2.4273		
BrdSize	-			0.0007	0.8462			-0.0027	-0.9527
IndeDr	-			-0.1005***	-8.2041			-0.0168	-0.4324
MShaHd	-			-0.0115	-0.7629			0.0498	0.9153
Inst	-			-0.0645***	-6.6708			-0.0707**	-2.2374
Big4	-			-0.0136**	-2.5293			0.0275	1.4920
CPAChg	+			0.0030	0.6908			0.0013	0.0931
SpeAud	-			-0.0157***	-3.6777			-0.0277**	-2.0801
InvsMill	?	0.0267***	9.3397	0.0282***	9.9585	0.0183*	1.9395	0.0181*	1.8990
Samples		5,916		5,916		739		739	
Adjusted R^2		0.019		0.041		0.009		0.010	
F value (p value)		58.570 (<.0001)		32.365 (<.0001)		4.516 (<.0001)		1.896 (<.1)	

Panel D Dependent variable=ADISX

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	- 0.0005	-1.0883	-0.0074***	- 2.9979	- 0.0032**	-2.5362	0.0015	0.2289
GI	+	0.0001**	2.5431			0.0001	-0.9599		
BrdSize	+			- 0.0001	- 0.5727			0.0003	0.5823
IndeDr	+			0.0233***	7.3031			0.0050	0.6147
MShaHd	+			-0.0106***	- 2.7037			- 0.0132	-1.1603
Inst	+			0.0066***	2.6041			0.0050	0.7631
Big4	+			0.0064***	4.5341			- 0.0018	- 0.4600
CPAChg	-			- 0.0004	- 0.3819			- 0.0017	- 0.5730
SpeAud	+			- 0.0003	- 0.2766			0.0025	0.8806
InvsMill	?	-0.0167***	-22.5423	-0.0169***	-22.9783	-0.0153***	-7.7726	-0.0154***	-7.7420
Samples		5,916		5,916		739		739	
Adjusted R^2		0.079		0.092		0.074		0.069	
F value (p value)		254.914 (<.0001)		76.053 (<.0001)		30.291 (<.0001)		7.814 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

To compare the effects of corporate governance on the two different earnings management methods, this paper adopts discretionary accruals (PDEM) as the dependent variable to examine the relationship between accrual-based earnings management and corporate governance factors. Table 6 shows that percentage of independent directors (IndeDr), shareholdings of institutional investors (Inst), changes of auditors (CPAChg), and auditing by industry experts (SpeAud) can restrain managers from manipulating accrual-based earnings

management for the full sample. In the financing subsample, both percentage of independent directors (IndeDr) and shareholdings of institutional investors (Inst) are negatively related to PDEM, implying that financing firms with higher percentage of independent directors and higher shareholdings of institutional investors are less likely to engage in accrual-based earnings management. Moreover, regardless of full sample or financing subsample, the composite corporate governance index GI is negatively related to PDEM, indicating that firms with poor corporate governance are more likely to engage in accrual-based earnings management.

Table 6. Internal Control, Audit Quality and Accruals

$$PDEM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

$$PDEM_{it} = \beta_0 + \beta_1 GI_{it} + \beta_2 InvsMill_{it} + \varepsilon_{it}$$

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept		0.0023**	2.3656	0.0251***	5.4523	-0.0096***	-3.2204	0.0175	1.1533
GI		-0.0004***	-7.3271			-0.0006***	-3.0400		
BrdSize	-			0.0000	0.0752			-0.0003	- 0.1978
IndeDr	-			-0.0456***	-7.6166			-0.0515***	- 2.7547
MShaHd	-			0.0118	1.6027			0.0385	1.4681
Inst	-			-0.0463***	-9.8045			-0.0557***	- 3.6640
Big4	-			- 0.0031	-1.1806			0.0009	0.1066
CPAChg	+			0.0063***	3.0082			- 0.0025	-0.3756
SpeAud	-			-0.0067***	-3.1912			- 0.0104	-1.6174
InvsMill	?	-0.0324***	-23.1468	-0.0317***	-22.8938	-0.0420***	-9.1921	-0.0405***	-8.8393
Samples		5,916		5,916		739		739	
Adjusted R^2		0.093		0.115		0.115		0.127	
F value (P value)		305.082 (<.0001)		97.133 (<.0001)		49.095 (<.0001)		14.369 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

We order the empirical result in Tables 5 and 6 to Table 7, and it reveals BrdSize and MShaHd cannot restrain earning management in Taiwan because of many family owned firms. The right to operate and own a business is not separate. Company executive officers are a part of the family or the insider. In 2002, the listing rules of Taiwan Stock Exchange (TSE) and Taiwan's computerized over-the-counter market (GTSM) have made amendment so that every public company applying for listing should have at least two independent directors and one independent supervisor. The January 2006 Amendment of Securities & Exchange Act provides an alternative system that replaces supervisors with audit committee system. The effects seem to work out. Our empirical result reveals that IndeDr and Inst can control accrual and real earning management effectively in all sample. Both of them can control accrual earnings management in financing subsample. However, they cannot control real earnings management effectively.

Table 7. Corporate Governance Variables and Manipulating Earnings Management

	PDEM		REM					
	All sample	Financing sample	All sample			Financing sample		
Variable	PDEM	PDEM	ACFO	APROD	ADISX	ACFO	APROD	ADISX
BrdSize	X	X	X	X	X	X	X	X
IndeDr	V	V	V	V	V	X	X	V
MShaHd	X	X	X	X	V	X	X	X
Inst	V	V	V	V	V	V	V	X

Note: 1. The definitions of all variables are the same as those in Table 3.
2. "V" means the variable can restrain accrual or real earnings management.
3. "X" means the variable cannot restrain accrual or real earnings management.

4.4 Earnings management tool and future performance

H3 examines whether the adoption of different earnings management tools by financing firms affects their post-financing operating performances. The number of financing firms is 687 and includes 521 samples from the issuance of corporate bonds and 222 samples from the issuance of seasoned equity offerings; thus, the sample number of corporate bond and seasoned equity offering issues concurrent in the same year during the research period is 56. We do not delete the samples that issue both corporate bonds and seasoned equity offerings concurrently in the same year because we want to investigate the relationship between the firms with financing and real earnings management. If the purpose were to investigate the relationship between different financing policies and real earnings management, then we would delete 56 observations to avoid noise.

This paper also examines the effect of adopting earnings management tools on the post-financing operating performances (ROA), which include 5,614 total samples. According to all the samples in Table 8, there is a negative relationship between both real earnings management (TEM_R) and accrual-based earnings management (TEM_D) and operating performance (ROA) in financing year +1 and +2. It constantly affects two years. Moreover, it reports significant negative relationship of TEM_R in year +3. Even if firms have no financing activities, the engagement of real earnings management is detrimental to firm value. Therefore, H3 is supported, which is consistent with Graham et al. (2005) and Roychowdhury (2006), by the fact that real earnings management affects cash flows and causes severe economic consequences. In addition, the results on financing subsamples in Panel A of Table 8 show that operating performance (ROA) are negatively related to real earnings management (TEM_R) in financing year +1 and +2, but are unrelated to accrual-based earnings management (TEM_D). This implies that managers may increase income by reducing research, development expenses, cut prices to boost sales, and overproduce to deduct COGS expenses during the financing year. After that, the operating performance of the company will decrease for the following two years.

As shown on Panel B, we also distinguish between bond issuers and SEO firms in the multivariate test. It reveals that operating performance (ROA) will decrease in the bonds financing year +1 to +2, when firms conduct real earnings management in bonds issuing year. However, there is no significant relationship between accrual-based earnings management

(TEM_D) and operating performance after bonds or SEO financings. Firms issue bonds and engage in the real earnings management to avoid frequent outside monitoring by investors, CPA or Government in bond issuing year. And then, it also causes operating performance to decline continuously two years after bond financing.

Table 8. Earnings Management and Future Performance

$ROA_{it+1} = \beta_0 + \beta_1 TEM\_D_{it} + \beta_2 TEM\_R_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_{it}$

Panel A

Variable	Expected Sign	All Sample			Financing Sample		
		coefficient		t value	coefficient		t value
Intercept		-0.2658	***	-14.2409	-0.1944	***	-4.2792
TEM_D	-	-0.0057	**	-2.0370	-0.0042		-0.5228
TEM_R	-	-0.0184	***	-6.5220	-0.0250	***	-3.1108
Beta	-	-0.0218	***	-4.6877	-0.0101		-0.7807
Size	+	0.0163	***	13.6933	0.0100	***	3.6607
MB	+	0.1340	***	15.8748	0.1831	***	6.2378
Return	+	0.0038	***	2.7669	-0.0041		-0.9462
StanRet	-	0.0130	***	3.9257	0.0102		1.1303
Samples		5,614			687		
Adjusted R^2		0.072			0.068		
F value (p value)		63.005 (<.0001)			8.180 (<.0001)		

Panel B

Variable	Expected Sign	SEOs Sample			Bond Sample		
		coefficient		t value	coefficient		t value
Intercept		-0.3538	**	-2.5864	-0.1936	***	-4.0913
TEM_D	-	-0.0117		-0.7334	-0.0024		-0.2657
TEM_R	-	-0.0183		-1.1465	-0.0317	***	-3.5192
Beta	-	-0.0051		-0.2003	-0.0166		-1.1193
Size	+	0.0193	**	2.3059	0.0099	***	3.4701
MB	+	0.2036	***	3.8801	0.2015	***	5.4103
Return	+	-0.0114		-1.3048	-0.0009		-0.1859
StanRet	-	0.0138		0.8054	0.0082		0.8066
Samples		222			521		
Adjusted R^2		0.051			0.076		
F value (p value)		2.690 (<.05)			7.117 (<.0001)		

$ROA_{it+2} = \beta_0 + \beta_1 TEM\_D_{it} + \beta_2 TEM\_R_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_{it}$

Panel A

Variable	Expected Sign	All Sample			Financing Sample		
		coefficient		t value	coefficient		t value
Intercept		-0.1885	***	-10.1789	-0.0841	*	-1.8415
TEM_D	-	-0.0060	**	-2.1297	0.0006		0.0713
TEM_R	-	-0.0134	***	-4.7835	-0.0157	*	-1.9416
Beta	-	-0.0235	***	--5.1029	-0.0097		-0.7464
Size	+	0.0129	***	10.8889	0.0049	*	1.7958
MB	+	0.0987	***	11.7894	0.1165	***	3.9474
Return	+	-0.0058	***	-4.2385	-0.0129	***	-2.9801
StanRet	-	0.0058	*	1.7712	-0.0011		-0.1226
Samples		5,607			689		
Adjusted R^2		0.043			0.031		
F value (p value)		36.616 (<.0001)			4.110 (<.0001)		

Panel B

Variable	Expected Sign	SEOs Sample		Bond Sample	
		coefficient	t value	coefficient	t value
Intercept		-0.1850	-1.3989	-0.0854 *	-1.8579
TEM_D	-	-0.0141	-0.9147	0.0060	0.6848
TEM_R	-	-0.0183	-1.1868	-0.0162 *	-1.8483
Beta	-	-0.0030	-0.1216	-0.0168	-1.1626
Size	+	0.0111	1.3671	0.0046 *	1.6572
MB	+	0.1202 **	2.3691	0.1409 ***	3.8936
Return	+	-0.0223 ***	-2.6501	-0.0094 **	-2.0505
StanRet	-	0.0106	0.6402	-0.0018	-0.1829
Samples		222		521	
Adjusted R^2		0.026		0.033	
F value (p value)		1.857 (<.1)		3.550 (<.001)	

$$ROA_{it+3} = \beta_0 + \beta_1 TEM\_D_{it} + \beta_2 TEM\_R_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_t$$

Panel A

Variable	Expected Sign	All Sample		Financing Sample	
		coefficient	t value	coefficient	t value
Intercept		-0.1655 ***	-8.8126	0.0101	0.2135
TEM_D	-	-0.0041	-1.4388	-0.0035	-0.4172
TEM_R	-	-0.0140 ***	-4.9245	-0.0136	-1.6361
Beta	-	-0.0327 ***	-7.0004	-0.0267 **	-1.9879
Size	+	0.0119 ***	9.9487	0.0006	0.2105
MB	+	0.0913 ***	10.7527	0.1011 ***	3.3207
Return	+	-0.0068 ***	-4.8277	-0.0214 ***	-4.8010
StanRet	-	0.0012	0.3621	-0.0010	-0.1082
Samples		5,599		687	
Adjusted R^2		0.041		0.057	
F value (p value)		33.783(<.0001)		9.016 (<.0001)	

Panel B

Variable	Expected Sign	SEOs Sample		Bond Sample	
		coefficient	t value	coefficient	t value
Intercept		0.0116	0.0938	0.0119	0.2463
TEM_D	-	-0.0080	-0.5529	-0.0007	-0.0788
TEM_R	-	-0.0198	-1.3704	-0.0146	-1.5841
Beta	-	0.0227	0.9923	-0.0448 ***	-2.9531
Size	+	-0.0018	-0.2375	0.0011	0.3695
MB	+	0.0944 **	1.9903	0.1179 ***	3.0968
Return	+	-0.0364 ***	-4.6234	-0.0158 ***	-3.2776
StanRet	-	-0.0100	-0.6487	0.0011	0.1038
Samples		222		521	
Adjusted R^2		0.098		0.042	
F value (p value)		4.433 (<.0001)		4.278 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.5 Robustness Check

4.5.1 Audit fee, non-audit fee and real earnings management

According to our empirical finding from H2, among external monitoring variable, only firms audited by Big 4 can restrain real earnings management by using ACFO, APROD and ADISX in full sample. Therefore, we try to find out another external monitoring variable to constrain earnings manipulation. The audit fee is generally used as a proxy of audit quality. The U.S.

Securities and Exchange Commission believes that non-audit fees compromise the independence of auditors and the reliability of financial reports. Also, non-audit fees increase capital costs of companies. Larker and Richardson (2004) find that the ratio of non-audit fees to total fees has a positive relation with the absolute value of accruals similar to Frankel, Johnson, and Nelson (2002). Frankel et al. (2002) find that non-audit fees are positively correlated to earnings management, and that audit fees are negatively correlated to earnings management. Ferguson, Seow, and Young (2004) indicate that earnings management is positively associated with non-audit services purchase. After considering the endogenity, Antle et al. (2006) find that there exist an endogenous relationship among abnormal accruals, audit and non-audit fees. Srinidhi and Gul (2007) find that accruals are negatively correlated to non-audit fees but are positively correlated audit fees. Cahan et al. (2008) find that the growth of non-audit fees or the length of non-audit service period is unrelated to discretionary accruals. In other words, auditors and clients will have economic relations due to non-audit fees, and auditor independence will be impaired when the clients are important to the audit firms.

Due to the inconsistent results of prior studies, we use audit fee and non-audit fee to measure external monitoring and to further re-check the correlation among audit, non-audit fees and real earnings management before the announcement of financing for financing firms. According to Article 10-4, Criteria Governing Information to be Published in Annual Reports of Public Companies, as released by the Financial Supervisory Commission in Taiwan, if the non-audit fees amount to more than 25% of audit fees payable to accounting firms, listed companies should disclose the amounts of audit fees and non-audit fees, as well as the details of audit services and non-audit services. Not all the listed companies disclose audit fees and non-audit fees in Taiwan, the number of financing samples is down to 185 for the validation. It includes 126 samples for the issuance of corporate bonds and 59 samples for the issuance of seasoned equity offerings.

From all sample in Table 9, there is a negative correlation between audit fees (AudFee) and real earnings management (REM). This shows the higher the audit fees are, the less likely real earnings management is to be adopted, a result consistent with expectations, and therefore H2 is supported. The result is consistent with Frankel et al. (2002), but inconsistent with Srinidhi and Gul (2007). There is a positive but insignificant correlation between non-audit fees (NAudFee) and real earnings management. On the other hand, for financing subsample, there is also a negative correlation between audit fees (AudFee) and REM, but not significant. The possible explanation for the result is that the number of samples for the validation is a few. Besides, regardless of full sample or financing subsample, GI and Inst are significantly and negatively related to REM, implying that the composite corporate governance index GI and shareholdings of institutional investors (Inst) can control real earnings management effectively.

Table 9. Audit Fee, Non-audit Fee and Real Earnings Management

$$REM_{it} = \beta_0 + \beta_1 AudFee_{it-1} + \beta_2 NAudFee_{it-1} + \beta_3 PDEM_{it} + \beta_4 Beta_{it} + \beta_5 ROA_{it} + \beta_6 Size_{it} + \beta_7 MB_{it} + \beta_8 BrdSiz_{it} + \beta_9 IndeDr_{it} + \beta_{10} MShaHd_{it} + \beta_{11} Inst_{it} + \beta_{12} Big4_{it} + \beta_{13} CPAChg_{it} + \beta_{14} SpeAud_{it} + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 GI_{it} + \beta_2 AudFee_{it-1} + \beta_3 NAudFee_{it-1} + \beta_4 PDEM_{it} + \beta_5 Beta_{it} + \beta_6 ROA_{it} + \beta_7 Size_{it} + \beta_8 MB_{it} + \varepsilon_{it}$$

variable	Expected Sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept		0.0140	0.1819	-0.0355	-0.4033	0.1450	0.7200	- 0.0564	-0.2408
GI		- 0.0007**	-2.2686			-0.0030**	-3.0208		
$AudFee_{t-1}$	-	- 0.0227 *	-1.8868	-0.0237**	-1.8972	-0.0260	-0.8196	- 0.0124	-0.3722
$NAudFee_{t-1}$	+	0.0038	1.0017	0.0033	0.8303	0.0110	0.9091	0.0150	1.1480
PDEM	-	0.0915	1.0275	0.0790	0.8825	0.1181	0.5141	0.0878	0.3668
Beta	-	- 0.0194	-1.1965	-0.0211	-1.2725	0.0543	1.2741	0.0749	1.5693
ROA	-	-1.1150 ***	-19.6568	-1.1313***	-18.9540	-0.8020***	-5.0561	- 0.8075***	-4.9391
Size	+	0.0185***	3.5222	0.0247***	4.1143	0.0093	0.7042	0.0179	1.0678
MB	?	-0.1094***	- 3.3820	-0.1011***	-3.0923	-0.1819*	-1.7571	-0.1403	-1.2720
BrdSize	-			-0.0024	-0.9799			-0.0051	-0.6576
IndeDr	-			0.0492	1.4616			0.0751	0.8108
MShaHd	-			0.0312	0.7819			0.1650	1.3673
Inst	-			-0.0672**	-2.4546			-0.2085***	-2.6100
Big4	-			-0.0030	-0.1885			-0.0453	-0.9546
CPAChg	-			-0.0080	-0.6932			0.0382	1.1063
SpeAud	-			-0.0020	-0.1886			-0.0003	-0.0093
Samples		1,286		1,286		185		185	
Adjusted R^2		0.295		0.295		0.213		0.195	
F value (P value)		68.33 (<.0001)		39.337 (<.0001)		7.216 (<.0001)		4.177 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.5.2 Degree of accruals and real earnings management

H3 is to examine the post-financing operating performances after conducting different earnings management mechanism, in which earnings management mechanism is a dummy variable (TEM_D, TEM_R). This section uses PDEM and REM instead of dummy variables (TEM_D, TEM_R). Table 10 finds a significant negative relationship between real earnings management (REM) and operating performance in financing year +1 to +3, meaning that the firm performance will worse after financing. However, there is no significant relation between accrual-based earnings management (PDEM) and post-financing operating performances. These results are the same in both full sample and financing subsample. We conclude that the erosion of post operating performance by manipulating real earnings management is more serious than manipulating accrual-based earnings management. These results are consistent with H3.

Table 10. Degree of Earnings Management and Future Performance

$$ROA_{it+1} = \beta_0 + \beta_1 PDEM_{it} + \beta_2 REM_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_{it}$$

Panel A

Variable	Expected Sign	All Sample Coefficient		All Sample t value	Financing Sample coefficient		Financing Sample t value
Intercept		-0.2724	***	-14.4413	0.0007		0.0143
PDEM	-	-0.0192		-0.6791	0.0153		0.2023
REM	-	-0.0515	***	-7.3899	-0.0377	**	-2.0606
Beta	-	-0.0215	***	-4.6186	-0.0285	**	-2.1191
Size	+	0.0159	***	13.3531	0.0006	**	0.2261
MB	+	.0.1355	***	16.0520	0.1019	***	3.3487
Return	+	0.0038	***	2.7789	-0.0213	***	-4.7879
stanRet	-	0.0126	***	3.8039	-0.0016		-0.1664
Samples		5,614			687		
Adjusted R^2		0.073			0.05		
F value (p value)		64.309 (<.0001)			6.109 (<.0001)		

$$ROA_{it+2} = \beta_0 + \beta_1 PDEM_{it} + \beta_2 REM_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_{it}$$

Panel B

variable	Expected Sign	All Sample coefficient		All Sample t value	Financing Sample coefficient		Financing Sample t value
Intercept		-0.1916	***	-10.2239	-0.0912	**	-1.9769
PDEM	-	-0.0338		-1.2046	0.0201		0.2733
REM	-	-0.0283	***	-4.0850	-0.0301	*	-1.6969
Beta	-	-0.0229	***	-4.9590	-0.0119		-0.9102
Size	+	0.0125	***	10.5367	0.0049	*	1.7756
MB	+	0.0993	***	11.8357	0.1173	***	3.9688
Return	+	-0.0058	***	-4.2309	-0.0128	***	-2.9643
stanRet	-	0.0057	*	1.7299	-0.0011		-0.1213
Samples		5,607			687		
Adjusted R^2		0.041			0.03		
F value (p value)		35.254 (<.0001)			3.996 (<.0001)		

$$ROA_{it+3} = \beta_0 + \beta_1 PDEM_{it} + \beta_2 REM_{it} + \beta_3 Beta_{it} + \beta_4 Size_{it} + \beta_5 MB_{it} + \beta_6 Return_{it} + \beta_7 \text{stanRet}_{it} + \varepsilon_{it}$$

Panel C

variable	Expected Sign	All Sample Coefficient		All Sample t value	Financing Sample coefficient		Financing Sample t value
Intercept		-0.1680	***	-8.8441	0.0007		0.0143
PDEM	-	-0.0287		-1.0081	0.0153		0.2023
REM	-	-0.0298	***	-4.2454	-0.0377	**	-2.0606
Beta	-	-0.0322	***	-6.8779	-0.0285	**	-2.1191
Size	+	0.0115	***	9.6016	0.0006		0.2261
MB	+	0.0919	***	10.8029	0.1019	***	3.3487
Return	+	-0.0068	***	-4.8298	-0.0213	***	-4.7879
stanRet	-	0.0011		0.3328	-0.0016		-0.1664
Samples		5,599			687		
Adjusted R^2		0.038			0.050		
F value (p value)		32.723 (<.0001)			6.109 (<.0001)		

Note: 1. PDEM and REM substitute for TEM_D and TEM_R, respectively.
2. The definitions of all variables are the same as those in Table 3.
3. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.5.3 Matching method

We follow the matching method of Shivakumar (2000) and Ball and Shivakumar (2006, 2008) to use non-offering firms to measure accrual-based earnings management in equation (4a). The model parameters g_1, g_2, g_3, g_4 and g_5 are estimated from non-offering firms. We insert the model's parameters of equation (4a) into (4b) to obtain expected accrual-based earnings management for offering firms. Next, abnormal accruals for offering firm are computed as the difference between the actual accruals and expected accrual-based earnings management. Therefore, this paper re-checks our hypothesis by using matching method.

The untabulated result shows that once the financing firms adopt accrual-based earnings management which calculates by using matching method, the means of discretionary accruals between Bonds issues and SEOs are significantly different during the financing year, pre-financing year (event year -1 to -4) and post-financing period (event year +1 to +3). It implies that firms choose accrual-based earnings management depending on different financing policy in the financing period from year -4 to +3.

According to the empirical results shown in Table 11, in full sample, ratio of independent directors (IndeDr), shareholdings of institutional investors (Inst) and composite corporate governance variable (GI) are significantly related to three components (ACFO, APROD and ADISX) of REM, implying those can control real earnings management effectively. Hence, H2 is supported in full sample. In financing subsample, although only board size (BrdSiz) among corporate governance variables can restrain real earnings management, but GI is significantly negative to REM, implying that H2 is also supported in financing subsample.

Table 11. Internal Control, Audit Quality and Real Earnings Management

$$TEM\_T_{it} = \alpha_0 + \alpha_1 FINAN3_{it} + \alpha_2 Beta_{it} + \alpha_3 ROA_{it} + \alpha_4 Size_{it} + \alpha_5 MB_{it} + Indus + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 GI + \beta_2 InvsMill_{it} + \varepsilon_{it}$$

Panel A Dependent variable=REM

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	0.0020	0.7538	0.1108***	8.7445	0.0273***	3.5539	-0.0138	-0.4167
GI	-	-0.0014***	-8.4501			-0.0017***	-3.1910		
BrdSize	-			-0.0005	-0.4438			-0.0002**	-0.0588
IndeDr	-			-0.1619***	-9.8292			-0.0846	-2.0799
MShaHd	-			-0.0103	-0.5084			0.0757	1.3271
Inst	-			-0.1165***	-8.9755			-0.0122	-0.3680
Big4	-			-0.0380***	-5.2560			0.0248	1.2773
CPAChg	+			0.0037	0.6460			- 0.0095	-0.6385
SpeAud	-			-0.0164***	-2.8610			- 0.0207	-1.4863
InvsMill	?	0.0366***	10.1144	0.0235***	6.1395	0.0232*	1.9411	0.0761***	7.6136
Samples		5,916		5,916		739		739	
Adjusted R^2		0.027		0.050		0.014		0.073	
F value (p value)		84.089 (<.0001)		40.291 (<.0001)		6.369 (<.0001)		8.281 (<.0001)	

Panel B Dependent variable=ACFO

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	0.001	0.391	-0.0504***	-7.6015	-0.0178***	- 4.2015	-0.0675***	-3.1157
GI	+	0.001***	8.044			0.0006**	2.1630		
BrdSize	+			0.0011*	1.8334			0.0010	0.5193
IndeDr	+			0.0367***	4.2658			-0.0488*	-1.8309
MShaHd	+			0.0013	0.1187			0.0410	1.0979
Inst	+			0.0553***	8.1525			0.0537**	2.4735
Big4	+			0.0173	4.5617			0.0200	1.5706
CPAChg	-			0.0004	0.1477			-0.0040	- 0.4095
SpeAud	+			0.0032	1.0668			0.0083	0.9037
InvsMill	?	0.024***	11.790	-0.0231***	11.5329	0.0313***	4.7976	0.0313***	4.7841
Samples		5,916		5,916		739		739	
Adjusted R^2		0.035		0.049		0.036		0.053	
F value (p value)		107.091 (<.0001)		39.32 (<.0001)		14.972 (<.0001)		6.196 (<.0001)	

Panel C Dependent variable=APROD

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	0.0010	0.5085	0.0508***	5.3929	0.0060	0.9857	0.0400	1.2769
GI	-	-0.0007***	-6.0082			-0.0011***	- 2.6195		
BrdSize	-			0.0007	0.8765			- 0.0024	- 0.8423
IndeDr	-			-0.1023***	- 8.3647			- 0.0204	- 0.5283
MShaHd	-			- 0.0132	- 0.8766			0.0485	0.8969
Inst	-			-0.0647***	- 6.7115			-0.0748**	- 2.3769
Big4	-			0.0132	- 2.4487			0.0238	1.2941
CPAChg	+			0.0030	0.6986			- 0.0015	- 0.1034
SpeAud	-			-0.0157***	-3.6816			- 0.0277**	- 2.0872
InvsMill	?	0.0297***	10.3231	0.0314***	11.0276	0.0317***	3.3865	0.0310***	3.2668
Samples		5,916		5,916		739		739	
Adjusted R^2		0.022		0.044		0.02		0.019	
F value (p value)		68.286 (<.0001)		35.244 (<.0001)		8.397 (<.0001)		2.793 (<.005)	

Panel D Dependent variable=ADISX

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	- 0.0005	- 0.9411	-0.0074***	- 3.0038	-0.0034***	- 2.6448	0.0000	0.0041
GI	+	0.0001**	2.5193			0.0001	1.1701		
BrdSize	+			- 0.0001	- 0.5991			-0.0004	- 0.6776
IndeDr	+			0.0242***	7.6083			0.0046	0.5699
MShaHd	+			- 0.0097**	- 2.4671			- 0.0114	-1.0089
Inst	+			0.0065***	2.5973			0.0057	0.8615
Big4	+			0.0061***	4.3555			-0.0003	-0.0871
CPAChg	-			- 0.0005	- 0.4056			- 0.0008	-0.2846
SpeAud	+			0.0003	0.3137			0.0021	0.7727
InvsMill	?	0.0175***	23.4632	0.0177***	23.9309	0.0157***	7.9933	0.0157***	7.8976
Samples		5,916		5,916		739		739	
Adjusted R^2		0.085		0.098		0.078		0.072	
F value (p value)		276.105 (<.0001)		81.709 (<.0001)		32.031 (<.0001)		8.119 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.

2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

From the empirical results shown in Table 12, the results between matching and non-matching methods are almost consistent. Compared with Table 6, there are more variables which can restrain accrual-based earnings management in both samples. In the all sample, PDEM is negatively related to IndeDr, Inst, SpeAud, and GI, but positively related to CPAChg. As for financing subsample, IndeDr and Inst can restrain accrual-based earnings, but external monitoring variable cannot. Moreover, from Table 13, the operating performance will significantly decline in financing year +1, when firms conduct real earnings management in both all sample and financing subsample. The decline is more significant on bond issuers, continuing for two years when bond issuing firms conduct real earnings management.

Table 12. Internal Control, Audit Quality and Accruals

$$PDEM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

$$PDEM_{it} = \beta_0 + \beta_1 GI_{it} + \beta_2 InvsMill_{it} + \varepsilon_{it}$$

Variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept	?	- 0.0024**	- 2.4643	0.0183***	3.9650	-0.0179***	-5.4924	0.0033	0.1990
GI		-0.0004***	- 6.5550			-0.0006***	-2.5909		
BrdSize	-			0.0000	- 0.0627			- 0.0006	- 0.3801
IndeDr	-			-0.0499***	- 8.2991			-0.0584***	- 2.8463
MShaHd	-			0.0183**	2.4720			0.0747***	2.5966
Inst	-			-0.0437***	- 9.2171			-0.0603***	- 3.6073
Big4	-			-0.0023	- 0.8842			0.0037	0.3751
CPAChg	+			0.0066***	3.1059			0.0005	0.0670
SpeAud	-			-0.0064***	- 3.0694			- 0.0096	- 1.3639
InvsMill	?	- 0.0335***	- 23.6952	-0.0327***	-23.3947	-0.0542***	-10.7940	- 0.0529***	- 10.4898
Samples		5,916		5,916		739		739	
Adjusted R^2		0.095		0.117		0.148		0.161	
Model F value		311.153		98.823		65.862		18.748	
P value		<.0001		<.0001		<.0001		<.0001	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

Table 13. Earnings Management and Future Performance

Panel A: ROA_{t+1}

Variable	Expected Sign	All Sample			Financing Sample		
		Coefficient		t value	coefficient		t value
Intercept		-0.2479	***	-14.9417	-0.1639	***	-3.9876
TEM_D	-	-0.0014		-0.5537	-0.0032		-0.4442
TEM_R	-	-0.0179	***	-7.1192	-0.0228	***	-3.1683
Beta	-	-0.0219	***	-5.1684	-0.0071		-0.6034
Size	+	0.0152	***	14.3440	0.0085	***	3.4582
MB	+	0.1286	***	17.1180	0.1669	***	6.3263
Return	+	0.0045	***	3.1755	-0.0031		-0.7100
StanRet	-	0.0144	***	4.3642	0.0070		0.7866
Samples		5,615			687		
Adjusted R^2		0.081			0.069		
F value (p value)		71.618 (<.0001)			8.223 (<.0001)		

Panel B: ROA_{t+1}

Variable	Expected Sign	SEOs Sample		Bond Sample	
		Coefficient	t value	coefficient	t value
Intercept		-0.2139 *	-1.9028	-0.1613 ***	-3.7165
TEM_D	-	0.0141	1.0883	-0.0099	-1.2145
TEM_R	-	-0.0188	-1.4440	-0.0269 ***	-3.2806
Beta	-	0.0093	0.4432	-0.0131	-0.9585
Size	+	0.0108	1.5745	0.0087 ***	3.3336
MB	+	0.1583 ***	3.6816	0.1777 ***	5.2496
Return	+	-0.0102	-1.1743	0.0001	0.0121
StanRet	-	0.0066	0.4332	0.0049	0.4765
Samples		222		521	
Adjusted R^2		0.047		0.073	
F value (p value)		2.573 (<.05)		6.883 (<.0001)	

Panel A: ROA_{t+2}

variable	Expected Sign	All Sample		Financing Sample	
		Coefficient	t value	coefficient	t value
Intercept		-0.1955 ***	-10.5803	-0.0863 *	-1.8746
TEM_D	-	-0.0033	-1.1653	-0.0026	-0.3207
TEM_R	-	-0.0134	-4.7887	-0.0158 *	-1.9530
Beta	-	-0.0268 ***	-5.6655	-0.0111	-0.8396
Size	+	0.0132 ***	11.2240	0.0051 *	1.8526
MB	+	0.1000 ***	11.9405	0.1187 ***	4.0165
Return	+	-0.0074 ***	-4.6157	-0.0143 ***	-2.8821
StanRet	-	0.0101 ***	2.7657	0.0014	0.1351
Samples		5,607		687	
Adjusted R^2		0.043		0.03	
F value (p value)		37.375 (<.0001)		3.997 (<.0001)	

Panel B: ROA_{t+2}

variable	Expected Sign	SEOs Sample		Bond Sample	
		Coefficient	t value	coefficient	t value
Intercept		-0.1701	-1.3087	-0.0805 *	-1.7392
TEM_D	-	0.0502 ***	3.1580	-0.0107	-1.2273
TEM_R	-	-0.0064	-0.4104	-0.0158 *	-1.8058
Beta	-	-0.0145	-0.5934	-0.0180 ***	-1.2345
Size	+	0.0084	1.0602	0.0047 *	1.7012
MB	+	0.0994 *	1.9663	0.1435 ***	3.9764
Return	+	-0.0198 *	-1.9384	-0.0109 **	-2.0767
StanRet	-	0.0199	1.1280	0.0003	0.0297
Samples		222		521	
Adjusted R^2		0.062		0.035	
F value (p value)		3.069 (<.01)		3.725 (<.001)	

Panel A : ROA_{t+3}

variable	Expected Sign	All Sample		Financing Sample	
		Coefficient	t value	coefficient	t value
Intercept		-0.1652 ***	-8.8189	0.0130	0.2748
TEM_D	-	-0.0084 ***	-2.9561	-0.0142 *	-1.7175
TEM_R	-	-0.0138 ***	-4.8692	-0.0130	-1.5585
Beta	-	-0.0335 ***	-7.0022	-0.0278 **	-2.0359
Size	+	0.0120 ***	10.0193	0.0006	0.2212
MB	+	0.0916 ***	10.8005	0.1041 ***	3.4200
Return	+	-0.0082 ***	-5.0763	-0.0238 ***	-4.6601
StanRet	-	0.0041	1.0968	-0.0214	-0.0214

Samples	5,599	687
Adjusted R^2	0.040	0.049
F value (p value)	37.746 (<.0001)	6.048 (<.0001)

Panel B: ROA_{t+3}

variable	Expected Sign	SEOs Sample		Bond Sample	
		Coefficient	t value	coefficient	t value
Intercept		0.0135	0.1076	0.0196	0.4032
TEM_D	-	0.0001	0.0042	-0.0187 **	-2.0544
TEM_R	-	-0.0208	-1.4330	-0.0137	-1.4835
Beta	-	0.0208	0.8923	-0.0455 ***	-2.9686
Size	+	-0.0023	-0.3064	0.0011	0.3821
MB	+	0.0996 **	2.0813	0.1186 ***	3.1279
Return	+	-0.0441 ***	-4.5770	-0.0172 ***	- 3.1032
StanRet	-	-0.0066	-0.3874	0.0011	0.0969
Samples		222		521	
Adjusted R^2		0.092		0.048	
F value (p value)		4.215 (<.0001)		4.747 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

From the result of all samples in Table 14, there is a significant negative correlation between audit fees (AudFee) and real earnings management (REM), but the correlation is insignificant in financing subsample. The result is consistent with non-matching method. Moreover, there is a positive correlation between REM and accrual-based earnings management (PDEM) in both all sample and financing subsample, indicating that these two tools are complementary to each other. It reveals that firms might conduct both real and accrual-based earnings management at the same time. Furthermore, GI is negatively related to REM either in the all sample or in the financing subsample. It implies that corporate governance can control real earning management effectively whether the firm finance or not. On the other hand, for both all sample and financing subsample, Table 15 finds the significant negatively relationship between real earnings management (REM) and operating performance from financing year +1 to +3. The same result occurs as firms conduct accrual-based earnings management (PDEM).

Table 14. Audit Fee, Non-audit Fee and Real Earnings Management

variable	Expected sign	All Sample				Financing Sample			
		Coef.	t value	Coef.	t value	Coef.	t value	Coef.	t value
Intercept		0.0352	0.4639	0.0316	0.3835	0.2235	1.1292	0.0543	0.2370
GI	-	-0.0007**	-2.3026			-0.0032**	-3.2183		
$AudFee_{t-1}$	-	-0.0222*	-1.8579	-0.0239*	-1.9505	-0.0334	-1.0686	-0.0252	-0.7602
$NAudFee_{t-1}$	+	0.0037	0.9830	0.0035	0.8720	0.0095	0.8181	0.0137	1.0843
PDEM	-	0.3629***	4.9500	0.3610***	4.9146	0.4523**	2.5460	0.4128**	2.2767
Beta	-	-0.0187	-1.1704	-0.0220	-1.3542	0.0466	1.1259	0.0521	1.1632
ROA	-	-1.2893***	-19.3230	-1.2876***	-18.4150	-1.1349***	-5.5892	-1.1555***	-5.3894
Size	+	0.0178***	3.4382	0.0212***	3.6250	0.0108	0.8354	0.0209	1.2404
MB	?	-0.1133***	-3.5350	-0.1103***	-3.4032	-0.1948*	-1.9339	-0.1519	-1.4059
BrdSize	-			-0.0011	-0.4806			-0.0042	-0.5498
IndeDr	-			0.0682**	2.0595			0.0948	1.0729
MShaHd	-			-0.4232**	-2.1195			0.4610	0.8320
Inst	-			-0.0668***	-2.6453			-0.1663**	-2.1581
Big4	-			0.0039	0.2471			-0.0458	-0.9772
CPAChg	-			-0.0079	-0.6884			0.0313	0.9171
SpeAud	-			-0.0054	-0.5150			0.0034	0.1146
Samples		1,286		1,286		185		185	
Adjusted R^2		0.308		0.309		0.240		0.214	
F value (p value)		72.512 (<.0001)		42.135 (<.0001)		8.246 (<.0001)		4.579 (<.0001)	

Note: 1. Dependent variable is REM. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

Table 15. Degree of Earnings Management and Future Performance

Panel A: ROA_{t+1}						
variable	Expected Sign	All Sample			Financing Sample	
		Coefficient		t value	coefficient	t value
Intercept		-0.1219	***	-8.3741	-0.0857 **	-2.3028
PDEM	-	-0.4392	***	-29.5834	-0.3204 ***	-9.0679
REM	-	-0.1516	***	-26.2368	-0.1245 ***	-7.3831
Beta	-	-0.0163	***	-4.4529	-0.0055	-0.5172
Size	+	0.0096	***	10.4712	0.0060 ***	2.7139
MB	+	0.0466	***	6.8916	0.0712 ***	2.8781
Return	+	0.0065	***	5.2368	0.0024	0.6094
stanRet	-	0.0046		1.6048	0.0028	0.3497
Samples		5,615			687	
Adjusted R^2		0.316			0.249	
F value (p value)		371.150 (<.0001)			33.547 (<.0001)	
Panel B: ROA_{t+2}						
variable	Expected Sign	All Sample			Financing Sample	
		Coefficient		t value	coefficient	t value
Intercept		-0.0756	***	-5.0127	-0.0106	-0.2695
PDEM	-	-0.3496	***	-22.6857	-0.2815 ***	-7.5229
REM	-	-0.1323	***	-22.0807	-0.1079 ***	-6.0432
Beta	-	-0.0200	***	-5.2666	-0.0068	-0.6039
Size	+	0.0077	***	8.1000	0.0025	1.0671
MB	+	0.0294	***	4.1991	0.0352	1.3454
Return	+	-0.0054	***	-4.2383	-0.0095 **	-2.2411
stanRet	-	-0.0003		-0.1086	-0.0033	-0.3908
Samples		5,607			687	
Adjusted R^2		0.223			0.175	
F value (p value)		230.614 (<.0001)			21.833 (<.0001)	
Panel C: ROA_{t+3}						
variable	Expected Sign	All Sample			Financing Sample	
		Coefficient		t value	coefficient	t value
Intercept		-0.0739	***	-4.1284	0.0661	1.4455
PDEM	-	-0.3253	***	-17.7715	-0.2918 ***	-6.7281
REM	-	-0.1202	***	-16.8790	-0.0693 ***	-3.3510
Beta	-	-0.0296	***	-6.5753	-0.0266 **	-2.0381
Size	+	0.0079	***	6.9559	-0.0012	-0.4379
MB	+	0.0283	***	3.4021	0.0329 ***	1.0821
Return	+	-0.0068	***	-4.4305	-0.0197 ***	-4.0034
stanRet	-	-0.0034		-0.9632	-0.0051	-0.5204
Samples		5,599			687	
Adjusted R^2		0.151			0.131	
F value (p value)		143.335 (<.0001)			15.777 (<.0001)	

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.5.4 Shivakumar (2000) rational expectations models

We extend Shivakumar (2000) to consider whether the rational expectations models differs with respect to equity compared with debt raising.

To examine the relation between pre-announcement abnormal accruals and

post-announcement changes in net income.

If financing firms use abnormal accruals to borrow income from the future, then a negative relation is expected between abnormal accruals around the issuing and subsequent earnings changes. Table 16 presents the regression results. The abnormal accruals in year -1 are positive and statistically significant to the change in net income in year 0, no matter all financing sample, SEOs sample or Bonds sample. It reveals financing firms prefer to manipulate upward earning. When the change in net income in year +1 is the dependent variable, the abnormal accruals in year-1 are negative and statistically significant to the change in net income in year +1 in bond sample. It implies issuing bonds firms borrow income from the future, and reversals occurring in year +1 to cause income decreasing. The abnormal accruals in year-1 are negative but not statistically significant to the change in net income in year +1 in SEOs sample. Moreover, the evidence of reversals occurring only in year +1 and not in year 0.

Table 16. Regression of change in net income on prior abnormal accruals

Panel A: All financing sample							
Variable	Expected Sign	ΔNet income (year 0)			ΔNet income (year +1)		
		Coefficient		t value	coefficient		t value
Intercept		0.0208	***	4.4501	0.0052		1.0920
PDEM (Year -1)	+/-	0.1820	***	3.3065	-0.2323	***	-3.5607
PDEM (Year 0)	+				0.4116	***	6.2413
Samples		664			656		
Adjusted R^2		0.015			0.054		
F value (p value)		10.933 (<.001)			19.609 (<.0001)		
Panel B: SEOs Sample							
Variable	Expected Sign	ΔNet income (year 0)			ΔNet income (year +1)		
		Coefficient		t value	coefficient		t value
Intercept		0.0228	***	3.0993	0.0180	**	2.1397
PDEM (Year -1)	+/-	0.4587	***	5.4947	-0.0425		-0.3710
PDEM (Year 0)	+				0.3432	***	3.0367
Samples		213			211		
Adjusted R^2		0.121			0.045		
F value (p value)		30.192(<.0001)			5.941 (<.005)		
Panel C: Bond Sample							
Variable	Expected Sign	ΔNet income (year 0)			ΔNet income (year +1)		
		Coefficient		t value	coefficient		t value
Intercept		0.0078		0.9881	0.0000		0.0019
PDEM (Year -1)	+/-	0.2195	**	2.2996	-0.2768	***	5.6798
PDEM (Year 0)	+				0.4264	***	-3.7445
Samples		504			497		
Adjusted R^2		0.008			0.06		
F value (p value)		5.288 (<.05)			16.960 (<.0001)		

Note: 1. The definitions of all variables are the same as those in Table 3.
For year 0 and +1, ΔNet income is computed by subtracting the net income in year -2 from that year's net income.

2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

To examine market reaction to earnings announcements around financing announcement.

We also analyse investors' price response to earnings released around offering announcements (in event quarters -8 through +7). An issuing announcement can signal that the increased incentives for managers to overstate earnings. It will lead to positive earnings and positive market reaction at earnings before issuing announcement. The price reaction to earnings releases will be lower in the post-announcement quarters. The result presented in Table 17 in SEOs sample shows that earnings announcement returns are positive before issuing announcement except in quarter -1 and -6 and it is significant in quarter -2. There are insignificantly negative earnings announcement returns in quarter 0 and +2. Most of the earnings announcement returns are insignificantly negative before and after issuing announcement in bonds sample. The reason of insignificant result might issuing information is not conveyed to investors.

Table 17. Market reaction to earnings announcements around financing offering announcement

Event quarter	SEOs Sample		Bond Sample	
	Mean (Percent)	t-statistic	Mean (Percent)	t-statistic
-8	0.1913	0.4260	-0.6117	-0.2260
-7	0.2021	-0.4013	-0.7804	-0.9203
-6	-0.0141	0.8726	-0.5743	0.7530
-5	0.5308	0.4694	-0.7853	1.2636
-4	0.9118	0.7115	-0.2775	0.1777
-3	0.6495	-0.5822	0.7650	1.0617
-2	0.2822*	-1.7228*	-0.1024	1.6007
-1	-0.7227	-0.8544	-0.4123	0.5145
0	-0.3411	-0.1849	-0.1050	0.6806
1	0.4101	-0.8145	-0.0705	-1.5124
2	-0.8339	-0.6446	-0.3143	-0.9299
3	0.0964	-0.4451	-0.0475	-0.2678
4	1.0616	-0.4892	0.3934	-0.7276
5	0.5686	-0.0035	1.0924	1.0371
6	0.7218	0.9411	1.2558	1.0994
7	0.0334	0.0681	0.2001	0.4888
Samples	235		469	

Note: Earnings announcement period consists of day-1 to +4 around the earnings announcement date (day 0).The earnings announcement returns are computed by subtracting from the returns of a matched non-issuing firm that has the closest sales growth in prior two years to the sample firm.

Earnings management and the market reaction to issuing announcements.

It examines whether the issuing announcements cause investors to correct misevaluations which caused by earlier earnings management. There is a negative relation between the market's price reaction to issuing announcements and pre-announcement earnings management. Table 18 presents the regression results. Regression I and II in SEOs sample, it

reveals that SDRET(Yr-1) is negatively related to the price reaction to SEOs issuing announcement (EBRET), but it is not significant. SEOs investors may correct the price impact of earlier earnings overstates; it weakly consists with rational expectations model. In contrast, bond's earnings announcement return SDRET(Yr-1) is insignificantly positively related to the price reaction to bond issuing announcement (EBRET) and therefore, investors may not correct stock price to response to earnings overestimation around bond issuing announcement. Regression III and IV in SEOs sample and Bond sample, PDEM(Yr-1) is significantly positive to the market price reaction to SEOs or bond issuing announcement (EBRET). It reveals that investors doesn't correct the price impact of earlier earnings overstates in both SEOs and bonds sample. These finding supports managerial opportunism which is consistent with the arguments of Teoh et al.(1998) and Rangan(1998).

Table 18. Market reaction to financing announcements on prior earnings announcement returns and on lagged abnormal accruals

	I	II	III	IV
Panel A: All financing sample				
Intercept	0.0022	-0.0020	0.001	-0.0024
	(1.2593)	(-0.2635)	(0.614)	(-0.2969)
SDRET(Yr-1)	-0.0092	-0.0101		
	(-0.7978)	(-0.8707)		
PDEM(Yr-1)			0.033**	0.0315**
			(2.260)	(2.1105)
Leve		0.0007		0.0048
		(0.0494)		(0.3386)
MB		-0.0021		-0.0007
		(-1.5179)		(-0.4513)
Samples	702	699	620	618
Panel B: SEOs sample				
Intercept	0.0103***	-0.0209	0.0093***	-0.0178
	(3.1891)	(-1.4961)	(2.6345)	(-1.2162)
SDRET(Yr-1)	-0.0254	-0.0206		
	(-1.3508)	(-1.0951)		
PDEM(Yr-1)			0.0261	0.0337*
			(1.3568)	(1.6801)
Leve		0.0216		0.0173
		(1.0224)		(0.7604)
MB		-0.0046*		-0.0024
		(-1.6680)		(-0.7769)
OFFSIZE		0.0007**		0.0008**
		(2.2614)		(2.4788)
Samples	238	234	211	209
Panel C: Bond sample				
Intercept	-0.0022	0.0010	-0.0035*	-0.0030
	(-1.0869)	(0.0971)	(-1.6538)	(-0.2877)
SDRET(Yr-1)	0.0027	0.0002		
	(0.1847)	(0.0153)		
PDEM(Yr-1)			0.0446*	0.0464*
			(1.7652)	(1.7934)
Leve		-0.0113		-0.0026
		(-0.6264)		(-0.1412)
MB		-0.0015		-0.0005
		(-0.9298)		(-0.2959)
Samples	469	468	414	413

Note: 1. The definitions of all variables are the same as those in Table 3. The price reaction to equity or bond of issuing announcement (EBRET) is measured as the cumulative returns in the day of the and the day preceding the first public announcement of the issuing. The earnings announcement return SDRET(Yr-1) are computed by summing the corresponding quarterly variables in quarters -4 through -1. The quarterly earnings announcement returns are the six-day cumulative returns in days -1 through +4 around the earnings announcement dates. OFFSIZE is the ratio of shares offered to shares outstanding before the issuing SEOs.

2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

4.5.5 Three cutoffs to classify earnings management

We further do robustness checks by using three cutoffs (top 5%, 10% or 25% by industry) to classify earnings management for both accruals and real earnings management. In Tables 19

and 20, TEM_T=1 if the firm performs accruals or real earnings management and 0 otherwise. TEM_D=1 if the firm's accrual-based earnings management is higher than the sample median, top 5%, 10%, and 15% and 0 otherwise; TEM_R=1 if the firm's real earnings management is higher than the sample median, top 5%, 10%, and 15% and 0 otherwise. Panel A in Table 19 reports there is a significant negative relationship between REM and IndeDr, Inst, Big4, SpeAud in full sample, and there is also a significant negative relationship between REM and Inst, SpedAud in financing subsample, whether the cutoff is median, 5%, 10% or 25%. If we compare the three cutoffs with the median, Panel B, C and D report almost equally significant variables. On the other hand, Table 20 reveals IndeDr, Inst, CPAChg and SpedAud are significant to PDEM in full sample among different cutoffs, and IndeDr and Inst are significant to PDEM in financing subsample among different cutoffs. The evidences show that the significant variables are almost same as our decision to classify firms above the median as earnings managers.

Table 19. Internal Control, Audit Quality and Real Earnings Management

$$TEM\_T_{it} = \alpha_0 + \alpha_1 FINAN3_{it} + \alpha_2 Beta_{it} + \alpha_3 ROA_{it} + \alpha_4 Size_{it} + \alpha_5 Leve_{it} + \alpha_6 MB_{it} + \alpha_7 Indus_{it} + \varepsilon_{it}$$

$$REM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

Panel A Dependent variable = REM

	All Sample				Financing Sample			
Coef. / variable	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%
Intercept	0.1115***	0.1101***	0.1101***	0.1102***	0.1241***	0.1164***	0.1195***	0.1227***
BrdSize	- 0.0006	-0.0007	-0.0007	-0.0007	-0.0040	-0.0030	-0.0034	-0.0032
IndeDr	-0.1623***	-0.1572***	-0.1574***	-0.1577***	0.0381	0.0032	0.0025	0.0018
MShaHd	0.0009	-0.0104	-0.0097	-0.0092	0.0261	0.0035	0.0035	-0.0060
Inst	-0.1197 ***	-0.1106***	-0.1113***	-0.1120***	-0.1279***	-0.1234***	-0.1234***	-0.1285 ***
Big4	-0.0396 ***	-0.0386***	-0.0383***	-0.0381***	0.0007	0.0004	0.0007	0.0010
CPAChg	0.0050	0.0036	0.0040	0.0039	- 0.0023	-0.0022	-0.0022	- 0.0031
SpeAud	-0.019***	-0.0156***	-0.0159***	-0.0158***	- 0.0437**	-0.0374**	-0.0372**	-0.0370**
InvsMill	0.0202 ***	-0.0122***	-0.0066**	-0.0028	- 0.0036	0.0152	0.0160	0.0213**
Samples	5,916	5,916	5,916	5,916	739	739	739	739
Adj R^2	0.03945	0.046	0.045	0.045	0.017	0.020	0.021	0.023
F value	35.814	36.742	35.861	35.436	2.630	2.874	2.966	3.163
p value	<.0001	<.0001	<.0001	<.0001	<.05	<.05	<.001	<.001

Panel B Dependent variable=ACFO

	All Sample				Financing Sample			
Coef. / variable	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%
Intercept	- 0.0533***	-0.0536 ***	-0.0536***	-0.0537***	-0.0884***	-0.0882***	-0.0895***	-0.0926***
BrdSize	0.0014**	0.0012*	0.0012*	0.0012*	0.0016*	0.0009	0.0011	0.0012
IndeDr	0.0372***	0.0400***	0.0401	0.0402***	-0.0604	-0.0467	-0.0474**	-0.0472
MShaHd	0.0033	0.0035	0.0032	0.0031	0.0373	0.0298	0.0312	0.0369
Inst	0.0479***	0.0520***	0.0523***	0.0525***	0.0522*	0.0601**	0.0612	0.0645**
Big4	0.0186***	0.0191***	0.0190***	0.0189***	0.0286*	0.0318*	0.0308*	0.0300*
CPAChg	-0.0015	-0.0012	-0.0013	-0.0013	0.0051	0.0086	0.0083	0.0086
SpeAud	0.0043	0.0050	0.0051	0.0051	0.0135	0.0151	0.0152	0.0151
InvsMill	0.0254***	0.0041	0.0017	0.0003	0.0373***	0.0051	-0.0032	-0.0110

Samples	5,916	5,916	5,916	5,916	739	739	739	739
Adj R^2	0.039	0.021	0.020	0.020	0.042	0.017	0.016	0.019
F value	31.271	16.291	15.978	15.888	5.024	3.039	2.528	2.780
p value	<.0001	<.0001	<.0001	<.0001	<.0001	<.001	<0.05	<0.05

Panel C Dependent variable=APROD

	All Sample				Financing Sample			
Coef. variable	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%
Intercept	0.0507***	0.0501***	0.0501***	0.0502***	0.0371	0.0383	0.0406	0.0422
BrdSize	0.0007	0.0005	0.0005	0.0005	- 0.0027	-0.0033	-0.0035	-0.0033
IndeDr	-0.1005***	-0.0966***	-0.0968	-0.0970***	-0.0168	-0.0089	-0.0098	-0.0104
MShaHd	-0.0115	-0.0124	-0.0120	-0.0118	0.0498	0.0439	0.0445	0.0383
Inst	-0.0645***	-0.0582***	-0.0587***	-0.0591***	-0.0707**	-0.0687**	-0.0682**	-0.0714**
Big4	-0.0136**	-0.0135**	-0.0134 **	-0.0133**	0.0275	0.0306*	0.0305*	0.0304*
CPAChg	0.0030	0.0030	0.0033	0.0032	0.0013	0.0036	0.0034	0.0027
SpeAud	-0.0157***	-0.0147***	-0.0149***	-0.0148***	-0.0277**	-0.0272**	-0.0270**	-0.0268**
InvsMill	0.0282***	-0.0071**	-0.0035	-0.0011	0.0181*	0.0160*	0.0130**	0.0147*
Samples	5,916	5,916	5,916	5,916	739	739	739	739
Adj R^2	0.041	0.026	0.025	0.025	0.010	0.009	0.008	0.009
F value	32.365	24.475	29.894	19.663	1.896	1.866	1.785	1.829
p value	<.0001	<.0001	<.0001	<.0001	<.1	<.1	<.1	<.1

Panel D Dependent variable=ADISX

	All Sample				Financing Sample			
Coef. variable	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%
Intercept	-0.0074***	-0.0079***	-0.0078***	- 0.0078***	0.0015	0.0017	-0.0010	0.0001
BrdSize	-0.0001	0.0000	0.0000	0.0000	0.0003	-0.0004	0.0000	-0.0001
IndeDr	0.0233***	0.0219***	0.0220***	0.0220***	0.0050	0.0045	-0.0009	-0.0008
MShaHd	-0.0106***	-0.0103**	-0.0105**	- 0.0106**	-0.0132	-0.0132	-0.0124	-0.0124
Inst	0.0066***	0.0026	0.0027***	0.0028	0.0050	0.0049	0.0044	0.0037
Big4	0.0064***	0.0074***	0.0073***	0.0072***	-0.0018	-0.0016	-0.0017	-0.0019
CPAChg	-0.0004	-0.0005	-0.0006	- 0.0006	-0.0017	-0.0017	-0.0013	0.0017
SpeAud	-0.0003	-0.0010	-0.0009	- 0.0009	0.0025	0.0023	0.0020	0.0019
InvsMill	-0.0169***	0.0034***	0.0023***	0.0016**	-0.0154***	-0.0152***	-0.016***	-0.0103 ***
Samples	5,916	5,916	5,916	5,916	739	739	739	739
Adj R^2	0.092	0.014	0.013	0.012	0.069	0.070	0.028	0.019
F value	76.053	11.622	10.673	9.938	7.814	7.919	3.688	2.749
p value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.05

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

Table 20. Internal Control, Audit Quality and Accruals

$$TEM\_T_{it} = \alpha_0 + \alpha_1 FINAN3_{it} + \alpha_2 Beta_{it} + \alpha_3 ROA_{it} + \alpha_4 Size_{it} + \alpha_5 MB_{it} + \alpha_6 Indus_{it} + \varepsilon_{it}$$

$$PDEM_{it} = \beta_0 + \beta_1 BrdSize_{it} + \beta_2 IndeDr_{it} + \beta_3 MShaHd_{it} + \beta_4 Inst_{it} + \beta_5 Big4_{it} + \beta_6 CPAChg_{it} + \beta_7 SpeAud_{it} + \beta_8 InvsMill_{it} + \varepsilon_{it}$$

	All Sample				Financing Sample			
Coef. / variable	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%	Cutoff = median	Cutoff = 5%	Cutoff = 10%	Cutoff = 25%
Intercept	- 0.038***	0.0256***	0.0255***	0.0257***	0.0175	0.0178	0.0186	0.0213
BrdSize	0.0000	0.0003	0.0003	0.0003	- 0.0003	0.0004	0.0003	0.0002
IndeDr	-0.0456***	-0.0492***	-0.0492***	-0.0494***	- 0.0515***	-0.0656***	-0.0656***	-0.0658***
MShaHd	0.0118	0.0118	0.0119	0.0121	0.0385	0.0453	0.0451	0.0400
Inst	-0.0463***	-0.0516 ***	-0.0516***	-0.0521***	- 0.0557***	-0.0653***	-0.0655***	-0.0684***
Big4	- 0.0031	-0.0036	-0.0036	-0.0035	0.0009	-0.0017	-0.0015	-0.0008
CPAChg	0.0063***	0.0060***	0.0061***	0.0061***	- 0.0025	-0.0061	-0.0060	-0.0063
SpeAud	-0.0067***	-0.0076***	-0.0077***	-0.0076***	- 0.0104	-0.0122*	-0.0122*	-0.0121*
InvsMill	-0.0317***	-0.0032**	-0.0030**	0.0001	-0.0405***	0.0020	0.0034	0.0100**
Samples	5,916	5,916	5,916	5,916	739	739	739	739
Adj. R^2	0.115	0.037	0.039	0.037	0.127	0.033	0.034	0.041
F value	97.133	29.688	29.775	29.042	14.369	4.185	4.251	4.895
p value	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001	<.0001

Note: 1. The definitions of all variables are the same as those in Table 3.
2. *, **, *** are significant at the 10, 5, and 1 percent levels, respectively.

5. Conclusions

When companies require external funding, they provide financial statements to represent their operating status as a reference for investors. To ensure access to or to lower the cost of capital, managers may be motivated to manipulate earnings. Studies show that better corporate governance for a company can restrain earnings management. Most studies use accrual-based earnings management as a proxy variable, and there are few discussions about real earnings management. In fact, managers may use accrual-based and real earnings management concurrently. This paper examines whether the adoption of different earnings management tools by companies undertaking financing activities and the degree of earnings management vary according to different financing choices. Additionally, the paper considers Taiwan's invest environment to investigate whether stronger corporate governance can restrain real earnings management and examines whether different earnings management tools have different effects on post-financing operating performances. Finally, we consider market reaction to examine whether the rational expectations models differs with respect to equity compared with debt raising.

Overall, firms choose different earnings management tools depending on whether they issue corporate bonds or SEOs on the first year before financing. That is, firms choose the earning management tools in advance in year -1. This paper adopts the two-stage model to control self-selection of earnings management. And the empirical results suggest that firms with greater percentages of independent directors, larger shareholdings of institutional investors and auditing by Big 4 firms all indicate lower levels of engagement in real earnings management in the all sample. This paper further reclassifies real earnings management into

three components, abnormal operating cash flows, abnormal production cost and abnormal discretionary expenses. Therefore, when the samples are reduced to firms undertaking financing, showing that only the larger shareholdings of institutional investors can restrain two components of real earnings management (abnormal operating cash flows and abnormal production cost). Firms audited by industry specialist can restrain real earnings management by abnormal production cost. Corporate government cannot restrain real earnings management by abnormal discretionary expenses. We also use the principal components analysis to extract the first principal component as the corporate governance. It reveals that corporate governance can restrain real earnings management, but the effect decline when firms engaged in financing activities. Compare accrual earnings management to real earnings management, there are more variables can restrain accrual earnings management in both all and financing subsamples. Percentages of independent directors and shareholdings of institutional investors can control accrual earnings management when firms undertaking financing. This paper infers that real earnings management is more likely to occur in the event of a capital shortage and the requirement of external funds, regardless of the severe economic consequences.

Since issuing SEO or bond announcement can signal that the increased incentives for managers to overstate earnings. This paper considers Shivakumar (2000) rational expectations model that examine whether the issuing announcements cause investors to correct misevaluations which caused by earlier earnings management. We find that investors don't correct the price impact of earlier earnings overstates in both SEOs and bonds sample. It supports managerial opportunism which is consistent with the arguments of Teoh et al. (1998) and Rangan (1998).

This paper also distinguishes between bond issuers and SEO firms in the multivariate test to examine the effect of adopting earnings management tools on the post-financing operating performances. For companies issuing bonds, there is a negative relationship between real earnings management and post-financing performances, but no association between accrual-based earnings management and operating performances. This paper argues that real earnings management is a set of subjective decisions over the timing of expenses and utilization of working capital, utilizing actual transactions; these decisions affect real performance or economic substance. Firms choose the real earnings management to avoid frequent outside monitoring by investors, CPA or Government when firms issued bonds. And then, it also causes operating performance to decline continuously two years after bond financing.

The audit fee is generally used as a proxy of audit quality. And the results of past studies on the relationship between audit and non-audit fees and earnings quality are inconsistent. This paper further explores the effects of audit and non-audit fees on real earnings management. The results show that the higher the audit fees, the less involvement in real earnings management and the better the earnings quality for full sample, but not for financing firms. However, there is a positive association between non-audit fees and real earnings management in the full and financing subsample. The higher the non-audit fees, the more involvement in real earnings management and the lower the earnings quality.

There are some research restrictions in this paper. First, only the issue of corporate bonds and SEOs are included in the samples of financing firms; long-term loans are not included. Second, this paper performs variance analyses to determine whether there are differences in the relationships between financing choices and earnings management tools. Future studies should design empirical models to examine whether different financing choices have different influences on earnings management tools. Moreover, future research should explore the effects of other earnings management tools on ex-post performances to determine which tools are the most detrimental to company performance.

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