

會計盈餘反應訊息時效性之不對稱 與董監酬勞關係

Asymmetric Timeliness of Earnings and Board of Directors' Profit Sharing Remuneration

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摘要

本文主要探討公司依照公司章程盈餘分配比率支付董監酬勞是否會影響會計盈餘的品質。會計盈餘品質主要以會計的穩健保守原則程度來衡量。會計原則中的穩健保守主義要求會計盈餘對於市場認列好消息的即時性會比認列壞消息的即時性慢，此種不對稱將可以防止經理人盈餘操控的動機，降低管理者和股東間的代理成本。本文發現由於董監酬勞金額的決定是依照損益表淨損益的一定比率，董監事將缺乏強大誘因提升會計品質，本文在控制公司負債比、成長性以及其它公司治理變數後，發現董監酬勞越高的公司其會計保守性

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關鍵詞： 健保守原則、會計盈餘即時性、董監酬勞

Abstract

The present study investigates the effect of directors' profit sharing remuneration on the quality of earnings – timely recognition of economic losses. Conservatism manifested by the differential speed in the recognition of economic gains and losses could counteract managers' incentives to overstate firm performance and mitigate the agency problem between management and shareholders. As directors' pay is directly tied to bottom-line earnings, we find that firms with higher directors' remuneration are associated with less conservative earnings after controlling for leverage, firm growth and corporate governance structure.

Key words: conservatism, asymmetric timeliness of earnings, directors' remuneration

1.INTRODUCTION

The research investigating how corporate governance structure affects the quality of earnings mainly focuses on board composition, board independence, and the ownership structure (Ahmed et al., 2002; Ahmed & Duellman, 2007; Beekes et al., 2004). Relatively few studies investigate country-specific issue, especially for East Asian countries.

Taiwan is a unique setting which has distinct corporate culture in terms of ownership, board structure and employee bonus schemes from Western countries and even from other East Asian countries. First, influenced by the Japanese and German legal systems, the basic corporate governance model in Taiwan is a two-tier structure involving a board of directors and supervisors. Second, the accounting recognition of the remunerations for directors and supervisors is one of the most controversial accounting issues in recent years. Unlike US General Accepted Accounting Principles (GAAP) and International Accounting Standards (IAS), Taiwanese Company Law requires remunerations to directors and supervisors be

treated as earnings distributions rather than expenses.¹ The remuneration is determined under a profit sharing scheme because, in contrast to the compensation committee in the US or UK², the board of directors determines the amount of remuneration for all directors and supervisors in accordance with the company's articles of incorporation and requests an approval at the shareholder annual meeting. It is expected that the profit sharing type remuneration in Taiwan can encourage directors and supervisors to have stronger commitment to their organization, effectively perform a management decision role and a decision control role, and help mitigate the possibility of managers exploiting excessive personal benefits at the expense of shareholders' value. However, the lack of the balance between fixed and variable pay and between long- and short-term incentives in the remuneration package for directors and supervisors raises a great concern for its effectiveness.

In this paper, we argue that the profit sharing scheme type remuneration cannot effectively enhance the monitoring role of the board/supervisory structure when remuneration is determined based on the bottom-line earnings. Under the contracting theory (Watts & Zimmerman, 1986), it is expected that performance-based remuneration can reduce directors' and supervisors' incentives to undo management's manipulation of accounting earnings. In particular, while the remuneration of the supervisors, who monitor a company's board and management by examining its financial statement, is linked to a firm's net income, both of the directors' and supervisors'³ welfare hinges on the net income. Thus, it is questionable how effective directors and supervisors can maintain accounting quality in each firm.

¹ From 1st January 2008, Taiwan GAAP requires companies to estimate the profit sharing remuneration expense in the financial statements prior to the actual distribution in the subsequent year in an attempt to move toward international accounting rules and to make accounting information more transparent to investors.

² In the UK, the Combined Code (2003) recommends that each firm should appoint a remuneration committee to set up a formal and transparent procedure for fixing the remuneration packages of individual directors. The remuneration packages in the USA or UK normally balance between fixed and variable pay and between long- and short-term incentives.

³ The remuneration of non-executive directors in the USA or UK, who play a similar but stronger monitoring role as supervisors in Taiwan, is normally predetermined at a fixed amount based on the amount of time that they are expected to devote to the role and the size of the company.

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In addition, the local accounting practice of directors' remunerations within our sample period can also reduce the control role of board structure. As remunerations are seen as earnings distribution rather than recognizing as an expense before the new GAAP provision effective from year 2008, these costs bypass the Income Statement and are directly taken to retained earnings violating the accounting clean-surplus relationship⁴.

We examine the effect of directors'⁵ remuneration on the timely loss recognition, which is commonly viewed as an earnings quality indicator in the accounting literature. Many researchers indicate that conservative financial reporting serves as a good governance by limiting the scope for management myopic behaviors and earnings overstatement (Watts, 2003a,b; Ahmed & Duellman, 2007; LaFond & Roychowdhury, 2008; LaFond & Watts, 2008). If directors' remunerations are linked to reported earnings under the profit sharing schemes, we argue that the governance role of financial reporting can be weakened to the amount of directors' remuneration ratio. As a consequence, firms with higher directors' remuneration to earnings ratio are highly likely to report overstated earnings or net assets and reflect a less timeliness in the recognition of economic losses.

Our findings are generally in support of our predictions. The results indicate that firms with lower (higher) directors' remuneration to earnings ratio in the form of cash are more (less) timely in recognizing bad news relative to good news. The results are also robust to controlling for bond constraints, ownership structure and board composition. Consistent with prior literature (Watts, 2003a), we find highly-g geared firms display a greater asymmetric timeliness of earnings, and firms with greater insider, institutional shareholdings and independent directors are less timely in the recognition of good news. However, we do not find any evidence of demand for conservatism arising from the separation between control and ownership.

Overall, this study contributes to the existing literature on the profit sharing scheme, board characteristics and ownership structure. We provide out of sample evidence supporting the role of conservatism in debt contracting and further display its effect on

⁴ A clean surplus relation holds if all changes in shareholders' equity are taken to the Income Statement, except owners' transactions such as new issues of capital.

⁵ For brevity, we use 'directors' to refer 'directors and supervisors' in the rest of the paper.

compensation contracting. The evidence also implies that conservatism facilitates efficient compensation contracting and that linking directors' remuneration to net income could impair its role in financial reporting. This fundamental problem is mitigated rather than eliminated after taking account of debt contracts, ownership structure and board composition.

This paper is organized as follows. Section 2 provides the background of the profit sharing scheme in Taiwan. Section 3 discusses the relationships between directors' remuneration, financial risk, and corporate governance and earnings quality, namely the timely recognition of bad news. Section 4 provides sample selection criteria and descriptive analyses. Section 5 reports the research methodology and provides empirical results. The final section concludes.

2. INSTITUTIONAL BACKGROUNDS

2.1 Two-tier board structure

The basic corporate governance organizational model in Taiwan is a two-tier structure that consists of a board of directors and supervisors, both of whom are elected by shareholders. Taiwan's Company Law stipulates that corporate directors are responsible for the management of the company. The board of directors is responsible for ensuring corporate compliance with laws and regulations, avoiding conflicts of interests, and the overall management of a company's business. Supervisors are responsible for the effective monitoring of a company's board and management, and function in a capacity equivalent to the audit committee in the US.⁶ While supervisors are usually not allowed to concurrently serve as directors, officers or employees of the corporation, they cannot nominate or dismiss the board of directors.

Shareholders elect directors and supervisors by means of cumulative voting, for which the number of votes granted to each share is equal to the number of candidates.

⁶ Under the Taiwanese Corporate Law and Securities and Exchange Law, Taiwan-based companies are not required to have an audit or compensation committee as required in US. Many firms have entrusted such responsibilities to their supervisors.

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Shareholders can cast all of his or her votes for the same candidate or distribute them between several candidates, including write-in candidates, as he or she wishes. All registered shareholders have equal voting rights corresponding to the number of shares held, while treasury shareholders are not allowed to vote. In addition, many directors and supervisors, including large shareholders of the company, are also representatives of other legal entities, which is permitted under Taiwanese Company Law. A director who serves as a representative of a legal entity may be removed or replaced at any time at the discretion of that particular legal entity.

2.2 Profit sharing remuneration

In contrast to US or UK, where compensation committees are composed entirely of independent directors, companies in Taiwan are not required to have a compensation committee under the company law. Provision 235 of the company law requires that directors' compensation be determined either in accordance with the company's articles of incorporation or by the approval of the shareholders. The remuneration is set at a fixed percentage (e.g. 4%), a range (e.g. 5%-10%), or a threshold (e.g. no less than 2%) of earnings in terms of cash and the percentage policy needs to be clearly stated in their respective company articles. When a firm reports positive earnings, it will distribute the predetermined percentage of earnings after payment of all income taxes, deduction of any past losses and allocation of 10% of net income for legal reserves, as remunerations to directors and supervisors are in accordance with the firm's articles of an incorporation. The board of directors is responsible for determining the form and amount of compensation for each director and executive officer within the guidelines of the articles of incorporation and the amount of remuneration for each year is confirmed by the resolution of the shareholder meeting.

Notice that there are two discrepancies in the remuneration scheme for directors and supervisors. First, the scheme lacks the balance between fixed and variable pay and between long- and short-term incentives in the remuneration package for directors and supervisors. In the UK, the Combined Code (2003) recommends that each firm should appoint a remuneration committee to set up a formal and transparent procedure for fixing

the remuneration packages of individual directors. The remuneration packages in the USA or UK normally have a balance between fixed and variable pay and between long- and short-term incentives.

Second, the remuneration has been treated as earnings distribution and is not taken as a cost in the Income Statement. Instead, it is directly charged in the shareholders' equity when it is distributed. This fundamental problem of accounting practice has been debated over years. To be consistent with the international accounting rule and to improve disclosure transparency, companies in Taiwan are required to expense directors' and supervisors' remunerations from year 2008. The induced economic consequence of such a change of accounting practice is yet unknown and it would be an interesting issue for future research.

3.DIRECTORS' REMUNERATION, FINANCIAL RISK, AND GOVERNANCE MECHANISM

One main purpose of reporting income is to make management accountable for its efforts on behalf of ownership. Moral hazard is a type of information asymmetry that exists between managers and shareholders as the ownership tends to be separated from the control in most big entities. Watts (2003a) propose that accounting conservatism is a means of addressing moral hazard problem by constraining managers' opportunistic behaviors in reporting accounting measures. Adopting the conservatism convention can curb on the enthusiasm of managers who wants to maximize the earnings in order to distribute some net asset value to themselves when earnings is a measure in the compensation contracts; also, conservatism can reduce the possibility that management make a liquidating dividend to shareholders at the expense of debt holders by manipulating earnings upwards. Unless another efficient technology can be found to address the hazard problems between managers and shareholders (debt-holders), conservatism will continuously serve as a fundamental convention in accounting standards.

Specifically, earnings conservatism has been defined as accountants' tendency to require a higher verification for recognizing good news than bad news (Basu, 1997). Accounting earnings tend to recognize concurrent bad news as observed in negative market

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returns more quickly than good news as observed in positive returns. This is termed as 'asymmetric timeliness of earnings'⁷.

Prior research has investigated the information asymmetry between management and shareholders and how this relationship could affect a firm's valuation and future performance. As managers have limited horizons and liability, they have incentives to overstate current earnings and expected future cash flows, resulting in deadweight losses and agency costs (LaFond & Watts, 2008). Under earnings-based compensation, managers may seek to overstate performance measures to increase their compensation or engage in opportunistic activities by transferring earnings between years to benefit themselves. Managers also have incentives to delay the termination of loss-making projects as such projects contribute to positive current earnings and also to managers' private benefits in a limited time horizon. Without an effective control mechanism, reported earnings or net assets are likely to be overstated. Research shows that conservative financial reporting could facilitate efficient contracting between managers and shareholders in the presence of agency problems (Ball, 2001; Watts, 2003a,b; LaFond & Watts, 2008; LaFond & Roychowdhury, 2008). The bonding of compensation contracts can make 'accounting conservatism' serve as an efficient contracting mechanism and help address the issues of managers' limited horizons and limited liability.

3.1 Directors' remuneration and information asymmetry

In this study, we first hypothesize that the profit sharing scheme of directors' remuneration in Taiwan can inhibit the efficient role of financial reporting. This is based on three grounds. First, the lack of transparency of the remuneration information for each of the directors and supervisors could inhibit shareholders' ability to assess the company's performance and create information asymmetry between management and shareholders. Shareholders are concerned about corporate profitability and reputation as this would in turn influence how earnings are distributed among stakeholders and subsequent stock price performance. The current regulation only requires companies to disclose aggregate

⁷ The concept is consistent with the traditional interpretation of conservatism in the adage "anticipates no profits but anticipate all losses" (Bliss, 1924).

compensations, but not the information regarding the member receiving the highest pay, any overpayment for a particular director, or whether the directors' compensation is disproportionate to the profits earned. Without a strong and clear regulation on the disclosure of directors' remuneration packages, shareholders may be misinformed of corporate information.

Second, the accounting treatment of remunerations by recognizing them as distribution of profits instead of expenses could further exacerbate the level of information asymmetry. This issue will be effectively addressed from year 2008 as listed companies are required to expense employee bonuses and directors' and supervisors' remunerations in the Income Statement and to disclose the identity details of non-executive directors. The local government and accounting professions believe that the adoption of international rules could improve corporate transparency and the quality of financial reporting in Taiwan.

Third, profit sharing schemes of director remuneration generates less alignment of interests between managers and shareholders and exacerbates the agency problems between the two parties. In particular, the lack of the balance between fixed and variable pay and between long- and short-term incentives in the remuneration package for directors and supervisors raises a great concern for its effectiveness of directors' management and supervisors' monitoring role. We argue that a higher directors' and supervisors' remuneration to net income signals greater unfairness to shareholders and higher information asymmetry. While the total welfare of directors and supervisors hinges on reported earnings, higher directors' remunerations increase the possibility of wealth transfer for private benefits and reduce the incentives to curb the earnings overstatement. Although it is evident that managers have incentives to manipulate earnings opportunistically to benefit themselves, Watts (2003a) believe that if directors or supervisors (creditor) can set more stringent verification rules for gains than for losses from the perspective of efficient contracting in cases such as compensation (debt) contracts, reported earnings and net assets are less likely to be overstated under asymmetrical verification requirements. Given that the overstatement earnings can directly increase the personal wealth for all directors and supervisors, we thus argue that directors and supervisors are less inclined to impose conservatism policies in financial reporting as the proportion of their remuneration to net income increases. We expect that remuneration pay is negatively related to the

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effectiveness of financial reporting, leading to our first hypothesis⁸:

H1: Higher directors' remuneration is associated with less asymmetric timeliness of earnings.

3.2 Financial risk and information asymmetry

Debt contracting has been the main potential source of demand for conservative reporting (Watts, 2003a). Like other researchers, Ahmed et al. (2002) indicate that conservatism evolves from the contracting incentives of accounting and examine whether conservative reporting helps mitigate dividend policy conflicts between shareholders and bondholders. They argue that firms with more severe bondholder-shareholder conflicts are more likely to adopt conservative accounting choices to reduce the risk of overpaying dividends to shareholders and that more conservative firms are likely to incur lower costs of debt, implying that conservative reporting plays an important role in efficient debt contracting.

A global study by Ball et al. (2008) finds that financial reporting properties such as timeliness and conservatism are more associated with the debt than the equity market. They argue that bondholders rely more on reported numbers as timely recognition could trigger the debt covenant binding more effectively if a company's performance is deteriorating. Thus, bondholders prefer information been incorporated in share prices in a timely manner, resulting in a greater demand of timely loss recognition.

While the profit sharing type remuneration (performance-based remuneration) cannot help directors and supervisors act an effective role in financial reporting by imposing a conservatism policy, debt holders can enhance the governance of financial reporting by introducing conservatism policies. The restrictions in debt contracts provide a guaranteed bond for outstanding debt and reduce managers' ability to maximize private welfare and the

⁸ Hypothesis one can only tests for the third possibility whether the sole source of directors' remuneration from profit sharing scheme (earnings-based pay) can deteriorate the efficient controlling role of accounting conservatism. Hypothesis one cannot test for the first and second possibility because the lack of transparency and the failure to expense the remuneration exist across all sample periods.

debt covenants could mitigate the unfairness of director's profit sharing remuneration. Thus, we argue that the asymmetric timeliness of accounting can increase as the firm's leverage increases and the negative relation between directors' remuneration and asymmetric timeliness of earnings can reduce as leverage increases. This leads to our second hypothesis:

H2: The effect of higher directors' remunerations on the less timely loss recognition diminishes after controlling for leverage.

3.3 Corporate governance mechanism and information asymmetry

In addition to the debt contracting, extensive research has found that the composition of board of directors, ownership structure and institutional shareholders are related with a firm's financial reporting policy and accounting conservatism. In this section, we further investigate the extent to which efficient governance mechanism mitigates the fundamental problem of the profit sharing remunerations to directors.

First, independent (outside) directors and supervisors can strengthen the monitoring function of the board (Fama, 1980; Fama & Jensen, 1983). Firms with higher proportions of independent directors incur lower incidence of financial fraud (Beasley, 1996; Dechow et al., 1996) and less income increasing earnings management activities (Peasnell et al., 2000). Using a sample of UK firms, Beekes et al. (2004) find that higher proportions of outsider directors are associated with timely recognition in earnings of bad news and argue that CEO duality may impair the effectiveness of a board and the timeliness of financial reporting. We examine whether the negative relation between asymmetric timeliness of earnings and directors' remuneration reduces with the absence of CEO duality.

Second, with the use of pyramiding schemes and cross-holdings, the ownership structure in Taiwan allows the owners to maintain an effective control of the firm while contribute a low amount of equity investment effectively separating the ownership and control of a firm (La Porta et al., 1999; Claessens et al., 2000; Faccio & Lang, 2002).⁹ The

⁹ Numerous studies have documented the separation of cash flow (ownership) and voting rights (control) and various arrangements allowing managers to increase voting rights beyond their cash

potential consequence of the divergence between ownership and control is that the owner may divert the firm's cash flow to its own wealth as the lower cash flow rights provide a low degree of alignment of the interest between the owner and shareholders. La Porta et al. (1999) and Claessens et al. (2002) find that greater deviation of cash flow and voting rights is negatively associated with firm performance. Fan & Wong (2002) argue that when there is a large deviation between voting and cash flow rights, the credibility of the financial statements and the informativeness of earnings could be compromised. Francis et al. (2005) also show that firms with dual class stocks and a high divergence of cash flow voting rights produce lower quality of earnings. Facing with the prevalence of pyramid structure and cross-shareholdings, we also examine whether the relationship between conservatism and directors' profit sharing remuneration is affected when there is a divergence of control and ownership. We predict that the demand for conservatism is greater if the divergence of ownership and control is more pronounced.

Third, it is believed that internal and external shareholdings could reduce the agency costs between management and outside investors. Almazan et al. (2005) examine the role of institutional investors on monitoring and find that active institutions have a greater impact on the sensitivity of managers' pay to performance than passive institutions. In addition, Beekes et al. (2004) argues that firms with greater institutional shareholdings and internal shareholdings by directors have better accounting quality. In line with prior studies, we argue that the internal and external shareholdings can act as external monitoring function and would ensure the reported information truly reflects firm performance.

Taking altogether, we argue that the unfairness of profit sharing remunerations to directors could be mitigated after controlling for other efficient corporate mechanisms, namely the structure of the board of directors, the level of divergence between ownership and control, and internal and external ownerships. This leads to our third hypothesis:

H3: The effect of higher directors' remunerations on the less timely recognition of losses diminishes after controlling for efficient governance mechanisms.

flow rights (Stulz,1988). However, the reasons behind the divergence have not been well discussed in the literature. One possible explanation provided in Fan & Wong (2002) is that the owner may not have sufficient amount of cash to invest but would like to maintain effective control over the business and this could be achieved by pyramiding and cross-shareholdings.

4. SAMPLE AND DESCRIPTIVE ANALYSES

We collect company ownership data and board composition data for Taiwanese listed companies for the years 1996 – 2006 from Taiwan Economic Journal database. We exclude companies with a change of control rights during the sample period and companies in the financial industry as it is a highly regulated sector and adopts different accounting practices from others. We further exclude observations with missing accounting and market data and top and bottom 1% of the variable to reduce the effect of extreme values. The final sample consists of 4,951 observations. The details can refer to Table 1.

Table 2 reports descriptive statistics of main variables. *NI* is earnings scaled by opening market value and *R* is annual share returns calculated eight months before to four months after the fiscal year end. The mean (median) values for *NI* and *R* are 0.044 (0.051) and 0.098 (0.028) respectively. Directors' remunerations ratio (*REM*) is total remuneration divided by net income. The mean and median remunerations to directors are 1.2% and 0.8% of a company's reported earnings. We use leverage to measure firm risk based on total liability divided by total assets (*LEV*) and the opening book-to-market ratio (*BM*) as a proxy for a company's investment opportunity set and the level of past asymmetric timeliness. The median values of *LEV* and *BM* are 0.394 and 0.699. The higher leverage ratio in comparison to the finding in LaFond & Roychowdhury (2008) strengthens the importance of debt financing in a less developed capital market.

The characteristic of board composition shows that in half of the companies, CEO and President are held by different people and the average proportion of independent directors is 5.2%, which is not surprising as the majority of them are family owned businesses. The internal ownership proxies include directors and supervisors shareholdings (*INSIDE*) and large shareholdings (*BIG*). The average directors' and large shareholdings are 24.03% and 14.74%. The external ownership measured by the shareholdings of institutional shareholders shows an average of 8.5% over the whole test period. Following previous studies (Yeh, 2003, 2005), we use ultimate ownership to identify cash flow and voting rights. From the ultimate controller's perspective, the variable *Seat-CF* measures the divergence between seat control and cash flow right and *CF-right* captures the degree of ownership. The average deviation between seat control and cash flow rights is 10.75, which is around five times greater than the median deviation (2.37), implying that there are some

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companies with extreme divergence of seat control over cash flow rights due to the complicated pyramiding ownership structure and share crossholdings.

Table 3 reports the Pearson product-moment and Spearman rank-order correlations between the variables. The findings of Pearson and Spearman correlations are generally similar except in some cases involving the variable *Seat_CF*. Earnings (*NI*) has significantly positive (Pearson) correlations with *INDEP*, *NDUAL*, *INST*, and *INSIDE*, while negatively correlated with *BM* and *LEV*. Directors' and Supervisors' remuneration (*REM*) is positively correlated with *INDEP* and *NDUAL*, implying that directors received higher pay when the positions of CEO and President are held by different people or when there is a higher proportion of independent directors. We also find that highly-leveraged firms are associated with lower proportions of independent directors, lower institutional and directors' shareholdings, and lower cash flow rights, but are positively correlated with the divergence of control and ownership and large shareholders' ownership.

5. RESEARCH MODEL AND EMPIRICAL RESULTS

5.1 The asymmetric timeliness of earnings in recognizing good and bad news

Prior research has provided empirical evidence of conservative reporting in financial statements across different countries (Basu, 1997; Ball et al., 2000; Pope & Walker, 1999; Garcia Lara et al., 2005). Conservatism is indicated by the differential verifiability for the recognition of economic gains and losses, thereby recognizing bad news quicker than good news. Watts (2003a) provides several explanations for the causes of conservatism including debt and compensation contracts, litigation, taxation, and regulatory concerns. LaFond & Roychowdhury (2008) argue that conservatism could reduce information asymmetry by constraining managers' opportunistic behavior to overstate reported earnings and by providing a reporting environment which allows alternative sources of information to help produce credible accounting information.

Under Basu's (1997) framework, we apply a reverse return–earnings regression to capture the asymmetric nature of earnings:

$$NI_{it} = \alpha_1 + \alpha_2 DR_{it} + \beta_1 R_{it} + \beta_2 R_{it} \times DR_{it} + e_{it} \quad (1)$$

where NI is net income scaled by share price at the beginning of the fiscal year end; R is the annual return of firm i calculated from eight months before to four months after the end of fiscal year t to ensure that current earnings information has been reflected in the stock market; and DR is a dummy variable taking the value one when R is negative, zero otherwise. Based on equation (1), the degree of earnings conservatism depends on the extent to which reported earnings contemporaneously reflect value-relevant news, proxied by annual share returns. The intercept captures the cost of equity and the effect of prior year news and α_2 has an expected value of zero. The slope coefficient β_1 indicates the earnings response coefficient to gains (good news); β_2 is the incremental earnings response to losses (bad news). The results of the asymmetric timeliness of earnings in Panel A of Table 4 show that the response of earnings to good news is significantly positive (0.048, $t = 12.75$), and that there is incremental response of earnings to bad news (0.071; $t = 7.97$). That is, bad news is recognized in earnings quicker than good news under conservative reporting. The findings confirm the evidence of conservatism manifested by the asymmetric timeliness of earnings documented in existing literature.

5.2 The asymmetric timeliness of earnings and directors' remuneration

To investigate how directors' remuneration is reflected in the asymmetric earnings–return relationship, we apply the following model¹⁰:

$$NI_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 R_{it} + \beta_3 R_{it} \times DR_{it} + \beta_4 REM_{it}^{dec} + \beta_5 REM_{it}^{dec} \times DR_{it} + \beta_6 R_{it} \times REM_{it}^{dec} + \beta_7 R_{it} \times DR_{it} \times REM_{it}^{dec} + v_{it} \quad (2)$$

¹⁰ According to prior studies (Basu, 1997; Pope & Walker, 1999), the intercept terms capture ex-ante (unconditional) conservatism. By including all interacted terms, the regression specification also captures variations in unconditional conservatism with directors remunerations via the coefficients on REM and $DR*REM$.

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Superscript *dec* indicates a transformation of the variable to a scaled decile rank ranging from 0 to 1, i.e. decile rank (0 to 9) divided by 9. β_6 measures the association of the timeliness of good news with *REM*; while β_7 measures the association of the asymmetric timeliness of bad news with *REM*. We argue that firms with higher remuneration ratio are less conservative in reporting, yielding a positive coefficient on $R*REM$, while a negative coefficient on $R*DR*REM$.

The findings in Panel B of Table 4 are in support of our prediction in the first hypothesis. Higher directors' remunerations are negatively associated with the incremental recognition of bad news (-0.096, $t = -3.92$) while positively related to the timely recognition of good news (0.025, $t = 2.12$). These results suggest that, as directors' remunerations increase, earnings become more timely in recognizing good news and less asymmetrically in recognizing bad news. In other words, there is greater asymmetry in the verification standards for recognizing good news as gains than bad news as losses when directors' remunerations are lower. The adjusted *R*-square is two times higher than that before considering directors' compensation in the asymmetric nature of earnings (34.90% vs. 19.17%). The response of earnings to good and bad news without the interaction of directors' remunerations remains significantly positive (0.034, $t = 3.10$; 0.074, $t = 4.27$).

5.3 The asymmetric timeliness of earnings controlling for firm risk and opening net assets

Prior studies (Pope & Walker, 2003; Roychowdhury & Watts, 2007) show that the level of asymmetric timeliness of earnings (ex-post conservatism) is limited by opening net assets (ex-ante conservatism). We further provide the results controlling for the book-to-market ratio (*BM*), which has been widely used as a proxy for ex-ante conservatism in accounting studies and as a measure of firm growth in finance literature. Panel C of Table 4 indicates that firms with lower *BM* are less timely both in the recognition of good and bad news. This implies that firms with greater ex-ante conservative reporting, such as those with higher investment in R&D activities or apply higher depreciation rate to their assets, have lower scope for ex-post conservatism due to the lower net assets values. However, the model controlling for directors remunerations (Panel B)

yield a higher adjusted *R*-square than that of the model controlling for *BM* (Panel C), implying that earnings-based compensation contract (i.e. profit sharing scheme) has a greater influence on the asymmetric timeliness of earnings than the opening composition of net assets.

Overall, the findings in Table 4 confirm our prediction that higher directors' profit sharing remunerations result in a lower degree of earnings asymmetry – an indication of poor earnings quality. To examine the impact of management compensation on earnings asymmetry after controlling for the opening net assets and the level of debt financing, we adopt the following model:

$$NI_{it} = \gamma_0 + \gamma_1 DR_{it} + \gamma_2 R_{it} + \gamma_3 R_{it} \times DR_{it} + \gamma_4 REM_{it}^{kbc} + \gamma_5 REM_{it}^{kbc} \times DR_{it} + \gamma_6 R_{it} \times REM_{it}^{kbc} + \gamma_7 R_{it} \times DR_{it} \times REM_{it}^{kbc} + \gamma_8 BM_{it}^{kbc} + \gamma_9 BM_{it}^{kbc} \times DR_{it} + \gamma_{10} R_{it} \times BM_{it}^{kbc} + \gamma_{11} R_{it} \times DR_{it} \times BM_{it}^{kbc} + \gamma_{12} LEV_{it}^{kbc} + \gamma_{13} LEV_{it}^{kbc} \times DR_{it} + \gamma_{14} R_{it} \times LEV_{it}^{kbc} + \gamma_{15} R_{it} \times DR_{it} \times LEV_{it}^{kbc} + \xi_{it} \quad (3)$$

Panel A of Table 5 which shows the results controlling for ex-ante conservatism indicates that the coefficient of *R*DR*REM* is smaller in magnitude compared to that of Panel B Table4 but remains statistically significant (-0.076, *t* = -3.29). Again, directors' remuneration appears to be dominating opening book-to-market ratio in explaining the variation in asymmetric timeliness (-0.076 vs. 0.009).

As the demand for financial reporting is mainly dominated by the debt market (Ball et al., 2008), we also control for the importance of debt contracting by book leverage (Panel B) and market leverage (Panel C) in determining the equilibrium level of conservatism. The findings suggest that firms with greater risk are more likely to report conservatively. The significantly positive coefficient on *R*DR*LEV* (0.099, *t* = 3.78; 0.072, *t* = 2.17) indicates that firms with greater leverage are more asymmetrically timely in recognizing bad news, consistent with studies such as LaFond & Roychowdhury (2008). The impact of directors' remuneration on the timeliness of earnings to bad news is still significantly negative (-0.043, *t* = -1.92; -0.054, *t* = -2.41). However, the coefficient is around half than that before controlling for the level of opening net assets and financial risk.

To assess the economic significance of the effect of directors' remuneration on asymmetric timeliness, the absolute value of the coefficient on *R*DR*REM* (-0.043) is half that of the coefficient on *R*DR*LEV* (0.099). Untabulated results show that the asymmetric timeliness coefficient decreases from 0.054 in the first decile (i.e. lowest

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remunerations group) of remunerations to 0.030 (statistically insignificant) in the last decile of remuneration and that the adjusted R-square in the first decile is higher. Overall, the evidence is in support of the suggestion put forward by Watts (2003a) that conservatism facilitates efficient debt and management compensation contracting. We further show that efficient debt contracting have the power to constrain managers' from overstating earnings while cannot completely eliminate the effect of management compensation contract on the asymmetric timeliness of earnings.

5.4 The asymmetric timeliness of earnings and corporate governance mechanism

As corporate governance mechanism affect's a firm's reporting policy, we further control for several governance variables. The first set of governance indicators captures the characteristic of the board of directors including the non-duality of CEO (NDUAL), where the dummy indicator equals one if CEO is not the President and zero otherwise and the proportion of independent directors (INDEP). The asymmetric timeliness model after controlling for board independence is:

$$\begin{aligned}
 NI_{it} = & \lambda_0 + \lambda_1 DR_{it} + \lambda_2 R_{it} + \lambda_3 R_{it} \times DR_{it} + \lambda_4 REM_{it}^{dec} + \lambda_5 REM_{it}^{dec} \times DR_{it} + \lambda_6 R_{it} \times REM_{it}^{dec} + \lambda_7 R_{it} \times DR_{it} \\
 & \times REM_{it}^{dec} + \lambda_8 BM_{it}^{dec} + \lambda_9 BM_{it}^{dec} \times DR_{it} + \lambda_{10} R_{it} \times BM_{it}^{dec} + \lambda_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \lambda_{12} LEV_{it}^{dec} \\
 & + \lambda_{13} LEV_{it}^{dec} \times DR_{it} + \lambda_{14} R_{it} \times LEV_{it}^{dec} + \lambda_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence + v_{it}
 \end{aligned} \quad (4)$$

Panel A Table 6 shows that the effect of whether the role of CEO and the President is held by different people on the greater asymmetry in bad news is insignificant while the proportion of independent directors have a significant effect on the asymmetric timeliness of earnings (0.101, $t = 2.26$). Consistent with Beekes et al. (2004) using a sample of UK firms, our evidence confirms that the timeliness of bad news reflected in earnings is positively related to the proportion of independent members on the board. The coefficient of $R \times DR \times REM$ is smaller in magnitude but is statistically significantly (-0.047, $t = -2.24$). The coefficient on the recognition of good news associated with directors' remuneration ($R \times REM$) is significantly positive (0.035, $t = 2.47$). These evidence suggests that earnings is less timely in recognizing economic losses but quicker in recognizing good news if

directors' remunerations are high and the effect is not mitigated with the control of board independence.

In light of the recent study by LaFond & Roychowdhury (2008), we further account for the effect of managerial ownership on conservatism, leading to the following model:

$$\begin{aligned}
 NI_{it} = & \gamma_0 + \gamma_1 DR_{it} + \gamma_2 R_{it} + \gamma_3 R_{it} \times DR_{it} + \gamma_4 REM_{it}^{dec} + \gamma_5 REM_{it}^{dec} \times DR_{it} + \gamma_6 R_{it} \times REM_{it}^{dec} + \gamma_7 R_{it} \times DR_{it} \\
 & \times REM_{it}^{dec} + \gamma_8 BM_{it}^{dec} + \gamma_9 BM_{it}^{dec} \times DR_{it} + \gamma_{10} R_{it} \times BM_{it}^{dec} + \gamma_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \gamma_{12} LEV_{it}^{dec} \quad . \quad (5) \\
 & + \gamma_{13} LEV_{it}^{dec} \times DR_{it} + \gamma_{14} R_{it} \times LEV_{it}^{dec} + \lambda_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence \\
 & + Ownerships + \xi_{it}
 \end{aligned}$$

The ownership variables include institutional shareholdings (*INST*), directors' and supervisors' shareholdings (*INSIDE*), and large shareholders' ownership (*BIG*). We find no evidence of the asymmetric timeliness of earnings associated with institutional and inside shareholdings, while large shareholders' ownership influences the level of asymmetric timeliness. The coefficient $R*DR*BIG$ is significantly positive, implying that firms with greater large shareholdings are more timely in recognizing economic losses. The influence of directors' compensation on the asymmetric timeliness in bad news remains significantly negative ($-0.032, t = -1.32$). This suggests that even in the presence of board independence, managerial shareholdings and blockholdings, compensation contracting still have a significant role to play in ensuring accounting quality with respect to the timeliness of bad news.

As the divergence of control and ownership create agency problems, we take this into account by further including two variables: the degree of control and ownership separation (*SEAT_CF*) and the level of cash flow rights (*CF right*), resulting in the following model:

$$\begin{aligned}
 NI_{it} = & \phi_0 + \phi_1 DR_{it} + \phi_2 R_{it} + \phi_3 R_{it} \times DR_{it} + \phi_4 REM_{it}^{dec} + \phi_5 REM_{it}^{dec} \times DR_{it} + \phi_6 R_{it} \times REM_{it}^{dec} + \phi_7 R_{it} \times DR_{it} \\
 & \times REM_{it}^{dec} + \phi_8 BM_{it}^{dec} + \phi_9 BM_{it}^{dec} \times DR_{it} + \phi_{10} R_{it} \times BM_{it}^{dec} + \phi_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \phi_{12} LEV_{it}^{dec} \quad .(6) \\
 & + \phi_{13} LEV_{it}^{dec} \times DR_{it} + \phi_{14} R_{it} \times LEV_{it}^{dec} + \phi_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence \\
 & + Ownerships + Divergence + \zeta_{it}
 \end{aligned}$$

The results in Panel C show no evidence of the effect of the separation of control and ownership on earnings asymmetry. Among the governance indicators, the proportion of independent directors and large shareholdings dominate; among the control variables, the effect of debt contracting prevails. Together, the findings in Table 6 show that all

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governance factors and control variables do to some extent reduce the impact of directors' remunerations less timely recognition of losses i.e. the economic significance of the effect of *REM* on asymmetric timeliness ($R*DR*REM$) is about half that of the coefficient before conditioning on these factors, but not fully eliminated. The adjusted *R*-squares in the models controlling for governance indicators are higher than those before controlling for any board characteristics and ownership structure. The model with all controlling factors yield the highest adjusted *R*-square (41.28%). The evidence in Table 6 is in support of our prediction in the third hypothesis that the degree of variation between the asymmetric timeliness of earnings and directors' remuneration diminishes.

Robustness tests

We provide additional tests using a dummy variable (*OVERPAY*) to capture over and under paid directors' remunerations. *OVERPAY* equals one if the industry adjusted remuneration ratio is greater than the median, and zero otherwise. Table 7 reports the results of the asymmetric timeliness of earnings associated with overpaid directors' remunerations. Panel A controls for board independence. Similar to the findings in Panel A of Table 6, we find that the coefficient of $R*DR*OVERPAY$ is significantly negative (-0.037, $t = -2.51$), indicating that overpaid directors' remunerations are associated with timely recognition of good news but not bad news. In addition, firms facing greater financial risk captured by leverage are quicker in recognizing bad news (0.101, $t = 3.57$). Panel B further controls for ownership structure. Although the coefficient $R*DR*OVERPAY$ has a smaller magnitude relative to that in Panel A, it remains significantly negative (-0.029, $t = -2.05$). Consistent with Table 6, directors and institutional shareholdings are not associated with earnings asymmetry. However, firms with large shareholders' ownership are more timely in recognizing bad news (0.046, $t = 1.63$). Panel C includes board independence, ownership structure and the separation of ownership and control. We find that firms overpaying directors' remunerations are less timely in recognizing bad news after controlling for several corporate governance mechanism (-0.033, $t = -2.33$). The findings in Table 7 implies that earnings conservatism serves as a efficient

contracting mechanism while the profit sharing scheme could diminish the role of conservative reporting in financial reporting even in the presence of good governance structure.

6.CONCLUSIONS

The asymmetric timeliness of earnings is a long-standing nature in financial reporting and has been seen as an indicator of earnings quality. The present study examines the effect of directors' profit sharing remunerations on the asymmetric nature of reported earnings using a sample of public listed companies in Taiwan. Complimenting to the existing literature, we find that firms with lower (higher) directors' remuneration are associated with higher (lower) earnings asymmetry. This evidence is in support of our hypotheses that directors' remuneration under profit sharing scheme can diminish the efficient contracting role of conservatism between the parties involved put forward by Watts (2003a). Our results are robust to the control of leverage, opening net assets, and several corporate governance indicators such as board independence, ownership structure and the degree of divergence of control and ownership. The evidence contributes to the ongoing debate on desirable qualitative characteristics of accounting information and provides out-of-sample confirmation strengthening the importance of conservative reporting on financial reporting. Although our findings imply that debt contracts and corporate governance can enhance the conservatism as an effective contracting mechanism, directors' remuneration scheme can hamper the contracting role of financial reporting. If directors' remuneration totally depends on net income, it would be a great concern on how effectiveness directors and supervisors can act on financial reporting. As a consequence, the inference based on our findings is that the design of directors' remuneration simply focusing on earnings-based remuneration (profit sharing type) may reduce their incentives in monitoring managers' opportunistic reporting behavior. Therefore, as long as remunerations pay is directly linked to net income under the profit sharing scheme, regardless of the change of accounting practice from year 2008, such negative association between directors' remunerations and earnings quality (i.e. higher asymmetric timeliness) would remain unaffected.

It is recommended that the remuneration packages should have a balance between fixed and variable pay and between long and short-term incentives. Besides, firms can introduce different types of performance-based remuneration other than earnings-based remuneration that can help align the long-term interests of management with those of shareholders.

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Table 1 Sample Collection

| | Firm-year observations |
|--|------------------------|
| Non-financial firms listed on the Taiwan Stock Exchange from year 1996 to year 2006. | 5,987 |
| Less: firms with missing accounting and market data | (835) |
| Less: outliers (in the top and bottom 1% of each variables) | (201) |
| Total observations | 4,951 |

Table 2 Descriptive statistics

| Main variables | Mean | Std | Q1 | Median | Q3 |
|---|--------|-------|--------|--------|--------|
| <i>NI</i> | 0.044 | 0.09 | 0.014 | 0.051 | 0.089 |
| <i>R</i> | 0.098 | 0.48 | -0.240 | 0.028 | 0.344 |
| <i>REM</i> | 0.012 | 0.03 | 0.000 | 0.008 | 0.019 |
| Control variables: | | | | | |
| <i>BM</i> | 0.871 | 0.68 | 0.450 | 0.699 | 1.097 |
| <i>LEV</i> | 0.397 | 0.16 | 0.278 | 0.394 | 0.499 |
| Indicators for board independence: | | | | | |
| <i>INDEP</i> | 0.052 | 0.12 | 0.000 | 0.000 | 0.000 |
| <i>NDUAL</i> | 0.728 | 0.44 | 0.000 | 1.000 | 1.000 |
| Indicators for ownership: | | | | | |
| <i>INST (%)</i> | 8.492 | 12.08 | 0.390 | 3.510 | 11.100 |
| <i>INSIDE (%)</i> | 24.035 | 13.59 | 13.680 | 21.290 | 31.590 |
| <i>BIG (%)</i> | 14.736 | 11.24 | 6.910 | 13.170 | 20.780 |
| Indicators for the divergence of control and ownership: | | | | | |
| <i>CF right</i> | 22.788 | 16.25 | 9.680 | 19.860 | 32.640 |
| <i>Seat-CF</i> | 10.750 | 91.71 | 1.016 | 2.369 | 5.250 |

^aThe overall sample size is 4,951 firm-year observations. All firms are listed on the Taiwan Stock Exchange from 1996 to 2006 and the data are collected from the Taiwan Economic Journal (TEJ) database. *NI* is net income scaled by opening market value; *R* is the annual stock return for firm *i* for year *t* obtained by monthly returns over the period from eight months before the fiscal-year end to

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four months after the fiscal-year end; *REM* is the ratio of directors' remuneration to net income; *BM* is the opening book-to-market ratio; *LEV* is leverage measured by the ratio of total liability to total assets at the fiscal year end; *INDEP* is the proportion of independent directors on the board; *NDUAL* is a dummy indicator taking the value 1 if CEO is not the President and 0 otherwise; *INST* is the shareholdings of institutional shareholders; *INSIDE* is the directors and supervisors' shareholdings for firm; *BIG* is large shareholders' ownership; *CF right* is cash flow control; *Seat_CF* is the deviation ratio between seat control and cash flow ratio.

Table 3 Pearson and Spearman correlations coefficients

| | <i>NI</i> | <i>R</i> | <i>REM</i> | <i>BM</i> | <i>LEV</i> | <i>INDEP</i> | <i>INST</i> | <i>INSIDE</i> | <i>BIG</i> | <i>CFright</i> | <i>Seat-CF</i> | <i>NDUAL</i> |
|-------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|----------------|----------------|---------------|
| <i>NI</i> | 1 | 0.489 | 0.441 | -0.101 | -0.170 | 0.202 | 0.165 | 0.128 | 0.099 | 0.065 | -0.103 | <i>0.025</i> |
| <i>R</i> | 0.421 | 1 | 0.178 | 0.127 | -0.101 | 0.058 | 0.046 | 0.023 | 0.070 | 0.018 | <i>-0.027</i> | <i>-0.002</i> |
| <i>REM_{<i>t</i>}</i> | 0.140 | 0.053 | 1 | -0.220 | -0.259 | 0.130 | 0.110 | 0.110 | <i>0.025</i> | <i>-0.012</i> | -0.048 | 0.043 |
| <i>BM</i> | -0.151 | 0.141 | -0.064 | 1 | 0.159 | -0.095 | -0.325 | -0.160 | 0.085 | 0.021 | 0.038 | <i>-0.009</i> |
| <i>LEV</i> | -0.214 | -0.086 | -0.095 | 0.181 | 1 | <i>-0.033</i> | -0.111 | -0.092 | <i>0.027</i> | -0.055 | 0.050 | <i>-0.001</i> |
| <i>INDEP</i> | 0.145 | 0.046 | 0.051 | -0.100 | -0.042 | 1 | 0.091 | 0.011 | 0.125 | <i>-0.004</i> | -0.124 | -0.059 |
| <i>INST</i> | 0.130 | <i>0.032</i> | 0.007 | -0.235 | -0.114 | 0.084 | 1 | <i>0.028</i> | 0.018 | -0.161 | 0.152 | 0.057 |
| <i>INSIDE</i> | 0.124 | 0.020 | 0.012 | -0.146 | -0.062 | <i>0.024</i> | 0.084 | 1 | -0.120 | 0.402 | -0.416 | 0.074 |
| <i>BIG</i> | 0.039 | 0.055 | 0.015 | 0.050 | 0.044 | 0.111 | 0.041 | -0.154 | 1 | 0.363 | -0.356 | <i>-0.012</i> |
| <i>CFright</i> | 0.065 | 0.018 | <i>-0.016</i> | <i>-0.010</i> | -0.069 | 0.023 | -0.066 | 0.402 | 0.411 | 1 | -0.908 | -0.041 |
| <i>Seat-CF</i> | <i>-0.009</i> | <i>-0.002</i> | <i>-0.010</i> | <i>0.023</i> | 0.045 | <i>-0.011</i> | 0.009 | <i>0.033</i> | <i>-0.021</i> | -0.136 | 1 | 0.079 |
| <i>NDUAL</i> | 0.029 | <i>-0.007</i> | 0.037 | <i>-0.014</i> | 0.003 | -0.058 | 0.060 | 0.084 | <i>-0.021</i> | <i>-0.035</i> | <i>0.027</i> | 1 |

^aThe table reports the correlation matrix among main variables. The lower left-hand section reports Pearson product-moment correlations while the upper right-hand section reports Spearman rank-order correlations. *NI* is net income scaled by opening market value; *R* is the annual stock return for firm *i* for year *t* obtained by monthly returns over the period from eight months before the fiscal-year end to four months after the fiscal-year end; *REM* is the ratio of directors' remuneration to net income; *BM* is the opening book-to-market ratio; *LEV* is leverage measured by the ratio of total liability to total assets at the fiscal year end; *INDEP* is the proportion of independent directors on the board; *NDUAL* is a dummy indicator taking the value 1 if CEO is not the President and 0 otherwise; *INST* is the shareholdings of institutional shareholders; *INSIDE* is the directors and supervisors' shareholdings for firm; *BIG* is large shareholders' ownership; *CF right* is cash flow control; *Seat_CF* is the deviation ratio between seat control and cash flow ratio.

^bBold text indicates significant at 1% level and italic text indicates significant at 5% or 10% level.

Table 4 Asymmetric timeliness of earnings, directors' remunerations, and book-to-market

| | Predicted sign | Panel A | | Panel B | | | Panel C | | |
|-----------------------------------|----------------|---------|-------------|---------|-------------|--|---------|-------------|--|
| <i>Intercept</i> | | 0.049 | (22.15) *** | 0.007 | (1.57) | | 0.076 | (24.03) *** | |
| <i>DR</i> | | -0.00 | (-1.67) * | -0.018 | (-2.83) *** | | 0.005 | (1.04) | |
| | | 6 | | | | | | | |
| <i>R</i> | + | 0.048 | (12.75) *** | 0.034 | (3.10) *** | | 0.027 | (4.50) *** | |
| <i>R</i> × <i>DR</i> | + | 0.071 | (7.97) *** | 0.074 | (4.27) *** | | 0.082 | (7.19) *** | |
| <i>REM</i> | | | | 0.078 | (12.65) *** | | | | |
| <i>REM</i> × <i>DR</i> | | | | 0.019 | (2.00) ** | | | | |
| <i>R</i> × <i>REM</i> | + | | | 0.025 | (2.12) ** | | | | |
| <i>R</i> × <i>DR</i> × <i>REM</i> | - | | | -0.096 | (-3.92) *** | | | | |
| <i>BM</i> | | | | | | | -0.053 | (-7.50) *** | |
| <i>BM</i> × <i>DR</i> | | | | | | | -0.018 | (-1.69) * | |
| <i>R</i> × <i>BM</i> | + | | | | | | 0.042 | (3.06) *** | |
| <i>R</i> × <i>DR</i> × <i>BM</i> | + | | | | | | 0.040 | (1.33) * | |
| <i>Adj R-square (%)</i> | | 19.17 | | 34.90 | | | 25.53 | | |

^aThe table reports the results from regressions of the following equations:

$$NI_{it} = \alpha_0 + \alpha_1 DR_{it} + \alpha_2 R_{it} + \alpha_3 R_{it} \times DR_{it} + e_{it} \quad (\text{Panel A})$$

$$NI_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 R_{it} + \beta_3 R_{it} \times DR_{it} + \beta_4 REM_{it}^{dec} + \beta_5 REM_{it}^{dec} \times DR_{it} + \beta_6 R_{it} \times REM_{it}^{dec} + \beta_7 R_{it} \times DR_{it} \times REM_{it}^{dec} + v_{it} \quad (\text{Panel B})$$

$$NI_{it} = \beta_0 + \beta_1 DR_{it} + \beta_2 R_{it} + \beta_3 R_{it} \times DR_{it} + \beta_4 BM_{it}^{dec} + \beta_5 BM_{it}^{dec} \times DR_{it} + \beta_6 R_{it} \times BM_{it}^{dec} + \beta_7 R_{it} \times DR_{it} \times BM_{it}^{dec} + v_{it} \quad (\text{Panel C})$$

^b*NI* is net income scaled by opening market value; *R* is the annual stock return for firm *i* for year *t* obtained by monthly returns over the period from eight months before the fiscal-year end to four months after the fiscal-year end; *DR* is a dummy variable assigned to 1 if annual share return is negative and 0 otherwise; *REM* is the ratio of directors' remuneration to net income; and *BM* is the opening book-to-market ratio. Superscript *dec* indicates a transformation of the variable to a scaled decile rank. Heteroskedasticity consistent *t*-statistics are in parentheses.

^c***, **, * indicate statistical significance at 1%, 5%, and 10% level respectively for one-tailed *t*-tests of coefficients with predicted signs and two-tailed *t*-tests otherwise.

Asymmetric timeliness of earnings and board of directors' profit sharing remuneration

Table 5 Asymmetric timeliness of earnings and directors' remunerations controlling for leverage and book-to-market

| | Predicted sign | Panel A | Panel B | Panel C |
|-------------------------|----------------|--------------------|--------------------|--------------------|
| <i>Intercept</i> | | 0.030 (6.26) *** | 0.038 (8.49) *** | 0.034 (7.60) *** |
| <i>DR</i> | | -0.010 (-0.50) | -0.019 (-2.83) *** | -0.021 (-0.96) |
| <i>R</i> | + | 0.009 (0.90) | 0.007 (0.70) | 0.006 (0.63) |
| <i>R×DR</i> | + | 0.089 (5.20) *** | 0.021 (1.11) | 0.038 (1.92) ** |
| <i>REM</i> | | 0.071 (14.49) *** | 0.069 (11.21) *** | 0.069 (11.21) *** |
| <i>REM×DR</i> | | 0.016 (2.16) ** | 0.021 (2.24) ** | 0.021 (2.35) ** |
| <i>R×REM</i> | + | 0.032 (2.26) ** | 0.033 (2.33) *** | 0.032 (2.32) *** |
| <i>R×DR×REM</i> | - | -0.076 (-3.29) *** | -0.043 (-1.92) ** | -0.054 (-2.41) *** |
| <i>BM</i> | | -0.038 (-6.41) *** | -0.037 (-2.50) ** | -0.027 (-3.48) *** |
| <i>BM×DR</i> | | -0.010 (-1.05) | -0.011 (-1.10) | -0.020 (-1.63) |
| <i>R×BM</i> | + | 0.042 (3.55) *** | 0.043 (3.77) *** | 0.039 (2.76) *** |
| <i>R×DR×BM</i> | + | 0.009 (0.32) | -0.003 (-0.11) | -0.016 (-0.50) |
| <i>LEV</i> | | | -0.016 (-0.80) | -0.019 (-2.39) ** |
| <i>LEV×DR</i> | | | 0.013 (1.30) | 0.023 (1.88) * |
| <i>R×LEV</i> | - | | 0.002 (0.14) | 0.004 (0.20) |
| <i>R×DR×LEV</i> | + | | 0.099 (3.78) *** | 0.072 (2.17) ** |
| <i>Adj R-square (%)</i> | | 37.41 | 38.34 | 37.66 |

^aThe table reports the results from regressions of the following equation:

$$NI_{it} = \gamma_0 + \gamma_1 DR_{it} + \gamma_2 R_{it} + \gamma_3 R_{it} \times DR_{it} + \gamma_4 REM_{it}^{dec} + \gamma_5 REM_{it}^{dec} \times DR_{it} + \gamma_6 R_{it} \times REM_{it}^{dec} + \gamma_7 R_{it} \times DR_{it} \times REM_{it}^{dec} + \gamma_8 BM_{it}^{dec} + \gamma_9 BM_{it}^{dec} \times DR_{it} + \gamma_{10} R_{it} \times BM_{it}^{dec} + \gamma_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \gamma_{12} LEV_{it}^{dec} + \gamma_{13} LEV_{it}^{dec} \times DR_{it} + \gamma_{14} R_{it} \times LEV_{it}^{dec} + \gamma_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + \xi_{it}$$

^bNI is net income scaled by opening market value; R is the annual stock return for firm i for year t obtained by monthly returns over the period from eight months before the fiscal-year end to four months after the fiscal-year end; DR is a dummy variable assigned to 1 if annual share return is negative and 0 otherwise; REM is the ratio of directors' remuneration to net income; BM is the opening book-to-market ratio; and leverage is the book value of total liabilities divided by total assets (Panel B) and book value of total liabilities divided by the sum of total liabilities and market value of shareholders' equity (Panel C). Superscript dec indicates a transformation of the variable to a scaled decile rank. Heteroskedasticity consistent t-statistics are in parentheses.

^c***, **, * indicate statistical significance at 1%, 5%, and 10% level respectively for one-tailed t-tests of coefficients with predicted signs and two-tailed t-tests otherwise.

Table 6 Asymmetric timeliness of earnings and directors' remunerations controlling for corporate governance mechanism

| | | Panel A: Controlling for board independence | | Panel B: Controlling for board independence and ownership structure | | Panel C: Controlling for board independence, ownership structure and the separation of ownership and control | | |
|------------------------|---|---|-------------|---|-------------|--|-------------|-----|
| Intercept | | 0.006 | (0.85) | -0.027 | (-2.85) *** | -0.035 | (-2.09) | ** |
| <i>DR</i> | | -0.004 | (-0.35) | 0.003 | (0.21) | -0.006 | (-0.21) | |
| <i>R</i> | + | 0.009 | (0.59) | 0.048 | (2.46) *** | 0.054 | (1.57) | * |
| <i>R × DR</i> | + | -0.037 | (-1.23) | -0.083 | (-2.31) ** | -0.032 | (-0.33) | |
| <i>REM</i> | | 0.065 | (10.41) *** | 0.064 | (10.25) *** | 0.065 | (10.28) *** | *** |
| <i>REM × DR</i> | | 0.024 | (2.68) *** | 0.028 | (3.13) *** | 0.027 | (3.02) *** | *** |
| <i>R × REM</i> | + | 0.035 | (2.47) *** | 0.039 | (2.83) *** | 0.038 | (2.68) *** | *** |
| <i>R × DR × REM</i> | - | -0.047 | (-2.24) ** | -0.032 | (-1.32) * | -0.037 | (-1.51) | * |
| <i>BM</i> | | -0.033 | (-5.35) *** | -0.025 | (-3.95) *** | -0.025 | (-3.69) *** | *** |
| <i>BM × DR</i> | | -0.015 | (-1.58) | -0.018 | (-1.92) * | -0.019 | (-1.91) | * |
| <i>R × BM</i> | + | 0.040 | (3.51) *** | 0.027 | (2.30) ** | 0.027 | (2.01) | ** |
| <i>R × DR × BM</i> | + | 0.002 | (0.08) | 0.003 | (0.11) | 0.010 | (0.35) | |
| <i>LEV</i> | | -0.017 | (-3.16) *** | -0.017 | (-3.16) *** | -0.016 | (-2.53) | ** |
| <i>LEV × DR</i> | | 0.017 | (1.70) | 0.013 | (1.29) | 0.012 | (1.18) | |
| <i>R × LEV</i> | - | 0.004 | (0.28) | 0.002 | (0.14) | 0.002 | (0.14) | |
| <i>R × DR × LEV</i> | + | 0.102 | (3.85) *** | 0.097 | (3.67) *** | 0.090 | (3.40) *** | *** |
| <i>NDUAL</i> | | 0.012 | (2.62) *** | 0.009 | (2.01) ** | 0.010 | (2.24) | ** |
| <i>NDUAL × DR</i> | | -0.007 | (-0.99) | -0.007 | (-0.99) | -0.007 | (-0.99) | |
| <i>R × NDUAL</i> | - | -0.019 | (-1.97) ** | -0.016 | (-1.60) * | -0.016 | (-1.54) | * |
| <i>R × DR × NDUAL</i> | + | 0.008 | (0.42) | 0.003 | (0.16) | 0.002 | (0.10) | |
| <i>INDEP</i> | | 0.045 | (6.45) *** | 0.040 | (4.82) *** | 0.040 | (4.78) *** | *** |
| <i>INDEP × DR</i> | | -0.020 | (-1.41) | -0.018 | (-1.27) | -0.014 | (-0.99) | |
| <i>R × INDEP</i> | - | 0.019 | (1.03) | 0.025 | (1.25) | 0.026 | (1.30) | |
| <i>R × DR × INDEP</i> | + | 0.101 | (2.26) ** | 0.094 | (2.10) ** | 0.079 | (1.79) | ** |
| <i>INST</i> | | | | 0.027 | (4.27) *** | 0.027 | (4.47) | *** |
| <i>INST × DR</i> | | | | -0.008 | (-0.84) | -0.006 | (-0.60) | |
| <i>R × INST</i> | - | | | -0.031 | (-2.19) ** | -0.028 | (-1.77) | ** |
| <i>R × DR × INST</i> | + | | | 0.022 | (0.77) | 0.015 | (0.53) | |
| <i>INSIDE</i> | | | | 0.015 | (2.50) *** | 0.014 | (2.00) | ** |
| <i>INSIDE × DR</i> | | | | -0.005 | (-0.52) | -0.013 | (-1.19) | |
| <i>R × INSIDE</i> | - | | | -0.034 | (-2.40) *** | -0.041 | (-2.59) | *** |
| <i>R × DR × INSIDE</i> | + | | | 0.007 | (0.26) | 0.027 | (0.90) | |
| <i>BIG</i> | | | | 0.024 | (3.84) *** | 0.023 | (3.35) | *** |
| <i>BIG × DR</i> | | | | -0.002 | (-0.22) | -0.009 | (-0.90) | |
| <i>R × BIG</i> | - | | | -0.011 | (-0.80) | -0.018 | (-1.22) | |
| <i>R × DR × BIG</i> | + | | | 0.052 | (1.97) ** | 0.066 | (2.20) | ** |
| <i>CF right</i> | | | | | | 0.008 | (0.53) | |

Asymmetric timeliness of earnings and board of directors' profit sharing remuneration

| | | | |
|--|---|--------|---------|
| <i>CF right</i> × <i>DR</i> | | 0.021 | (0.86) |
| <i>R</i> × <i>CF right</i> | + | 0.007 | (0.21) |
| <i>R</i> × <i>DR</i> × <i>CF right</i> | − | -0.073 | (-1.03) |
| <i>Seat_CF</i> | | 0.006 | (0.42) |
| <i>Seat_CF</i> × <i>DR</i> | | 0.006 | (0.27) |
| <i>R</i> × <i>Seat_CF</i> | − | -0.008 | (-0.27) |
| <i>R</i> × <i>DR</i> × <i>Seat_CF</i> | + | -0.035 | (-0.58) |
| <i>Adj R-square (%)</i> | | 39.45 | 40.94 |
| | | | 41.28 |

^aThis table reports the coefficients (*t*-statistics) from regressions of the following equations:

$$\begin{aligned}
 NI_{it} = & \lambda_0 + \lambda_1 DR_{it} + \lambda_2 R_{it} + \lambda_3 R_{it} \times DR_{it} + \lambda_4 REM_{it}^{dec} + \lambda_5 REM_{it}^{dec} \times DR_{it} + \lambda_6 R_{it} \times REM_{it}^{dec} + \lambda_7 R_{it} \\
 & \times DR_{it} \times REM_{it}^{dec} + \lambda_8 BM_{it}^{dec} + \lambda_9 BM_{it}^{dec} \times DR_{it} + \lambda_{10} R_{it} \times BM_{it}^{dec} + \lambda_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} \quad (\text{Panel A}) \\
 & + \lambda_{12} LEV_{it}^{dec} + \lambda_{13} LEV_{it}^{dec} \times DR_{it} + \lambda_{14} R_{it} \times LEV_{it}^{dec} + \lambda_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} \\
 & + \text{Board_Independence} + v_{it}
 \end{aligned}$$

$$\begin{aligned}
 NI_{it} = & \gamma_0 + \gamma_1 DR_{it} + \gamma_2 R_{it} + \gamma_3 R_{it} \times DR_{it} + \gamma_4 REM_{it}^{dec} + \gamma_5 REM_{it}^{dec} \times DR_{it} + \gamma_6 R_{it} \times REM_{it}^{dec} + \gamma_7 R_{it} \\
 & \times DR_{it} \times REM_{it}^{dec} + \gamma_8 BM_{it}^{dec} + \gamma_9 BM_{it}^{dec} \times DR_{it} + \gamma_{10} R_{it} \times BM_{it}^{dec} + \gamma_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} \quad (\text{Panel B}) \\
 & + \gamma_{12} LEV_{it}^{dec} + \gamma_{13} LEV_{it}^{dec} \times DR_{it} + \gamma_{14} R_{it} \times LEV_{it}^{dec} + \gamma_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} \\
 & + \text{Board_Independence} + \text{Ownerships} + \xi_{it}
 \end{aligned}$$

$$\begin{aligned}
 NI_{it} = & \phi_0 + \phi_1 DR_{it} + \phi_2 R_{it} + \phi_3 R_{it} \times DR_{it} + \phi_4 REM_{it}^{dec} + \phi_5 REM_{it}^{dec} \times DR_{it} + \phi_6 R_{it} \times REM_{it}^{dec} + \phi_7 R_{it} \\
 & \times DR_{it} \times REM_{it}^{dec} + \phi_8 BM_{it}^{dec} + \phi_9 BM_{it}^{dec} \times DR_{it} + \phi_{10} R_{it} \times BM_{it}^{dec} + \phi_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} \quad (\text{Panel C}) \\
 & + \phi_{12} LEV_{it}^{dec} + \phi_{13} LEV_{it}^{dec} \times DR_{it} + \phi_{14} R_{it} \times LEV_{it}^{dec} + \phi_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} \\
 & + \text{Board_Independence} + \text{Ownerships} + \text{Divergence} + \zeta_{it}
 \end{aligned}$$

^b*NI* is net income scaled by opening market value; *R* is the annual stock return for firm *i* for year *t* obtained by monthly returns over the period from eight months before the fiscal-year end to four months after the fiscal-year end; *REM* is the ratio of directors' remuneration to net income; *BM* is the opening book-to-market ratio; *LEV* is leverage measured by the ratio of total liability to total assets at the fiscal year end; *INDEP* is the proportion of independent directors on the board; *NDUAL* is a dummy indicator taking the value 1 if CEO is not the President and 0 otherwise; *INST* is the shareholdings of institutional shareholders; *INSIDE* is the directors and supervisors' shareholdings for firm; *BIG* is large shareholders' ownership; *CF right* is cash flow control; *Seat_CF* is the deviation ratio between seat control and cash flow ratio. All governance variables are also transformed into scaled decile ranks except for the dummy indicator *NDUAL*. Heteroskedasticity consistent *t*-statistics are in parentheses.

^c***, **, * indicate statistical significance at 1%, 5%, and 10% level respectively for one-tailed *t*-tests of coefficients with predicted signs and two-tailed *t*-tests otherwise.

Table 7 Asymmetric timeliness of earnings and overpayment of directors' remunerations

| | | Pane A: Controlling for board independence | | | Panel B: Controlling for board independence and ownership structure | | Panel C: Controlling for board independence, ownership structure and the separation of ownership and control | | |
|--------------------------|---|--|---------|-----|---|---------|--|---------|-----------|
| Intercept | | 0.023 | (3.25) | *** | -0.011 | (-1.16) | -0.009 | (-0.52) | |
| <i>DR</i> | | 0.001 | (0.09) | | 0.009 | (0.64) | -0.001 | (-0.04) | |
| <i>R</i> | + | 0.013 | (0.92) | | 0.051 | (2.55) | *** | 0.062 | (1.96) ** |
| <i>R × DR</i> | + | -0.025 | (-0.88) | | -0.061 | (-1.93) | ** | 0.006 | (0.07) |
| <i>OVERPAY</i> | | 0.033 | (8.88) | *** | 0.033 | (10.44) | *** | 0.033 | (10.44) |
| <i>OVERPAY × DR</i> | | 0.018 | (3.29) | *** | 0.015 | (2.74) | *** | 0.015 | (2.74) |
| <i>R × OVERPAY</i> | + | 0.014 | (1.73) | ** | 0.020 | (2.39) | *** | 0.019 | (2.27) |
| <i>R × DR × OVERPAY</i> | - | -0.037 | (-2.51) | *** | -0.029 | (-2.05) | ** | -0.033 | (-2.33) |
| <i>BM</i> | | -0.039 | (-6.17) | *** | -0.031 | (-4.38) | *** | -0.031 | (-4.38) |
| <i>BM × DR</i> | | -0.018 | (-1.80) | * | -0.022 | (-2.00) | ** | -0.022 | (-1.96) |
| <i>R × BM</i> | + | 0.039 | (3.90) | *** | 0.026 | (1.84) | ** | 0.027 | (1.91) |
| <i>R × DR × BM</i> | + | 0.002 | (0.07) | | -0.000 | (-0.01) | | 0.006 | (0.20) |
| <i>LEV</i> | | -0.021 | (-3.32) | *** | -0.020 | (-2.92) | *** | -0.020 | (-2.88) |
| <i>LEV × DR</i> | | 0.014 | (1.40) | | 0.011 | (1.10) | | 0.009 | (0.90) |
| <i>R × LEV</i> | - | 0.002 | (0.04) | | -0.000 | (-0.02) | | 0.001 | (0.07) |
| <i>R × DR × LEV</i> | + | 0.101 | (3.57) | *** | 0.095 | (3.59) | *** | 0.086 | (3.04) |
| <i>NDUAL</i> | | 0.011 | (2.46) | ** | 0.009 | (2.01) | ** | 0.010 | (2.24) |
| <i>NDUAL × DR</i> | | -0.008 | (-1.13) | | -0.007 | (-0.90) | | -0.008 | (-1.03) |
| <i>R × NDUAL</i> | - | -0.015 | (-1.50) | * | -0.012 | (-1.20) | | -0.013 | (-1.30) |
| <i>R × DR × NDUAL</i> | + | -0.002 | (-0.10) | | -0.005 | (-0.25) | | -0.007 | (-0.35) |
| <i>INDEP</i> | | 0.053 | (6.33) | *** | 0.048 | (1.81) | * | 0.047 | (5.25) |
| <i>INDEP × DR</i> | | -0.014 | (-0.99) | | -0.010 | (-0.71) | | -0.007 | (-0.49) |
| <i>R × INDEP</i> | - | 0.025 | (1.25) | | 0.031 | (1.55) | * | 0.032 | (1.43) |
| <i>R × DR × INDEP</i> | + | 0.097 | (6.86) | ** | 0.096 | (2.15) | ** | 0.077 | (1.72) |
| <i>INST</i> | | | | | 0.026 | (4.11) | *** | 0.025 | (3.54) |
| <i>INST × DR</i> | | | | | -0.011 | (-1.10) | | -0.007 | (-0.70) |
| <i>R × INST</i> | - | | | | -0.032 | (-2.26) | ** | -0.027 | (-1.56) |
| <i>R × DR × INST</i> | + | | | | 0.012 | (0.42) | | 0.003 | (0.11) |
| <i>INSIDE</i> | | | | | 0.014 | (2.21) | ** | 0.016 | (2.26) |
| <i>INSIDE × DR</i> | | | | | -0.005 | (-0.53) | | -0.014 | (-1.40) |
| <i>R × INSIDE</i> | - | | | | -0.028 | (-0.63) | | -0.037 | (-2.14) |
| <i>R × DR × INSIDE</i> | + | | | | -0.001 | (-0.04) | | 0.024 | (0.76) |
| <i>BIG</i> | | | | | 0.024 | (3.79) | *** | 0.026 | (3.68) |
| <i>BIG × DR</i> | | | | | -0.001 | (-0.11) | | -0.009 | (-0.90) |
| <i>R × BIG</i> | - | | | | -0.008 | (-0.57) | | -0.017 | (-0.98) |
| <i>R × DR × BIG</i> | + | | | | 0.046 | (1.63) | * | 0.066 | (2.09) |
| <i>CF right</i> | | | | | | | | 0.005 | (0.11) |
| <i>CF right × DR</i> | | | | | | | | 0.024 | (0.98) |
| <i>R × CF right</i> | + | | | | | | | 0.004 | (0.13) |
| <i>R × DR × CF right</i> | - | | | | | | | -0.093 | (-1.32) |

Asymmetric timeliness of earnings and board of directors' profit sharing remuneration

| | | | |
|---------------------------------------|-------|--------|---------|
| <i>Seat_CF</i> | | -0.001 | (-0.07) |
| <i>Seat_CF</i> × <i>DR</i> | | 0.007 | (0.29) |
| <i>R</i> × <i>Seat_CF</i> | - | -0.015 | (-0.50) |
| <i>R</i> × <i>DR</i> × <i>Seat_CF</i> | + | -0.044 | (-0.62) |
| <i>Adj R-square (%)</i> | 38.36 | 38.27 | 38.58 |

^aThis table reports the coefficients (*t*-statistics) from regressions of the following equations:

$$NI_{it} = \lambda_0 + \lambda_1 DR_{it} + \lambda_2 R_{it} + \lambda_3 R_{it} \times DR_{it} + \lambda_4 OVERPAY_{it} + \lambda_5 OVERPAY_{it} \times DR_{it} + \lambda_6 R_{it} \times OVERPAY_{it} + \lambda_7 R_{it} \times DR_{it} \times OVERPAY_{it} + \lambda_8 BM_{it}^{dec} + \lambda_9 BM_{it}^{dec} \times DR_{it} + \lambda_{10} R_{it} \times BM_{it}^{dec} + \lambda_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \lambda_{12} LEV_{it}^{dec} + \lambda_{13} LEV_{it}^{dec} \times DR_{it} + \lambda_{14} R_{it} \times LEV_{it}^{dec} + \lambda_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence + v_{it} \quad (\text{Panel A})$$

$$NI_{it} = \gamma_0 + \gamma_1 DR_{it} + \gamma_2 R_{it} + \gamma_3 R_{it} \times DR_{it} + \gamma_4 OVERPAY_{it} + \gamma_5 OVERPAY_{it} \times DR_{it} + \gamma_6 R_{it} \times OVERPAY_{it} + \gamma_7 R_{it} \times DR_{it} \times OVERPAY_{it} + \gamma_8 BM_{it}^{dec} + \gamma_9 BM_{it}^{dec} \times DR_{it} + \gamma_{10} R_{it} \times BM_{it}^{dec} + \gamma_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \gamma_{12} LEV_{it}^{dec} + \gamma_{13} LEV_{it}^{dec} \times DR_{it} + \gamma_{14} R_{it} \times LEV_{it}^{dec} + \gamma_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence + Ownerships + \zeta_{it} \quad (\text{Panel B})$$

$$NI_{it} = \phi_0 + \phi_1 DR_{it} + \phi_2 R_{it} + \phi_3 R_{it} \times DR_{it} + \phi_4 OVERPAY_{it} + \phi_5 OVERPAY_{it} \times DR_{it} + \phi_6 R_{it} \times OVERPAY_{it} + \phi_7 R_{it} \times DR_{it} \times OVERPAY_{it} + \phi_8 BM_{it}^{dec} + \phi_9 BM_{it}^{dec} \times DR_{it} + \phi_{10} R_{it} \times BM_{it}^{dec} + \phi_{11} R_{it} \times DR_{it} \times BM_{it}^{dec} + \phi_{12} LEV_{it}^{dec} + \phi_{13} LEV_{it}^{dec} \times DR_{it} + \phi_{14} R_{it} \times LEV_{it}^{dec} + \phi_{15} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence + Ownerships + Divergence + \zeta_{it} + \phi_{16} R_{it} \times DR_{it} \times BM_{it}^{dec} + \phi_{17} LEV_{it}^{dec} + \phi_{18} LEV_{it}^{dec} \times DR_{it} + \phi_{19} R_{it} \times LEV_{it}^{dec} + \phi_{20} R_{it} \times DR_{it} \times LEV_{it}^{dec} + Board_Independence + Ownerships + Divergence + \zeta_{it} \quad (\text{Panel C})$$

^b*NI* is net income scaled by opening market value; *R* is the annual stock return for firm *i* for year *t* obtained by monthly returns over the period from eight months before the fiscal-year end to four months after the fiscal-year end; *OVERPAY* is a dummy variable assigned to one if the industry adjusted remuneration ratio is greater than the median and zero otherwise; *BM* is the opening book-to-market ratio; *LEV* is leverage measured by the ratio of total liability to total assets at the fiscal year end; *INDEP* is the proportion of independent directors on the board; *NDUAL* is a dummy indicator taking the value 1 if CEO is not the President and 0 otherwise; *INST* is the shareholdings of institutional shareholders; *INSIDE* is the directors and supervisors' shareholdings for firm; *BIG* is large shareholders' ownership; *CF right* is cash flow control; *Seat_CF* is the deviation ratio between seat control and cash flow ratio. All governance variables are also transformed into scaled decile ranks except for the dummy indicator *NDUAL*. Heteroskedasticity consistent *t*-statistics are in parentheses.

^c***, **, * indicate statistical significance at 1%, 5%, and 10% level respectively for one-tailed *t*-tests of coefficients with predicted signs and two-tailed *t*-tests otherwise.

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