ASIAN ACADEMY *of* MANAGEMENT JOURNAL *of* ACCOUNTING *and* FINANCE

AAMJAF, Vol. 8(Supp. 1), 13–37, 2012

EXECUTIVE COMPENSATION, EARNINGS MANAGEMENT AND OVER INVESTMENT IN MALAYSIA

Ei Yet Chu[1*] and Saw Imm Song[2]

[1]Faculty of Economics and Business, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak
[1]Graduate School of Business, Universiti Sains Malaysia, 11800 Pulau Pinang
[2]Faculty of Business and Management
Universiti Teknologi Mara, 13500 Pulau Pinang

*Corresponding author: eychu@usm.my

ABSTRACT

The study investigates the inter-relationship between executive compensation, earnings management and over investment. Using a sample of 196 Malaysian public listed firms, the findings show a positive endogenous relationship between executive compensation and over investment. Measuring equity compensation in incentive ratio, for each percent of over investment, one percent improvement in share prices will increase 23% of executive directors' equity value. Over investment, however, leads to a decline in executive directors' equity value in large shareholders controlled firms. In addition, one percent of over investment can explain 12% of earnings management. Nevertheless, earnings management does not explain executive directors' compensation. In summary, aligning over-investment with executive compensation schemes has implied that the existing compensation is insufficient for executive directors to align their interest with the objective to maximise shareholders' value.

Keywords: executive compensation, earnings management, investment, large shareholders, Malaysia

INTRODUCTION

In finance literature, issues of private investment in a country are closely linked to managerial objectives and asymmetric information of that market. Theoretically, executive compensation and perquisite of managers increase in accordance with firms' investments to reflect managerial abilities. Nonetheless, the existing literature supports that executive compensation is inefficient and executives tend to increase their pay packages and extract windfall and expropriate shareholders through firms expansion and investment especially in the environment of weak corporate governance (Rose & Shepard, 1997; Bebchuk & Fried, 2003; Goergen & Renneboog, 2011). Instead of the board of directors acting on behalf of shareholders' interest, Bebchuk and Fried (2004) highlight

that executive directors set their own compensation, which benefits them. Moreover, this process can be escalated through the effects of earnings management as inflated earnings accelerate investments (Julio & Yook, 2010) and executive compensation (Chakraborty, Kazarosian, & Trahan, 1999; Kang, Kumar, & Lee, 2006; Carter, Lynch, & Zechman, 2009) in the environment where the issues of information asymmetry is severe. [1]

Various studies in finance document that executive compensation's packages are a result of discretionary accruals, which inflate earnings and stock prices (eg., Bergstresser & Philippon, 2006; Meek, Rao, & Skousen, 2007), and investment (Rajgopal, Shivakumar, & Simpson, 2007). Kuhnen and Zwiebel (2008) state that the use of executive compensation as one of managerial entrenchment mechanisms is prevalent in firms with separation of owner and control. Pertaining to this, East Asian economies postulate a high ownership concentration of founders and family members who are executive directors in the companies. Moreover, firms in East Asian economies have a higher degree of information asymmetry and misallocation of capital investment (Claessens, Djankov, Fan, & Lang, 2003). Fan and Wong (2002) show that controlling owners manage income opportunities and create distortions in the reported earnings in East Asian countries. However, the studies on using executive compensation to expropriate shareholders' value via mechanisms such as executive packages, earnings management and investment in East Asian economies are limited.

Pertaining to the above issues, Malaysia provides a unique setting to examine the applicability of extracting rent through managerial compensation, earnings management and investment. Malaysia's private investments recorded a 1% growth in 2008 and a -17.2% decline in 2009 and a double-digit growth of 13.8% in 2010 (Bank Negara Malaysia, 2010)[2]. Apparently, the uncertainty in global economy has truly tested firms' managerial discretion in investment decision. A survey by Business Times showed that total directors payout in top 20 companies increased 22% in 2009 (Hamsawi, 2011). This leads to an interesting question of whether executive compensation is indeed inducing managerial risk taking, and therefore are to exert firms' in investments. There is also a debate whether compensation schemes are insufficient for managers to align their interest with maximisation of shareholders' objective (Jensen & Murphy, 1990). Moreover, there is evidence that earnings management can often lead to the decision of inefficient investments in Malaysia where the problem of information asymmetry is severe (Chu & Song, 2010).[3] Therefore, there are questions on whether firms inflate earnings, and increase executive compensation and investments, especially in Malaysia where there is a prevalent problem of information asymmetry.

The methods of executive payment overwhelm the amount of payment executives received in affecting a firm's performance (Mehran, 1995). Empirically, Chakraborty et al. (1999) argue that knowing how investment is tied to the CEO's earnings uncertainty helps in building the correct compensation package. The fundamental question in this study is therefore grounded on whether executive compensation structures are sufficient incentives for managers to act to the best interest of shareholders. Hence, a part of assessing executive directors' short-term salary and bonus, this study follows Bergstresser and Philippon's (2006) executives' incentive ratio to capture the implications of the value of equity compensation when there is a one-percentage point increase in the company share price. This is essential because the majority of directors in Malaysia own a certain extent of shareholdings either directly, options or through deemed interest of their family members and companies. The effectiveness of independent directors and duality as corporate governance mechanisms on compensation schemes is also assessed.

Thus far, studies on Malaysia's executive compensation are limited to pay-for-performance. For instance, Abdullah (2006) studied 86 distressed firms in 2001, and proved an insignificant relationship between pay and performance. Tee and Hoey (2009) found a positive relationship of performance ratios and compensation for 21 government linked companies from 2001 to 2006. Dogan and Smyth (2002) show that remuneration is associated with firms' size and future growth but not for performance for a sample of 223 firms from 1989 to 2000.

This paper uses 196 sample firms' data (industry classification benchmark 2000 level) from Bursa Malaysia. Our objective is to examine the inter-relationship between executive compensation, earnings management and over investment. This study documents empirical regularities between executive compensation and corporate investments, executive compensation and earnings management, respectively. The findings are useful in determining corporate financing policies in Malaysia. The paper provides a new perspective on influences of capital market, executive compensation and investment.

LITERATURE AND HYPOTHESES DEVELOPMENT

Executive Compensation and Investment

Goergen and Renneboog (2011) conclude that basic salary and bonus are short-term compensation which relate to firms' size and complexities of responsibility, whilst equity compensation emphasises long term duration which aim to address

the problem of risk aversion behaviour. Therefore, equity compensation emphasises pay for performance and incentivises them to invest for long-term value because an increase in the equity value will increase dollar per dollar payout of executives' ownership. Despite the above definition, there have been debates of whether executive compensation reflects ability or for entrenchment purposes.[4] The entrenchment hypothesis suggests that executive directors will align their strategies to achieve short term objectives but at the expense of long term value when their compensations do not align with shareholders' interest.

Under firms' ability hypothesis, the ideal executive compensation is to attract CEOs and incentivise them to exert efforts, develop growth opportunities, and minimise inefficient investments. Pertaining to this, Rose and Shepard's (1997) provide evidence that executive compensation scheme positively explains executives' ability rather than entrenchment purposes for a sample of 416 firms from 1985 to 1990. It is shown that in an investment that creates the marginal return, an executive with higher ability will be rewarded with a higher compensation.

However, due to entrenchment effects, an optimal executive compensation package is in fact inefficient to align principals and agents problems in firms (Bebchuk & Fried, 2003). In this regard, studies show that agency conflicts lead to problems of over investment or under investment. Firms under-invest if executives align with adverse selection behaviour (Myers & Majluf, 1984) and with limited compensation horizons (Smith & Watts, 1992). In contrast, proponents of over investment link investments to private benefits that executive received from additional investments (Jensen, 1986). On a similar note, Stulz's (1990) model proves that managers could maximise their perquisites despite investing in negative NPV's (Net Present Value) projects. Chakraborty et al.'s (1999) state that over investments are linked to greater compensation, perquisites and executives' promotions. Similarly, Kang, Kumar and Lee (2006) conclude a long-term business investment is positively related to the weight placed on equity-based incentive compensation from 1992 to 2000.

Aggrawal and Samwick (2003) further confirm that insiders pursue investments in response to changes in private benefits rather than to reduce their exposures to business risks. Hence, a study on Malaysia firms' compensation is interesting as founders and family members who have controlling rights may intend to expropriate private benefits from firms (Claessens et al., 2003). Moreover, Jensen and Murphy (1990) conclude that equity compensation is more sensitive than cash incentive to motivate shareholders' value.

To this point, it is ambiguous to argue that a positive relationship between executive compensation and investment is due to entrenchment effects.

This is because an increment in executive compensation can also align with executives' abilities to increase investments in firms (Rose & Shepard, 1997). Nonetheless, following Jensen's (1986) notion, executives have incentives to apply firms' free cash flow and invest in negative net present value investment. Similarly, Pindado and de la Torre (2009) prove that firms with a lower free cash flow will under-invest vis-à-vis firms with higher cash flow. Accordingly, it is proposed that:

H1: There is a positive relationship between executive compensation and over investment.

Executive Compensation and Earnings Management

In an efficient market, capital market mechanisms affect the value and managerial compensation directly. In contrast, the positive relationship between managerial compensation and performance are not directly observed if the market is inefficient. This is because executives may apply earnings management to signal to the market, to increase executive compensation and investment (Edmans & Gabaix, 2009). In an environment where information asymmetry is severe, executives may use earnings management to boost short-run share prices, which is closely linked to their compensation packages. However, earnings management can lead external shareholders to believe in manipulated earnings and therefore appetite for positive surprises. Consequently, shareholders suffer losses in the long run when shares' prices dissipate and adjust accordingly to actual conditions. Carter et al. (2009) prove that income-increasing discretionary accruals rather than executives' ability explain higher bonus payments prior to the introduction of Sarbanes-Oxley Act in 2002. Similarly, Bergstresser and Philippon (2006) prove that executive directors engage in opportunistic earnings management to improve earnings and stock prices, which eventually lead to improvement in their compensation packages.

Leuz, Nanda and Wysocki (2003) prove that earnings management is profound in economies with a high concentrated ownership and weak investor protection. Fan and Wong (2002) argue that large controlling owners in East Asian economies protect their private interest via incredible reporting of accounting information. They also prove that investments accelerate less informative earnings and lower cumulative market returns. However, the study does not address the issue of executive compensation.

In summary, literature generally concludes that using discretionary accruals is to signal their improved short-term profit so that the market will not reduce optimal compensation contracts. In view that earnings management is

closely related to information asymmetry in this economy (Chu & Song, 2010), and there is an increasing trend in executive compensation, Malaysia therefore provides a platform to further explore the above issues. It is proposed that:

H2 : There is a positive relationship between executive compensation and earnings management

Earnings Management and Investment

Investment is one of the strategies to insulate firms from external monitoring. For instance, intra-firms' investment can improve self-financing among divisions and reduce their dependence on external debtors. Lack of monitoring from external debtors can increase opportunities for executives to pursue over investment strategy to enhance their positions. In contrast, firms, which rely on external equity financing, will engage in investments that are especially sensitive to the non-fundamental components of stock prices (Stein, 1996). This notion corroborates with Demsetz and Lehn (1985) that investment allows controlling shareholders to derive superior insider information that allow them to realise pecuniary and non-pecuniary returns as compensation for bearing greater form of specific risk. As such, firms are inclined to enhance information asymmetry and earnings management that drive them to involve in inefficient investment.

Pertaining to the above, firms with large positive discretionary accruals have a lower stock returns in the future. This suggests that a lower cost of capital will help firms to raise external capital for investment purposes. For instance, DeFond and Park (2001) show that firms with large positive discretionary accruals have a lower stock return which in turn pressure the cost of capital to become lower and thus accelerate firms to over invest. In a similar note, Polk and Sapienza (2009) document that earnings management leads to mispricing strategy and can yield a 2% changes in investment. Rajgopal et al. (2007) and Lim, Thong and Ding (2008) prove that managers pursue earnings management strategy by altering discretionary accruals to gain the rights issues and raise stock prices to increase investment in firms.

Aggrawal and Samwick (2003) report the issue of expropriation of shareholders' interest through over investment. They conclude that investment is to serve executives' interest rather than to reduce their exposure to business risks. Executives tend to capitalise this over investment through earnings management. Moreover, Li and Tang (2008) argue that firms with large positive discretionary accruals misallocate resources on fixed assets. McNichols and Stubben (2008) also conclude that a large sample of public companies during the 1978–2002 period over-invest during the misreporting period. Chu and Song (2010) prove

that negative stock returns and discretionary accruals explain inefficient investments in Malaysia. Hence, it is proposed that:

H3: There is a positive relationship between earnings management and over investment.

Apparently, the above literature does not address the issues of executives' immediate benefits such as executive compensation that links earnings management and investments. McNichols and Stubben (2008) confirm that firms that need external equity financing for business expansion are inclined to involve in earnings management. On the other hand, Chakraborty et al.'s (1999) study shows that earnings uncertainty explains investment rather than permanent earnings (such as salary and bonuses). Both studies, however, exclude executives' equity compensation from their analysis.

The relationship between executive compensation and earnings management, and investment cannot be directly observed. Liang (2004) proves that earnings management is an equilibrium outcome from the various self-interested economic agents such as shareholders, managers, competitors and regulators in a perfect market. Similarly, earnings management can be explained by executive compensation, as executives who receive high incentives may manipulate earnings management so that market has confidence on their investments and performances which correspond to their compensations. In a similar note, a higher incentive in equity portion of executives can motivate them to manipulate firms' resources and push stock prices upwards (Peng & Roell, 2008).

Hermalin and Weisbach (2003) further suggest that many empirical results can be interpreted as equilibrium nature and endogenous effects should be considered when study the issues involved corporate governance. In this perspective, Graham, Campbell and Shiva's (2005) survey shows that managers are willing to delay their investment in order to meet earnings target as stipulated in their compensation contract in post Sarbanes-Oxley era. Similarly, McNichols and Stubben (2008) argue that firms that engage in over-investment activities are likely to manipulate earnings to recapture their returns on inefficient investment. Thus, it is essential to address the endogenous relationships between executive compensation and earnings management, and investment respectively.

METHODOLOGY

Three main variables, executive compensation ($EXEC_i$), earnings management (DAC_i) and investment (INV_i) and their endogenous relationship are examined in

this study. In the view that the majority of Malaysia's executives have equity interest in firms, Bergstresser and Philippon's (2006) executive incentives ratios ($INTRAT_i$) is followed to capture executives' equity compensation.[5] The dollar change in the value of executives' directors' share is measured when there is one percentage point increases in the company's share price, $ONEPCT_i = 0.01 \times \text{Price}_i \times (\text{Shares}_i)$, where Price is the company's share price, and Shares is the total number of shares held by the directors. Incentive ratio is then computed as:

$$INTRAT_i = ONEPCT_i / (ONEPCT_i + SALARY_i + BONUS_i) \quad (1)$$

In addition, natural logarithm of salary and bonus ($LNSALARY_i$) is applied to measure executive compensation ($EXEC_i$) for the short-term compensation package.

We apply discretionary accruals (DAC_i) as cited in Subramanyam (1996), Polk and Sapienza (2009) as the measurement for earnings management. Total accruals ($ACCR_i$) are the difference between net income and operating cash flows. We apply absolute discretionary accruals (DAC_i), the residual ($e_{j,t}$) of the Equation 2, as managerial discretions in our empirical model. Hence, this variable could focus on entrenchment effects, as the residual of $ACCR_i$ is defined as the managerial discretionary issues that are controllable by executives.

$$\frac{ACCR_{(i,t)}}{TA_{j,t-1}} = \alpha[\frac{1}{TA_{j,t-1}}] + \beta[\frac{\Delta \text{Re}v_{j,t}}{TA_{j,t-1}}] + \gamma[\frac{PPE_{j,t}}{TA_{j,t-1}}] + e_{j,t} \quad (2)$$

Where $TA_{j,t}$ refers to total assets, $\Delta\text{Rev}_{j,t}$ is the change in net revenue, and $\text{PPE}_{j,t}$ refers to property, plant and equipment. All variables are deflated by total assets at the beginning of the period.

The third main variable is to measure over investment. Investment (INV_i) is defined as capital expenditure on fixed assets other than those associated with acquisitions. It is deflated by total assets at the beginning of the period $t - 1$. Pindado and de la Torre (2009) prove that firms with high cash flow are inclined to over invest. Hence, this effect is captured by using dummy ($D_{i,ncf}$) equals 1, when the firm cash flow (CF_i) is larger than its' respective industrial cash flow (CF_{ind}), i.e. CF_i- CF_{ind}.

The empirical models are defined as below:

$$EXEC_i = \alpha + \beta_1 DAC_i + \beta_2 INV_i \times D_{i,ncf} + \beta_4 \alpha_{ind} (ROA_i - ROA_{ind}) + \beta_5 TBQ_i + \beta_6 CF_i + \beta_7 DUALITY_i + \beta_8 IND_i + \beta_9 LNDEBT_i + \beta_{10} LNTA_i + \varepsilon \quad (3)$$

$$E(EXEC \mid LARGE) = f(LARGE) \tag{3.1}$$

$$DACi = \alpha + \beta_2 Exec_i + \beta_2 INV_i + \beta_3 INV_i \times D_{i,ncf} + \beta_4 \alpha_{ind} (ROA_i - ROA_{ind}) + \beta_5 TBQ_i + \beta_6 CF_i + \beta_7 DUALITY_i + \beta_8 IND_i + \beta_9 LNDEBT_i + \beta_{10} LNTA_i \tag{4}$$

$$E(DAC \mid LARGE) = f(LARGE) \tag{4.1}$$

Equation 3 also includes a variable as proxy for executives' ability as highlighted by Kuhnen and Zwiebel (2008). Executives' ability is inferred as the product of respective industry's standard deviation and the difference between firms' ROA and the respective industry's ROA. This is labelled as $\alpha_{ind}(ROA_i - ROA_{ind})$.

Following McNichols and Stubben (2008), Tobin's Q and cash flows are applied as the proxies for firms' investment opportunity set, which may affect executive compensation, earnings management and investment. Companies with high growth potential are able to pay executives with higher compensations, increase investments and manipulate for a higher share price. Tobins's Q (TBQ) is defined as:

$$\frac{MarCap + B.TDebt}{B.TAssets}$$

where

MarCap = market value of equity;
B.TDebt = book value of total debt;
B.TAssets = book value of total assets.

Amount of cash flows may affect firms' executive compensation and firms' intention to invest (Jensen, 1986). However, cash flows may have a negative relationship with earnings management because an accruals earning is deemed to have a better reflection of firms' performance than cash flows (Subramanyam, 1996). Likewise, earnings management may be applied in a potential high growth company in firms which need higher external equity financing rather than internal cash financing (Cornett, Marcus, & Tehranian, 2008). The cash flow is normalised using total sales.

Bebchuk and Fried (2004) criticise that CEOs are able to influence the nomination process of directors so that to safeguard their interest through compensation packages. The existence of CEO cum Chairman (*DUALITY*) attenuates the effectiveness of board nomination and may hinder board governance on firms' investments and executive compensation policies. A

dummy for 1 is applied when there is a duality status in the firm. In addition, fraction of independent non-executive directors (*IND*) is also applied as a governance mechanism in the study.

Two other firms' characteristics, total amount of leverage (*LNDEBT*, logarithm of debt) and firms' total assets (*LNTA*, logarithm of total assets) are used as controlled variables. Total debt affects firms financing capability towards investment and earnings compensation. Debt can also reduce information asymmetry and chances of earnings management and improve efficient investment (Chakraborty et al., 1999). Firms' size is to control firms' riskiness in the market. A bigger company has a higher capability to pay higher compensation and invest heavily as compared to a smaller firm. Table 1 shows the summary of the variables described above.

Lastly, Dahya, Dimitrov and McConnell (2008) find that the presence of a dominant shareholder could influence the board structure and firms' value, especially in countries with weak shareholders' protection. In another study, Fan and Wong (2002) prove that the dominant of large shareholders adversely affect information earnings and effectiveness of investment. To capture the issue of agency conflicts, we rerun Equation 3 for firms with large shareholders' controlling more than 33%, so that we are certain of any differences of executive compensation in large shareholders' controlling firms (Equation 3.1). Other independent variables are as in Equation 3. Similarly, we retest on earnings management (*DAC*) for large shareholders controlling more than 33% (Equation 4.1) in our sample firms.

A positive relationship between $EXEC_i$ and $INV_i + INV_i \times D_{i,ncf}$ in Equation 3 confirms H1, for the entrenchment effect. A positive relationship for *EXEC* and *DAC* in Equation 3 confirms that managerial discretional accruals are applied to increase executive compensation (H2), and a positive relationship between earnings management and over investment will further confirm entrenchment effect in firms and thus addresses H3. Lastly, 2-stage least square method is used to address the issue of endogenous effects.

Data and Sample

Firms listed on Bursa Malaysia at Industrial Classification Benchmark (ICB) subsector 2000 level are used as our sample. Based on the availability of hand-collected executive directors' compensation data from annual reports in 2009, 196 firms have sufficient data for computing incentive ratio and executive salary. Executive share options are ignored as there are limited firms, which report their outstanding options.

Table 1
Description of variables

Variables	Definitions
Exec	Executive Compensation
Incentive Ratio ($INTRAT_i$)	$INTRAT_{i,} = ONEPCT_{i,}/(ONEPCT_i + SALARY_i + BONUS_{i,})$ $ONEPCT_i = 0.01 \times Price_i \times (Shares_i)$
LNSALARY	Logarithm of executive directors' Salary and Bonus
Earnings management (*DAC*)	Discretionary accruals as proxy for earnings management. It is the residual value ($e_{j,t}$) from $\frac{ACCR_{(i,t)}}{TA_{j,t-1}} = \alpha[\frac{1}{TA_{j,t-1}}] + \beta[\frac{\Delta \mathrm{Re}v_{j,t}}{TA_{j,t-1}}] + \gamma[\frac{PPE_{j,t}}{TA_{j,t-1}}] + e_{j,t}$ where ACCR equals the difference between net income and operating cash flows; TA refers to total assets; ΔRev is the change in net revenue; PPE refers to property, plant and equipment.
Investment (*INV*) $INV \times D_{i,ncf}$	Capital expenditure on fixed assets which represents the funds used to acquire fixed assets other than those associated with acquisitions. Total asset at $t - 1$ is applied to normalise investment of the firms D_{ncf} equals 1, when the firm cash flow (CF_i) is larger than its respective industrial cash flow (CF_{ind}), CF_i- CF_{ind}.
Ability $\alpha_{ind}(ROA_i - ROA_{ind})$	The excess ROA of the company relative to the industry average ROA in that year, This is labeled as α_{ind} ($ROA_i - ROA_{ind}$). α_i refers to respective industry's standard deviation
Tobin's Q (*TBQ*)	Firms' market value plus total debt divided by book assets
Cash flows (*CF*)	Cash flows over sales
DUALITY	Dummy = 1 when chief executive director is also the chairman for firms.
Independent Director (*IND*)	Fraction of number of independent director over total director
LARGE	Percentage shares held by largest shareholders
LNDEBT	Natural logarithm of total debt
LNTA	Natural logarithm of total assets

The sample firms are building materials (48 firms), heavy construction (35 firms), containers and packaging (15 firms), diversified industries (16 firms), electrical components and equipment (9 firms), electronic equipment (6 firms), commercial vehicles and truck (5 firms), industrial machinery (40 firms), transportation services (7 firms), trucking (4 firms) and business support services (11 firms). Corporate governance related data, duality and fraction of independent directors were gathered from 2009 annual reports. Other financial data were obtained from Thomson Financial Database.

FINDINGS

Table 2 presents descriptive statistics. The sample mean of the total executive directors' salary and bonus were RM1.9 million in 2009. It however shows a high variance to the maximum value of RM15 million. Compensation packages for the sample concentrate on equity owned by directors. When it is converted to incentive ratio, the average is a 0.0926, which indicates the value for the executives increase by 9 cents for each 1% increase in share price. The highest value is 0.7922. On the average, investment had increased from 0.03 million in 2009 to 0.04 million in 2010. The inferred executives' ability shows a negative value of –0.001 implying firms in our sample has on average performed below industry's average in their respective industries. On average large shareholders has controlled 32.67% in the sample. Of which, 40.8% or 80 firms control more than 33% of the threshold where large shareholders have effective control in firms. Lastly, on the average, board of directors in our sample consists more than 1/3 of independent directors, meeting the requirements as stipulated in the Malaysian Code of Corporate Governance.

Table 2
Descriptive statistics

Variables	Mean	Median	Maximum	Minimum	Std. Dev.
SALARY	1,879,622	1,248,624	14,886,000	na	2,004,222
LNSALARY	6.03	6.07	7.17	0	0.61
DIRECTORS' SHARE	25,835,986	10,353,046	502,000,000	0	49312404
INTRAT	0.0926	0.0374	0.7992	0	0.13482
DAC	0.0599	0.04	0.35	0.00	0.0606
INV' 09 (million)	0.0339	0.0169	0.3539	0.0001	0.0513
INV' 10 (million)	0.0402	0.0217	0.4949	0.0001	0.0610
ABILITY	–0.00103	0.0100	0.16	–0.2900	0.0692
TBQ	0.6393	0.5579	3.3118	0.1109	0.3515
IND	0.4570	0.4300	0.8300	0.1400	0.1526
Cash Flows over Sales	9.1695	7.5400	80.6200	–61.1800	16.4433
LARGE	32.6736	29.9900	78.7200	4.5100	15.8493
DEBT (millions)	459.1755	66.43	21243.06	0.11	1925.63
TA (millions)	1480.051	299.5	36752.93	31.56	4886.017

Table 3
Correlations

Variables	SALARY	INTRAT	DAC	INV	ABILITY	TBQ	IND	CF	LARGE	LNDEBT	LNTA
SALARY	1										
INTRAT	−0.2488	1									
DAC	−0.0042	0.0147	1								
INV	0.0882	0.2153	−0.1334	1							
ABILITY	0.1870	0.0637	0.3110	0.0426	1						
TBQ	−0.0288	0.2218	0.1033	0.3179	0.2624	1					
IND	−0.1529	−0.0051	0.1119	−0.0850	0.0414	0.0515	1				
CF	0.0145	0.2052	−0.0278	0.1272	0.4848	0.2655	0.0569	1			
LARGE	−0.1125	−0.1711	0.0827	−0.0231	0.0122	0.0056	0.0211	0.0849	1		
LNDEBT	0.2883	−0.0177	0.0917	0.0649	−0.0010	0.1860	−0.0197	0.1599	0.0817	1	
LNTA	0.4089	0.0045	0.1554	0.0564	0.1897	0.1607	−0.0171	0.2764	0.1449	0.8197	1

Table 3 gives the Pearson correlation matrices of the variables in our sample. None of the variables shows significant high correlations among each others. The above correlations show a positive correlation for incentive ratio, earnings management and investment, respectively, which align with our hypotheses. Contradicting to Dahya et al.'s (2008), the largest shareholder however shows an inverse relationship with *SALARY* and *INTRAT*, implying that large shareholders do not put pressure on compensation. This may be due to the fact that large shareholders themselves are the family member or owners of firms. The governance effects of independent directors on compensation are observed from a negative correlation between *SALARY* and *INTRAT*, consistent with our expectations.

Table 4 reports the findings for Equation 3. Incentive ratio ($INTRAT_i$), which captures equity ownership, is applied as dependent variable in Models 1 to 4. Apparently, investment (INV_i) continuously explains the incentive ratio throughout all the models. In Model 3, the coefficient of 0.3353 indicates that when each percent of investment leads to one percent of share prices, the value of executives' equity increases 33.5%. This value becomes 75% when we control for the largest shareholder who owns more than 33% in firms is put under control.

Table 4
Incentive ratio

Dependent	$INTRAT_i$	$INTRAT_i$	$INTRAT_i$	$INTRAT_i$
Indepedent	1	2	3	4 LARGE > 33%
C	0.0252	0.0268	0.0317	0.0250
	(8.9593)***	(3.2555)***	(4.3247)***	(1.1668)
DAC_i	–0.1012	–0.0751	–0.1245	–0.1340
	(–4.5637)***	(–1.9451)**	(–3.5027)***	(–2.3991)**
INV_i	0.2232	0.3381	0.3353	0.7597
	(3.3346)***	(5.3914)***	(7.2935)***	(3.0389)***
INV_i x $D_{i,ncf}$	0.3100	0.4484	0.2318	–0.5726
	(2.3316)**	(4.9958)***	(2.3132)**	(–2.2771)**
$ABILITY_i$	–0.0232	0.0937	0.0426	–0.0418
	(–0.7439)	(2.9639)**	(2.3680)**	(–0.5926)
TBQ_i	0.0822	0.0949	0.1095	0.0371
	(21.5804)***	(11.2253)***	(9.3728)***	(2.2446)**
CF_i	–0.0395	–0.0343	–0.0334	0.0008
	(–6.2478)***	(–6.3169)***	(–6.4944)***	(3.1097)***
$DUALITY_i$		–0.0378	–0.0324	0.0196
		(–10.5098)***	(–10.6843)***	(2.2906)**
IND_i		0.0054	0.0171	–0.0433
		(0.4551)	(1.8932)**	(–2.0847)**
$LNDEBT_i$			–0.04	0.06
			(–5.5768)***	(2.0743)**
$LNTA_i$			–0.0004	–0.0003
			(–8.6054)***	(–5.5264)***
	Weighted	Weighted	Weighted	Weighted
R^2	0.8507	0.8387	0.9230	0.7817
Adj.R^2	0.8459	0.8317	0.9188	0.7471
Std.Error	0.1193	0.1176	0.1189	0.0918
F–stat	178.5288	120.2539	219.2569	22.5614
Prob	0.0000	0.0000	0.0000	0.0000

* Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. t-statistics are in parentheses.

To examine our first hypothesis, the third model illustrates that there is an entrenchment effects as over investment ($INV_i \times D_{i,ncf}$) leads to 23% increase in their compensation value for every 1% increment in share prices, hence

support our first hypothesis. The finding lends support to Chakraborty et al.'s (1999). Moreover, align with Dahya et al. (2008) that the presence of a dominant large shareholder can adversely affect firms' value, our findings in Model 4 shows that firms with a dominant large ownership (>33%) exert a negative reduction in incentive ratio for 57%. This finding also implies that firms over-invest for other benefits other than to enhance equity value. A negative incentive ratio also indicates that external shareholders are exploited due to executives misalign their equity interests with over investment activities. The above findings are consistent when corporate governance related variables, $DUALITY_i$ and IND_i and firms' characteristics such as debt and total assets are added in Model 3 and Model 4.

The link between *ability* ($\alpha_{ind}\ (ROA_i - ROA_{\ ind})$) and incentive ratio is an insignificant negative sign in Model 1. However, when the effects of corporate governance- $DUALITY_i$ and IND_i are included, the coefficients become positively significant in Model 2 and Model 3. In Model 3, when there is 1% of additional ability, for each 1% of share price upwards movement, the value of executives' equity will increase by 4%. In Model 4, the variable *ability* ($\alpha_{ind}(ROA_i - ROA_{\ ind})$) is negative but insignificant to enhance incentive ratio of executive directors when large shareholders are prevalent. $DUALITY_i$ shows a negative relationship with $INTRAT_i$ implying that a separate function of CEO from chairperson increases directors' compensation. Similarly, the presence of independent directors (IND_i) further enhances *INTRAT* to the executive directors.

The issue that executive directors manipulate earnings to enhance $INTRAT_i$ is however inconclusive. Earnings management (DAC_i) shows a negative relationship in explaining incentive ratio throughout the four models. These findings are against H2. Hence, there is no evidence that earnings management has been applied to increase incentive ratio. A negative coefficient value of DAC_i indicates a higher cost of equity (Xie, 2001), a lower DAC_i is not be able to increase share prices which subsequently decline in a longer term and lead to a lower cost of equity. Hence, the cost of equity will remain high in non-discretionary accrual firms. The finding contradicts with Bergstresser and Philippon's (2006) that executives may engage in opportunistic earnings management to improve earnings and stock prices, and to increase their compensation packages.

Other variables that explain investment opportunity, Cash flow (CF_i) and Tobin's Q (TBQ_i) are found to coherently explain *INTRAT*. *TBQ* is positively linked to *INTRAT*, explaining that firms with high growth potential are able to enhance executives' equity value by 11% (Model 3). Similarly, firms with a lower cash flow have a significant higher *INTRAT* (negative relationship) in Table 4

while firms with higher cash flows prefer salary as compensation (positive relationship) as shown in Table 5. In Table 5, it is clear that executives' ability is positively linked to short-term salary and bonus. In Model 3, when executives' ability ($\alpha_{ind}(ROA_i - ROA_{ind)}$) improves by 0.01, taking an exponent of 0.026, the salary and bonus improve by 2.6%. The salary compensation in large shareholder dominant firms is higher with 4.6% increase in salary when we take an exponent of 0.0447 for each 0.01 improvement in firms' ability.

By virtue that incentive ratio is to serve long term objective vis-à-vis salary and bonus which is short term based (Goergen & Renneboog, 2011), we observe that investments do not explain salary compensations in firms. This is confirmed in Model 3 and Model 4 in Table 5, when corporate governance variables and firms' characteristics are included. There is no significant relationship between *INV* and *LNSALARY*. Similarly, to examine H1, $INV_i \times D_{i,ncf,}$ it is found that that there is no significant evidence of over investment to explain short-term salary and bonus.

Table 5 also shows a negative relationship between discretional accruals (DAC_i) and $LNSALARY_i$ throughout all the models. This suggests that the finding is against H2, which expects a positive relationship between earnings management and executive compensation. This further confirms our findings in Table 4.

Investment opportunities, TBQ is negatively associated with salary compensation, implying that long-term opportunities are not associated with short-term salary. Firms with a higher cash flow are also found to pay a higher salary and bonus package. The role of governance mechanism, CEOs' with duality tasks will enhance salary compensation. Lastly, independent directors (IND) show their effectiveness in monitoring salary compensation with a negative coefficient value.

In contrast to Liang (2004) that executives with high incentives may manipulate earnings management so that markets gain confidence on executives' capabilities, the findings show that compensation does not seem to explain earnings management in Table 6. *INTRAT* and *LNSALARY* consistently show a negative significant relationship towards *DAC* in our models. This finding is consistent with our earlier findings in Tables 4 and 5.

Table 5
Salary

Dependent Independent	$LNSALARY_i$ 1	$LNSALARY_i$ 2	$LNSALARY_i$ 3	$LNSALARY_i$ 4 LARGE>33%
C	0.2380	0.5489	0.6845	1.3008
	(26.0195)***	(10.7175)***	(11.2320)***	(9.9428)***
DAC_i	–2.0090	–1.4979	–1.2115	–3.5340
	(–14.3359)***	(–5.8854)***	(–4.9002)***	(–5.2635)***
INV_i	3.9432	2.6984	0.8413	1.7346
	(19.2044)***	(3.4908)***	(0.9873)	(1.5248)
$INV_i \times D_{i,ncf}$	–1.3838	–0.7007	1.1262	0.5599
	(–5.2209)***	(–1.0492)	(1.4391)	(0.3333)
$ABILITY_i$	2.9171	2.9469	2.6002	4.4787
	(36.6312)***	(14.8491)***	(10.1032)***	(3.6031)***
TBQ_i	–0.0030	0.0925	–0.1881	–0.6159
	(–0.2837)	(1.2654)	(–2.5381)***	(–3.2461)***
CF_i	0.1354	0.2259	0.2306	–0.0112
	(3.0395)***	(10.2738)***	(3.7920)***	(–2.6549)***
$DUALITY_i$		0.2335	0.1806	0.0121
		(14.0064)***	(7.5595)***	(0.1447)
IND_i		–0.9842	–1.1056	–1.3911
		(–11.9343)***	(–11.2207)***	(–4.8125)***
$LNDEBT_i$			0.17	–0.04
			(1.8820)*	(–0.1411)
$LNTA_i$			0.0052	0.0054
			(13.0192)***	(10.0254)***
	Weighted	Weighted	Weighted	Weighted
R^2	0.9368	0.8531	0.8282	0.8656
Adj.R^2	0.9348	0.8468	0.8188	0.8442
Std.Error	0.9803	0.9649	0.9488	0.8978
F-stat	464.2581	134.3055	88.2316	40.5691
Prob	0.0000	0.0000	0.0000	0.0000

* Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level.
t-statistics are in parentheses.

Table 6 proves that investment *per se* does not increase earnings management. Throughout the four models, investment is found to be negatively explaining earnings management in Malaysia and becomes insignificant when

there are dominant shareholders in firms (Model 4). Nevertheless, firms which over-invest ($INV_i \times D_{i,ncf}$) are inclined to engage in earnings management. In Model 3, 1% increases in over-investment explains 12% of earnings management, which lends support to H3.

It is a negative but non-significant relationship in Model 4 when there is a dominant large shareholder in firms. This finding is consistent with Chu and Song's (2010) findings that although large shareholders engage in earnings management, they do not involve in inefficient investment after the crisis. Lastly, firms with high growth opportunity may inflate earning to gain lower cost of capital as shown in the positive relationship between TBQ_i and DAC_i.

In summary, there is a positive relationship between executive compensations and over investments (H1) and earnings management and investment (H3), respectively. However, the significant and negative relationship between earnings management and executive compensation, which is against H2 of positive relationship, can be due to the endogenous effect. This issue is examined in Table 7.

Essentially, an endogenous problem hinders decision-making process as the causes and consequences of the problem are interdependent with different degrees. In Table 7, Model 1 and Model 2, using 2-stage least square, whether intensive ratio and earnings management are endogenously affecting each other is examined.

In Model 1 and Model 2, a simple set of instrument variable for $INTRAT_i$ and DAC_{i} as dependent variables, respectively to examine the effects of endogeinity is created. There is no evidence of endogenous effects as DAC_{i} shows an insignificant negative coefficient towards $INTRAT_i$, while $INTRAT_i$ as independent variable in Model 2 is found to be negatively enhancing earnings management. This finding is consistent with our findings in Table 4 and Table 6 after considering the endogenous effects. The negative coefficients further confirm that earnings management is not applied to enhance executive compensation as proposed in H2. On the other hand, there is an endogenous between over investment ($INV_i \times D_{i,ncf}$) and incentive ratio in Model 3 and Model 4. One percent of over investment explains 75% of executive incentive ratio, and simultaneously each percent of intensive ratio motivates executives to over invest by 3%. This finding further confirms H1 that, there is a positive relationship between executive compensation and over investment.

Table 6
Earnings management

Dependent	DAC_i	DAC_i	DAC_i	DAC*i*
Independent	1	2	3	4 LARGE>33%
C	0.0486	0.0374	0.0438	0.0138
	(29.1102)***	(14.9667)***	(12.2795)***	(1.5636)
$INTRAT_i$	–0.0299	–0.0231	–0.0145	–0.0567
	(–4.9914)***	(–2.9243)***	(–2.5481)***	(–2.4321)***
$LNSALARY_i$	–0.0092	–0.0082	–0.0041	–0.0075
	(–10.3288)***	(–8.5207)***	(–4.8465)***	(–3.5189)***
INV_i	–0.0246	–0.0353	–0.0613	0.1142
	(–1.1835)	(–2.6513)***	(–2.5754)***	(1.1977)
INV_i x $D_{i,ncf}$	0.0914	0.0988	0.1212	–0.0969
	(1.6036)	(1.8382)*	(1.9973)**	(–0.8074)
$ABILITY_i$	–0.0507	–0.0530	–0.0821	–0.0123
	(–2.8933)***	(–2.8894)***	(–4.2301)***	(–0.2645)
TBQ_i	0.0227	0.0263	0.0288	0.0593
	(11.0808)***	(16.5094)***	(5.6443)***	(5.8525)***
CF_i	–0.0002	–0.0002	–0.0001	–0.0002
	(–2.5729)***	"(–2.5024)***	(–0.5601)	(–1.0961)
$DUALITY_i$		–0.0017	–0.0057	0.0183
		(–1.5211)	(–3.2368)***	(4.9639)***
IND*i*		0.0177	0.0227	0.0389
		(6.1857)***	(4.6323)***	(2.2646)**
$LNDEBT_i$			–0.0228	–0.0021
			(–5.4197)***	(–0.1284)
$LNTA_i$			–0.0011	–0.0017
			(–6.1261)***	(–6.1165)***
	Weighted	Weighted	Weighted	Weighted
R^2	0.9051	0.9345	0.9404	0.8317
Adj. R^2	0.9015	0.9313	0.9366	0.7987
Std.Error	0.0569	0.0562	0.0562	0.0491
F-stat	253.4641	290.1877	245.3431	25.1655
Prob	0	0	0	0

* Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. T-statistics are in parentheses.

Lastly, H3 is re-examined to determine the relationship between earnings management (DAC_i) and over-investment ($INV_i \times D_{i,ncf}$) in Model 5 and Model 6. Apparently, an endogenous effect is observed. Both dependent variables enter into regression in Model 5 and Model 6 with the expected significant coefficient sign, which is consistent with our findings in Table 6. The finding is consistent with DeFond and Park's (2001) that firms pursue large positive discretionary accruals to gain the benefit of lower cost of capital when share price wanes, hence accelerating firms to over invest.

In summary, there is no endogenous relationship between DAC_i and $INTRAT_{i.}$(H2) However, the study observes the effects of endogeinity for executive compensation and over investment (H1), over investment and earnings management (H3), respectively. Nonetheless, the coefficient signs remain similar and it does not render our OLS regression to be invalid.

CONCLUSIONS

This study explains whether over investment is related to the inter-relationship between executive compensations and earnings management. The contributions from this paper are as follows.

First, the ideal of maximisation of shareholders value in this economy is still vague. Although there is no evidence that executive directors entrench shareholders by way of increasing executive compensation and earnings management, there are evidences that executives' directors apply over investment strategy, which leads to 23% increase in their compensation value with one percent increase in share prices. This finding is however vague to shareholders' value as shareholders can also share the benefits of increasing equity value which is associated with higher risk of over investment. On the same note, the ability of executive directors is reflected well into incentive ratio, but not for firms with the presence of large shareholder. Nonetheless, executive directors' short-term salary and bonus reflect their abilities by performing better than others in their respective industry.

Table 7
Endogenous effects (2-stage least square)

Dependent	$INTRAT_i$	DAC_i	$INTRAT_i$	$INV_i \times D_{i,ncf}$	$INV \times D_{i,ncf}$	DAC_i
Independent	1	2	3	4	5	6
C	0.0205	5.8533	0.0878	–0.0110	–0.0248	4.9378
	(4.0400)***	(15.1422)***	(57.660)***	(–17.6729)***	(–18.3478)***	(14.8789)***
DAC_i	–0.0485		–0.1594	0.0336	0.2130	
	(–0.9757)		(–3.6503)***	(14.9356)***	(9.1824)***	
$INTRAT_i$		–0.8861		0.0297	–0.0812	–0.6865
		(–13.9823)***		(13.8246)***	(–8.4544)***	(–13.2929)***
$LNSALARY_i$		–0.4160				–0.3419
		(–14.8759)***				(–14.1680)***
INV_i	0.0224	2.0208	0.1110	0.6038		–3.9549
	(0.2288)	(13.9488)	(4.5319)***	(20.8315)***		(–1.9888)**
$INV_i \times D_{i,ncf}$	0.4910	–0.1440	0.7492			4.1980
	(2.9647)***	(–1.1146)	(7.5527)***			(2.2589)**
$ABILITY_i$	–0.0234	1.6347				
	(–0.6190)	(10.1985)				
TBQ_i	0.0895	0.1182		0.0083	–0.0485	0.0345
	(11.5338)***	(5.3176)***		(13.3779)***	(–15.2591)***	(1.0424)
CF_i	0.0006	–0.0020			0.0085	
	(2.5391)***	(–6.4851)***			(25.5941)***	
R^2	0.5325	0.6249	0.3044	0.7436	0.7044	0.7098
Adj.R^2	0.5175	0.6108	0.2940	0.7385	0.6985	0.7025
Std.Error	0.1219	0.3949	0.1374	0.0318	0.1322	0.3930
F-stat	35.4944	1.9670	29.4596	145.7246	7.7649	8.11
Prob	0.001	0.05	0.001	0.001	0.001	0.001
Instrument	9	8	6	5	7	6

* Significant at the 10% level. **Significant at the 5% level. ***Significant at the 1% level. *t*–statistics are in parentheses.

Second, firms with normal investment are negatively indulged in earnings management. In contrast, over-invest firms are inclined to engage in earnings management and the relationship shows the endogenous effect. Although this finding lends support to Li and Tang (2008) and McNichols and Stubben (2008), it is uncertain of the objective of earnings management whether to achieve lower cost of capital or other purposes. Taking the above findings and endogenous relationship between executive compensation and over investment together, it is concluded that the endogenous relationship between over-invest

firms which pursue earnings management can eventually lead to a higher executives' compensation.

Third, with the exception of firms controlled by large shareholders, over investment in fact enhances executives' equity interest in our study. In the short term, it certainly benefits shareholders as they share the benefits when share prices improve. Nonetheless, it is uncertain in the long term as over-investment is associated with a higher risk. While the short-term salary compensation reflects the ability of the executive directors well, more studies need to be conducted on long-term equity compensation by virtue that increase of over-investment increases directors' equity value at a higher risk.

In summary, it is proven that over-investment is one of the instruments to enhance equity compensation. Apparently, this has reflected poor governance on executive compensations. Aligning over investment with executive compensation schemes has implied that the existing compensation is insufficient for executive directors to align their interest with the objective of maximisation of shareholders value. Firms' policy makers should be more cautious when firms invest extensively especially with a large surplus of cash. The role of independent directors should be further enhanced especially on prudent investment decisions.

Lastly, there are some clear limitations in this study. The study ignores the role of option shares, which is more sensitive towards firms and market performance. Identity of large owner should also be used to control the effects on executive directors, as family owners generally emphasise on lower compensation. Finally, a panel study that observes changes in salary and executive compensation will further enhance knowledge in this area.

NOTES

1. Literatures mostly refer their studies on executive compensation to CEO's compensation packages. However, in Malaysia compensations to CEOs are not reported in the annual reports. Hence, the study is constrained to executive directors'compensation. Nonetheless, executive compensation stated in this paper is largely referring to CEO's compensation as mentioned in respective journals.
2. Park, Shin and Jongwanich (2009) argue that the investments rate in Malaysia and other East Asian countries are actually at appropriate levels in the post crisis period vis-a-vis over investment during pre-crisis period. The government of Malaysia is however works intensively to encourage private investment in this country.

3. In this paper, we use earnings management to reflect the problem of information asymmetry in this economy. The link of earnings management and information asymmetry was evident in Chu and Song (2010).
4. Other related literature about executive compensation examine whether it is related to luck (Edmans & Gabaix, 2009). This is however not our interest of study here.
5. In fact, it is vague to define directors' equity compensation in Malaysian firms. Firms' annual report do not differentiate portion of shares' option which directors already exercised and portion which directors bought from the open market, as well as the total equity's interest directors have when the companies were first public listed. To facilitate this study, we use directors' total equity interest as the compensation for our incentive ratio's variable.

REFERENCES

Abdullah, S. (2006). Directors'remuneration, firms performance and corporate governance in Malaysia among distressed companies. *Corporate Governance*, *6*, 162–174.

Aggrawal, R. K., & Samwick, A. A. (2003). Why do managers diversify their firms? Agency reconsidered. *Journal of Finance, 58*, 71–118.

Bank Negara Malaysia. (2010). *Annual report*. Kuala Lumpur: Author.

Bebchuk, L., & Fried, J. (2003). Executive compensation as an agency problem. *Journal of Economic Perspectives*, *17*, 71–92.

Bebchuk, L., & Fried, J. (2004). *Pay without performance: The unfulfilled promise of executive compensation.* Cambridge: Harvard University Press.

Bergstresser, D., & Philippon, T. (2006). CEO incentives and earnings management. *Journal of Financial Economics*, *80*, 511–529.

Carter, M. E., Lynch, J., & Zechman, S. C. (2009). Changes in bonus contracts in the post-Sarbanes-Oxley era. *Review of Accounting Studies, 14*, 480–506.

Chakraborty, A., Kazarosian, M., & Trahan, E. (1999). Uncertainty in executive compensation and capital investment: A panel study. *Financial Management*, *28*, 126–139.

Chu, E., & Song, S. (2010). Information asymmetry and earnings management: Causes of inefficient investment in Malaysia. *Capital Market Review*, *18*, 1–21.

Claessens, S., Djankov, S., Fan, J. P., & Lang, L. (2003). When does corporate diversification matter to productivity and performance? Evidence from East Asia. *Pacific-Basin Finance Journal*, *11*, 365–392.

Cornett, M., Marcus, A., & Tehranian, H. (2008). Corporate governance and pay-for-performance: The impact of earnings management. *Journal of Financial Economics*, *87*, 357–373.

Dahya, J., Dimitrov, O., & McConnell, J. (2008). Dominant shareholders, corporate boards and corporate value: A cross-country analysis. *Journal of Financial Economics, 87*, 73–100.

DeFond, M., & Park, C. (2001). The reversal of abnormal accruals and the market valuation of earnings surprises. *The Accounting Review*, *76*, 375–404.

Demsetz, H., & Lehn, K. (1985). The structure of corporate ownership: Causes and consequences. *Journal of Political Economy*, *93*, 1155–1437.

Dogan, E., & Smyth, R. (2002). Board remuneration, company performance and corporate governance: Evidence from publicly listed Malaysian companies. *ASEAN Economic Bulletin*, *19*, 319–347.

Edmans, A., & Gabaix, X. (2009). Is CEO pay really inefficient? A survey of new optimal contracting theories. *European Financial Management, 15*, 486–496.

Fan, J. P. H., & Wong, T. J. (2002). Corporate ownership structure and the informativeness of accounting earnings in East Asia. *Journal of Accounting and Economics, 33*, 401–425.

Graham, J., Campbell, R., & Shiva, R. (2005). The economic implications of corporate financial reporting. *Journal of Accounting and Economics*, *40*, 3–73.

Goergen, M., & Renneboog, L. (2011). Managerial compensation. *Journal of Corporate Finance*, *17*, 1068–1077.

Hamsawi, R. (2011). Top Ringgit for head honchos. *Business Times*, 11 August.

Hermalin, B., & Weisbach, M. (2003). Board of directors as an endogenously determined institution: A survey of the economic literature. *Economic Policy Review, 9*, 7–26.

Jensen, M. (1986). Agency cost of free cash flow, corporate finance and takeovers. *American Economic Review, 76*, 323–329.

Jensen, M., & Murphy, K. (1990). Performance pay and top management incentives. *Journal of Political Economy*, *98*, 225–264.

Julio, B., & Yook, Y. (2010). Earnings management and corporate investment decisions. Paper presented at *Asian Finance Association International Conference,* 29 June–1 July, Hong Kong.

Kang, S., Kumar, P., & Lee, H. (2006). Agency and corporate investment: The role of executive compensation and corporate governance. *Journal of Business*, *79*, 1127–1147.

Kuhnen, C., & Zwiebel, J. (2008). Executive pay, hidden compensation and managerial entrenchment. *Working paper*, Stanford University.

Leuz, C., Nanda, D., & Wysocki, P. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics*, *69*, 505–527.

Li, K., & Tang, V. (2008). Earnings quality and future investment: Evidence from discretionary accruals. *Haas School of Business Working Paper*, University of California, Berkeley.

Liang, P. (2004). Equilibrium earnings management, incentive contracts and accounting standards. *Contemporary Accounting Standards*, *21*, 685–718.

Lim, C., Thong, T., & Ding, D. (2008). Firm diversification and earnings management: Evidence from seasoned equity offerings. *Review of Quantitative Finance and Accounting*, *30*, 69–92.

McNichols, M., & Stubben, S. (2008). Does earnings management affect firms investment decisions? *The Accounting Review*, *83*, 1571–1603.

Meek, G., Rao, R., & Skousen, C. (2007). Evidence of factors affecting the relationship between CEO stock option compensation and earnings management. *Review of Accounting and Finance*, *6*, 304–323.

Mehran, H. (1995). Executive compensation structure, ownership and firm performance. *Journal of Financial Economics*, *38*, 163–184.

Myers, S., & Majluf, N. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, *13*, 187–221.

Park, D, Shin, K. & Jongwanich, J. (2009). *The decline of investment in East Asia since the Asian financial crisis: An overview and empirical examination*. ADB Economics Working Paper Series No. 187, Asian Development Bank.

Peng, L., & Roell, A. (2008). Manipulation and equity-based compensation. *American Economic Review, 98*, 285–290.

Pindado, J., & de la Torre (2009). The effect of ownership structure on under-investment and over-investment processes. *Accounting and Finance*, *49*, 363–383.

Polk, C., & Sapienza, P. (2009). The stock market and corporate investment: A test of catering theory. *The Review of Financial Studies*, *22*, 187–217.

Rajgopal, S., Shivakumar, L., & Simpson, A. (2007). *A catering theory of earnings management*. Working Paper, University of Washington Business School.

Rose, N., & Shepard, A. (1997). Firm diversification and CEO compensation: Managerial ability or executive entrenchment? *RAND Journal of Economics*, *28*, 489–514.

Smith, C., & Watts, R. (1992). The investment opportunity set and corporate financing, dividend and compensation policies. *Journal of Financial Economics*, *32*, 263–292.

Stein, J. (1996). Rational capital budgeting in an irrational world. *Journal of Business, 69*, 429–455.

Stulz, R. (1990). Managerial discretion and optimal financing policies. *Journal of Financial Economics*, *26*, 3–27.

Subramanyam, K. R. (1996). The pricing of discretionary accruals. *Journal of Accounting and Economics*, *22*, 249–284.

Tee, C., & Hoey, C. (2009). Directors' pay-performance: A study on Malaysian government linked companies. *Banker's Journal Malaysia*, *133*, 28–33.

Xie, H. (2001). The mispricing of abnormal returns. *The Accounting Review*, *76*, 357–373.