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Executive Pay-Performance Sensitivity and its Consequences: Empirical Evidence on the Role of Ownership in Thailand

by

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ABSTRACT

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EXECUTIVE PAY-PERFORMANCE SENSITIVITY AND ITS CONSEQUENCES: EMPIRICAL EVIDENCE ON THE ROLE OF OWNERSHIP IN THAILAND

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Executive compensation has been extensively studied in market orientation economy; consequently the conflict of interest between the Principal and the Agent is clearly defined in a widely-held firm. A concentration-owned firm that dominates Asian capital markets have not such a conflict between the shareholders and the managers, but groups of shareholders in conflict are a concern. Since only one group of owner dominates the decision, executive compensation is hardly believed to be well established. Using a unique Thai listed company's data between 2002 and 2008 as a sample, this study presents empirical evidence on Agency theory outside the Anglo-Saxon setting. Ordinary least square method, fixed effects, two-stages least squares, generalised method of moments are deployed to test the hypotheses.

In addition to all executive receives base pay, it reveals that bonus is the most common incentive while fewer than 10% of listed companies provide stock option to their executive. The econometric results reveal positive pay-performance sensitivity in Thai listed companies. However, ownership structure does play a vital role in the sensitivity. In a widely-held firm, the positive influence of firm performance on executive compensation is found. The evidence supports that widely-held firms have well established their executive compensation package. In the foreign-owned firm, the positive sensitivity reveals that foreign ownership actively take part in the compensation policy to serve the firm interests. Furthermore; Managerial power suggests that in the imbalance of power between groups of shareholder, there is no pay-performance sensitivity in neither family-owned nor corporate-owned firms. Further evidences indicate that operation cash flow and stock return are the consequence of executive bonus pay.

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DECLARATION OF AUTHORSHIP

I, Trairong Swatdikun, declare that the thesis entitled Executive Pay-Performance Sensitivity and its Consequences: Empirical Evidence on the Role of Ownership in Thailand and the work presented in the thesis are both my own, and have been generated by me as the result of my own original research. I confirm that:

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- None of this work has been published before submission.

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ABBREVATION

2SLS	Two-stage least-squares
BONCOR	Interaction variable between bonus and corporate ownership
BONDIS	Interaction variable between bonus and dispersed ownership
BONFAM	Interaction variable between bonus and family ownership
BONFOR	Interaction variable between bonus and foreign ownership
COR	Corporate ownership
DIS	Dispersed ownership
EPS	Earning per share
EPSCOR	Interaction variable between earning per share and corporate ownership
EPSDIS	Interaction variable between earning per share and dispersed ownership
EPSFAM	Interaction variable between earning per share and family ownership
EPSFOR	Interaction variable between earning per share and foreign ownership
FAM	Family ownership
FDI	Foreign direct investment
FE	Fixed effects
FOR	Foreign ownership
FPI	Foreign portfolio investment
GDP	Gross domestic product
GMM	Generalised method of moments
GNP	Gross national product
IMF	International Monetary Fund
ISIC	International standard industrial classification of all economics activity
IV	Instrumental variable
LEquity	Natural logarithm of equity
MAI	The Market of Alternative Investment
OCF	Operation cash flow

OCFCOR	Interaction variable between operation cash flow and corporate ownership
OCFDIS	Interaction variable between operation cash flow and dispersed ownership
OCFFAM	Interaction variable between operation cash flow and family ownership
OCFFOR	Interaction variable between operation cash flow and foreign ownership
OLS	Ordinary least square
Q	Tobin's Q
RE	Random effects
RI	Stock return
RICOR	Interaction variable between stock return and corporate ownership
RIDIS	Interaction variable between stock return and dispersed ownership
RIFAM	Interaction variable between stock return and family ownership
RIFOR	Interaction variable between stock return and foreign ownership
ROA	Return on assets
ROACOR	Interaction variable between return on asset and corporate ownership
ROAFAM	Interaction variable between return on asset and family ownership
ROAFOR	Interaction variable between return on asset and foreign ownership
ROE	Return on equity
ROS	Return on sales
S&P	the Standard and Poor
SEC	the Stock Exchange Commission of Thailand
SET	the Stock Exchange of Thailand
SETSMART	The Stock Exchange of Thailand Market Analysis and reporting tool
TOTCOR	Interaction variable between total compensation and corporate ownership
TOTDIS	Interaction variable between total compensation and dispersed ownership
TOTFAM	Interaction variable between total compensation and family ownership
TOTFOR	Interaction variable between total compensation and foreign ownership
U.K.	The United Kingdoms of Great Britain and Northern Ireland
U.S.	The United States of America

CHAPTER 1

Introduction

Many factors, such as customer orientation, global competition, information technology, and management innovation, have lately been changing the business environment and driving the world economy in a sharply different direction from that which it sued to follow. Such changes have given academia the opportunity to revise its position, since the current collective knowledge needs to be developed in order to create value, and by implication improve human living standards. Executive compensation is one of the covert issues which may not be seen clearly in a growing economy. Since the business still makes profits and the owner enjoys good returns, no one asks for further investigation. Unfortunately, in the middle of a financial crisis when a business is no longer profitable to its owner, some hidden issues have been dragged out for discussion. Take the Royal Bank of Scotland for example; soon after announcing the biggest loss in British banking history,

the business announced that it is still going to pay large bonuses to its which prompted the British government to take steps to investigate the issue of transparency. The Chancellor of the Exchequer recommended that the bonuses paid out should be re-evaluated. The bank has since been obliged to report its pay and incentive policies in its annual report. This evidence confirms that executive compensation is major area of public concern.

This chapter provides an overview of this study of the executive pay-performance sensitivity and is consequences. The first section begins with the presentation of this research background. The second section provides the research motivation, while section 3 outlines the institutional background of the research setting. Section 4 identifies the research objectives and Section 5 provides the research questions. Then the sixth section focuses on the expected outcome of this study. Section 7 describes the structure of the whole thesis. Then the list of presentation is shown in section 8. Finally, the last section provides a summary of the chapter.

1.1 Research background

The economic literature takes a positive approach to designing corporate control systems. This is the consequence of using the principle of the division of labour to create a new structure for economic organisations. The specificity of labour skills leads to an awareness of how important management skills are for the control and collaboration activities within the organisation. When most organisations have to hire a professional manager to operate their business deals within the time limits set by the shareholders, it creates an agency cost because it separates ownership from control. The manager’s decision and performance are thus directly linked to the organisation’s success or failure. Executive compensation is an important issue because it not only provides incentive, but also creates a system to

allow shareholders to investigate whether the manager is performing well in his task of maximising the principal's interests and arbitrages effectively.

Since the 1990s, academics have begun to realise the importance of executive compensation. This began with a series of searching factors that determine executive compensation; Agarwal (1981) for instance empirically determined executive compensation using various approaches while Deckop (1988) emphasised that firm performance which is economic determines executive compensation, and Young and Buchholtz (2002) provides evidence that executive human capital determines executive compensation. Later, the series of pay-performance sensitivities were begun from the US (Jensen and Murphy, 1990), and then the theme spread to the UK (Conyon and Murphy, 2000), Japan (Kubo, 2000), and China (Mengistae and Xu, 2004), respectively. Most of these studies offer a richer understanding of the advanced economy in the story of executive compensation. However, the benefits come with costs. A wide variety of methods have been used and so many different conclusions have been drawn about the relation between executive compensation and firm performance that none of them can be easily verified. In the recent financial crisis, the public understanding urgently needed more clarity. People demanded explanations of what was important in executive compensation. When a firm performance starts to go downhill, shareholders suffer, but the announcements of rising executive pay are apparently unaffected.

1.2 Research motivation

The issue of executive compensation has long been a topic of annual public debate. Moreover, the more expanded the capital market is, the more complicated the system is that is needed to deal with asymmetric information and other issues. As a result, this research topic still needs further

clarification. Since quality data are still developing, panel data are emerging. This data structure allows estimation techniques to be developed. 2SLS is an econometric innovation which is currently being introduced to deal with endogenous issues such as the causal relationship between executive compensation and firm performance, and vice versa. This study takes the opportunity to track the executive pay issue using the classic and the newly available techniques to better understand the whole story.

This study also owes much to the work of Jensen and Murphy (1990) and Hartzell and Starks (2003) who offered new evidence in the hope of providing a better understanding of executive compensation under the Agency theory. However, only a limited amount of research on executive compensation and Agency theory has been done in an Asian context. Thus, there is little in the literature to show how Agency theory applies to executive compensation in Asian countries, which provide unique business environments due to the lack of Western cultural influence. Thus, to extend our collective knowledge and to fill this pronounced gap in the literature, the present study aims to examine the relationship between executive compensation and firm performance in Thailand. Thailand has a developing economy, which at one point was considered one of the world’s fastest-growing economies. This growth came to an abrupt halt in 1997 and by 1998 the country found itself in the middle of the worst economic crisis in its modern history. However, Thailand was one of Asia's best performers again in 2002-04. Boosted by increased consumption, high investment spending and strong export growth, the Thai economy grew by 6.9% in 2003 and 6.1% in 2004, despite a sluggish global economy. Even though growth slowed to 4.6% in 2005, the downturn can be attributed to high oil prices, weaker demand from Western markets and severe drought in its rural regions, tsunami-related declines in tourism and lower consumer confidence. By focusing on the sequence in Thailand of economic development followed by an economic crisis and now a growing economy once more, researchers should have a very good opportunity to

examine executive compensation and agency theory in a new context and under different conditions from those usually considered**.**

1.3 The institutional setting in Thailand

The Thai economy shows enduring growth in performance. Bailey and Jagtiani (1994) indicate that the capitalisation and level of trading activity in the Thai stock market exceed those of some developed countries and all but the largest emerging markets. There is, however, very limited research on the way in which Thai firms employ an international approach to their corporate mechanism, which has spread widely due to the international integration of economies. The root of the unique culture of Thailand is the result of progress in combining the heritage of the great surrounding ancient empires. Also, unlike its neighbours, where Western culture exerted a strong influence in the colonial period, independence has kept the traditional Thai way of thought unique. The country was one of the first in the area to respond to a new form of long-term fund raising. The Stock Exchange of Thailand (SET) was established more than 30 years ago. Even though it is not a new market, however, the structure of the Thai market gives no sign of losing its characteristics as a strongly coordinated economy. This research takes the opportunity to test the fitness of compensation theory which originated in Agency theory. This setting is interesting because its structure has grown from an American foundation but its control activities are widely different from those expected by the designer, and it also lacks the social influence of Anglo-Saxon culture.

1.3.1 Economic overview

Thailand is classified as an agriculture-based country. The economy relies heavily on exporting agricultural products, namely, rice and other natural resources, forest resources, fishery resources, oil and natural gas and also the tourist industry. The country was recognised as an Asian Tiger before it was overtaken by the financial crisis in the late 1990s. Shortly after its stock market regulations were forced by the International Monetary Fund (IMF) to change, the economy became one of the fastest emerging economies in early 2000, although the rise in oil prices, together with the American financial crisis, checked the fast growth of the Thai economy before it reached bottom once again, due to a political crisis.

Table 1.1 shows the overall economic situation in Thailand during the period 2000 to 2008. The population grew steadily in this period. Both gross domestic product (GDP) and gross national product (GNP) increased steadily by 6.4% and 5.4% on average every year in that time. During the eight years, the inflation rate also grew, except in 2002 and 2007. Its lowest point was 0.7% in 2002, compared with its highest, 5.5%, in 2009. The unemployment rate decreased overall, from 3.3% in 2000 to 1.4% in 2008. Both exports and imports increased by a similar range. The balance of payments grew from 2000 to 2005, except for a sharp decline in 2003. Compared with 2005, the balance of payments in 2006 more than doubled. Since then the growth was as much as 35% in 2007 and 44% in 2008. The country’s international reserves grew steadily from 2000 to 2005 and have increased more steeply since 2005, reaching 111 billion baht (about 22 billion pounds) in 2008. Its total debts outstanding declined dramatically from 2000 to 2003. Then they stayed constant for three years before rapidly growing once again. The exchange rate reached its peak in 2001 with 44.48 Thai baht per 1 U.S. dollar before a steady and constant decline in 2003.

Table 1.1 Thailand's Macro Economic Indicators

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Population (Million persons)	61.08	61.31	61.80	61.88	61.97	62.42	62.83	63.04	63.39
GDP at current price (in Billions)	4,923	5,134	5,451	5,917	6,489	7,093	7,841	8,493	9,105
GNP per capita (Baht : Person)	77,860	79,571	82,975	88,688	96,049	103,667	114,748	123,673	130,631
Inflation (%)	1.6	1.6	0.7	1.8	2.7	4.5	4.7	2.3	5.5
Unemployment rate (%)	3.3	3.1	2.3	2.4	2.6	1.8	1.5	1.4	1.4
Export	67.9	63.0	66.0	78.1	94.9	109.3	127.9	150.0	175.2
Import	62.4	60.5	63.3	74.3	93.4	117.6	126.9	138.4	175.1
Current account balance	9.3	5.1	4.6	4.7	2.7	-7.6	2.3	14.0	1.6
Net capital movement	-10.3	-3.4	-1.8	-4.7	3.6	11.0	6.8	-2.4	14.6
Balance of payments	-1.6	1.3	4.2	0.1	5.7	5.4	12.7	17.1	24.6
International reserves	32.7	33.0	38.9	42.1	49.8	52.1	67.0	87.4	111.0
Total debt outstanding	79.7	67.5	59.5	51.8	51.3	52.0	59.6	61.7	65.0
Exchange rate (1 US$ for the amount of baht)	40.16	44.48	43.00	41.53	40.27	40.27	37.93	34.56	33.36

Source: Bank of Thailand (2010)

1.3.2 Capital market overview

Regarding the successful use of the capital market to fund the economy in developed countries, SET had a plan to source funds to re-float the Thai economy (SEC, 2003). The money market was termed ‘developed’ but to rely on this market only would be a mistake, since it is unable to provide an efficient financial system because financial institutions will dominate the system and keep high spreads away from transaction; and also all risks will be transferred to the financial institutions. For these reasons, the Thai government decided to establish the securities market. SET’s handbook indicates - in the history of the establishment of SET - that the creation of the market was aimed to provide an efficient financial system to circulate excess money from private savings into the hands of business people, who needed the funds to expand their business. This investment was made to give business people more funds and reward the owners of capital with reasonable rates. To do this, the authority hoped to create a market for funds in order to support savings, an investment which directly relates to the extensive development of the Thai economy.

In 1974, the Thai government passed ‘The Stock Exchange of Thailand Act B.E. 2517’. The first trading in the stock market occurred on 30th April 1975 in what was called ‘The Securities Exchange of Thailand’. This stock exchange became one of the fastest growing capital markets from the moment when it began trading with 21 listed companies in the initial day, but more than 15 times greater of 15 years of operation. To respond to the expansion, in 1991 the market was renamed as ‘The Stock Exchange of Thailand’ with a fully automatic system called the ‘Automated System for the Stock Exchange of Thailand’. It was also upgraded to a self-regulatory organisation, managed by the Securities and Exchange Commission (SEC) in the following year. During the golden period as the world’s fastest growing economy in the 1990s, the market enjoyed a rapid growth in the flow of investment from all over the world. However, the systematic problems of the banking system as well as a

long-term high inflation rate brought the Thai economy to a bubble period before it crashed in the late 1990s. The situation caused many financial institutions to close and Thailand's economy later become one of the worst casualties in Asia. The World Bank, together with the International Monetary Fund, required the country to reform its financial system, regulations, standards and requirements which involved the Stock Exchange in a huge step forward at the time of the millennium. Since then, the economy has returned to its rapid growth rate of an annual average of 5%, having left the crisis behind.

Governed by the Public Limited Company Act and the Securities and Exchange Act, SET has three main tasks in its operation. First, it can be approached by an applicant company to be listed to trade in equities in both the main market and the Market of Alternative Investment (MAI). Second, it has a duty to provide an efficient trading system. Finally, the Stock Exchange has to provide sufficient shareholder protection, where information disclosure is compulsory. SET uses the Automatic Order Matching system to match price and then a system of time priority in real time. It also allows a Put-through system in case of negotiations made in advance. There are five types of board; namely, the main board, odd lot, special board, big lot board and foreign board. After trading, an investor has to transfer the security within three working days using multilateral netting. The current clearing procedure follows the book-entry system.

To become a listed company, the stock market requires the applicant to trade in something which is economically and socially beneficial to the country. The first specific requirement for a candidate company to be listed in the main stock is the possession of at least 300 million Thai baht of paid-up capital for common shares. The distribution of minor shareholdings is monitored and requires at least 1000 shareholders generally holding at least 25% of the outstanding shares. It also requires the candidate to have a track record of at least three continuous years under a single management team before joining the market. Regarding financial condition, the market requires the candidate

to have accumulated at least 50 million Thai baht in net profits in the previous three years to joining the market, with the most recent accounting period showing at least 30 million Thai baht of net profit. Its financial statement and auditors have to be identified by specific characters. The requirements of independent directors, an audit committee, corporate governance and internal control are clearly mentioned in order to reduce conflicts of interest (SEC, 2007a; 2007b; 2007c). Moreover, dividend policy must be clearly stated. In addition to the equity market, an Alternative Investment Market in bonds and derivatives is also available; however, these markets are operated by a sub-unit of the Stock Exchange. The Market for Alternative Investment was introduced as a new opportunity for medium-sized businesses to gain access to this source of funding. These businesses had a good chance of growth and were operating in a new economy; they were fast-growing, innovative and knowledge-based, and in such areas as computers, technology, food, the media and professional services. Even those in key roles apply to the Market for Alternative Investment (MAI), but still the stock market provides some advantages for those who trade in it, since it has lower requirements for listing companies in this group. To be a candidate, the company must have at least 20 million baht of equity and market capitalization of at least 1,000 million baht. It has to continually operate for at least two years under a single management team and its most recent accounting period must show a net profit. Its security requirements are to have at least 300 shareholders holding at least 20% of its capital. Table 5.2 displays the securities listed in SET both in number and in market capitalisation.

Table 1.2 provides information about the size of SET. It indicates that the stock securities have steadily grown over the past decade. In particular, the highest expansion of the number of listed companies was between 2004 and 2005, while the rate of growth of financial products reached a peak. In the value of trading, soon after the Asian financial crisis, the market capitalisation of SET expanded sharply between 2002 and 2003. It continued to show consistent growth until it dropped sharply in 2006.

Table 1.2 Thai stock market overview

	2000	2001	2002	2003	2004	2005	2006	2007	2008
Number of listed companies									
Listed companies	381	385	392	399	428	474	504	535	543
Market Capitalisation (Unit: Millions of Baht)									
Stock Securities	1,290,997	1,607,737	1,990,035	4,803,548	4,533,598	5,119,427	5,100,515	6,674,338	7,180,752
Common Stocks	1,279,224	1,515,612	1,863,972	4,583,775	4,370,031	4,966,392	4,951,960	6,484,947	7,011,507
Preferred Stocks	n.a.	74,473	89,613	131,983	112,885	112,892	114,870	155,355	134,638
Stock options	11,773	17,652	36,451	87,790	50,681	40,144	33,684	34,035	34,607
Debt Securities	223,696	251,720	280,342	457,759	475,779	576,893	869,227	934,323	1,001,698
Unit Trusts	369,291	392,872	466,035	727,214	682,623	963,806	1,222,494	1,611,481	1,524,663
Others	n.a.	7,000	224	3,996	7,177	7,385	4,785	7,279	5,121

Source: Stock Exchange of Thailand (2010) and Bank of Thailand (2002; 2003; 2004; 2005; 2006; 2007; 2008)

In addition to stock securities, the market also provides a bond market, which is called the Bond Electronic Exchange. The trading volume of bonds has grown about five times since it was first introduced. Alternative security is the Non-Voting Depository Receipts and the derivatives market. The developed deal, with the statement that the market needed further developing, was the variety of financial provision, in which 95% of volume trading came from cash equities. Compared to the World Federation of Exchanges, the Thai stock market has a very limited percentage of derivatives in its trading. Only 2% of its securities trading is in derivative products, whereas 47% of market capitalisation is the average worldwide. The stock market also provides the volume of transactions made by three groups of investors; local investors, local institutions and foreign investors.

Table 1.3 Percentage of transactions by investor type in SET

	Local investors	Local institutions	Foreign investors
2000	62	6	32
2001	77	4	19
2002	72	5	23
2003	76	6	18
2004	71	8	21
2005	62	10	28
2006	55	11	34
2007	54	14	32
2008	54	17	29

Source: Stock Exchange of Thailand (2010)

Most of the transactions on the Thai stock exchange were by local investors. More than two thirds of listed compensation is traded by either corporations or individual Thais. Only one third of the listed companies are traded by foreign investors. The proportion of foreign investors was healthy, however, ranging from 18%-34% across the period. There are a few listed companies

traded by local institutions, but the number is growing, from 6% at first to a level of 17% in the most recent year for which figures are available.

Under the supervision of the SEC, SET requires listed companies to provide those investors with all their important information. The fully automatic trading system called the Automated System was introduced in 2001. Also, the stock market has developed the Electronic Listed Company Information Disclosure system, which provides both Thai and English language financial and non-financial documents, directly transposed to the SET website. If it fails to do so, SET sends a warning signal to the trading board. A Notice Pending will be issued if the Stock Exchange continues to wait for further information or explanation from the company. A Notice Received will be issued should information or explanation be received. In the case of an abnormal transaction, a Trading Halt will warn investors that Security has come to a temporary halt. The sign deals with structural changes and gives no information to the public. A suspension sign will be shown if the firm fails to provide the needed information within the time frame.

A financial statement, which includes the balance sheet, income statement, cash flow statement, statement of change in equity and note to the financial statement is then required. A statement of management structure is also required; comprising organisation structure, a list of executive managers, auditors, independent directors and other related information such as the structure of committees, which requires further information about selection criteria and which director belongs to which committee, as well as the meetings and attendance of the directors. The executive compensation is required to be reported as a total, but the type of compensation must be specified. Details of audit fees and non-audit fees to auditing firms are also required in the published report. It is also required to have an audit committee of at least three persons, of whom at least one is a financial expert. An independent committee of at least three persons is also mandatory.

In 2006, SET first officially announced that it was still concerned over the issue of executive pay. In addition to SET, the National Corporate Governance Committee and the Stock Exchange Committee investigated those executives who were overpaid. These three bodies investigated executive compensation to test whether it was in line with firm performance and the industry to which it belonged. They found the evidence that it was satisfactory. The investigation of these three provides some useful information, available at the SET website. The data show that 341 of Thai listed companies (79%) paid both salary and bonus as a compensation package to their executives. The second package was salary alone and 90 firms (21%) paid a salary to their executives. In addition to basic pay, perquisites were provided by 212 companies to their supervisors. Regarding warrant-package compensation, 40 firms offered this.

The discussion of compensation is currently under debate. Concerned by this matter, the stock market authorities are aware that stakeholders need executive compensation information. This basic information provides a bird's eye view that executive compensation in Thailand does follow the world super power of the US. In addition to the above analysis, the regulator is also concerned over the angle of whether executive compensation is based on good corporate governance. It analysed the relationship of total assets, sales and net income to compensation pay. Total assets would be the proxy of the executive responsibility, since it is assumed that bigger firms demand more responsibility and thus justify bigger benefits. Further, sales and net income were presented by the bodies as the proxies of executive performance. This assumption may be based on the work of writers who claim that the more benefits the executives provide for the firm, the more compensation they should receive. The results of the relationship show weak evidence of the link between compensation and these three proxies. Therefore, they highlight that this weak evidence is due to the limitations of the number of factors that were taken into account.

1.4 The executive compensation setting in Thai listed company

The uniqueness of Thai culture creates a stock market with its won unique characteristics. The concentrations of shareholders are considered as potential sources of a specific form of corporate governance. Therefore, SET expressed its concern over executive compensation practices as a mechanism of corporate governance. Doumar and Schreuder (2008) mentioned that corporate governance is particularly important since it provides systems by which companies are directed and controlled; thus well designed governance should be able to prevent excessive pay and encourage the use of performance-related pay. The first documentation on the role of the committee is drawn in the “Principles of Good Corporate Governance for Listed Companies 2006” best practice which was created by the Stock Exchange of Thailand. Kim et al (2010) indicates that understanding the executive compensation setting not only benefits the investors, but also benefits the firm itself when gathering the funds. In 2006, SET issued a statement indicating that setting structures and procedures of relationship between managers, directors, and shareholders including other stakeholders is crucial for efficient, transparent, and audited management systems.

Even the SEC has unambiguous concern over corporate governance practice in Thailand; however there is no explicit requirement for listed companies to deal with its governance structure. It only indicates that the Board of Directors should contain both executive directors and non-executive directors such as independent and external directors. Having issued the guidance, the Stock Exchange of Thailand (2006) claimed that it believes that corporate governance is a crucial element of internal procedures that arrange, accomplish, and ensure the effectiveness of the firm. Taking this universal approach, the SET issued its code of conduct which complies with

the Organization for Economic Co-operation and Development (OECD)'s recommendations. However this demonstration of code of good governance is only guidance and the gurantee of protection is not yet active (Wali-ul-Maroof, 2006).

1.4.1 The governance structures

The SET (2008) required Thai listed companies to establish boards of directors as the representatives of the shareholders. Since the Board of Directors is responsible for enhancing the firm's interest, appointments to the board should remain neutral and transparent and the role of directors should be clearly defined. The influence of executive managers on the contracting process is forbidden as is controlling shareholders or management. The shareholders should have the right to nominate candidates for board positions. Besides, the nomination and election process should function as a means of ensuring board accountability[1]. The team should include various qualifications of independent non-executive directors who are free from any relationship that might materially interfere with individual capacity in order to prevent inadequate divergence of interests between stockholders and executive managers. The members should promote the credibility of financial reporting and ensure that executive management acts on the stakeholder's behalf at all times.

In order to support the recommended best practice, SET (2006) issued remuneration committee guidelines in 2008 in the hope of adjusting the guidelines to fit with the company's specific environment. It requested a remuneration committee to study and screen special tasks of executive compensation on behalf of the board. The executive compensation is particularly important by using incentives to align the interest between the

[1] Jongsureyaport (2006) revealed that only half of listed companies have shareholders elected as members of the board of director. Also, the executive believes that it is difficult to discover equity ownership and the major shareholders control.

shareholders and the manager. Since the executive compensation duties are important and specifically unique, it is recommending the compensation committee as the sub-committee of the Board of Directors to study and screen the compensation issue on behalf of the board.

The compensation committee has a virtual role in determining and making recommendations of executive compensation to the Board of Directors, which would be approved or amended, and then proposes the plan to shareholders for approval (SET, 2008). Since the form and level of executives need to be well balanced in order to retain, motivate, and attract desirable executives at affordable cost, the committee should typically conduct surveys on the current market compensation practices, using benchmarks, and then set the performance standard. Many compensation committees deploy external compensation consultants to survey the market conditions by comparing the pay level and structure of firms with those of similar size and within the same industry in order to make recommendations about the compensation package. To ensure neutrality, the majority of the compensation committee should be independent in that the board of director's chairman should not be either the committee chairman or a member. The team should have at least three members. The appointment to the committee should be for three years and should coincide with the member's tenure as a director. SET (2006) indicated that the team should take into account the stakeholders' interests by regularly reporting its recommendations on the criteria for and the amount of compensation to the Board of Directors and to shareholders through the firm's annual report and the shareholders' meeting.

Jongsureyaport (2006) found that, typically, the size of aThai board was between eight and 12 members, with three to five independent directors. In fact, 36% of listed companies do not yet have a compensation committee, so the boards of directors have to perform the task. The author further revealed that reviewing of executive compensation is paid least attention, compared

with the other functions of the board. Some firms, then, put more efforts into this area by liking independent directors directly to firm performance. Yet, the author pointed out that a new problem emerged that using a board of directors is a less effective way to oversee the governance of a company.

1.4.2 The compensation process

The SET (2008) insisted that clarifying a compensation package is crucial to recruit, retain, and motivate executives who are needed within levels of affordability but not overpaid; thus the compensation committee should consider and propose the criteria against which appropriate compensation pay is set, tailored to reflect each individual executive's experience, obligations, responsibilities and workload, risk, retention, and reward through reviewing the current criteria, comparing the compensation package with those of other companies in the same industry, establishing criteria that create the expected result and rewarding those who contribute to the firm's success. In addition, all forms, amounts and proportions of the compensation package should be reviewed regularly.

The Thai institute of Directors and McKinsey and Company (2002) found that even though listed companies perceived the value of the approval process, very few companies approve executive compensation by shareholders. Consequence, the Director's Handbook produced by the Stock Exchange of Thailand in 2004 recommended that executive pay should be set based on comparison with others in the same industry and holding the same responsibilities and financial position. It is also important that there is consistency between the performance evaluation and the firm's targets. The handbook also indicates that executive compensation pay depends on their own value which is set by the Board of Directors while approval of the executive compensation pay is the shareholders' duty. However, Jongsureyaport (2006) found during the designing of compensation

packages, only a few firms had a clear statement of responsibilities, where compensations is influenced by management's impact on firm performance.

1.4.3 Reporting of executive compensation plans

Since financial reporting is vital for investors' decisions, SET (2009) indicated that the Board of Directors has a duty to ensure that all important information relevant should be reported regularly, correctly, accurately, timely and transparently through easy-to-access channels that are fair and trustworthy. It further indicated that stakeholders expect the disclosure which is strictly complied with and apply with the implementation of the principles in their 2007 annual report onward. In the case that the company does not comply with, or adopt, the principles, it needs to explain itself.

Since, however, the Stock Exchange of Thailand only requires listed companies to state the total pay that is provided to the executive managers, most companies refer to executive salaries as a top executive compensation package. SET (2008) further suggested that the remuneration committee should ensure that names of committee members, numbers of committee meeting, rate of attendance at the committee meetings by each committee member, summary of the committee's charter and compensation criteria should clearly set out. Also, the committee's charter and compensation criteria should be disclosed in full on the company's website; and in addition, full and transparent disclosure per director, including a non-technical explanation of the rationale for the compensation plan, should be displayed in annual reports in order for shareholders to make proper assessment of the packages.

SET has yet to respond to CIMA's (2010) suggestion that full details of the individual directors' pay packages should be submitted as part of the annual report; which included: (1) the policy on executive compensation, (2) the

components of the compensation package which broken down into the total base salary, details of annual performance incentive, details of long-term performance incentive, and other benefits, (3) the balance of components in terms of content and value, (4) total emoluments for all other executive managers, (5) an aggregate total of all taxable benefits paid to executive managers, and (6) duration of service contracts.

1.5 Research objectives

This empirical study investigates the pay-performance sensitivity and its consequences, by emphasising primarily the usefulness of contracting in providing public information, which is believed to mitigate the cost of contracting. This research also provides evidence of the way in which ownership structure, as the moderating variable, affects the pay-performance sensitivity. With its concern over ownership structure, this research intended to provide new evidence on how different types of owner use the incentive mechanism in their organisation. The unit of analysis is the listed companies in Thailand. There are five objectives of this study, namely:

1. To investigate the level and form of executive pay of Thai listed companies.

2. To investigate the executive pay-performance sensitivity in Thai listed companies. It intends to respond the current debate over executive pay.

3. To investigate the role of ownership structure in the pay-performance sensitivity in Thai listed companies. This brand new approach will provide a better understanding of the way ownership affects the compensation pay.

4. To investigate the effectiveness of existing Thai executive compensation by evaluating the performance consequences of executive compensation, in which recently developed statistical techniques are used in order to reveal the casual relationship between incentive and firm performance.

5. To investigate the moderating effects of ownership structure on the performance consequences of executive compensation. Since most studies of executive compensation have focused on the pay-performance sensitivity debate, limited attention has been paid to the performance consequences of executive compensation.

1.6 Research questions

From the research objectives, this study offers research themes by which to study the relationship between executive compensation and the firm performance. The main question is as follows:

“How effective is executive compensation pay in Thai listed companies?”

In order to address the main question, four supplementary sets of questions are introduced, as follows:

1. Does firm performance relate to the extent of its executive compensation pay?

    1.1 Does EPS relate to the extent of its executive salary pay?

    1.2 Does OCF relate to the extent of its executive salary pay?

    1.3 Does R relate to the extent of its executive salary pay?

    1.4 Does EPS relate to the extent of its executive bonus pay?

    1.5 Does OCF relate to the extent of its executive bonus pay?

1.6 Does R relate to the extent of its executive bonus pay?

1.7 Does EPS relate to the extent of its executive total pay?

1.8 Does OCF relate to the extent of its executive total pay?

1.9 Does R relate to the extent of its executive total pay?

2. Do ownership structures moderate the firm performance sensitivity to executive compensation pay?

2.1 Does family ownership moderate the EPS sensitivity to executive salary?

2.2 Does family ownership moderate the OCF sensitivity to executive salary?

2.3 Does family ownership moderate the R sensitivity to executive salary?

2.4 Does corporate ownership moderate the EPS sensitivity to executive salary?

2.5 Does corporate ownership moderate the OCF sensitivity to executive salary?

2.6 Does corporate ownership moderate the R sensitivity to executive salary?

2.7 Does foreign ownership moderate the EPS sensitivity to executive salary?

2.8 Does foreign ownership moderate the OCF sensitivity to executive salary?

2.9 Does foreign ownership moderate the R sensitivity to executive salary?

2.10 Does dispersed ownership moderate the EPS sensitivity to executive salary?

2.11 Does dispersed ownership moderate the OCF sensitivity to executive salary?

2.12 Does dispersed ownership moderate the R sensitivity to executive salary?

2.13 Does family ownership moderate the EPS sensitivity to executive bonus?

2.14 Does family ownership moderate the OCF sensitivity to executive bonus?

2.15 Does family ownership moderate the R sensitivity to executive bonus?

2.16 Does the corporate ownership moderate the EPS sensitivity to executive bonus?

2.17 Does corporate ownership moderate the OCF sensitivity to executive bonus?

2.18 Does corporate ownership moderate the R sensitivity to executive bonus?

2.19 Does foreign ownership moderate the EPS sensitivity to executive bonus?

2.20 Does foreign ownership moderate the OCF sensitivity to executive bonus?

2.21 Does the foreign ownership moderate the R sensitivity to executive bonus?

2.22 Does dispersed ownership moderate the EPS sensitivity to executive bonus?

2.23 Does dispersed ownership moderate the OCF sensitivity to executive bonus?

2.24 Does dispersed ownership moderate the R sensitivity to executive bonus?

2.25 Does family ownership moderate the EPS sensitivity to executive total pay?

2.26 Does family ownership moderate the OCF sensitivity to executive total pay?

2.27 Does family ownership moderate the R sensitivity to executive total pay?

2.28 Does corporate ownership moderate the EPS sensitivity to executive total pay?

2.29 Does corporate ownership moderate the OCF sensitivity to executive total pay?

2.30 Does corporate ownership moderate the R sensitivity to executive total pay?

2.31 Does foreign ownership moderate the EPS sensitivity to executive total pay?

2.32 Does foreign ownership moderate the OCF sensitivity to executive total pay?

2.33 Does foreign ownership moderate the R sensitivity to executive total pay?

2.34 Does dispersed ownership moderate the EPS sensitivity to executive total pay?

2.35 Does dispersed ownership moderate the OCF sensitivity to executive total pay?

2.36 Does dispersed ownership moderate the R sensitivity to executive total pay?

3. Does executive compensation relate to the extent of their firm performance?

3.1 Does executive bonus pay relate to the extent of their EPS?

3.2 Does executive bonus pay relate to the extent of their OCF?

3.3 Does executive bonus pay relate to the extent of their R?

3.4 Does executive total pay relate to the extent of their EPS?

3.5 Does executive total pay relate to the extent of their OCF?

3.6 Does executive total pay relate to the extent of their R?

4. Do ownership structures moderate the firm performance consequences of executive compensation?

4.1 Does family ownership moderate the EPS consequences of the executive bonus?

4.2 Does corporate ownership moderate the EPS consequences of the executive bonus?

4.3 Does foreign ownership moderate the EPS consequences of the executive bonus?

4.4 Does the dispersed ownership moderate the EPS consequences of executive bonus?

4.5 Does family ownership moderate the OCF consequences of the executive bonus?

4.6 Does corporate ownership moderate the OCF consequences of the executive bonus?

4.7 Does foreign ownership moderate the OCF consequences of the executive bonus?

4.8 Does dispersed ownership moderate the OCF consequences of the executive bonus?

4.9 Does family ownership moderate the R consequences of the executive bonus?

4.10 Does corporate ownership moderate the R consequences of the executive bonus?

4.11 Does foreign ownership moderate the R consequences of the executive bonus?

4.12 Does dispersed ownership moderate the R consequences of the executive bonus?

4.13 Does family ownership moderate the EPS consequences of executive total pay?

4.14 Does corporate ownership moderate the EPS consequences of executive total pay?

4.15 Does foreign ownership moderate the EPS consequences of executive total pay?

4.16 Does dispersed ownership moderate the EPS consequences of executive total pay?

4.17 Does family ownership moderate the OCF consequences of executive total pay?

4.18 Does corporate ownership moderate the OCF consequences of executive total pay?

4.19 Does foreign ownership moderate the OCF consequences of executive total pay?

4.20 Does dispersed ownership moderate the OCF consequences of executive total pay?

4.21 Does family ownership moderate the R consequences of executive total pay?

4.22 Does corporate ownership moderate the R consequences of executive total pay?

4.23 Does foreign ownership moderate the R consequences of executive total pay?

4.24 Does dispersed ownership moderate the R consequences of executive total pay?

1.7 Significance of the study

This research does not expect to provide a conclusive solution for the protractedly debated issue of compensation design, but it does simplify the collective knowledge and provide empirical evidence for existing theories, as well as inserting new statistical techniques when appropriate. This research will, it is hoped, deal with at least four main issues.

First, the study aims to either validate or challenge the social controversy about possible pay-performance sensitivity. New thinking has brought extra considerations: this study hopes to explicate the role of the ownership in which an economic organisation operates. The next consideration is to investigate the role of executive compensation in determining a firm performance. This result will lead to confirmation/demolition of the challenge to the current design of executive compensation.

Second, regarding the unique executive compensation in Thailand, some companies claim that they pay compensation on the basis of performance, while some even report only the budget for executive compensation. This study will, it is hoped, bring a better understanding of the executive compensation pay of Thai companies. Furthermore, this research will employ ownership structure to investigate the pay-performance sensitivity, which will help Thai firms to understand the role of market structure that might provide a potential direction for their strategies in the future. This information will also encourage investors to investigate the relevant information before they make a decision, which will help the development of Thailand’s capital market. The information provided also reminds the regulators to reconsider their role in the design of benefits and setting of guidelines.

Third, the developing of modern econometrics allows the endogeneity between executive compensation and firm performance to be studied. This simultaneous equation and identification specification provides an opportunity to understand whether a firm pays high executive compensation because it hopes to get better performance or because, with high performance, it can afford to pay high executive compensation.

Last, the conceptual model and the research methodology will illustrate an approach to assess and develop executive compensation programmes in other developing countries. This study will, it is hoped, contribute to our collective understanding of executive compensation in a non-traditional context, specifically in an Asian context, by testing Agency theory on the compensation paid to Thai executives and the performance of their firms. It is expected that the results will show how managers' compensation is influenced by firm performance, which may show whether compensation can reduce the conflict of interest between the principal and the agent.

1.8 Structure of the thesis

This study is divided into nine chapters: an introduction, literature review, research framework, study of research methodology, the research findings, a discussion and a conclusion. An overview of each chapter is presented below.

Chapter 1, the present chapter, provides introductory information as a background to the research, and discusses first the objectives, questions and significance of the research and then the structure of this study of the relationship between executive compensation and firm performance.

Chapter 2 is the literature review on the theory of the firm which leads to the introduction of incentive compensation and control mechanisms, using biological order. Theory of the firm will lay the foundation while Agency theory is discussed later in the chapter.

Chapter 3 follows the development of the research framework with its two main issues: what determines executive compensation and how it influences firm performance.

Chapter 4 discusses the research methodology, which reveals the nature of the research design, research method, data collection and data analysis. This chapter aims to provide a research tool for answering the research questions.

After this, research results of the analysis are provided in Chapter 5. The analysis begins with descriptive statistics which gives a general idea of executive compensation in Thailand.

Chapter 6 investigates the pay-performance sensitivity. This chapter provides the testing of hypotheses of this study by inferential statistical tests. Statistical techniques such as the Pooled OLS, FE, two-stage least squares and the Generalised Method of Moment are employed to supply the information.

Chapter 7 goes on to investigate the performance consequences of executive compensation. This chapter also provides the testing of hypotheses of this study by inferential statistical tests. Statistical techniques such as the Pooled OLS, FE, two-stage least squares and the Generalised Method of Moment are employed to supply the information.

The next chapter (Chapter 8) contains a discussion of these findings, together with the implications of the results. Afterwards, Chapter 9 presents the conclusions of this study.

1.9 List of presentations

Research papers from this study have been presented in the following conferences:

1. ‘Executive Compensation in Thai Listed Companies’, The First Samaggi Samagom Academic Conference, Imperial College London, U.K. 16-17 February 2008.

2. ‘Does Financial Performance Still Matter for Executive Compensation? The role of Ownership Structure in Thailand’, British Accounting Association; Doctoral Colloquium, University of Dundee, U.K. 20-21 April 2009.

3. ‘Executive Compensation, Performance and Ownership Structure: Evidence from Thailand’, British Association Accounting Association Annual conference 2009, University of Dundee, U.K. 22-23 April 2009.

4. ‘Ownership Structure and the Impact of Corporate Performance on Executive Compensation: Evidence from Thailand’, British Academic of Management Annual conference 2009, Brighton, U.K. 15-17 September 2009.

5. ‘The Role of Executive Compensation on Earning Management in Thailand’, European Academy of Business in Society 2009, University of Navarra, Spain. 21-22 September 2009.

6. ‘Executive Compensation, Firm Performance and Ownership Structure: Determination and Consequences’, Oral presentation at 2010 Research Development Programme, Institute of Chartered Accountants of Scotland, U.K., 2-3 March 2010.

1.10 Chapter summary

This chapter has provided an overview of this study of pay-performance sensitivity and its consequences. The first section presents the research background, showing how the organisation has been studied on the issue of incentives. The second section provides the research motivation. The research question is identified in section three. The next section identifies the research objectives and focuses on the expected outcomes of this project. Section five states the significance of the study. Next, the structure of the present study is identified. After that, a list of presentations is shown and this final section has summarised the chapter.

CHAPTER 2

Literature Review

This chapter reviews the state of executive compensation research with an emphasis on its core theories. Until now, executive compensation has been viewed as a complicated issue joining the provinces of finance (Baker, Jensen and Murphy, 1988), economics (Jensen and Murphy, 1990), accounting (Ittner and Larcker, 1998), management (Barkema and Gomez-Mejia, 1998), and politics (Bebchuk and Fried, 2003). Hengartner (2006) believes that diversity approaches provide a comprehensive knowledge on executive pay. However, the diversity also leads to contradictory findings which leads to the acknowledgement that there is a puzzle here that needs to be solved.

The original idea of this organisational study of the incentive system was derived from the economic study of industrial organisations. It can be traced to the economists' theory of the firm, which states that market failure leads to the establishment of economic organisations. Together with the primary assumptions of the economic study of organisations, human assumptions and information assumptions, the different forms of the separation between ownership and control require the firm to design different contracts to co-ordinate the activities within the organisation. Unfortunately, the development of the capital market has increased the size of firms, and which increases the problem of the relationship between the Principal and the Agent, so in turn it increases the complexity of the working contract. Altogether, these increases have led to the use of an incentive system to resolve the problems, but they create a further level of complexity in the relationship between the Principal and the Agent. This is because the state of asymmetric information between them allows the self-interest of the Agent, who has more information, to have an advantage over the Principal, which is well known as a cost of using an Agency. The key issue is that human rationale and information asymmetry still play a crucial role in the Principal/Agent relationship. Although the firm must pay for incentives, it is expected that the agency cost will be returned to the firm by the improvement in the firm performance.

This study, initially, extends the famous paper of Jensen and Meckling (1976), who move towards the relationship within the firm via the agency approach. They explain that any separation between ownership and control makes the Principal aware that the design of the working contract should insist on full responsibility for the hazard that the contract may be broken by the Agent. Therefore, all of the relevant contracting action is wrapped up with ex-ante incentive alignments (Williamson, 1985). However, early studies emphasised the traditional asset ownership studies of Coase (1937), Simon (1951) and Klein, Crawford and Alchian (1978), who all approach the firm as an asset of the Principal because of his physical investment. Later, this became the concern of Grossman and Hart (1986) and Hart and Moore

(1990), who highlighted a new side of the story by posting that the Agent also holds part of the rights of the firm because he has a right to his private information. Thus, the relationship is not as straightforward as that of employer and employee; rather it is an interrelationship of corporate control over the claim of the firm's wealth.

Furthermore, the international capital market and cross-country investment has brought new knowledge from all over the world in a short period. An emerging trend in the US is the increasing use of stock options and lack of fringe benefits, and the decline of the salary element in total compensation is expected to spread worldwide. However, the awareness of different basic assumptions between Anglo-Saxon and other settings raises widespread concern over the ignorance of authorities of copy-cat behaviour unnecessary to their active role and regulations. This study aims to contribute to the ongoing debate on executive compensation by empirically exploring issues relating to compensation and ownership structure and their relationship with firm performance in the Thai context.

This chapter has been organised into five sections. The first section states the assumptions that the economists set out in organisation studies of the relationship between the Principal and the Agent. The second section presents a comprehensive review on the use of executive compensation in the economic organisation. Section three provides the theoretical approaches to executive compensation pay. This section also investigates the effect of ownership structure on the compensation design. Section four sets out details about the performance consequences of executive compensation. Then the last section provides brief information about the overall findings of the chapter.

2.1 Theory of the firm

A set of propositions about governing an organisation has been in place since organisation theory began. Smith (1776) and later Berle and Means (1932) laid the foundations for thinking about the economy of the organisation. The first book explains the importance of the division of labour whereas the second emphasises the separation of ownership and control in modern organisations. Coase (1937) states that, in a perfect market, the ideal mechanism for allocating resources efficiently is the price mechanism. It is the equilibrium point where the buyer is willing to pay what is asked and the seller agrees to receive that amount.

Unfortunately, the sophisticated characteristics of asset specificity, uncertainty and frequency lead to a contracting problem (Williamson, 1975). When the market is unable to provide a satisfactory price for either the buyer or the seller, spot deals cannot be made. For this reason, if it is a perfect market, the success of transactions relies on the quality of the regulations, information provision and accreditation, which combine to prevent opportunism among the parties to a transaction (Coase, 1937). An imperfect market leads to the establishing of organisations to fulfil those requirements below the market price. The firm works to control and coordinate both production and transaction costs. The division of labour plays a role in an organisation, as it does in the markets. The idea underpinning this is that, when tasks have been split up into small components, the unique characteristic of each one can be served easily, so that the common objective will be achieved. Williamson (1975) wanted an invisible structure of market features and the hierarchical and hybrid forms of the organisation to be systematically linked to economic consequences. A complete view of the firm has been introduced using contract as the explanation. Jensen and Meckling

(1976) indicate that the firm is actually a set of contracts between stakeholders whom share some interest. All these relationships have to give to, and will take some dimension of, organisational wealth. However, problems can arise in any exchange process when someone has to enter a contract with someone else. Fama and Jensen (1983) remarkably put forward their Theory of the Firm, using the organisation assumption on the role of separation between ownership and control, and then investigated the issue of the governing of modern organisations. Eisenhardt (1989) extends on the foundation of the Theory of the Firm using the role information plays in self-interested behaviour, which raises conflicts of interest between groups of people, due to their risk preferences.

The idea of the division of labour can be traced back to the origin of modern economics in Smith's Inquiry into the Nature and Causes of the Wealth of Nations (1776). The thesis became a phenomenal success because it allowed resources to be allocated with greater efficiency by decomposing all complicated work into simple tasks. Expertise in a task will require less time and resources to complete the work. Later evidence shows that a firm's size regresses as the marginal cost of transaction declines. Evidence of this can be found in the rapid development of the industrial world, since, once the Industrial Revolution got under way, the world was never the same again. The dramatic development of capital markets to deal with the gathering of long-term funds in the US and the UK led to the development of today's international capital markets. Expanding the capacity to gather capital for a firm brings people together to share wealth. In the meantime, the complexity of the relationships between groups of people in the capital market attracted academic interest in explaining what drove the new economy. The concept first put forward was that, since, directors manage other people's money rather than their own, problems may arise.

The first economic paper dealing with assumptions about simultaneous relationships between the Principal and the Agent was that of Berle and

Means (1932); under the title The Modern Corporation and Private Property; it found the relationship highly problematic, in fact. They queried how organisations should balance between their Principals, the fund owners and the professional Agents who have discretionary power in the firm. A possible more important question is how the fund owners can be sure that the Agent is behaving in such as way as to serve the owner's interests. The authors found that modern organisations try to avoid, shape and dominate economic regulations in the US.

2.1.1 Information assumption

Alchian and Demsetz (1972) placed a fundamental relationship for study between production, information cost and the economic organisation of ownership. It inserts the concept of the principal-and-agent problem by reviewing the emergence of the firm's central power where information is available but unevenly distributed and deals with the pursuit of competitive advantages by the more efficient allocation of resources throughout an organisation. The paper was a landmark in writings on economics by recalling that the entrepreneur uses the organisation to produce particular activities through an agent, the person who makes the decisions about management control. The situation requires the entrepreneur to design plans for control and coordination, which will include methods for motivating the agent.

One crucial issue in organisational economics comes from information asymmetries. Arrow, Pratt, and Zeckhauser mentioned, as far back as 1985 in their work, Principals and Agents: the Structure of Business, that imperfect information influences the allocation of resources in both markets and organisations. The authors state that the organisation problem arises because one person has to give his power to another in order for the latter to make decisions on behalf of them both. The former has relevant information which the latter does not have. The discrepancy in information between the two sides is not costless; the shortfall is called the agency loss or agency cost.

The concept of imperfect information in the markets was firstly introduced in Akerlof's (1970) paper in a form which he called the market for lemons. The paper is remarkable in terms of the explanation of the problem, the application and its effect; it is illustrated by the example of the problems involved in buying a second-hand car. The seller knows more about the car than the buyer does and he also wants to make as much profit as he can. The buyer does not know the quality of the car and so he wants to pay as little as he can. The transaction can be made if the buyer can accept the price; if not, he will reject the transaction. The situation can be applied to the relationship between the Principal and the Agent in the stage of designing the contract, because the Agent always knows his own characteristics and abilities better than the Principal does. Consequently, the Principal has to design the contract, as well as control the Agent's behaviour, only on the basis of such information as he has. The Agent has to decide if he will accept the offer and, if so, when the contract will begin; if not, he must reject the offer. There followed five decades of statistical proof that the theory is one of the most powerful theories at present (Wolk et al., 2007). Its point brings into play factors that lie at the root of the relationship problem; human assumptions, self-interest, risk aversion and bounded rationality (Jensen, 1994), from the Principal's point of view. In one way, the Agent knows that he has to act as the Principal wants, but the self-awareness of the Principal tells him that he should be worried about the possibility that the Agent may be serving his own interests. Arrow et al (1985) mention that imperfect information leads to two information models, named the hidden information model (adverse selection) and the hidden action model (moral hazard). The conflict becomes well known as the root of the agency problem mentioned in Jensen and Meckling's world seminal research and its construction of the 'Theory of The Firm'.

Arrow et al (1985) describe the situation thus, before the relationship has begun, if one person is ignorant or short of information about another while negotiating, his situation is referred to as one called '*adverse selection'*.

Macho-Stadler et al (2001) define adverse selection problems as the difficulty experienced by the contractor in dealing with the private information that another person has held before their relationship began. Guesnerie (1992) adds that the problem of adverse selection is that the contractor may verify another person's behaviour, but the process is costly. Macho-Stadler et al (2001) add that the contractor has a chance to design what the parameters of another person's task should be, whereas how to reduce the private information is held by another. The Agent will put his best effort into the most important task, which he will evaluate on the basis of the reward of the task. Then, if he still has resources, he will continue to carry out the second task, the third task and so on. McKinnon and Bruns (1993) add that it is important to design a performance evaluation system based on the adverse selection model so that the system can be used to explicitly set out some of the Principal's expectations about the job context and goals of performance, which will be measured. This gives rise to the classic phrase, 'you may not get what you want, but you will get what you measure'. Of course, the chance of communication may be offered but it does not guarantee the success of the relationship, because factors such as regulations may influence the requirements of the contract; even so, it may not fully control how the Agent behaves.

Because of the difference of risk preference between the Principal and the Agent and the self-interest of both of them, the Principal has to introduce some mechanism to make sure that the Agent is aware of what the Principal is looking for. A working contract has been introduced to reduce the agency cost when the economic interests of the Principal and Agent diverge substantially and monitoring is costly. Using this form of contract as a mechanism to reduce information asymmetries, Arrow (1963) and Holmstrom (1979) find the hidden action model (moral hazard). Holmstrom mentions that moral hazard is the ignorance or shortage of information on the part of the Agent after the negotiating of the agreement, which leads to anxiety about the performance of the agreement. The idea has been traced by Guesnerie

(1992), who comments that the model of adverse effects also originates from insurance companies. Later, Macho-Stadler et al (2001) explained in detail that this situation arises after the contract has been signed, when the Principal is no longer able to fully observe the action (or the effort) of the Agent. This creates a chance for the Agent to use his private information to conceal his effort. Holmstrom and Milgrom (1994) highlight that this is the real problem of the term ‘effort’ which, although often required in the working contract, is not directly observable. The redundant behaviour due to the possession of private information diverts the Principal’s value to the Agent’s benefit and the Principal desires to eliminate this. The current issue in the moral hazard problem is finding how the Agent is behaving or risking another problem when the performance measurements have been settled.

The cost of information has been revised recently, now that the cost has gone down with the development of information technology. Levinthal (1988) further mentions that the problem of adverse selection and moral hazard are reducible if the problems are repeated over time. Later on, economists realised that if the firm wants to simplify the Principal and Agent problem, complete agreement between them should be part of the structural design; but it should be borne in mind that the issue of asymmetric information still plays a crucial role in identifying the relationship between the Principal and the Agent. Whoever has more information is the key player who will not let the ideal contract be completed. Contracting has thus become one of the key elements which have dominated the study of organisations over time.

2.1.2 Behaviour assumptions

Jensen and Meckling (1976) explain that firms as professional organisations have costly conflicts involving self-interested behaviour between groups of people. Agency theory has sought to explain how incentives can optimise actions when two or more people are involved in economic activity under conditions of uncertainty. Self-interested behaviour raises the conflict of interests between groups of people, due to their risk preferences in such issues as compensation, regulation, leadership, vertical integration and transfer pricing (Eisenhardt, 1989).

The consideration of human assumptions is one supposition that economists require in order to understand human beings. The main objective for humans in making an economic decision is to maximise their unlimited wants from scarce resources. Neoclassical economics focuses on the maximising orientation in allocating activities between divisions, which is the most accurate when all the relevant costs can be identified. The strong form of self-interest is taken into account when determining such issues as technology, risk and perception. Of concern at first, though, was the lack of relevant information to make decisions limits the ability of the decision maker to maximise his benefit from the choices available. However, information technology has become immensely successful in providing access to various sources of data, so much so that this has created another problem of information, called information overload. Whether by lack of information or information overload, everything raises the cost of information in modern organisations. The desire to maximise benefit, which wants to select the best option at all times, becomes impossible to attain. Williamson (1985) states that either to claim economic man’s decisions as rational or to contemplate maximising benefits are both open to criticism as unrealistic ways to explain human behaviour.

The current major platform for understanding about how economic man makes rational calculations was well constructed when Simon (1955) wrote his paper, *A Behavioural Model of Rational Choice*, an approach to human logic which later became well-known for introducing the term of '*bounded rationality*'. This was Simon's particular name for his concept of 'approximate rationality'. He points out that underneath the decision- making process there are two constraints on the individual: the limitation of information access and the limitation of computational capacities in complex situations. Ellison (2006) agrees that all human behaviour is based on reason, but thinks that the computability of the complexity of different situations makes for differences of choice. He links bounded rationality with the compensation issue by stating that a fully rational model could mean that a worker would be hired only in the case when he would contribute more profit to the firm than it would gain without him. However, the limitation of availability of information about the worker and the complexity of the tasks which he performs make it far from realistic to base a decision on this statement. He finally concludes that the 'bounded rationality' assumption allows economists to construct a model which describes how a reasonable person would behave and can predict in broad terms how people will act. However, almost all work on rationality has been done within the discipline of sociology, concerning the paradox inherent in statements of bounded rationality; it exists because emotion plays a crucial part in our behaviour as human beings (Schwartz, 2002). As social animals, we elevate self expression above the needs of the social structure. The group's standard becomes the bottom line of the indicator of its bounded rationality. This is the result of the complicated interaction within and between groups. This assumption allows us to study the interaction between groups of people to explain and predict each other's behaviour.

The allocation of scare resources to maximise need is key: But the question is, 'the need of whom?' '*Opportunistic*' behaviour is the strong form of self-interest orientation. It is another significant assumption of economists

seeking to explain how human beings behave. It is believed to be sensible behaviour when humans assessing limited resources rank the significance of their needs. However, human beings tend to put their own needs above the needs of others (Jensen, 1994; Macho-Stadler et al, 2001). This can also explain the motivation when humans help each other; evaluating this realistically, they do so because they look forward to an expected reward rather than because they want to do good. The discussion on the nature of the expected reward is still continuing: some schools may take the view that people may not always need an economic reward, but they still look to increase self-satisfaction. Williamson (1985) summarises the three level of self-interest as opportunism, simple self-interest seeking and obedience. He points out that economists believe in self-interest-seeking with guile, which includes forms of lying, stealing and cheating. The discussion of this level of self-interest over human altruism is attacked by the findings of philosophy and psychology in religious discourse, which points to the power of humans to live together in peace and seems to be valid on the spiritual level. However, the study of mainstream economics, applied to issues of people making economic decisions, has so far not come across the matter of how the human spirit performs. Economists study the sort of situation where one person, the Principal, allows another, the Agent, to use his wealth to create more wealth. In so doing, the Principal expects to get the reward from his original wealth which, in modern finance studies, is called the cost of capital. When the Agent gets the capital from the Principal, he will try his best to achieve the biggest possible reward based upon the investment. Basically, the best the Agent can achieve is that the greater part of the capital should remain with him. Williamson (1985) summarises the current state-of-the-art of economic knowledge on human behaviour; it is not only the strong form of rationality but also the strong form of self-interest orientation (Baker, Gibbon and Murphy, 2002).

Fama and Jensen (1983a) later established that the traditional concerns over the relationship between the Principal and the Agent become far more

complicated by the addition of information asymmetry. This becomes even worse in a situation of uncertainty; the issue introduces unexpected behaviour into the firm, recalling the different levels of *risk preference* between Principal and Agent. Despite his concern over the Agent's self-interest, the Principal still has to give the priority in making decisions to the Agent. It becomes worse when these two participants have different attitudes toward risk taking. This shows that there is inherently a risk preference problem, which stems from different attitudes towards risk and different areas of self-interest between the Agent and the Principal (Eisenhardt, 1989; Hillier, 1997). The Principal, generally, is risk-neutral, whereas the Agent is risk-averse. The Agent may well be aware that taking risks can raise the firm's wealth, although when the firm is lucky, nothing will happen to it and thus to him. When the firm is unlucky, however, losing the firm's wealth can incur penalties for the Agent. As mentioned, the Agent is following his self-interest: he will prefer to be risk-averse as regards his own interest. 'Adverse selection' is the name given to the Agent's self-interest in taking action in his own interest when he has a different attitude toward risk from that of the Principal. In this regard, the Agent may not harm the Principal directly but he does not risk all he can afford, because his self-interest is also at stake. The literature on Agency theory suggests that including risk sharing in the compensation can improve the decision making of the Agent. The Agent will be rewarded for his good decisions in taking risks, even if he can also be penalised for bad decisions. This is fair enough; if the Agent does not take risks, both he and the firm get nothing; but if he does, he can either increase or lose wealth. It is a form of the Prisoner's Dilemma (Bernard, 2005; Macho-Stadler et al, 2001).

2.1.3 Organisation assumptions

Fama and Jensen (1983b) have fully revised the view that the raising of capital investment leads to serious issues of separation between ownership and control. Initially, economists' studies of organisation sought to explain

how humans behave in the face of insufficient resources for all their wants and needs. Fama and Jensen's study includes the expectation that the Agent can maximise his reward by decision making, which is always based on human rationality and opportunistic behaviour. The two behavioural assumptions play a crucial role in organisational studies, in particular when the information is not perfect. They move organisational studies to a search for organisational structures to control undesirable behaviours and to effectively circulate all needed information to all the parties concerned. Bebchuk and Fried (2003) believe that the agency problem arises when ownership and control are separated and the optimal contracting has limitations. This may allow the Agent to exercise power over the Principal's interest. When the conflict of interest is unavoidable agency costs, there are three questions to address; how people behave, how information flows and how relationships are designed.

The success of large firms which gained an advantage by economies of scale in the period of industrial revolution requires other firms to expand in order to compete. Since this became the norm, the owner has ceased to be the one who establishes the firm. The capital market also plays a part in holding the capital of the firm. Burkart and Panunzi (2006) and Filatotchev and Mickiewicz (2006) suggest a situation where the decision maker does not own a substantial share of the wealth, producing a hold-up problem between the Principal and the Agent. The problem of control structure is aggravated in bigger markets where the structure of shareholders is widespread because in them the Principal has less bargaining power; this leads to the requirement of transparency within the organisation. Fama and Jensen (1983a) discuss the issue of residual claims, observing that the conventions of the game demand efficiency when the rule of the owner is not strong. The paper was warmly welcomed because it provided a managerial approach to the theory of the firm.

The Agent has the responsibility to create the firm's wealth, which is contributed as a dividend of stock return to the Principal, while the Agent himself receives compensation and the Board of Directors oversees the payment of a contribution of interest to minority shareholders and other stakeholders. Under the concepts of capitalism, Agents seem to be less powerful than Principals and must work under their control. This leads to the introduction of a board of directors, with the aim of keeping a fair balance between the shareholders (the Principal) and the manager (the Agent). Abell (2007) on the relationship between the Principal and the Agent matter indicates there are at least six methods which may be used by Principals to control and coordinate with the Agent: formalised rules/contracts, incentives, monitoring, power and authority; the use of bargaining power and the culture – the use of generated beliefs/values to achieve the Agent's compliance, and a democratic voting mechanism to shape the contracts between the two.

The shareholder, as the owner of the money and possibly of the firm, has to create a system to ensure that the Agent works to maximise his interests. The Principal can show his interest at the annual meeting but he has to acknowledge that almost all operating decisions are in the hands of the Agent. Moreover, the Agent is responsible for setting the firm's vision, mission, objectives and plans and the implementation of these plans; they also contribute the management of the firm's products on behalf of the Principal, the employees and other stakeholders (Lipman and Hall, 2008). Although some are concerned about how well Agents are represented, the executives who must perform on behalf of the Principal will be rewarded for their performance/effort; but, to perform at their best, the Agents may have to eliminate some short-term goals in order to achieve long-term success. This state of affairs may not always satisfy all Principals; for example, a firm which does not pay a dividend may experience a fall in the price of its shares. Agency theory calls this situation 'the partial goal conflict'.

A comparison of the power of the majority shareholder with that of the minority shareholder reveals a lack of collective bargaining power for dispersed shareholders on the manager's residual claim (Fama and Jensen, 1983a). This has come to the fore of the discourse because of a development in the US capital market mode, in which the dispersed ownership structure has become more common, and thus more serious. Moreover, the minority interest, the ownership which holds less than 20% of outstanding shares, would also like more power (La Porta et al, 2000). This group is not satisfied to have 'no meaningful control'; as a result, their situation requires American theorists to verify those control mechanisms in order to reduce the gap between the majority shareholders', minority shareholders' and manager's interests.

2.2 Executive compensation as a solution to the Principal-Agent problem

The issue of executive compensation as a solution to the agency problem is mentioned in The Theory of the Firm: Managerial behaviour, Agency cost and Capital structure by Jensen and Meckling (1976). The authors suggest that the fee for solving this problem is called 'agency cost' and this is also fully discussed in Arrow et al (1985), in terms of the monitoring costs to the Principal and the economic bonding cost to the Agent. Since the publication of this paper, studies of ways to manage agency cost efficiently have become widespread. Later, Jensen and Murphy (1990) revisited executive compensation by looking more closely at the classic statement of the Principal-Agent problem: the conflict of interests between ownership and control. They believe that introducing compensation pay on the basis of the Principal's wealth is an appropriate mechanism. They further conclude that the executive compensation system was introduced in the hope of aligning

the choices of the Agent with the interests of the Principal. They believed that this is the real reason why an incentive scheme is needed. Using Agency theory, they go back to three assumptions: that the Agent dislikes making an effort; that he holds some information not held by the Principal; and that the Principal and the Agent have different attitudes to risk. These lead to the use of incentives as a part of executive compensation to raise the Agent's motivation. They caution that there are three examples of unobservable choice of action which may make the incentive mechanism unsuccessful; namely, the direct measure of CEO activity, the accounting measures of the firm performanceand relative performance, based on that of other executives in the same market.

Holmstrom and Milgrom (1991) also summarise the assumption that the Principal designs a contract which is a linear function of measured performance and that the Agent is instructed to direct his efforts to the particular activities written into the work contract. However, the sophisticated activities of the multitasking Agent and the human impulse to maximise wealth all make performance measurement one of the key activities influencing organisational design of a kind which leads to the success of the organisation. Later, Milgrom and Robert (1992) urge that a mechanism should be found for the design of a contract, and find that the level of efficiency of the designed control system is the cause of the different degrees of success of the system. This idea is supported by Holmstrom and Milgrom (1991) in their paper The Firm as an Incentive System. They state clearly that to understand the issue of incentives requires not only the investigation of Incentive theory but also its alignment with a detailed study of the classic economics of the firm, which is closely linked with Agency theory. Differenct approaches to the theme of compensation are steadily expanding; the incentive system was introduced as part of the executive compensation package, in the form of a salary, bonus and stock options (Arora and Alam, 2005; Farmer, 2008).

Thus, executive compensation can be viewed as a mechanism to ensure that the manager will perform on behalf of the shareholder. The seed of Agency theory grew rapidly from the executive compensation literature. From the Principal's point of view, setting up appropriate compensation should reduce the relationship problem. A compensation contract can align the interests of the manager and the shareholder through ownership interests. Later, this idea was incorporated as part of the theory of the Principal and the Agent, which comprises the second stream of the literature (Douma and Schreuder, 2008).

The current spotlight on executive compensation comes from public interest when a statement such as 'on average, pay to executive officers has been rising where the firm reports losses' is announced. In response to such statements, the overall executive compensation at once becomes the subject of heated debate. Even though some academic papers suggest reasons with a view to dispelling the doubts, there is not much reaction from those people who raised the question. The issue of 'how well does executive compensation work?' was asked, in Abowd and Kaplan's (1999) paper Executive Compensation: Six Questions That Need Answering. The authors give the idea that this is a great opportunity to re-investigate the Agency theory due to the availability of data provided. They believe that it is the right time to approach the issue with rigorous statistical analysis, by which they hope to bring out hidden information from beneath a mass of data. This idea has recently led the way into a well-known topic. All recent papers confirm there is a positive relationship between executive compensation and company size. However, the relationship between compensation and corporate performance is still uncertain. On one recent occasion, Jensen, Murphy and Wruck (2004) provided a rich literature review in their famous paper 'Remuneration: where we've been, how we got to here, what are the problems and how to fix them'.

To gain a better understanding of the compensation system, Gibbon (1998) summarises the executive compensation in terms of the simplest (linear) model of the incomplete working contract between the shareholder and the

manager. The contract requires the manager to work and then the shareholder will pay interest for the outcomes (observed effects, unobserved effects on outcomes and noise). The idea is propelled by the different character of those elements of executive pay of the principal-agent base. His salary is the constant benefit of the Agent and may be called his salary base compensation. His bonus and stock options are incentives per unit of required performance. Because of the different purposes in aligning these interests, the design of the compensation needs to take many perspectives into account. The classic issues such as base pay compensation, which is the constant benefit, are behaviour-oriented. Lastly, the outcome-orientation compensation is an incentive, which is the incentive per unit of required performance multiplied by the performance observed, i.e. bonus, stock options and a restricted shares plan. The ongoing debated issues of bonuses, such as how the target should be set, how performance should be measured and laying odds on one's self-reported performance, are also currently attracting debate and many stock option issues, such as how it should be evaluated, still need to be answered.

2.2.1 Base salary

The first kind of compensation is monetary reward to the managers for doing their tasks. This fixed rate compensation is the reward of taking task responsibility as manager to the firm. Lynch and Perry (2003) and Bratton and Gold (2007) define base salary as a fixed benefit based on the time that the manager spends on tasks. It is a reflection of the natural value of the individual job, with certainty about the compensation payout over a certain period. Base pay can be measured in two main ways. One is marketing pricing, which is based on the 'going industry rate' for a particular job and on traditional structures whose origins 'are shrouded in the mists of time' (Armstrong and Baron, 2007). This approach relies on the economic theory of price mechanism. The other approach is job evaluation, which estimates the relative worth for each job without considering the labour market. However,

the availability of executive vacancies, the qualified candidate and standard price of information make the first approach the more important. Abell (2007) adds that benchmarking the base salary will occur when the firm needs to attract, motivate and retain a manager. He further explains that the job evaluation approach is appropriate in a particular sector where external market comparison is very costly.

Murphy (1999) further provides three reasons why base pay is important. This element of compensation attracts the most attention because it is a key component when the working agreement is signed. Because this perspective of compensation is fixed, it pleases the risk-averse executive when a value of money has been identified at first hand. Baker, Jensen, and Murphy (1988) and Rosen (1992) further provide evidence that, almost universally, industry and size influence base pay. Milkovich and Newman (2008) confirm that salary is the largest part of compensation, which is independent of output but depends on the complexity of the firm's tasks; basically, firm size is used as a proxy for it.

2.2.2 Bonus pay schemes

The second perspective is outcome-orientation, which is aimed to motivate the manager to put more effort into his work in order to achieve a target, which is concerned with output as the employer's desire. Prendergast (1999) asserts that this compensation scheme aligns the Agent's action with his income and hence the actions of the Agent secure the wealth of the Principal. Rajagopalan and Datta (1996) and Murphy (1999) cite the advantage of short-term bonuses as the direct and immediate reward for the Agent's actions, with no further risk or commitment required. Baker and Jorgensen (2004) believe that short-term incentives can increase the strength of the firm because the firm can put desirable output into the contract as the values to

which it must pay attention. This is the most commonly mentioned incentive scheme, sometimes known as performance-related pay.

Holmstrom and Milgrom (1991; 1994) develop Incentive theory by extending the standard economic theory to cover the multitasking Agent. They raise the issue that the nature of executive responsibility to the Principal involves many small tasks, which they call the question of ‘the multi-tasking Agent’. They further explain that, on the one side, it is only human nature for the Agent to choose to perform best on the given easy-to-measure tasks and ignore the difficult-to-measure tasks, even if these are also given. The fact that narrow tasks are easier to measure creates a new level for the organisational study of the incentive problem. From another side, the Principal also finds difficulty in identifying what the Agent should do, since some tasks are subjective and detailed; and in ranking the importance of the existing tasks, which is an objective matter. This leads to increased difficulties in designing a compensation package for the multi-tasking agent. The authors indicate that the key problem is that narrowing the scope of multi-tasking may reduce the elements for success.

The idea recalls those of Kerr (1975), who maintains that people decide to make their greatest effort in the expectation of the greatest return (reward) they can get. The measurement problem idea is introduced in his classic article, *On the Folly of Rewarding A, While Hoping for B*. The paper deals with the multi-task agency model, which Gibbon later claimed (1998) created the time-honoured phrase, ‘You get what you pay for’. He believes that the Agent is always able to access richer information about the firm than the Principal can. Decisions can be made by the Agent, which are never fully observable by the Principal. The hopes of the Principal entirely rely on the Agent’s behaviour. Kerr (1975) gives another example of the problem that unmentioned tasks do not mean unnecessary tasks if they are successful and also mentions that tasks may not be what the firm hopes for.

Performance measurement becomes the main area to concentrate on, since it is extremely difficult to measure and evaluate. This statement shows the limitations of measurement theory, which cannot recognise the value of intangible assets such as the cost of human development, the customer relationship cost, or the process development cost. As a result, the agent's action and the agent's reward may not be aligned. The key authors of performance measurement on the effect of the incentive design on the firm performance are Abowd (1990) and Kato et al (2007). Another problem is that using the accounting system to evaluate stakeholders' interests may not work. This is not specifically designed to measure the executive's performance. (Any single stakeholder has his/her own interest, which can be represented via a single number, but the problem is what the number should be if it is to represent the executive's performance measurement). Another concern is that increasing the firm value may bring in industrial, economic and political factors instead, which are out of the manager's control. Lastly, Sloan (1993) indicates that incentives are criticised as a short-term mechanism reducing the degree of information asymmetry by enhancing agents' rewards, instead of a long-term mechanism, such as the Principal might be expected to have. The statement has attracting a dramatic increase in interest in the last decade when stock options were introduced as innovations in this field.

2.2.3 Stock option plans

The development of an incentive instrument at this time was the product of the economic theory of the firm applied to the issue of multi-level incentives geared to multi-level tasks (Bonner et al, 2000). In the quest for a long-term mechanism to align Principal and Agent, the problem is constantly revised. Stock options were introduced in order to motivate the manager to improve the firm's future performance. Aware of the increasing separation between ownership and control in a market-oriented economy, firms introduced stock options to align the Agent's interests in wealth creation with those of the

Principal. That is, if the Agent owns a substantial part of the business, then the Agent's interests in wealth creation may be expected to parallel the interests of the Principal. Those in favour of stock options believe that this compensation scheme is the best alignment of interest between executive managers and shareholders, since the options are valuable only when the share price is higher than the option's strike price (Kim, Nofsinger and Mohr, 2010). In addition, it is assumed that stock options can reduce the effects of the incomplete information situation and lessen the uncertainty of the Principal.

Murphy (1999) states that stock options are the most varied incentives across industries, due to the waiting time. He gives examples of longer-term research- and development-intensive industries, such as chemicals and machinery producers as compared with food and consumer industries. Since this type of incentive aligns with the stock market, the increases of stock prices become a systematic problem of the reward system. The increases in stock prices reflect the investors' attitude toward shares, but they are not called performance measures. This indicator also reflects the ideas of future investors rather than current investor knowledge. One reason is that this incentive aligning the success to information outside the firm may link to the phenomenal success of a new scheme launched in early 1990 when the US market was booming. At the time, the use of the capital market as the criterion of the success of the firm was widely accepted. Later on, the question was raised of whether, in an economic downturn, the manager is to be penalised because of out-of-control factors, such as problems of economic structure.

Fama and Jensen (1983b) study the problem of separating the decision and risk-bearing functions in situations when ownership is separate from control. Note that separation itself causes no problem with organisational structure; however, its complexity requires a sophisticated mechanism to capture the different levels of power between one and another. The economist believes

that greater efficiency in the system design can reduce the gap, but, despite its long history, the mechanism has not yet been clearly explained. One reason seems to be that the treatment of the problem was not robust, even though the same approach of efficient design was taken; opinion was still divided. Prendergast (2002) reinvestigates the risk issue based on Agency theory by investigating the trade-off for executives between risk and incentive. As in most research in this area, he uses the volatility of returns as the risk measurement.

Bebchuk and Fried (2003) summarise that this compensation theme is popular because the underlying assumption of this scheme is to give the manager the feeling of being a corporate owner. It then motivates the manager to take actions in order to serve his and the shareholder's desire. Also, this incentive requires further information about either performance standards or performance measurement. It completely aligns the manager's interest with the shareholders' target. They add, however, that this type of incentive turns out to be the most complicated because it deals with the conditions of the capital market.

Further, this study examines the determination of the inclusive of incentives in executive compensation. The first issue turns into the question of what the characteristics of those firms are which prefer to share a risk with the manager by using incentives, and promoting the alignment of interests between the shareholder and the manager. It also indicates the characteristics of firms which prefer to insure the shareholders' right. Holmstrom and Milgrom (1994) state that the rationale behind including incentives is the transferring of the right of the shareholder to act on his behalf and retain all the benefits of the manager's actions.

2.2.4 Fringe benefits

This last element of executive pay is indirect pay made to the executive in addition to the base and performance pay for their work. It is also called benefits in kind, perquisites, perqs or perks. Fringe benefits are non-cash benefits that employee realise in addition to salaries or wages. This compensation plays a part in increasing motivation and also in reducing agency costs (Zou, 1997). This fixed benefit arises because the specific requirements of a task, in knowledge-based organisations particularly, have to be fulfilled by a particular type of person at a particular time. Even though it is uncommon in a labour market, it is still important in attracting highly skilled workers or executive managers. Artz (2010) adds that fringe benefits can be a substitute for wages and that they also reduce the turnover of the highly skilled workers. However, the limited data and the ambiguous role of fringe benefits prompt almost all researchers exclude this form of compensation from their studies. The two types of fringe benefit are enhanced protection benefits and perquisites.

Enhanced protection benefit is compensation which aims to provide safeguards to the executive in the future, such as health and life insurance, health benefits, retirement pensions and favourable tax treatment. The most common form of enhanced protection benefit is the pension plan. In this kind of compensation, the manager will receive greater benefit if he remains with the firm until retirement.

Perquisites are forms of compensation which aim to provide a better working environment, including working conditions, travel benefits, personal use of the employer's motor vehicle, a personalised parking slot, catering services, country club membership, holiday trips, travelling expenses for the employee's family, employer-paid education costs, training, expense allowances, financial counselling, interest-free loans, low interest loans,

house purchase benefits, rent-free housing, low-rent housing, free coupons, entertainment and personal support such as a secretary.

In conclusion, instead of paying attention to the elements of pay, almost all researchers use total pay to find its relationship with performance. Literature provides evidence that there is always a unique reason to provide particular compensation. The (un)satisfactory result of previous research may deal with this under-estimating effect. Indeed, using total compensation simply allows one element to take over all the effects of compensation. In the U.S. the problem of determination has been of tracking the long-term incentive deal in relation to the huge value of stock options granted.

2.3 Theoretical explanation of executive compensation

Even though executive compensation is considered a classic mechanism in organisation design, researchers are unable to reach agreement on the effects that the unique internal and external conditions have on each reward system (Leonard, 1990; Barkema and Gomez-Mejia, 1998).

O'Byrne and Young (2010) use Standard and Poor's ExecuComp database of 25,026 executives between 1992 and 2008. They show that the majority of all executive compensation levels can be explained by firm size. Evidence from the study of Gerhart and Milkovich (1990) confirms that industrial concentration affects the levels of compensation and firm performance. The authors cite Dunlop's simple explanation - that firms in the same industry have similar constraints of technology, material, product development and pricing. Recently, however, a meta-analysis of the determinants of organisational incentive systems shows that industry concentration is an important factor on the design of the system (Merchant et al, 2003).

Executive compensation has been introduced for at least three spectrums; the standard approach believes executive compensation can encourage the Agent's motivation to serve the Principal's need through the contract. This theme was steadily expanded to the second theme that criticises the rent extraction through inefficient design of executive compensation. The third spectrum of the debate the emerging concept of the collective power of a concentration of owners.

2.3.1 Principal/Agency approach

The basic economics approach of Agency theory relies on the belief that the firm is a nexus of explicit contract; thus executive pay can be used a solution to resolve agency problems by aligning the interest between the Principal and the Agent through compensation design (Jensen and Meckling, 1976). Fama (1980) adds that the structure of the manager's compensation contracts should unite the manager's interests with those of the shareholders. Thus, the key idea is that the principal offers a compensation package which is aligned with firm performance in order to combine both sets of interests. Of course, each of them individually finds his own optimal way to design/follow the terms of the contract. Thus, if efficiency compensation has been designed, there is a relationship between firm performance and executive compensation and then the level of the Principal-Agent problem declines (Kim et al, 2010).

Jensen and Murphy (1990) investigate the state of executive compensation as an answer to the conflict of interests between ownership and control. They find that the use of incentives is made part of executive compensation to raise the Agent's motivation by observing the pay-performance sensitivity, which to them implies that higher beta indicates a better alignment of interest between the manager and the shareholder. However, this research finds little evidence of pay-performance sensitivity. They give three cautionary examples of unobservable choice of action which may make the incentive

mechanism unsuccessful, namely, a direct measure of CEO activity, the accounting measures of the firm performanceand relative performance, based on other executives in the same market. The idea is investigated in Garen (1994) who begins his estimation to determine salary as cash compensation; and as salary and bonus and later a stock option incentive. His research first introduces interactive specification in order to estimate how executive compensation is determined, and he concludes that several features of his findings, such as size, industry and firm performance, are consistent with the basic Agency theory, with its complete contract approach.

Table 2.1 Empirical research on executive pay-performance sensitivity

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Jensen and Murphy	1990	US	Archival data 1974-1986	OLS regression	Cash compensation Stock option	Stock return	The estimation of pay-performance reveals the executive total pay is positively relates to firm performance at 0.0033 sensitivity.
Kaplan	1994	US and Japan	Archival data 1980	OLS regression	Total compensation	Earnings, stock return, sales	There is cash pay-performance sensitivity existing. Turnover-performance relations are also economically and statistically similar between US and Japan.
Hall and Liebman	1998	US	Archival data 1980-1994	OLS regression	Cash and Total compensation	Stock return	Including stock option, the pay-performance sensitivity is much greater at 0.0060.
Conyon et al	2000	UK	Archival data 1985-1995	FE	Cash compensation	Stock return, EPS	Level of executive pay is positively related to total shareholder return but not EPS.
Gregg et al	2005	UK	Archival data 1994-2002	FE, RE, 2SLS, GMM	Total cash compensation	Stock return, risk, industry, corporate governance	Base pay compensation has increased over the period. It also finds a positive relation between executive pay and stock return.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Bruce et al	2007	UK	Archival data 2002-2003	OLS regression	Proportion of fixed to variable pay	Industry, Sale, EPS, net income, ownership	Single rewards to multitasking agents may lead them to overlook simple targets. As expected, positive pay-performance sensitivity exists.
Duffhues and Kabir	2008	Netherlands	Archival data 1998-2001	OLS regression	Cash compensation	Contemporaneous and lagged ROA, ROS, RET, Q	Both contemporaneous and lagged ROA, ROS, Rand Q negatively influence cash compensation. However, a contemporaneous model provides stronger results.
Bootsma	2010	Netherlands	Archival data 2002-2007	OLS regression	Cash/total compensation	ROA, ROE, stock return, net income	The relative changes in firm performance (ROE & Stock return) positively influence the changes in CEO pay.

These researchers agree that there are three main factors which have found that the size, industry, and firm performance do affect executive pay in different settings around the world. Current research now treats size and industry as controlled variables; however the performance matrix that influences executive compensation is still under debate.

$$Y_{it} = f\ (\text{performance}_{it,}\ \text{controlled}) + \varepsilon_i \qquad \ldots\ldots\ldots\ldots(1)$$

where Y_{it} is defined as executive compensation. It is the function of firm performance and controlled variable of firm $_i$ at the time $_t$. ε_i represents the unobserved determinants of executive compensation. It is generally believed that the firm which performs better should be able to provide higher executive compensation in order to motivate the manager better to work as hard as he can in return for such compensation. Many researchers point out that many studies approach the issue in a narrow way, using the accounting numbers of performance measurement only. These find that the choice of performance indicator creates a new level of complexity between the Principal and the Agent.

2.3.2 Managerial power approach

Holmstrom et al (1989) broadly agree with Fama and Jensen (1983b) that executive compensation is an answer to the conflict of interests between ownership and control because it can raise the Agent's motivation. However, they insist that the agency problem may become serious because of the separation between ownership and control in large firms owned by public investors, where management power is in the hands of an Agent who has little stake in the firm. This political explanation allows for an economics interpretation but requires further detail of the oligopoly competition on the separation between ownership and control. Bebchuk and Fried (2003) notably alert scholars to spread the awareness of the Agent's self-interest.

The authors condemn it as the source of inefficiencies in the design of executive compensation packages. These authors further states that it is useful to revise the reward system to make sure that the Agent puts his effort into maximising the wealth of the Principal since no shareholders can monitor or directly control the Agents' action. This paper makes clearer the important role of executive compensation, particularly on pay-performance sensitivity, in a market coordination setting.

Otten (2007) indicates that managerial power contradicts standard Agency theory, which approaches the display of power between the Principal and the Agent when the contract is being negotiated. Unlike the standard model, this approach assumes that the Agent is willing to use discretion in setting his own compensation in order to satisfy his own interests. Thus, executive compensation may shift away from optimal contracting outcomes to a direction which favours managerial rent-seeking, according to Bebchuk and Fried (2003) and Jensen et al (2004). The authors believe that, to simplify the relationship, the players who take part in the firm are the principal (the shareholders), the Agent (the managers) and later the Board of Directors. The shareholder, as the owner, has to create a system to ensure that the manager works to maximise the shareholders' interests. The managers have a responsibility to perform as the shareholders' Agent; and they will be rewarded for positive results.

In order to reduce the gap between the shareholders' and managers' interests, a competent system is needed in the first place to efficiently design the two mechanisms required to be in place for monitoring and control (Lipman and Hall, 2008). The corporate governance literature suggests that an efficient system should be designed by starting with the Board of Directors, which is a combined team of managers and stakeholder representatives. Creating a board of directors benefits both shareholder and manager because it gives them a chance to listen to each other's ideas. Bebchuk and Fried (2003) emphasise the importance of an efficient

compensation system design since the managers can use their influence on the amount and form of executive pay by extracting rent through dressing, packaging or hiding it, to serve their own interests – this is named ‘camouflage’. However, outrage costs can pose constraints on compensation arrangements by the stakeholder.

On the executive compensation issue, Zajac and Westphal (1995) come close to the role of ownership structure as an alternative explanation of the system design to shareholders. These authors are concerned about the control of the corporation when the manager has collective powers. The results indicate that the decline of shareholders’ powers may raise the agency cost; hence, corporate governance has to be efficient. Subsequently, corporate governance became one of the dominant compensation issues in the US, thanks to the consideration of dispersed ownership structure. Matsumula and Shin (2005) explain that corporate governance is the key to managing conflicts of interest. This suggests that an efficient system should be designed by first considering the Board of Directors, which is a joint team of representatives of the Principal and the stakeholder. CIMA (2001) supports the view that creating a board of directors benefits both the Principal and the Agent, because it gives them a chance to listen to each other’s ideas. A board of directors is a mechanism which aims to bring together the management team and the shareholders’ representatives. It is believed that the creation of a board of directors is a fair mechanism for all parties in the firm. The Principal has a chance to express what he is looking for and the management team has a chance to show how it serves this need or to explain why specific decisions were made. At first glance, the Principal seems to dominate the board, because the rules of corporate governance state that the chairman should not be part of the management team. However, this may be explained by the fact that the professional Agent has more information than the Principal and thus an independent chairman will redress the information imbalance. Moreover, the issue of transparency in the audit committee is relevant here; corporate governance states that the firm must

report the findings of at least one audit committee as a financial expert and the external auditor has to be independent. The board is responsible for reducing self-interested behaviour either from the Principal or the Agent, so it is necessarily autonomous and unrelated to the firm's interests. Note that best practice suggests that the board should be rewarded only on the basis of the number of its meetings. This is a way of avoiding another conflict of interest. The sum of money awarded is evaluated according to the complexity of the tasks, which generally uses the size of the firm as the proxy.

Conyon and He (2011) use 1481 Chinese listed companies between 2001 and 2005. Their study first compares the executive pay between China and the US by stating that China has differs starkly from the U.S. both politically (state-owned enterprise) and governance structure (highly concentrated family-owned business). Using GLS regression method this research reports positive correlation between executive cash compensation and size, ROA and market to book value. Further evidence proves the negative affect of ownership concentration on the use of executive equity incentive.

Table 2.2 Empirical research of managerial power on executive pay-performance sensitivity

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Conyon and Peck	1998	UK	1991-1994	OLS regression, fixed effect	Cash of highest paid director	RI, size, outsider ratio, CEO duality, nominating committee, block holder dummy, outside directors	OLS shows that size and shareholder return is the influential factor on the executive pay-performance relation. However, FE reveals that shareholder return is the only factor effect the pay.
Core, Holthausen, and Larcker	1999	US	1982-1984	OLS regression	Executive total pay	ROA, RET, CEO duality, Board size, outsider ratio, interlocked, CEO ownership	Board and ownership structure significantly influence the pay. When the managers have influence and power over the external directors and outside ownership, they are paid more.
Talmor and Wallace	2002	258 US firms	Archival data 1992-1997	OLS regression	Cash compensation, stock option	Industry, asset, ROA, stock return, tenure,	Economic determinants, firm performance and corporate ownership all appear to support the design of executive pay.
Davila and Penalva	2006	US	Archival data 1993-2002	OLS regression includes interaction variables	Log total pay, proportion of cash/total pay	Industry, sale, ROA, cash flow, stock return, corporate governance	CEO uses power to take accounting performance into his pay when high takeover protection is active or/and CEO influences governance process.

The existing research cited above sheds some light on the factors which tests have shown to influence executive compensation, including corporate governance. Now the state of empirical research adds one key concept by which to understand executive compensation structure; this is corporate governance structure.

$$Y_{it} = f\ (\text{corporate governance}_{it,}\ \text{controlled}_{it,}) + \varepsilon_i \quad \text{.....(2)}$$

where Y_{it} is defined as executive compensation. It is the function of corporate governance and a controlled variable of firm $_i$ at the time $_t$. ε_i is the unobserved determinants of executive compensation.

Since corporate governance has been introduced, the study of a remuneration committee and an analysis of the influential factors in designing the system have received most criticism as parts of the design of a compensation system (Merchant et al, 2003). Core et al (1999) indicate that when the executive managers have more influence and power over the external directors and outside ownership, they are paid more compensation. This in turn implies that executive managers under less effective corporate governance earn greater compensation, because firms with greater agency problems perform worse. However, this approach has been strongly criticised over its inconsistencies because the growth of executive pay in the 1990s is related to the increasingly independent boards. In addition, an outside selected manager has no power but the existing board provides generous compensation packages to attract its target managers.

2.3.3 Concentration ownership approach

Berle and Means (1932) raised awareness of the separation between ownership and control, using the US as the theory setting. The paper bases its discussion on the origin of social construction of American's capital market. Later, Jensen and Meckling (1976) use this root to grow Agency theory in order to understand the relationships within an organisation. Regarding the market-based economy of the US, the literature grew rapidly on the assumption that the shareholders have lost power to the managers, due to the form of dispersed ownership. However, the Principal's loss of control is not inevitable if shareholders do not let it happen. One rising concern is that the concentrated ownership exerts stronger control than does dispersed ownership; this might leads to different design of the mechanism within the organisation. This is the case made by Moerland (1995), who indicates that most European firms have network-oriented systems in their forms of concentrated ownership. Claessens et al (2000) also find that most firms in the Far East have concentrated ownership. Regarding the different roots of the economy, these findings suggest that the classic American Theory of the Firm may not apply worldwide, owing to its origins (La Porta et al, 2000).

Recent US evidence also indicates that concentrated ownership often has a positive impact on profitability, thanks to the substantial power of the shareholder to reduce the dysfunction of managers (La Porta et al, 2000). Dyck and Zingales (2004) also indicate that large shareholders can be a mechanism to ensure the value maximisation of the firm. By definition, concentrated ownership structure is the classic identification of ownership structure which is based on the collective percentage of a specific group of shareholders. Using the definition provided by the International Financial Reporting Standards, the firm can justify its equity ownership as either by being a company which holds more than 20% of its voting stock directly, or one which holds it via another company in a chain of ownership. Pallathitta (2005) states that in identifying ownership it may be perceived as inside or

outside. Inside ownership represents managerial holdings and block holdings by controlling owners. Outside holdings represent family holdings, institutional holdings, foreign holdings and outside block holdings which influence the controlling owner. More recent evidence provided in the table below (table 2.3) indicates more factors which, in tests, have shown some influence on executive compensation other than firm performance; corporate governance is ownership structure.

The studies on concentrated ownership and executive compensation aim to understand the link between ownership structure and the collective authority to make the decision within a large publicly-traded firm. The power includes the decision-making to select managers and ways to reward them. Jiang (2009) indicates that concentrated ownership can exercise its rights by promoting a well-designed executive compensation contract which rewards on the basis of firm performance. Empirical evidence indicates that in the US, executive compensation decreases in firms where ownership is concentrated (Core et al, 1999). The evidence goes side by side with Hartzell and Starks' (2003) finding which indicates that concentrated ownership has a positive effect on monitoring and this reduces the agency cost.

The original test to determine executive compensation before the year 2000 has been criticised because it represents a single market structure, the market-based economy, which results in these firms having dispersed ownership of the Anglo-Saxon stock market structure. This may deal with the limited data available outside the US It was urged that it was time to revise the theory to take account of different settings where the equity structure is not the market-based economy. Soon afterwards, examples of this new determination were found. They were 'Executive Compensation, Performance and Ownership' by Brunello et al (2001), using the Italian stock market, 'Ownership Structure and Executive compensation: the case of Germany' by Haid and Yutoglu (2006), 'Executive Compensation, Firm Performance and

Family Business in Korea' by Kato et al (2007) and 'Ownership Concentration and CEO Compensation Sensitivity in New Zealand' by Jiang et al (2008).

These studies provide the new knowledge that almost all of these settings have large shareholders dominating their ownership structure, which is not what Berle and Means (1932) were discussing. Filatotchev and Mickiewicz (2006) explain that block shareholdings in the US are considered to harm minority shareholders. This is why the regulator in the US makes it costly to retain block shareholders, which then leads to the dispersal of shares across the US stock markets. This research shares the key idea that ownership structure plays the key role in influencing the executive compensation. It becomes the fourth determinant, following the three original ones of size, performance and industry. Because the first three have proved their power to affect pay, the strongest research trend in this area has become the empirical evidence on the ongoing debate, which asks how ownership structure (and its detail of how corporate governance affects the structure of dispersed ownership) affects the compensation system. In addition, Barkema and Gomez-Mejia (1998) suggest checking whether the institutional investor in an ownership structure pays a high proportion of the long-term incentive. In Western Europe, Haid and Yurtoglu (2006) confirm that ownership structure affects the pay executive compensation in Germany.

Another three studies of executive compensation, performance and ownership structure which have been conducted in Asian countries reach diverse conclusions. Lin (2005) uses 485 Taiwanese listed companies with data from 1997-1999; he finds that boards of directors and large external shareholders influence executive compensation. Parthasarathy et al (2006) study ownership structure in India, where they find that the public sector pays executives less than multinational firms do. Kato et al (2007), using 246 Korean listed firms, reveal that the cash compensation of Korean executives correlates with stock return in other ownership structures but not in family businesses. Kraft and Niederprum (1999) focus on the issue by studying how

the distinction between ownership and control affects the executive compensation pay. The authors state that when the level of concentration ownership is low, the market-oriented system plays a role in the corporate control system by allowing the power of the capital market to take control over poorly performing firms.

Filatotchev and Mickiewicz (2006) and Burkart and Panunzi (2006) explain that the firm can use equity financing as a mechanism to control the agency cost. They provide examples to show that ownership concentration allows shareholders to increase their ability to monitor and control the process of executive behaviour, which leads to an increase in shareholders' wealth. However, they urge that although ownership concentration can be an effective monitor, it can also be a problem if it uses this concentrated power to extract private benefit in cases where legal protection is not strong enough to protect the minority shareholders. Villalonga and Amit (2006) provide an illustration to examine the agency problem between groups of shareholders; collective shareholders, dispersed shareholders and the manager. The authors point out that American market-based ownership is a type I Agency problem where type II is more important in a co-operative market economy.

		Type I Agency problem Conflict of interest between owners and managers	
		No	Yes
Type II Agency problem Conflict of interest between Large and minority shareholders	Yes	Type A Firm	Type B Firm
	No	Type C Firm	Type D Firm

Source: Villalonga and Amit (2006)

Figure 2.1 Identifying the type of a firm's agency problem

Figure 2.1 provides an illustration of the way in which ownership structure influences the type of conflict of interest. Its originator states that firms with dual-class equity, pyramids, cross-holding and block holding are considered type A firms. Both problems may occur in the case where there is concentrated ownership but no owner-manager, a type B firm. In the case of a type C firm, there is no conflict of interest; it has an owner-manager but no minority shareholder. This is the classic problem between owners and managers in cases where there is no owner-manager and no dominant group of shareholders.

Table 2.3 Empirical research on the moderating effect of ownership structure on the pay-performance sensitivity

Author(s)	Date	Setting	Data		Variables		Result
			collection	analysis	Dependent	Independent	
Newman	2000	UK	Archival data	OLS regression	Log compensation	Sales, stock return, ROE, ownership structure, corporate governance	If CEO has at least one insider on board of compensation, they would prefer to get less compensation to retain their power on the committee. All firm size, performance, corporate governance indicates the level of executive compensation
Brunello et al	2001	Italy	Survey data	OLS regression	Executive total compensation	Profits, Sales, listed/unlisted, multinational, individual characteristics	The pay-performance sensitivity does exist. The increasing of 1 real profit causes an increase of 0.0003 upper and middle managers' total compensation.
Elston and Goldberg	2003	Germany	Archival data 1961-1986	OLS/GMM regression	Executive salary	ROE, Sale, ownership structure	Performance and size are generally positively related to compensation where block shareholder reduces the executive pay.
Hartzell and Starks	2003	US	Archival data 1992-1997	Tobit, OLS regression	Salary, Stock options, total compensation	Stock return, Q, ownership structure	Institutional ownership is positively related to the pay-performance sensitivity but negatively related to the level of compensation.

Author(s)	Date	Setting	Data		Variables		Result
			collection	analysis	Dependent	Independent	
Stathopoulos et al	2004	Retailing companies in the UK	Archival data 1999	OLS regression	Salary, annual bonus, stock option, long-term incentive	Size, growth, governance and ownership structure	Firm size, growth, financial policy, ownership characteristics and governance arrangements influence compensation.
Haid and Yurtoglu	2006	Germany	Archival data 1987-2003	OLS regression	Total compensation	ROA, Size	Size is the most important factor determining the executive and board compensation. A small proportion of performance-related pay is reported.
Jiang et al	2008	New Zealand	Archival data 2001-2005	OLS Regression	Log total compensation	Industry, Debt ratio, Asset, net profit, ROA, Q, ownership structure	Concentrated ownership significantly regresses to poor pay-for-performance. However, no evidence that large block holder leads to monitoring intensity.

The evidence mentioned in Table 2.3 supports the view that size, performance and industry always affect pay; however, the way in which ownership structure affects the system is still under debate. Thus, the next issue in understanding the determination of executive compensation is tracking the structure of organisations, which is identified through the ownership structure. The general belief is that the firms which have dispersed ownership should require incentive contracts because they lack accumulated negotiating power. Many researchers point out that the underestimated power of ownership structure should been blamed for causing the contradictions of previous studies. Using the empirical research above, it may be summarised that the determinants of executive compensation are not only the functions of performance, size and industry, but also ownership structure.

$$Y_{it} = f\ (\text{ownership}_{it}, \text{firm performance}*\text{ownership}_{it}, \text{controlled}_{it}) + \varepsilon_i \ldots\ldots\ldots(3)$$

where Y_{it} is defined as executive compensation. It is the function of firm performance, ownership structure, the interaction between firm performance and ownership structure, and the controlled variable of firm_i at the time_t . ε_i is the unobserved determinants of executive compensation. However, most of the research addresses the issue from the narrow approach of corporate governance[2]. The issue expands to include the better known ones of the ability of the Board of Directors, the transparency of the remuneration committee and the independence of the audit committee. Some research approaches the problem based on the contract theory, which indicates that a particular type of firm characteristics chooses to introduce different compensation structures into their executive compensation contracts. It finds that the compensation structure creates a new level of complexity between the

[2] Hengartner (2006) provides an alternative executive explanation which takes the social comparison using tournament theory to explain how the pay difference between CEO and the next highest level serves to motivate the executives occupying that level by promoting competition among them. However, this direction provides inconsistent results (Conyon et al, 2001; Finkelstein and Boyd, 1998).

Principal and the Agent, which adds to the complexity of the contract design. Gibbon and Murphy (1990) add that executive compensation falls if the entire stock market does better than the firm. However, this result tends to indicate the loss of ownership concentration when the Principal has little power of control.

2.3.4 Asian approach on executive compensation study

Even though there is a rising trend in executive compensation research among Asian Scholar, most work on executive compensation issues in Asia are empirical work. Sun, Zhao, and Yang (2010) reveal that half of executive compensation in Asian's works is Agency theory-based. However, another half of Asian executive compensation works query Berle and Means (1932), which highlighted on the separation between ownership and control. This is the result of the Agency theory footpath from the US setting; while concentration ownership of single family particularly dominates the Asian markets. Note that managerial power of corporate governance concern is also cited in the first approach.

The Chinese setting is the most common one for Asian empirical work on executive compensation, as China is the world's next upcoming economic super power. It also is unique in its characteristic of largely state-owned enterprise. Japan is the only other Asian-setting economy that has received attention on executive pay. However the figure of Japanese pay is far higher beyond Chinese and elsewhere in Asia. Only a couple of works can be found in Thailand, Malaysia, Indonesia and the Philippines. Asian works on executive compensation can be summarised as follow.

Table 2.4 Empirical research on executive pay-performance relation in Asia

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Kubo	2000	UK and Japan	210 Japanese during 1995-1996 and 1,500 British listed firms in 1994-1995	RE	Director and CEO compensation Firm performance	Performance, weight, size, age, tenure Director pay	Japanese director pay has no relationship with shareholders' return. British director pay is positively correlated with firm performance. Though, there is no performance consequence of the pay.
Mengistae and Xu	2004	China	Survey data 1980-1989	OLS regression, FE	CEO compensation	ROC, size	Sensitivity of CEO compensation to firm performance in state-owned enterprises is found.
Wang and Stammerjohan	2004	China	1112 Chinese listed firms in 2004	OLS regression	CEP compensation	Size, industry	Both size and industry has significant affect on the executive compensation pay in Chinese listed companies.
Kato and Long	2006	China	Archival data 1998- 2002	OLS regression	Total cash compensation	ROS, ROA, sales, profit, equity, ownership structure	Independent directors who drive the significance of executive compensation and firm performance. However the stronger degree of state ownership reduces the link, on the other hand.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Lin	2005	Taiwan	Survey data	LISREL estimation	Log total cash compensation	Sale, asset, ROA, ROE, stock return, EPS, corporate governance	CEO acts as steward when he holds the position of chairman. Shareholders still have power of control over board of remuneration and executive compensation pay.
Bai and Xu	2005	China	Survey of state-owned enterprises during 1985-1989	OLS regression, FE	CEO compensation	Profitability, ownership, size, industry	High profitability and industry of state-owned enterprise affects the use of incentive for financial performance.
Cheung, Stouraitis, and Wong	2005	Hong Kong	412 listed companies during 1995-1998	OLS regression, FE	CEO compensation	ROA, governance, size, debt-to-asset growth, market-to-book	Positive relationship between managerial ownership and executive compensation in both small and in family controlled firms.
Firth, Fung, and Rui	2006	China	366 listed companies as Archival data 1998 - 2000	OLS regression	Total compensation	Stock return, income, assets, ownership structure	Positive relation between CEO pay and accounting/stock based on performance in certain ownership conditions.
Long & Kato	2006	China	188 listed companies during 1998-2002	OLS regression	CEO compensation	ROR, ROA, negative profit, sales, governance	Executive compensation is sensitive to shareholder value. State-owned enterprises are weakening pay-performance sensitivities.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Basu, Hwang, Mitsudome and Weintrop	2007	Japan	174 large firms during 1992-1996	OLS regression	CEO compensation	ROA, RET, Ownership, governance, size, growth	Using corporate governance approach, this work reports that executive pay is higher in weaker corporate governance firms.
					ROA, stock return	excess compensation, ownership, size	Ownership and excess pay is negatively associated with performance consequences.
Ferris, Kim and Kitsabunnarat	2007	Japan	466 firms during 1997-2001	OLS regression	CEO option grant	Governance	Smaller boards and a higher percentage of outside director are managerial power mechanism on option grant.
Kato, Kim, and Lee	2007	Korea	Archival data 1998-2001	OLS regression	Total cash compensation	Sales, net income, ROA, stock return, ownership	Cash compensation of Korean executive correlates with stock return in other ownership structures except for family business.
Putthapiwat	2007	Thailand	377 listed companies in 2005	OLS regression	Total cash compensation	Revenue, EPS, ROE	Executive compensation is positively related to firm performance in various industries.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Buck, Liu and Skovoroda	2008	China	601 listed companies during 2000-2003	OLS regression	CEO compensation	Share value, RET, profit, ROA, size, governance	Strictly controlled simultaneous relation, firm size and firm performance affect executive compensation.
					Firm performance	CEO compensation, governance, size	Firm size and executive compensation positively affect firm performance.
Cheng, Lui, Shum and Wong	2008	Hong Kong	484 listed companies during 2006-2007	OLS regression	director compensation	ROE, stock return, size, growth, governance	ROE, return, and size correlate with director pay where an independent director attracts lower pay in non-family firms.
Unite, Sullivan, Brookman, Majadillas, & Taningco	2008	Philippines	2001-2003	OLS regression	Change in CEO compensation	ROA, RET, size, group	Size is the key determine of executive pay where pay-performance elasticity can be found in companies that are not affiliated to a corporate group
Sakawa and Watanabel	2009	Japan	Japanese manufacturing firms during 1992-1995	OLS regression	Change in CEO compensation	ROA, RET, Size, Ownership structure	Pay-performance sensitivity does exist but under family control, the pay-performance sensitivity becomes weaker.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Salim and Wan-Hussin	2009	Malaysia	158 listed companies during 2003-2005	OLS regression	Change in executive compensation	Change in shareholder wealth, governance	Appropriate structure of remuneration committee and institutional shareholders enhance the pay-performance elasticity where managerial ownership causes weaker pay-performance relations.
Kaewkumsorn	2009	Thailand	432 Thai listed companies in 2007	OLS regression	CEO compensation	ROA, ROE, EPS, RET	Firm performance influences the executive pay in different manners depending on the industry.
Tian	2009	Cross-country (Asia)	402 Asian companies in 2000-2007	OLS regression	CEO compensation	ROA, RET, risk, governance	Pay-performance sensitivity does exist but in firms with powerful CEO the sensitivity becomes weaker.
Conyon and He	2011	China	1,481 listed companies during 2001-2005	OLS regression, Random effects	Cash compensation, stock option	ROA, Market to book, RI, Sales, governance	There is a positive influence of firm accounting/market performance and cash/equity incentive. Board determinants also play a role in the pay-performance sensitivity setting.
Chen, Liu and Li	2010	China	502 listed companies during 2001-2006	FE	CEO cash compensation	ROE, stock return, governance, ownership, size	Size, growth opportunity, and CEO shareholding have a positive affect on executive cash compensation where block shareholders reduce the executive compensation pay.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Connelly, Limpapahayom and Sullivan	2010	Thailand	218 listed companies in 2005	OLS regression	Director pay, Manager pay	size, risk, growth, leverage, ROA, governance, ownership	Executive pay-performance sensitivity in family firms is lower than those non-family firms. The managerial pay sensitivity of family-owned firms can be found but not of a director.
Chen,Ezzamel and Cai	2011	China	Listed companies from 432 in 1999 to 1,458 in 2002	OLS regression	Executive compensation	ROA, EPS, Q, Governance, ownership, lower level of executive pay, CEO characteristics,	Managerial ownership and education are significantly positively related to executive compensation where tournament prize does not relate to the pay.
Kato and Long	2011	China	923 Listed companies during 1998 – 2002	OLS regression	Executive compensation gap	pool size, state ownership, size	Size and sate ownership are the key determinants of the executive pay gap between executive managers.
					Firm performance	Executive compensation gap, state ownership, size	The increase in the gap between top executives will result in greater firm performance due to enhanced managerial effort.

Author(s)	Date	Setting	Data		Variables		Result
			collection	Analysis	Dependent	Independent	
Lee and Chen	2011	Taiwan	217 listed companies in 1995-2004	2SLS	Executive compensation	ROA, Q, governance, size, risk	Firm performance, size and governance have a positive relation with CEO compensation.
					Firm value	executive compensation,	CEO compensation has a positive relation to Tobin's Q.
Oviantari	2011	Indonesia	100 listed companies during 2008-2009	OLS regression	Director and executive compensation	ROA, EPS, size	Size positive influences the director and executive pay while ROA has a negative effect on the pay.
Suherman, Rahmawati and Buchdadi	2011	Indonesia	13 financial companies during 2007-2009	GLS regression	Executive cash compensation	ROA, RI, outside directors, institutional ownership	ROA, size and institutional ownership have a positive relation to executive pay whereas stock return and proportion of independent director do not.
Zhou, Geogakopoulous, Sotiropoulos, and Vasileiou	2011	China	18 Chinese financial intuition during 2001-2009	OLS regression	Director and Executive compensation	ROE, Non-Performing Loan ratio, Size	There is a relationship between director compensation and firm performance, Non-Performing Loan ratio and size but not with the executive compensation case.

Since most research approached executive compensation from (Standard) Agency Theory, executive compensation in Asia has received little attention regarding the narrow gap between ownership and control. The attraction and retention of desirable executives was not initially a problem since the majority of Asian firms are ruled by the (family's members of) shareholder. However, there is intense conflict of interest between minority and majority shareholders in these types of firms. Kaplan (1994) explores the sensitivity of executive compensation and firm performance using comparison data between the US and Japan. He found a pretty similar proportion of sensitivity between executive compensation and firm performance in the US and Japan. However, he revealed that the famous stock option in the US was adopted in fewer than half of the cases surveyed in Japan. The research provided evidence on the American approach to executive compensation instead of exploring Japanese characteristics. Six years later, the first research in executive compensation using Asian Stock market characteristics was undertaken in the early twenty first century. Another comparison of executive pay between Japanese and UK setting was launched by Kubo, whose PhD thesis was submitted to the London School of Economics in 2000. The study verifies the sensitivity and consequences of executive compensation and firm performance in the UK but has failed to find any link in Japan. Seven years later, Basu et al (2007) once again tested the pay-performance sensitivity and the performance consequences of executive compensation; their study reported that executive compensation is higher in weaker corporate governance firms where ownership and excess pay is negatively associated with performance consequences.

China received the most attention in number of studies on sensitivity between executive compensation and firm performance (Sun et al, 2010). In early work on Chinese executive compensation, Cheung et al (2005) explored 412 listed companies in the Hong Kong Stock Market and reported there is a weak but positive relationship between managerial ownership and executive compensation. Also, the work showed that Hong Kong pay-performance

sensitivity varies across the industry where ownership structure does affect the executive pay level. This research was one of the early bodies of evidence that proved that the power of family ownership, the most common ownership structure in Hong Kong, is reflected in the executive compensation pay. Cheng et al (2008) approached executive compensation pay by applying the managerial power approach. This research explores the influence of corporate governance structure such as number of independent non-executive directors, dual position between CEO and chairman, dual position between director and chairman, CEO or non-executive director, or whether the director is a member of the family that controls the company. Their study provided evidence that size and governance structure such as the independent non-executive director leads to low directors' compensation in Hong Kong. This research is one of the Asian situations that found no sensitivity between director compensation and firm performance. However, where there is individual director compensation, further findings indicate that governance results are robust where sensitivity between individual director compensation and firm performance (ROE) does exist.

A series of research studies report the Chinese mainland issue of state-owned enterprises in relation to executive pay. Almost all of them found that firm performance and state-owned enterprise affects the use of pay-performance sensitivity. Mengistae and Xu (2004) found supportive evidence to Agency theory by providing evidence that is a positive relationship between executive compensation and accounting performance in 769 state-owned emterprises (SOEs) in China from 1980 to 1989. Wang and Stammerjohan (2004) used 1112 Chinese listed firms by carrying out OLS regression between CEO pay with firm size and industry. The results indicate that both size and industry have significant effects on the executive compensation pay in Chinese listed companies. Bai and Xu (2005) used 853 managerial incentives in 1990s to support Agency theory and Incomplete Contracts theory that Chinese State-Owned enterprises were driven by incentive mechanisms in the 1980s; however, firm performance does not determine the CEO compensation.

Kato and Long (2006) used 942 listed companies in Chinese Stock Markets from 1999 to 2002 and found that executive compensation has positive relationships with shareholder value and sales growth. Firth et al (2006) used the Institutional theory approach to 1998-2000 executive compensation pay by classifying Chinese firms into two groups. Firms with a state agency as the majority shareholder do not appear to have pay-performance sensitivity whereas state-owned enterprise and private block-shareholders relate their executive pay with firm performance. Buck, Liu and Skovaroda (2008) revealed the positive relationships between executive compensation and accounting performance in 601 Chinese listed companies from 2000 to 2003. Their study further shows that executive pay also does affect firm performance.

Recently, Chen et al (2010; 2011), Kato and Long (2011) and Lee and Chen (2011) provided recent evidence on the case in China. These studies report that firm performance, size, CEO ownership and board size have a positive relation to CEO; however, Zhou et al (2011) provided contradicting evidence by stating that is no relation between executive compensation and firm performance in China. Firm size is the only factor that determines the Chinese executive pay.

Kato, Kim and Lee (2007) explored the Korean setting and found that cash compensation of Korean executives is positively influenced by firm performance (stock return) in all ownership structures except for family-owned business. This work revealed that accounting performance (ROA) has no power on the determination of executive compensation. Lee and Chen (2011) explored the Taiwanese stock market by using 2SLS for panel data. This work revealed that firm size, governance, firm performance and ownership are positively associated with CEO compensation where firm age, R&D expenditure, and firm risk are negatively associated with CEO compensation in Taiwan.

Only limted work on executive compensation in Southeast Asia has contributed to the body of research in the field. Unite et al (2008) provided the first evidence on the relation between executive compensation and firm performance in the Philippines. This study reported that size is the only nationwide key determinant of executive pay where pay-performance elasticity can only be found in firms that are not affiliated to a corporate group in the Philippines. Salim and Wan-Hussin (2009) reported that appropriate structure of the remuneration committee enhances the pay-performance elasticity where managerial ownership causes weaker elasticity of pay-performance relations in Malaysia. Oviantari (2011) explored Indonesia pay-performance sensitivity by using director and executive compensation. The work indicated that firm performance has a negative influence on executive pay while firm size plays the key role in compensation pay. Suherman et al (2011) added that that Indonesian institutional ownership has a positive relation to executive pay whereas stock return and proportion of independent director does not.

As is the case with other Asian countries, there are very limited executive compensation studies posted from Thailand. Sitthiharn (2006) and Thakaew (2006) both found that EPS as firm performance has a statistically significant influence on executive compensation pay in the Thai stock market. However, Thakaew (2006) shows that RI has a negative influence on executive compensation. Putthapiwat (2007) and Kaewkumsorn (2009) provided Thai evidence that firm performance and executive compensation do correlate but vary across industries. Recently, Connelly et al (2010) added to the Thai evidence that the nature of the collective power of the ownership in family business allows them to influence the compensation settings. Thus the pay-performance sensitivity for the executive managers in this context does exist.

Sun et al (2010) undertook a critical review about executive compensation in Asia on the call for future research integrating Agency theory and the institution-based theory to examining executive pay variances across

different settings. This research showed that China is in the lead followed by Japan, Hong Kong, and Taiwan which make some contribution. India, Singapore, and Korea make little, and almost all of Southeast Asia is missing from the league. Tian (2009) provided the first research on integrating Asian executive pay and performance sensitivity by using survey data from Indonesia, Malaysia, the Philippines, Singapore, Thailand, Hong Kong, and Taiwan from 2000 to 2007. The research provided evidence that firm performance determines Asian executive pay but there is no performance consequence of executive pay.

2.4 Performance consequences of executive compensation

The last and least discussed compensation issue is the performance impact of executive compensation design. Few studies have investigated the fundamental question of whether executive compensation/incentive leads to better performance. Initially, the theme of the performance consequences of executive compensation may be traced back to assumptions about the executive managers who have the ultimate responsibility for the performance of the firm. Core et al (2003) indicates there is no statement to predict how compensation affects performance. However, it is clear that motivation theory expects compensation to increase enthusiasm, which should affect firm performance in a positive way. Fakhfakh and Perotin (2000) claim that to induce manager to exert greater effort drives not only the individual but also the organisation performance, because a substantial amount of profit will return to the managers when they put in a great deal of effort. However, Abell (2007) warns that the performance consequences of compensation may not exist as such, because the efficiency of the compensation pay may be reflected in various dimensions of performance.

Finding how a firm measures performance consequences is not a new concept for business research, but the topic is still crucial because the result of the measurement indicates the manager's ability and value to the firm. Finding a valid measurement system enables an executive manager to remedy the firm's weaknesses as well as emphasising its strengths. A poor (invalid) measurement system, in contrast, may not identify the area of the problem; it may not motivate the manager. In addition, a poor measurement system may lead to unexpected behaviour on the part of the manager. Performance measurement can be discussed from three main standpoints: a) Process-based evaluation in the areas of operation and market research which provide non-financial information about such things as efficiency, productivity and marketing share; b) The result-based concept of financial reporting, known as the area of accounting number, providing a list of accounting incomes; and c) The reflection of the outsider's point of view regarding the firm value. This is known as stock-based performance, from the area of the financial market.

Ittner and Larcker (1998) suggest that the area of the performance measurement system has a role to play in strategic planning, evaluating in performance measurement the achievement of organisational objects and compensating managers for their innovation: this appears under Trends and Research Implications. Writers evaluate the current statement of six areas of concern in their performance evaluation: financial performance, customer satisfaction, operation efficiency, employee performance, community/environment and innovation/change. Among future trends, new financial measurements are being continuously developed, which reduces the limitations of the traditional financial performance measures.

Performance measurement is generally accepted as the basic element in accounting measurement and the most central tool for evaluating firm performance. This can be said because accounting information has to be available free of charge under the requirements of commercial law. It is an

indication of a firm's financial capacity (Balance Sheet) and its operation performance (Profit and Loss account). The basic assumption of accounting procedure is the accrual basis, which holds that the adjusting of transactions can overlap from one accounting period to the next. The Balance Sheet provides details about the firm's size; assets, liabilities and shareholders' equity. The income statement gives information regarding the firm's profitability; revenues, gross profit, profit before interest and tax and net profits. Due to the existence of various types of financial performance measure in the accounting literature, Biddle et al (1997) empirically compare key financial measurements which are provided by or related to the financial statement, such as net profits and operation cash flow.

Income which is reported in the profit and loss accounting, on each line, indicates the different sorts of profit made by a firm. Gross profit provides income, which is affected by the firm's cost structure; operation profit provides the firm's ability to generate income from its own equity resources, whereas net profit is the profit after deducting all expenses (including interest and tax payments). These three figures are the best known; however, in terms of comparison between firms, it seem to be the case that EPS is the most readily understandable for the capital market's investors because it provides net benefit per share invested. Net profit, alternatively, seems to be the best known amount, as far as the long-term investors are concerned. It should be clear that no single profit can provide more than one dimension of income, so each of them is unique in its own terms.

Gross profits = Sales – Cost of good sales

Operation profits = Gross profit – operation expense

Net profits = Operation profit – interests – taxes

EPS = (Net profit – dividend on preferred stock)/common stock

The net profit is the bottom line profit of the profit and loss account, although it has been criticised for not showing the cost of equity capital. On the basis of these two statements, the profit and loss account and the balance sheet, a firm's capacity is standardised by size, which is called its financial ratios: net profit on revenues, return on assets, return of equity, debt to equity, earnings per share and dividends per share. These financial ratios are also provided by the annual report which all public companies are required to submit as accounting information for the public, via the Stock Exchange committee.

The cash flow statement is the reverse of net profits to cash basis accounting. It provides financial information regarding the cash inflow and outflow. This statement is important because it provides unique data about the rising or falling of a firm's liquidity in three areas of activity; operating, financing and investing. Thus the information is crucial in term of flexibility and the ability to convert assets to cash. Operation activity provides quite similar information to that in the profit and loss account; what difference lies in their underlying assumption, whether on a cash basis or an accrual basis. In the long run, both assumptions have the same total amount, but, unfortunately, when carefully analysing the situation, in particular when the firm lacks liquidity, the cash basis seems to be more important in the short run. To present liquidity information, it is necessary to re-arrange the information which is contained in the income statement and the balance sheet.

> Cash flows from operating activities = Net profits + depreciation + amortization + decrease in current assets – increase in current assets + increase in current liability – decrease in current liability

> Cash flows from investing activities = Acquisition of fixed assets – Cash paid for intangible assets - Cash received from sales of assets - Investments decrease

Cash flows from financing activities = Cash received from short-term loans + Cash received from long-term loans + Cash received from issuing ordinary shares + Cash received from premium on ordinary shares – Cash paid for repayment of short-term loans - Cash paid for repayment of long-term loans – Cash paid for repayment of promissory notes – Dividends paid

Free cash flow = Increase (decrease) in cash flows from operation activities + Increase (decrease) in cash flows from investing activities + Increase (decrease) in cash flows from financing activities – net cash flows from operating activities – net cash flows from investing activities

Generally it is an accepted principle in accounting that the firm is required to keep an accounting record in accrual base accounting, but it sometimes cannot give some detailed information, about liquidity in particular. The main part of the financial statement reports the accrual basis in its balance sheet, a statement of profit and loss and a statement of change in shareholder equity. Using this information, the cash flow from operating activities can be calculated by performance measurement estimated by net profit minus transactions by those accruals.

From the early compensation studies, researchers have been aware that it is important to understand whether or not compensation has the power to enhance firm performance (Heugens et al, 2009). There is no doubt that the prediction direction of executive compensation influences firm performance, but performance proxy-accounting-based versus market-based measures of performance- is still under debate (Leonard, 1990; Larcker and Sloan, 1995; Prendergast, 1999). Leonard (1990) finds that return on equity correlates with bonus pay. Abowd (1990) finds that managerial compensation has links to corporate performance in the next year. Gerhart and Mikovich (1990) aims to investigate the Agency theory which specifies that decisions about the compensation package cause differences in firm performance. The result indicates that contingent pay is associated with financial performance but base pay is not.

Table 2.5 Empirical research on the way in which executive compensation influences the firm performance

Author(s)	Date	Setting	Data		Variables		Result
			Collection	Analysis	Dependent	Independent	
Palia	2001	US listed companies	3,260 data 1981 - 1993	Two-Stage least square- FE	Q	Equity/total compensation, size, debt	A system of simultaneous equations using instrumental variables indicates that equity compensation correlates with firm performance.
Chalmers et al	2006	200 Australian listed companies	Archival 1999 - 2002	OLS regression	ROA, RET	Excess compensation, sales, market to book value	After controlling for corporate governance, predicted excess compensation is positively related to subsequent firm performance.
Yayla and Hu	2008	US listed companies	S&P 500 for the years 1994-2005	OLS regression	ROA, Tobin's Q, executive compensation	Risk, size, alignment, competition, capital expenditure market share	Executive compensation alignment with the firm performance when taking into account the competitiveness of the market, the capital expenditure and the market share of the firm.
Cooper et al	2009	US listed companies	CompStat 1994 - 2006	OLS regression	ROA	Size, cash compensation	CEO pay is negatively related to future shareholder return.
Brick et al	2010	11,019 American companies	CompStat 1992 - 2004	OLS regression, FE	Stock return	Pay-performance sensitivity, risk, industry	High pay-performance sensitivity is associated with low future returns.

The evidence summarised in Table 2.5 partly supports the view that executive compensation affects firm performance[3]; however, the way in which firm performance has been measured is still under debate. Thus, the next issue in understanding the role of executive compensation is tracking the performance matrix. There is a general belief that a firm which gives higher executive compensation pay should have higher firm performance, because this high compensation should increase the motivation of the manager. Referring to the existing literature above, it may be summarised that firm performance is a consequence of executive compensation pay.

$$Y_{it} = f\ (\ compensation_{it}, controlled_{it}) + \varepsilon_i \qquad \ldots\ldots\ldots (4)$$

where Y_{it} is defined as firm performance. It is the function of executive compensation and a controlled variable of firm $_i$ at the time $_t$. ε_i is the unobserved determinants of firm performance.

[3] Hengartner (2006) provides a comprehensive review on the effects of executive compensation

1) Stock options, dividend payment, and share repurchases.
2) Unvested stock options, restricted stock, and manager retention.
3) Incentive compensation and risk.
4) Compensation, Merger and acquisition, and divestitures.
5) Long-term compensation and capital investment.
6) Contingent pay and expectations management.
7) Incentive compensation and earning management.

2.5 Chapter summary

The division of labour rapidly developed the means of mass production. Modern economic theory begins by explaining how economic systems run through price mechanisms. When the market fails, the firm rises. The initial and perhaps the most influential person in the firm is the shareholder. He may need to organise the firm by himself but as a wealthy person he may not have enough time to operate all the firms that he creates. In time he must hire professional managers to run them. However, human rationality of self-interest and opportunism which direct the way that parties make their decisions create the agency problem. Asymmetric information also limits economic ability in decision making. All these factors, together with the nature of the organisation structures, create the agency problem by compounding the complexity of the relationship between Principal and Agent. To control the agency problem, the Principal has a chance to create working contracts in order to express his interest and also to verify the Agent's behaviour.

Incentive theory has been developed; this evolved as a part of the efficiency branch of the standard agency problem. By mapping compensation designs while evaluating the alignment to firm performance, we may discover the hidden factors which influences the link between compensation and firm performance which previous research has basically overlooked. The components of the executive compensation package are salary, bonus, stock options and perks. The implementation of incentive compensation is one current issue. The explicit relation between pay and shareholder wealth has, so far, not been clearly demonstrated, where the performance consequences of compensation pay are still new. Another research arena investigates the implicit relation between pay and shareholder wealth, as well as corporate scandals and the agency cost.

CHAPTER 3

The Development of Hypotheses

Executive compensation research in Agency theory concentrating on the separation between ownership and control has a long history (Fama and Jensen, 1983). However, the vast majority of executive compensation questions are constructed upon the Anglo-Saxon setting. Recently, new approaches, such as executive compensation in the collaboration economy have emerged. The main idea prompting the study of the role of ownership structure as a moderation factor on pay-performance sensitivity is the doubtful assumption of a separation between ownership and control. Fortunately, the current development of databases, as well as the rise of rigorously statistical analysis, provides a great platform on which to re-evaluate executive compensation issues by providing a theoretical framework

and adding new bodies of research, when applicable, on the pay-performance sensitivity and its consequences. A set of testable hypotheses has also been established using the Agency theory approach to complete contract theory and accounts of concentrated ownership.

Four groups of hypotheses are developed as the result of this chapter. The first is the issue of the executive pay-performance sensitivity. The second is how different characteristics of the separation between ownership and control affect the executive pay-performance sensitivity. The next section investigates the performance consequences of executive compensation, while the last section examines the role of ownership structure on the performance consequences of executive compensation.

3.1 Pay-performance sensitivity

Optimal contracting theory believes that executive compensation encourages excessive risk taking, resulting in an alignment of interest between the Principal and the Agent. Thus, it is the firm's responsibility to design an executive compensation scheme which provides efficiency compensation to maximise shareholder value (Bebchuk and Fried, 2003; Holmstrom, 1979). Since the firms which fail to encourage their managers to serve their interest do not experience competition in the market, a positive relationship between firm performance and compensation is expected (Murphy, 1999).

Jensen and Murphy (1990) first provide empirical evidence on the influence of firm performance on executive compensation between 1974 and 1986. This original piece of work disclosed that that Agency theory is consistent but the small magnitude of pay-performance sensitivity raises some concern over the explanatory power of formal agency of optimal contracting. Hall and

Liebman (1998) provide further US evidence on the pay-performance sensitivity, using 478 of large US companies' data from the period 1980 to 1994. The paper argues that the early weak evidence is the result of excluding the stock options. Adjusting the data, Hall and Liebman show that with every $1000 increase in company value comes a $25 increase in the executive manager's wealth. Murphy (1999) revises the theoretical evidence and provides empirical evidence using 500 US companies during 1990 to 1996 that cash pay-performance sensitivity does exist.

Furthermore, Tevlin (1996) later found it to be the case that the compensation will be closely linked to firm performance if a higher econometric technique such as a dynamic model is involved. Guy (2000), too, investigates the impact of firm performance on executive compensation in British companies from 1972 to 1989. Insisting not only on the econometrics estimation model which corrects the biases of heterogeneity, the author evaluates the issue of performance measures and the time dimension of firm performance. Both accounting-based and market-based performances are tested. The results indicate that there is a strong positive influence of changes in shareholder returns at 6.6% by accounting on executive compensation. Gregg et al (2005) revisit the state of the pay-performance sensitivity using rigorous estimation techniques such as fixed effects, random effects, instrumental variable and the generalised method of moment. The authors provide new evidence that a rise in firm performance causes substantial movement in executive compensation over time.

Note that one issue which moves step by step with the pay-performance sensitivity is the determinants of executive compensation at firm level. One of the very first papers dealing with the determinants of executive compensation was introduced by Agarwal in 1981. This seminal work of compensation study begins the expanding search for the factors influencing executive compensation, for at the time it was believed that compensation should relate to the scale of complexity of the firm (the firm size). The evidence supports his assumption

that the span of control, profit and company size influences the level of executive compensation pay. Even taking human capital into account, however, the firm's size and ability to pay appears to be far more important than its other individual characteristics. The evidence supports the view that the power of the labour market influences the determination of executive compensation more than these individual characteristics do. Decktop (1988) confirms the finding that size, industry and firm performance are linked to executive pay.

The consistency of the fundamentally empirical research led to phenomenal progress in 1990 when the Industrial and Labour Relations Review published a special issue named 'Do Compensation Policies Matter?'. The Academy of Management Journal later launched a special issue, the 'Special Research Forum on Managerial Compensation and Firm Performance' (1998). The two special issues confirm that executive compensation was the most contentious issue in the 1990s. The search for the pay-performance sensitivity in Anglo-Saxon cultures is still going on; the availability of executive compensation provides new evidence from different market settings. For example, SET established an executive compensation database in order to provide opportunities for Thai scholars to begin investigating pay-performance sensitivity. At least five studies of firm performance as a determination of executive compensation have been conducted on SET.

Sitthiharn (2006) used 292 companies listed in 2004. She finds that firm performance, such as EPS, has a statistically significant influence on executive compensation pay in the financial sector. She also confirms that size and EPS have statistically significant influences on executive compensation pay in the non-financial sector. However, this research has interpretation limitations due to the use of cross-sectional data. Within the same year, Thakaew (2006) used Thai listed companies' data from 2001-2004 to prove that the Thai listed companies reward their executives based on EPS, ROA and ROE. However she finds that stock return has a negative influence on executive compensation. This study, however, tends to suffer from

multicollinearity, insufficiently controlled variables and sampling bias, due to the limited quality of the data. Soon afterwards, Puttaphiwat (2007) used simple regression on 377 listed companies in SET in 2006 to trace the influence of firm performance on executive total compensation. He finds that EPS has a positive relationship with executive compensation in consuming, industrial and property development where ROE has a positive relationship with executive compensation in the consuming, industrial, and real estate sectors.

The SET (2007) used cross-sectional data sets between 2005 and2006 to investigate whether or not listed companies provide pay compensation to their CEOs on the basis of performance. This research confirms that size matters greatly to compensation pay; however, it fails to confirm that that any relationship between pay and performance exists. The research suffers from the statistical technique deployed: only the correlation for each year has been used to detect the relationship. It also suffers from the lack of a controlling factor to influence the link.

Recently, using a regression analysis of 432 listed companies in SET in 2007, Kaewkumson (2009) examined the influence of firm performance on executive compensation. By analysing industries separately, he finds that accounting income - ROA, ROE and EPS - influence executive pay in the consumer products and resources industry. He also finds that in the agriculture industry, consumer products, industrial goods, real estate and the construction and resources sectors, stock return has influence power over executive compensation pay. It may be added that net revenue influences compensation in the agriculture industry, and in the consuming, finance, property development and service sectors.

Most executive compensation research deployed OLS as the estimation technique; however the awareness on the possible estimation bias has since grown. Unobserved time-invariant heterogeneity is the most common

concern; thus fixed effect should be adopted. Where the firms do not randomly decide to pay, executive compensation is an endogenous decision of the firm in nature. Estimation technique such as two-stage-least-square and generalised method of moments should be implemented. Since no systematic research has been done to verify the Agency theory which suggests a design with a clear link between the interest of the Principal and that of the Agent, the present study constructs the following hypothesis:

H1: There is a positive and significant relationship between executive compensation and firm performance.

Hengartner (2006) indicates that existing Anglo-Saxon evidence is sufficient to claim that shareholder wealth maximisation has the power to influence executive compensation design. However, one concern that challenges our understanding is the method of measuring firm performance. Market return, accounting income, or cash flow performance have long been discussed, but a final view on the use of performance evaluation has not yet been found. Bonner et al (2000) suggest that an appropriate choice of performance proxy may lead to a previously undiscovered assessment of the link between compensation system and firm performance. Frydman and Jenter (2010) emphasise that a comprehensive measure of compensation should include the effects of current performance on current compensation (in the case of bonus) and future compensation (in the case of a stock option). Kozan and Boulanger (2004), who provide synchronised key performance measures, state that the measures most often adopted are the accounting profitability measures included in EPS and OCF. The rationale for profitability is that calculated profit measurement considers both revenue and expenses and then standardises the size of the firms. Cash flow removes the estimation of accounting methods, which is believed to be more reliable than accrual basis numbers. Stock market measures are generally considered to be objective and independent measures which provide a forward- looking point of view but they have been criticised on the grounds of controllability.

3.1.1 Accrual base accounting income

EPS is one of the most common performance indicators on the executive compensation contract. This ratio is the best known financial ratio because it has been chosen by IRFs to represent profitability per one unit of equity; thus it guides investors to find how much they earn from their investment in the firm. Thai accounting standards also provide guidelines in calculating this, which make it the most comparable financial ratio across firms and over industries. This accrual base accounting income is a result of the combination using profit income, which is reported in the profit and loss account together with the balance sheet. Leone et al (2006) find that cash compensation is sensitive to accounting profit; they are still conscious of conservative accounting, with unrealised gains from uncertain profit but recognise unrealised losses, in a timely manner. The authors point out that the firm-value maximising of this accounting conservatism is different from the efficient contracts for compensation. Ittner and Larcker (1997) and Biddle et al (1999) also indicate certain limitations, such as the failure to account for the cost of capital. Next, yields-growth percentages can be misleading when the growth of a small firm is rapid. The determinant of net income number includes non-recurring and extraordinary items. Furthermore, these accounting numbers have been blamed for being self-evaluated, exclusive of the cost of capital, backward looking and short-term, leading to unexpected behaviour, such as creative accounting. Nevertheless, Sloan (1993) shows that the accounting numbers give a smooth profile of firm income as well as one which is suitable for earnings-based incentives, because it provides benefits in terms of risk-sharing between firms and managers. This research uses this opportunity to explore the role of EPS as a firm performance metric on the executive pay-performance sensitivity. Consequently, it is hypothesised that:

H1a: EPS has a positive and significant relation to executive compensation

3.1.2 Cash base accounting income

This performance indicator is a result of the most straightforward recording method when cash is received and paid. The operation cash flow (OCF) is calculated by reversing the net profits to cash basis accounting by using the cash flow statement, which provides financial information regarding cash inflow and the outflow of cash. In the long run, both the accrual and cash bases have the same total amount, but, as noted above, the cash basis seems to more important in the short run even when the situation is carefully analysed, in particular when the firm lacks liquidity. To present liquidity information, it is necessary to re-arrange information which is contained in the income statement and the balance sheet, as well as noting the financial statement. Nwaeze , Yang, and Yin (2006) study the role of the OCF in the presence of earning. They believe that the OCF is contract-relevant in the presence of earning. They also show that the OCF in the compensation model is associated with the presence of earnings and stock returns, and they discuss the quality of accounting earning in general. Skinner (1999) indicates that funds from the operations of a firm are better evidence than accounting income in terms of economic and behavioural evidence to support these researchers' ideas. This research uses the available opportunity to explore the role of OCF as a firm performance metric on the pay-performance sensitivity. Consequently, it is hypothesised that:

H1b: OCF has a positive and significant relation to executive compensation

3.1.3 Capital market base stock return

Stock return is the capital market base, representing the investors' decisions on stock prices reflecting the evaluation of the manager's performance. This performance indicator is famous because of its availability, transparency and benchmarking ability, but it has been criticised over its sensitivity to timing, news and peer groups which are all beyond the control of the managers. However, this lacked the predictive ability to describe future performance and exemplified short-termism, which leads to such unexpected behaviour as creative accounting. Jenson and Murphy (1990) explored the role of stock return on executive compensation .The idea is supported by Conyon and Simon (1998), who find that shareholder return regressed on executive compensation. However, Sloan (1993) criticises this view; he states that the stock price is not controlled by the manager. He explains that accounting earnings give a smoother profile of firm income than the stock price does. In addition, earning-based incentives provide benefits in terms of risk-sharing between the firm and the manager, while the stock price reflects external factors which are beyond managers' control. However, using stock return is as common as using accounting profit. Core et al (1999) and Joh (1999) employ stock return as a proxy of firm performance in constructing a compensation equation. Talmor and Wallace (2002) find stock return associated with compensation pay. Supported by Lin (2005), who finds all three performance measurements are associated with executive pay, Leone et al (2006) propose that boards of director believe in a firm-value maximisation approach which is to minimise executive compensation costs, which ultimately leads to maximising firm value. Recently, Kato et al (2007) found that both accounting numbers and stock returns are playing a less important role in the determination of the compensation system in Korea. This research, as noted above, uses the opportunity to explore the role of stock return as a firm performance metric on the pay-performance sensitivity. Consequently, it is hypothesised that:

H1c: Stock Return has a positive and significant relation to executive compensation

3.2 Ownership structure moderates pay-performance sensitivity

Using the agency power approach, a limit number of studies have been undertaken on the role of ownership structure as a determinant of pay-performance sensitivity. Original studies on ownership concentration and executive compensation aim to understand the collective authority to make the decision within a large publicly traded firm (Cheung et al, 2005). Typical Principal-Agent problems concern the separation of ownership and control (Jensen and Meckling, 1976). It is generally believed that a firm which has dispersed ownership should rely on intense incentive contracts because it lacks the cumulative negotiation power to reduce agency costs (Hartzell and Starks, 2003). However, the American medel of separation between ownership and control may not be common outside the Anglo-Saxon cultures. Many researchers examples point out that corporate structure should be seen as the reason for this contradiction of previous studies. However, most of the research attacks the issue by using the narrow approach of corporate governance (e.g. Newman, 2000 and Lin, 2005). The issue became better known when questions were asked about such matters as the ability of the Board of Directors, the transparency of remuneration committee and the independence of audit committee. Some research approaches to the contract theory indicate that particular types of firm characteristically choose to introduce incentives into their executive compensation contract. However, it has been found that the incentive contract creates a new level of complexity between the Principal and the Agent, which leads to complexity in the contract design.

Jiang (2009) indicates that there should be no more confusion about specifying the form of the separation between ownership and control; thus his research takes this opportunity to explore the role of ownership structure on the pay-performance sensitivity. Consequently, in a research proposition

about the influence of ownership structure on the amount of basic salary pay, incentive pay and total executive pay, it is hypothesised that:

H2: There is a moderation effect of ownership structure on the positive and significant relation between executive compensation and firm performance.

Concentrated ownership flips the executive research direction when one raises the issue that dispersed ownership is not the most common ownership structure worldwide. In the US, corporate governance of the remuneration committee now dominates the research arena and this research trend has spread quickly to other settings. European research provides contradictory results compared with American and British evidence on the role of corporate governance as a determinant of executive pay-performance sensitivity. The evidence indicates that more highly concentrated ownership provides better monitoring through direct control; thus the executive compensation structure should be different from those in market-based economies. It marks a turning point in executive compensation studies, which requires the consideration of ownership structure. Khan (2003) summarises the Principal-Agent approach by comparing corporate governance mechanisms between market-oriented and network-oriented economies.

Table 3.1 Economy characteristics

	Type of Corporate Governance System	
	Dispersed ownership leads to an equity market-based system	Concentrated ownership in an equity market and bond system
Investor orientation	Large	Concentrated
Dominant agency conflict	Shareholder vs. manager	Majority vs. minority (stake)shareholders
Role of board of directors	Important	Limited
Role of hostile takeovers	Potentially important	Quite limited
Role of insolvency	Potentially important	Possible systemic crisis may postpone bankruptcies

Source: Khan (2003)

Kraft and Niederprum (1999) remind us that the collective power of the Agents in the firm may affect the negotiation power over executive compensation design, which has a direct influence on the relationship between executive compensation and ownership structure. Claessens et al (2000) emphasise that the limited number of firms with dispersed ownership in East Asia, even when a 20% cut-off is employed, may suggest a different control mechanism from that generally used with dispersed ownership structure. The consideration of dispersed ownership causing higher compensation in the US leads Elston and Goldberg (2003) to explore the role of ownership structure on executive compensation (salary in particular) in Germany. The authors divide German-concentrated ownership into corporate, foreign, bank and family ownership. Their results indicate that banks play a negative role in executive pay. Claessens et al (2000) indicate that family ownership is the most common ownership structure found in most Asian capital markets. Local institutional investors such as corporate holdings are found in most European countries. Foreign ownership is common in open economies and those which are friendly to foreign investment such as Canada, Australia and Singapore.

3.2.1 Family businesses

Unlike dispersed ownership firms, family businesses may provide a high-intensity control mechanism in order to satisfy the family's interests. DeAngelo and DeAngelo (1985) believe that family ownership explicitly and implicitly involves the heads of families in monitoring their firm's wealth through the quasi-rents which relatives earn from employment in order to prevent poor management performance which might lead to a loss of the head's control and wealth. McConaughy (2000) suggests that while the founding family can run the firms in their own interest, incentive pay is less required. Connelly et al (2010) indicate that family ownership shares some characteristics of high controlling power, as other forms of concentrated ownership also do. Shanker and Astrachan (1996) also suggest that family businesses incorporate some degree of control over strategic decisions by the family and always have the intention of keeping the business in the family. They suggest at least five criteria for defining something as a family business. These are the percentage of ownership, voting control, strategic decisions, the involvement of multiple generations, and the active management by family members. The consideration about the role of ownership has grown since the beginning of the twenty first century. Using east and south-east Asian countries, Claessens et al (2000) find the strong presence of family holdings. Wiwattanakantang (2000) confirms that family businesses are the most common form of ownership structure in Thailand. She also states that the management control of these firms lies in the hands of the founding family.

Gomez-Mejia et al (2003) are aware that primary agency conflict in family business differs from that in widely-held businesses. The study empirically reports that family ownership wrap their executive pay with their performance. Also, the family-owned firm becomes more sensitive to systematic risk while the presence of institutional investors and R&D expenditure moderate the relationship. Corci, Gonenc, and Ozkan (2010) report the curb of executive compensation in family-run businesses in Europe. Both findings align with

those of Core et al (1999); that stronger monitoring reduces the probability that managers will be awarded unnecessary compensation. Conelly et al (2010) add that the collective power of those with ownership in family business allows them to monitor the manager directly; thus the pay-performance sensitivity for the executive managers should be stronger. The present study joins the long-standing and ongoing debate on the role of family businesses in the pay-performance sensitivity. Consequently, it is hypothesised that:

H2a: Family ownership moderates the positive and significant relation between executive compensation and firm performance.

3.2.2 Corporate holdings

Listed companies benefit from the economies of scale which commonly cause other ownership structures to make initial public offerings to attract external capital in order to support their expansion. Unlike them, firms - and-institutions in particular - are created with a corporate ownership to deal with excessive funds for which the owner seeks investment opportunities. This type of business searches for a firm with a potential for high return. After substantial ownership blocks, this ownership tends to take an active part in the firm in order to ensure that the return will be worth their investment (Monks and Minow, 1995). Concentrated ownership is defined as ownership by local juristic investors, and local financial institutions comprising banks, trusts, insurance companies, mutual funds, pension funds and state-owned corporations (Haid and Yurtoglu, 2006). The local concentration of ownership identifies the type of firm which has been controlled by native large/holding firms, such as are common in continental Europe.

The role of corporate ownership on executive compensation pay is explored in German firms. Haid and Yurtoglu (2006) confirm that local institutional ownership reduces the level of executive compensation. Using data from the

U.S., Hartzell and Starks (2003) confirm that the percentage of corporate holdings affect performance-related pay sensitivity. After controlling for firm size, industry, investment opportunities and recent performance, they find that the structure of local corporate holdings has a positive relation to the pay-performance sensitivity. Firth et al (2006) also provide empirical evidence on the moderate role of corporate concentrated ownership on the pay-performance sensitivity. Using three-year-panel data between 1998 and 2000 from the Taiwan Stock Market, this research found the positive role of corporate ownership on the relationship between executive total compensation and stock return. The present study uses this opportunity to explore the role of corporate ownership as a concentrated form of ownership on the pay-performance sensitivity. It expects that corporate ownership has a greater but negative influence on the pay-performance sensitivity. Consequently, it is hypothesised that:

H2b: Corporate ownership moderates the positive and influence relation between executive compensation and firm performance.

3.2.3 Foreign investors

Foreign investors play an important role in the economic growth of almost every emerging economy. Foreign Direct Investment (FDI) is the primary channel for gathering capital from overseas. This is favoured not only for the movement of capital that it allows from the home to the host country, but also because it may introduce new technologies, processes, products, organisation technologies and other intangible assets to the other country (Rochananonda, 2006). The Stock Exchange is an alternative channel for gathering capital from overseas through trading transactions across borders.

Lipsey (2002) mentions that compensation pays in foreign multinational firms are higher than that in similar domestic firms. The author introduces four different explanations for this. First, foreign firms have been forced to raise

salaries by the regulations in the host country or pressure from the home country. Second, workers prefer to work for local firms. Third, because of some proprietary technology the foreigner investor wants to reduce employee turnover. The last assumption is that the foreigner investor lacks knowledge about how to attract better workers, so they have to pay their employees more than local firms do. Doeringer (2003) study the effects of Japanese multinational management practices and compensation pay in the United States. They find that Japanese firms pay attention to training, high problem-solving skills and also team-working skills. In detail, they find that new workers in American- and Japanese-owned firms earn the same wage, but to further illustrate their idea they highlight the superior job security and greater opportunities available to employees of Japanese firms.

Firth et al (2006), however, stated that in cross-border investment, foreign investors are likely to exert pressure on the firm to adopt a pay-performance sensitivity scheme. Using data during the period 1998 to 2000 from the Taiwan Stock Market, the study found the positive role of foreign ownership in the relationship between executive compensation and accounting performance. The authors state that foreign investors are in favour because they have a wider choice of investment and it is more likely that it will be a firm with good corporate governance, one characteristic of which is the close link between compensation and firm performance. Thus, it logically follows that performance sensitivity in foreign investments is likely to be higher than in domestic investments. The present study then expects positive role of foreign ownership in the pay-performance sensitivity. Consequently, it is hypothesised that:

H2c: Foreign ownership moderates the positive and influence relation between executive compensation and firm performance.

3.3 Performance consequence of executive compensation

Since executive managers have an important role on firm performance, the shareholder has certain expectations over the amount of compensation pay that will be returned to them; hence, they expect that greater compensation pay should bring superior performance (Mackey, 2006; Kim et al, 2010). Frydman and Jenter (2010) indicate that this fundamental question in compensation research is one of the most interesting, but little evidence is provided on the performance consequences of executive compensation. Abowd and Kaplan (1999) explain that one reason for this is that economic theory predicts a rise in motivation when the compensation rises but no theory indicates categorically that compensation will raise a firm performance. Using the Agency theory framework, the shareholder should not offer greater executive compensation if his investment is never paid back.

The hope that executive compensation will lead to appropriate corporate performance drives the most important but less famous study to investigate the effectiveness of the system overall, rather than just the pay-performance sensitivity issue to date; that of Jensen and Murphy (1990). This paper began with the use of executive compensation to investigate the conflict of interests within the firm. Ever since, the investigation of efficiency in executive compensation designs has chosen this approach. Few papers have investigated the performance consequences of executive compensation; some believe that this approach is limited by the measurement issue, which results in an inability to interpret the relationship. Thus, the present study investigates the performance consequences in the hope that the executive compensation will show positive correlation with corporate performance. Consequently, it is hypothesised that:

H3: There is a positive and significant consequence of executive compensation on firm performance.

The study of performance consequences of Thai listed companies has been investigated in Jiamsagul (2007) under the approach of transparency and disclosure, and board of directors affect three performance measures; ROA, Q, and stock return. Ittner et al (1997) observe the different types of performance used in executive incentive contracts: they are cash flow, net income, EPS, sales, economic value-added, return on invested capital, return on assets, return on equity, return on sales, stock price return and cost reduction. Langfield-Smith (1997) indicate that there is no generally accepted approach to measuring performance but the accounting-based approach is the most widely used where the capital market is doubtful about the role of the executive manager in accounting procedures.

3.3.1 Accrual base accounting income

Most of the performance consequences of executive compensation include accounting-based accrual basis in their analyses. However, the varied choice of methods of accounting performance makes it difficult to correlate the early findings. Gerhard and Milkovich (1990) explore the ROA consequences of executive compensation but find a momentum affect. The authors provide evidence that lagged ROA is the only factor which determines current ROA. Conyon et al (2000) suggest that EPS, as an accounting-based measure, is preferable because it is not subject to general economy, and shows less effect from noise induced by the capital market, is mostly under the firm's control and also that it is not always economically relevant but has the potential to signal managerial effort. Using British listed companies between 1985 and 1995, the paper, however, fails to provide further empirical evidence on EPS as the performance consequence of executive stock options. Regarding to evidence above, it is hypothesised that:

H3a: Executive compensation has a positive and significant influence effect on EPS

3.3.2 Cash base accounting income

Net operation cash flow is a performance indicator and is the most straightforward recording method when cash is received and paid. In general, it is calculated by reversing net profits to cash basis accounting by using the cash flow statement, which provides financial information regarding the cash inflow and outflow. Nwaeze et al (2006) indicate that cash flow statements benefit the financial users by letting them understand the cash and cash-equivalent items which directly affect the liquidity of the firm. Thus, this information is legally available to the public. Sirisom (2003) indicates that funds from the operations of a firm provide investors with incremental information. The present study uses the opportunity to explore the role of executive compensation on OCF. Consequently, it is hypothesised that:

H3b: Executive compensation has a positive and significant influence effect on OCF.

3.3.3 Capital market base return

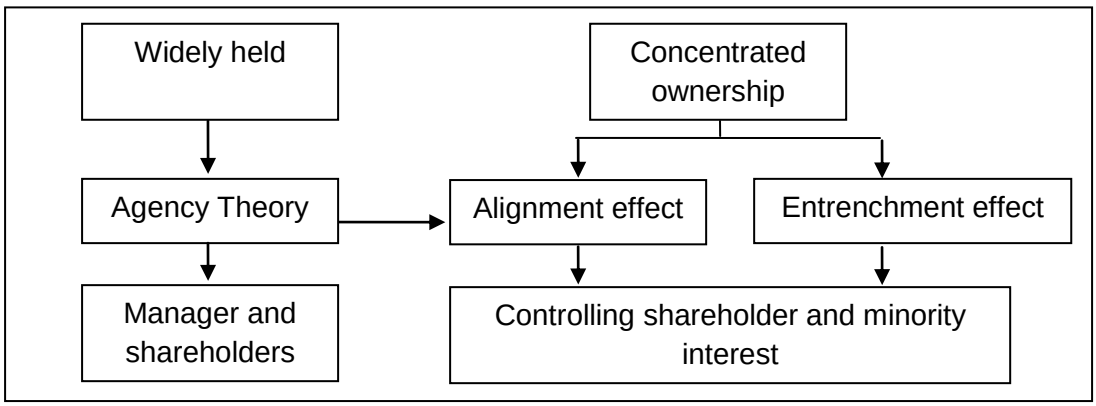
Stock return is the capital market base, which represents the investors' decisions on stock prices reflecting their evaluation of the manager's performance. This performance indicator is famous because of its availability, transparency and benchmarking ability. Conyon et al (2000) indicate that stock return is preferred since at least two supplementary reasons are given; it reflects the expectation of shareholders and the efficient market hypothesis is that share prices can intermediately reflect executive actions. However, Hogan and Lewis (1999) use stock prices as a guide to firm performance and looked without success for a relationship between economic profit-plan adopters and non-adopting control firms. Davis (2001) indicates that nothing but higher market capitalisations creates a higher stock return. Abowd and Kaplan (1999) provide their own answer – that the nature of a share price is not directly correlated with executive motivation but tends to relate closely to overall market performance; but also that expectation over performance began to rise when executive

incentives were granted, in the case of stock options. The present study aims to explore the stock returns on the subsequence of executive compensation. Consequently, it is hypothesised that:

H3c: Executive compensation has a positive and significant influence effect on stock returns.

3.4 Ownership structure moderates the performance consequences of executive compensation

The investigation of the role of ownership structure on the firm performance has a long history but only a few studies have explored the issue of the role of ownership structure in the pay-performance sensitivity. The uncertainty over the performance consequences of concentrated ownership has a confusing effect. On the one hand, concentrated ownership minimises the free rider problem and has substantial power to reduce agency cost, which tends to maximise firm value (Demsetz and Lehn, 1985). On the other, concentrated ownership is believed to have an entrenchment effect because the controlling shareholder transfers wealth from other shareholders to his group (La Porta et al, 1998).



Source: Kuntisook and Boonlert-U-Thai (adapted) (2009)

Figure 3.1 Agency cost consequences of ownership structure

Figure 3.1 indicates the effect of ownership structure on agency cost. Dispersed ownership leads to the classic agency problem between manager and shareholder. Having concentrated ownership, Kuntisook and Boonlert-U-Thai (2009) believe that the collection power in the Principal will align their effort to control the Agent, which leads to lower requirements in monitoring and bonding costs. However, having strong power, the concentrated ownership may divert firm value from the stakeholder into their own pocket. The inadequate balancing of control may lead to poor firm performance, which leads to the creation of a second type of Principal-Agent problem. Furthermore, the authors investigate the role of the controlling shareholder in the reporting of firm performance, for researchers believe that executive managers may play a part in moving funds from the minority interest into the hands of the manager and his family. The results provide evidence for the controlling shareholder, that in family firms, as well as others, corporate governance positively influences EPS. The finding aligns with those of Wiwattanakantang (2000), who explores the role of foreign investors and institutional investors in Thai listed companies. She finds that controlled size and corporate governance, foreign investment and institutional ownership all have positive influences on firm performance. Since most of the early and current research on the pay-performance sensitivity provides concrete evidence that those bigger firm hold superior resources, it is expected to leads them to achieve better output (Cichello, 2005). This study, then, controlled for the size effect. However, Edwards and Weichenrieder (2009) investigate the role of the control rights of German concentrated ownership in firm performance. The research found no evidence that concentrated ownership causes better firm performance. The present study uses the opportunity to explore the role of ownership structure in the performance consequences of executive compensation. Consequently, it is hypothesised that:

H4: Ownership structure moderates the positive and significant consequences of executive compensation on firm performance.

A numbers of studies have explored the ownership structures of family-owned firms; Villalonga and Amit (2006) synthesise the literature and find that family ownership certainly influences firm performance but they are not sure in which direction. Classic Agency theory believes that the lower agency cost of conflict of interest between the Principal and the Agent has a positive effect on the value of the family firm, but the imbalance between the Principal and Agent can also raise the rent to deduct private benefits from those minority shareholders. Tontivanichanon (2004) also finds that during the period 1999 to 2003, family control in SET was positively significant for accounting based firm performance. However, Athiapinya (2005) uses the same period of data as Tontivanichanon but comes to a contradictory conclusion about the Thai listed companies; that there is a negative effect of family founding on firm performance. Maury (2006) confirms the role of family-controlled firms in the performance consequences in Western Europe: that family businesses better perform than any other type of ownership concentration, which the author believes is because family businesses have a lower level of conflicts between the family and the minority shareholder, except when the shareholder protection is low and control is high. In contrast, Barth et al (2005) discover that family-owned firms are likely to under-perform when managed by someone from the owning family. They believe that this is the result of the risk-shifting between shareholders and minority shareholders, the limited diversification of financial risk and the higher cost of capital. The present study uses the opportunity to explore the role of family ownership on the performance consequence of executive pay. Consequently, it is hypothesised that:

H4a: Family ownership moderates the positive and significant consequences of executive compensation on firm performance.

The studies of institutional investors as a form of concentrated ownership are rising in the US. because a huge amount of money is gathered in the form of mutual funds. Using data from the U.S., Hartzell and Starks (2003) confirm

that the percentage of corporate holdings affects the sensitivity of performance-related pay. However, the form of the block shareholder in Europe is different. The common form in European listed companies is that of a cross-holding firm. The evidence can be seen in most European countries, except Britain. The inclusion of power is believed to have a positive influence on firm performance because of the increase in controlling power over the manager. Using Germany as an example, Haid and Yurtoglu (2006) find that the common form of block shareholder is local institutional ownership. Their result confirms the thinking that concentrated ownership is linked to the power of corporate control which raises firm performance. However, Chowdhury and Geringer (2001) provide contradictory evidence which suggest that even institutional ownership affects research and development intensity and leverage, but it has no direct relationship with firm performance. The present study uses this opportunity to explore the role of corporate ownership on the performance consequence of executive compensation. Consequently, it is hypothesised that:

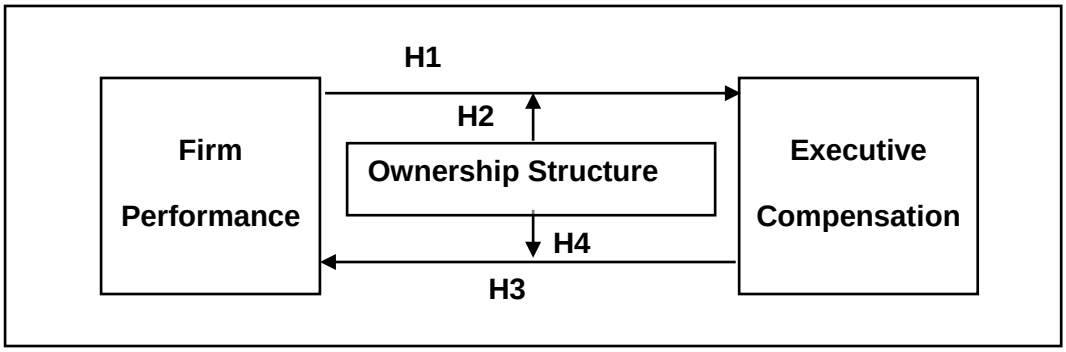
H4b: Corporate ownership moderates the positive and significant consequences of executive compensation on firm performance.

Foreign business is believed to have different management practices from those of domestic firms. Lipsey (2002) indicates that it is not only because of its preferences but also due to the different regulations in the host-country and home-country pressures. Doeringer and Terkla (2003) study the effects of Japanese multinational management practices in the United States. They find that Japanese firms pay attention to training, high problem-solving skills and also team-working skills. The present study uses the available opportunity to explore the role of foreign ownership on the performance consequence of executive compensation. Consequently, it is hypothesised that:

H4c: Foreign ownership moderates the positive and significant consequences of executive compensation on firm performance.

3.5 Chapter summary

By combining the above studies on the pay-performance sensitivity and the performance consequences of executive compensation into a single framework, the present study hopes to draw attention to the independence of the dimensions and to possible combinations of the design elements. By mapping how compensation designs along with evaluation are aligned to firm performance, we may discover the hidden factor which influences the link between compensation and firm performance which previous research has overlooked.



Source: author

Figure 3.2 Research framework

The research framework provides four main research hypotheses: that

H1: There is a positive and significant relationship between executive compensation and firm performance.

H2: There is a moderation effect of ownership structure on the positive and significant relation between executive compensation and firm performance.

H3: There is a positive and significant consequence of executive compensation on firm performance.

H4: Ownership structure moderates the positive and significant consequences of executive compensation on firm performance.

CHAPTER 4

Research methodology

There are six sections in the research methodology of this empirical study of the pay-performance sensitivity and its consequences. The first section presents the research approach, research design and research process of the study, which sets out to provide substantial evidence of a research philosophy leading to the method selected for this study. The second section concerns the empirical evidence on the pay-performance sensitivity and also the performance consequences of executive compensation. Section three gives an account of the measurement of the variables. The next section discusses the data collection process. The data analysis, for testing the hypotheses presented in Chapter Three, is discussed in section five. The last section provides a summary of this methodology chapter.

4.1 Research approach

Unlike the natural sciences, social science research, according to Bryman (2008), must clearly identify the way in which the study views the world. Saunders et al (2007) identify the need to choose a research philosophy, which answers three important questions on epistemology, ontology and axiology, in turn as follows:

> *'What constitutes acceptable knowledge in a field of study? What is the nature of the social phenomena as entities? and how to generate fresh insights into real-life issues and problems'*

First, epistemology is the awareness of the way in which knowledge is created and what we accept as being valid knowledge (Abdel-Khalik and Ajinkya, 1979; Collis and Hussey, 2009). The nature of knowledge in this study has a similar philosophical outlook to that of the natural sciences, which is called the positivist position. It begins with the collection and then the analysis of facts through objects which are considered to be real and it benefits from avoiding the effects of personal judgement (Saunders et al, 2007). Eisenhardt (1989) and Franco-Santos (2007) indicate that most executive compensation studies taking the agency approach are positivist in character. This is because the existing theories are constructive enough to develop hypotheses. For this reason, the present study is conducted under positivist conditions. The greatest advantage of this approach is that the available data can be treated in such a way as to avoid bias from the feelings and attitudes of the researcher. Heavily reliant on economic, financial and accounting theories, this study is written in the belief that the best way to create new knowledge is to let the facts speak for themselves.

Second, the research ontology indicates the nature of what the study takes to be reality. This study belongs to objectivism. It starts with the assumption that social entities exist in a reality external to the social actors concerned with their existence (Saunders et al, 2007). The firms which require management skills exist in reality. The evidence of objectivism is a job description of qualifications, which can be publicly identified. The formal structure of an organisation can also be verified. Financial statements confirm this belief. Thus, knowledge can be gained through observation, and hence the scientific method is appropriate (Bryman, 2008).

Third, the axiology pertains to judgements about value (Collis and Hussey, 2009). This study admits no possibility of allowing the feelings and judgements of the researcher to enter the work, thus aiming to ensure it is remains value-free. The data rely on financial statements and other objective documents, which indicate that secondary data are the source of information. The data analyses are statistical methods which are justifiably believed to be free from emotion and feeling.

Subjective						***Objective***
	← Epistemology →					
Personally experienced; relative	1	2	3	4	**5**	Acquired by observation
	Ontology					
Product of individual consciousness	1	2	3	4	**5**	External concrete independent
	Axiology					
Autonomy (free will choice)	1	2	3	4	**5**	Behaviour determined by
	Methodology					
Naturalistic participant observation	1	2	3	4	**5**	Scientific statistics

Source: Burrell and Morgan (Adapted) (1978)

Figure 4.1 Research philosophy choices

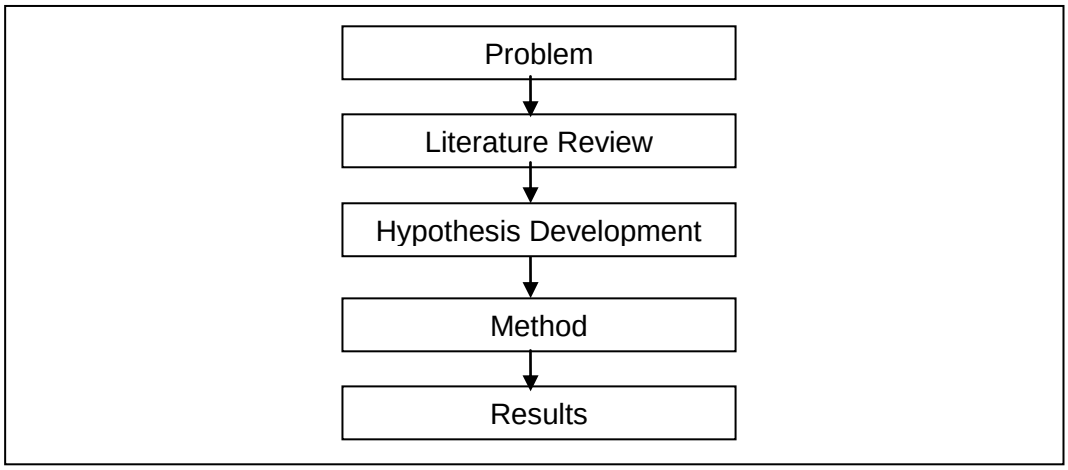
Figure 4.1 provides an illustration of the three dimensions of this research philosophy, which demonstrates that (1) all the data are acquired through observation; (2) the researcher's personal judgement is minimal; and (3) the environment directly influences the choice of the behaviour. This philosophical platform leads to a scientific and statistical methodology.

Saunders et al (2007) indicate that the three philosophical positions derived from objectivity, the view of reality and the regulatory dimensions will lead to a particular research paradigm. This study's choice of philosophical platform leads to a scientific and statistical methodology which is classed under functionalism. Nevertheless, it is believed in this research that organisations and the human beings within them are rational entities (to some degree, more or less); thus this study relies on a rational explanation of the chosen organisational problems in the current structure of the organisation's current management in order to offer rational solutions. Burrell and Morgan (1978) provide a more functional definition as follows:

> *'The functionalist approach to social science tends to assume that the social world is composed of relatively concrete empirical artefacts and relationships which can be identified, studied and measured through approaches derived from the natural sciences.'*

Within this paradigm, the study of human behaviour is also conducted in the same way as the study of natural phenomena is (Collis and Hussey, 2009). Collis and Hussey (2009) also claim that functionalism is the dominant paradigm in accounting, finance and organisation theory because it allows the features of the natural world to be identified using social facts. Because the philosophy underlying this study is classed as functionalist, the foundation of the study is deductive logic. Bryman (2008) provides the substantive definition of deductive research as the common view when a theory is approached as the basis for research. Deductive research provides the basic information to construct a set of hypotheses which are later found

valid or otherwise in the analysis stage. Thus, the beginning of deductive research is approached via a theory. Saunders et al (2007) illustration this:



Source: Saunders et al (Adapted) (2007)

Figure 4.2 The positivist approach

Figure 4.2 shows graphically the steps taken in a positivist approach as a research method, which, Collis and Hussey (2009) assert, has at least three advantages. First, this approach provides a rigorous structure for study because the hypotheses are firmly constructed. Second, key variables are suggested and ways of measuring them are available. Third, the criteria for accepting and rejecting hypotheses are widely agreed, while the existence of theory gives strong support to the generalisations. The researcher provides more information on the steps in the research process. It begins with the formulation of a testable hypothesis. The next step is the identification of relevant variables, which also focuses on data collection. This study, in particular, aims - by using rigorous statistical tests - to validate the Agency theory, which suggests that compensation could form an alliance with agency interest. It is believed that using statistical tests is important because it makes what is being researched independent of the researcher. Also, this research logic contributes to the literature on executive compensation by

moving the existing theories to meet the ready availability of data, thus creating empirical evidence. Saunders et al (2007) suggest that

> '*the deductive approach provides far less potential for misleading theories of no real practical value. It also provides a basis of explanation, allows the anticipation of phenomena, predicts their occurrence and therefore permits them to be controlled.'*

This logical approach to the research requires hypotheses to be identified, constructed and tested. The result is that either falsification leads to the modification or discarding of theory or confirmation leads to support for the theory. It controls by allowing the testing of hypotheses. This type of research seeks to explain causal relationships between variables. However, Vernon (2000) reminds the researcher that theory can never be proved absolutely, but rather provides guidelines on which variables shape the issue. Saunders et al (2007) also provide three characteristics of deductive research. First, it is operationalised; the concept enables facts to be measured quantitatively. Second, dealing as it does with complicated data sets and statistical methods, it is important to the study to be as simple as possible to understand. This brings in the principle of reductionism. Last, generalisation is the aim of deductive research. Thus, sufficient numerical size is crucial. For this reason, most of the data in this research are quantitative data; however, some qualitative data have had to be added. This research seeks to use the least technical terms possible, even when complicated statistical issues are being discussed. With this constraint, the research has investigated the structure of the pay-performance sensitivity using Thai listed companies as its sample.

In order to understand the research design, it should be borne in mind that the purpose of this research is explanatory. It aims to discern causal relationships between executive compensation and firm performance. It should also be remembered that this research benefits from the abundance

of executive compensation literature available, the increasing amounts of secondary data, the econometric already designed and also the increasingly powerful computers and rich archival material which have been absorbed into the research strategy. The method used in this research seeks to validate Incentive theory and other related theories by gathering data and later testing hypotheses. Saunders et al (2007) urge that the availability of secondary data does not guarantee the precise information needed to answer any particular question. For this reason, the researcher understood that it was important to design the research so as to make the most of the available data.

Using a unique panel of data, this study combines a short time series and various cross-sectional data. Baum (2006) indicates that panel data significantly improve in the statistical performance of firm performance since it allows us to understand the behaviour of the firm across time. Gujarati (1999) adds that panel data have a good potential for letting researchers understand the research phenomena at both the firm and time dimensions of the data. Therefore, it enhances the quantity and quality of the data, which using only one of these dimensions might not be able to offer. However, he admits that researchers using cross-section/short panel data have to deal with missing values for some items. He goes so far as to say that this type of data set may suffer the inconsistent classification of some financial items across firms. The three common approaches to analyse panel data are pooled-OLS, fixed effects (FE), and random effects. The selection of these methods depends on the data structure and the research question.

The quantitative method is used because this study aims to generalise in investigating the relationship between firm characteristics, executive compensation and firm performance, mostly using Agency theory. The greatest advantage of this research method is that it allows the findings to favour generalisation. This research method is that of a well structured scientific experiment using statistical analysis, which is preferred if generalisations are to be made.

After describing the direction and premise of the research, this section discusses the research process. First, the literature on executive compensation and firm performance was reviewed. Next, the research question, research framework and hypotheses were formally laid out. Then the research methodology, which is positivism using the archival method, was identified. Fourth, the population and sample were selected. Fifth, the data were collected through DataStream, SETSMART and annual registration statements. Sixth, the data were analysed using multivariate data analysis. Multiple regression analysis began with the OLS, using both main and interaction effects. Next, the analysis used FE estimation to ascertain the structure of the panel data. The third analysis was the manipulation of simultaneous equations using Instrumental Variables. The next analysis was the Generalised Method of Moment, used to construct a dynamic model of the lagged dependent variable. The supplementary analysis was made by logistic regression.

One of the greatest advantages of this study is the reliability of the issues related to validity. This term is commonly used in relation to the question of whether the measures devised for the concepts of the study are reliable (Bryman, 2008). Using rigorous sources of data, namely DataStream, SETSMART and publicly available annual registration statements and annual corporate reports, there was no doubt about reliability. The data providers aim to give only the facts about and from the stock market; thus the data were minimally biased. Their aim was to provide ‘facts’. The issue related to the validity of the archival research is recalled by Saunders et al (2007), who point out that, even though empirical data are essential, it is crucial to avoid those which have been selected with bias. This idea is echoed by Wallace (1991), who mentions that internal validity is a potential problem when research is associated with financial statements. The first concern is internal validity. This is the level of control over the relative influence of any one of the elements, the independent variables, on the selected matter, the dependent variable (Abdel-khalik and Ajinkya, 1979; Wallace, 1991). Ryan et

al (2003) explain that high internal validity means that it is change in the independent variables, not in anything else, which makes the dependent variable move. The background theory and measurement of variables have been suggested as having possibilities for reducing the internal validity of the research. After constructing the firm validity of the conceptual framework, Wallace (1991) suggests that there is a continuing issue over external validity. He states that external validity gives the impression that archival research has a greater degree of external validity than other research approaches, because it deals with actual empirical data on companies. For this reason, the motivation of the subjects is real. Saunders et al (2007) propose three kinds of external validity to take into account. First, population validity is concerned with the bias in the sampling selection. Improper selecting may challenge the ability to generalise the research to the population. Second, time validity concerns the appropriateness of the time at which the data were collected. Last, environmental validity is concerned with the interpretation of data collected in a different setting. Wallace (1991) also explains that statistical validity is the threat that the assumptions and relationships defined in such analyses may be at odds with reality. Without this validity, the ability to predict disappears.

4.2 Empirical models

In common use in empirical work relating to executive compensation are the results of assessing the foundation of the Agency theory which controls and co-ordinates the mechanism shaped by the organisation design. Using the existing knowledge, this leads to the formation of four research models.

Model 1 The pay-performance sensitivity

Following standard Agency theory, the first model aims to provide empirical evidence on the pay-performance sensitivity. It shows the variables which are expected to explain the variation in executive compensation pay from firm to firm. Not only is firm performance expected to have a positive influence on executive compensation pay, but also the roles of size and industry are controlled for. Thus, the empirical model is as follows:

$$\Delta(\text{Executive compensation})_{it} = \beta_0 + \beta_1 \Delta(\text{EPS})_{it} + \beta_2 \Delta(\text{OCF})_{it} + \beta_3 \Delta(\text{R})_{it} + \beta_4 (\text{Lequity})_{it} + \beta_5 (\text{dummy industrial})_{it} + \beta_6 (\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Executive compensation = either executive salary, bonus, or total compensation
EPS = Earnings per share
OCF = Operation cash flow per share
R = Stock return
Lequity = natural logarithm of equity
Dummy industrial = one of eight groups to which the listed company belongs: Industry, Mining and quarrying, Real estate, Financial institutions, Service, Technology, Construction, Agricultural products and the Market for Alternative Investment: shown as 1 if a specific industrial interest is required, zero otherwise.
Year dummies = one of seven years in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.
β_0 = intercept term
$\beta_1 – \beta_6$ = Slope coefficients
ε = random error term
i = the i^{th} firm, I = 1,2,3 … 124 and
t = either 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Model 2: The moderating role of ownership structure on the pay-performance sensitivity

Regarding ownership structure, the next stage is to obtain empirical evidence on the way in which ownership structure influences the pay-performance sensitivity. It shows the variables which are expected to be important in explaining the variation in executive compensation from firm to firm. The roles of size and industry are controlled for. The empirical model is as follows**:**

$$\Delta(\text{Executive compensation})_{it} = \beta_0 + \beta_1(\text{FAM})_{it} + \beta_2(\text{COR})_{it} + \beta_3(\text{FOR})_{it} + \beta_4 \Delta(\text{FAMEPS})_{it} + \beta_5 \Delta(\text{COREPS})_{it} + \beta_6 \Delta(\text{FOREPS})_{it} + \beta_7 \Delta(\text{DISEPS})_{it} + \beta_8 \Delta(\text{FAMOCF})_{it} + \beta_9 \Delta(\text{COROCF})_{it} + \beta_{10} \Delta(\text{FOROCF})_{it} + \beta_{11}\Delta(\text{DISOCF})_{it} + \beta_{12} \Delta(\text{FAMR})_{it} + \beta_{13} \Delta(\text{CORR})_{it} + \beta_{14} \Delta(\text{FORR})_{it} + \beta_{15} \Delta(\text{DISR})_{it} + \beta_{16}(\text{Lequity})_{it} + \beta_{17}(\text{dummy industrial})_{it} + \beta_{18}(\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Executive compensation = executive salary, bonus, or total compensation
EPS = Earning per share
OCF = Operation cash flow per share
R = Stock return
Lequity = natural logarithm of equity
FAM = ownership structure where the first 20% of biggest shareholders are held by one family name
COR = ownership structure where the first 20% of the biggest shareholders are classified as corporate shareholders
FOR = ownership structure where the first 20% of the biggest shareholders are classified as foreigner shareholders
FAMEPS = joint effect between earnings per share and family shareholder type of ownership structure

COREPS = joint effect between earnings per share and a corporate shareholder type of ownership structure

FOREPS = joint effect between earnings per share and a foreign shareholder type of ownership structure

DISEPS = joint effect between earnings per share and no concentration in the shareholder type of ownership structure

FAMOCF = joint effect between operation cash flow per share and a family shareholder type of ownership structure

COROCF = joint effect between operation cash flow per share and a corporate shareholder type of ownership structure

FOROCF = joint effect between operation cash flow per share and a foreign shareholder type of ownership structure

DISOCF = joint effect between operation cash flow per share and no concentration in the type of ownership structure

FAMR = joint effect between stock return and a family shareholder type of ownership structure

CORR = joint effect between stock return and a corporate shareholder type of ownership structure

FORR = joint effect between stock return and a foreign shareholder type of ownership structure

DISR = joint effect between stock return and no concentration in the shareholder type of ownership structure

Dummy industrial = one of eight groups which a listed company may belong to: Industry, Mining and quarrying, Real estate, Financial institutions, Service, Technology, Construction, Agricultural products and the Market for Alternative Investment: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy year = one of seven years for which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.

β_0 = intercept term

β_1 - β_{18} = Slope coefficients

ε = random error term

i = the i^{th} firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Model 3: Performance consequence of executive compensation

Following the test of efficiency compensation design, this study goes further to explore the level of success in the existing system. The next stage is to obtain empirical evidence on the way in which executive compensation influences firm performance. The following performance consequences model shows the variables which are expected to be important in explaining the variation in performance consequences of executive compensation from firm to firm. The roles of size, industry and year are all controlled for. Thus, the performance consequences model is as follows:

$$\Delta (\text{Firm performance})_{it} = \beta_0 + \beta_1 \Delta(\text{Executive compensation})_{it} + \beta_2 (\text{Lequity})_{it} + \beta_3 (\text{Dummy industrial})_{it} + \beta_4 (\text{Dummy year})_{it} + \varepsilon_{it}$$

where:

Firm performance = EPS (Earning per share), OCF (Operating cash flow per share), or R (Stock return)

Executive compensation = either bonus or total compensation

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups to which the listed company may belong: Industry, Mining and quarrying, Real estate, Financial institutions, Service, Technology, Construction, Agricultural products and the Market for Alternative Investment: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy year = one of seven years in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise

β_0 = intercept term

$\beta_1 – \beta_4$ = Slope coefficients

ε = random error term

i = the i^{th} firm, i = 1,2,3 … 124 and

t = either 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Model 4: The moderating role of ownership structure on the performance consequences of executive compensation

Following the test of effectiveness of the executive compensation system, this study explores the role of ownership structure on the level of success of the executive compensation system. The next stage is to obtain empirical evidence on the way in which ownership structure influences the performance consequences of executive compensation. It shows the variables which are expected to be important in explaining the variation in performance consequences of executive compensation from firm to firm. The roles of size, industry and year are all controlled for. Thus, the empirical model is as follows:

$$\Delta(\text{Firm performance})_{it} = \beta_0 + \beta_1(\text{FAM})_{it} + \beta_2(\text{COR})_{it} + \beta_3(\text{FOR})_{it} + \beta_4\Delta(\text{Executive compensation} * \text{Family ownership})_{it} + \beta_5\Delta(\text{Executive compensation} * \text{Corporate ownership})_{it} + \beta_6\Delta(\text{Executive compensation} * \text{Foreign ownership})_{it} + \beta_7\Delta(\text{Executive compensation} * \text{Dispersed ownership})_{it} + \beta_8(\text{Lequity})_{it} + \beta_9(\text{dummy industrial})_{it} + \beta_{10}(\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Firm performance = EPS (Earning per share), OCF (Operating cash flow per share), or R (Stock return)

FAM = ownership structure where the first 20% of the biggest shareholders are classified as family shareholders

COR = ownership structure where the first 20% of the biggest shareholders are classified as corporate shareholders

FOR = ownership structure where the first 20% of the biggest shareholders are classified as foreign shareholders

Executive compensation*family ownership = joint effect between executive compensation and the family shareholder type of ownership

Executive compensation*corporate ownership = joint effect between executive compensation and the corporate shareholder type of ownership

Executive compensation*foreign ownership = joint effect between executive compensation and the foreign shareholder type of ownership

Executive compensation*dispersed ownership = joint effect between executive compensation and no concentration in the shareholder type of ownership structure

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups which list which sector the company belongs to: Industry, Mining and quarrying, Real estate, Financial institutions, Service, Technology, Construction, Agricultural products and Market for Alternative Investment: shown as 1 if a specific industrial interest group is required, zero otherwise.

Dummy year = one of seven years in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.

β_0 = intercept term

β_1 - β_{10} = Slope coefficients

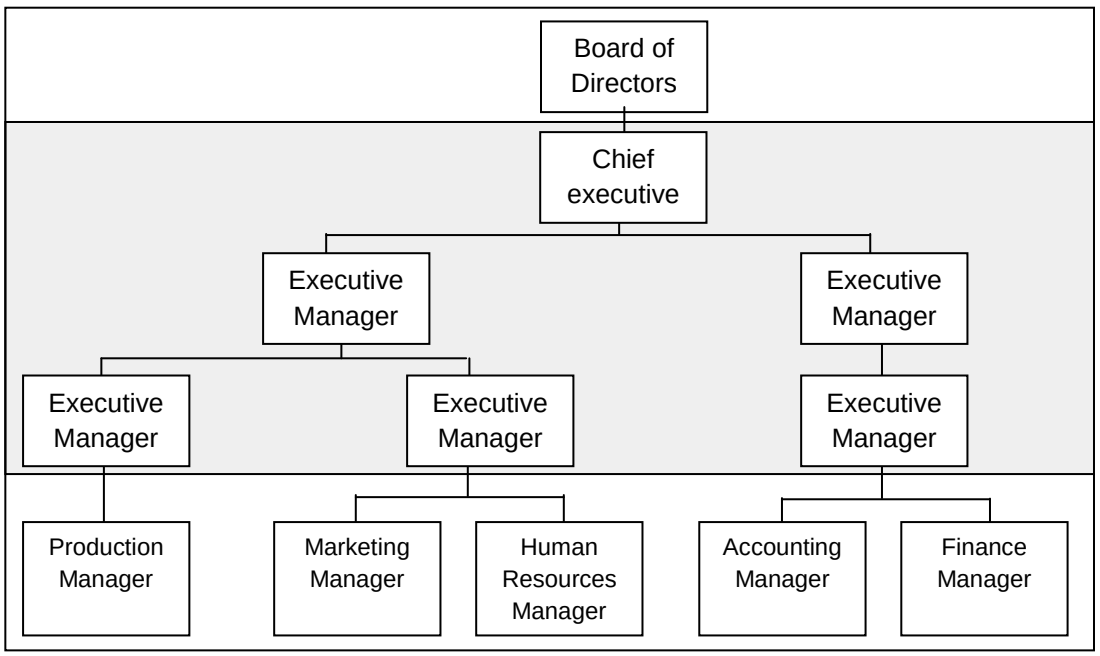
ε = random error term

i = the ith firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

4.3 Measurement of variables

In order to provide empirical evidence, this study has carefully measured the variables used to test the theory. Even though there is no consensus on the definition of executive manager, it is generally agreed that the term refers to those leading officers who are permanently in charge of superior organisational issues. So far, the definition of executive manager in the literature has covered the executives and directors, chief executive officers and the next four positions immediately below the chief executive officer (as well as people who are in the same position or above), who are in charge of management duties (SEC, 2007a). This can be illustrated as follows:



Source: SEC (2007a) (Adapted)

Figure 4.3 Coverage of ‘executive manager’

Figure 4.3 provides an illustration of the definition base of ‘Executive Manager’ in the listed companies handbook provided by SET. Gathering executive compensation data in order to provide empirical evidence, the present study measures the variables used in a later chapter to test the theory. The four groups of main variables refer to executive compensation, firm performance, ownership structure and controlled variables.

The first group contains executive compensation variables. This research notes Farmer’s concern (2008) over the difficulties in understanding the determinants of executive compensation, i.e. the components of the total compensation package. This variable is measured by the sum of executive compensation paid to the top five executive managers divided by the number of top five executive managers. In Thailand, compensation has three components: salary, bonus and perquisites. These three elements are sometimes wrapped up as a package of so-called cash incentives. A pension is also in common use, paid for by 2% of base pay; however, because the amount is small, the total is not significant when compared to base pay or bonus. For this reason, this study considers the pension and perquisites as one. More precisely, the three segments of executive compensation are the basic pay, incentives and other amounts. In the second component of compensation are the incentive payments encouraging managers to pursue better performance. The variable payments related to performance are grouped under this heading. Note that almost the entire value of these elements comes from bonuses (only one firm was recorded as paying commission to its executives). The last group is other benefits. This includes retirement benefits, honoraria and perquisites such as housing, insurance and the funding of education and other executive fixed benefits. The figure represents the average salary per head that all five executives received per year. Average executive compensation is the preferred term, because the first five executive managers play the most important role in decision-making, which determines the firm performance. The three elements (salary, bonus, and total compensation) are the concern of the original executive

compensation research. It is the total of objective payments, which requires no estimation on its value. Recent American executive compensation research favours stock options, because of the rising numbers of shares awarded; however, due to limitations of data, we could access no information on either the number or value of the fourth section of the compensation component, the stocks and options granted during the period.

The second variable group is the firm performance variable. As all performance measures are imperfect, this research focused on the accounting and finance literature. Brown and Caylor (2006) and Franco-Santos (2007) indicate that several performance measures should be able to provide better conclusions than one alone. Based on this suggestion, the present study employs data on firm performance from the accounting information in financial statements, which is provided by DataStream. Ittner et al (1997) observe the performance measurements used in the annual bonus contracts such as return on assets, return on equity, return on sales, and stock return on the hope that these various types of measurement may affect the closeness of the link with compensation pay. Alangar (1993) suggests that self-assessment alone may not be sufficient to explain firm performance: including the capital market performance, as this study does, should provide a better performance matrix. Thus, this research measures the firm performance cash basis, accrual basis and capital market base, which all provide different types of information.

The classic element of performance that has been measured is accounting income. However, this performance is subjected to the size of the firm. Instead of income, it has been suggested that EPS should become a standard firm performance measure which is compulsory in reports, as part of the profit and loss account of all corporate financial statements, by the International Financial Reporting Standard, the American-Financial Accounting Standard Board and also the Thai Accounting Standard. This profitability ratio indicates the proportion of profit allocated to the common share.

$$EPS_{it} = \frac{(\text{Net income}_{it} - \text{Dividend on preferred stock}_{it})}{\text{Average outstanding common share}_{it}}$$

Where:

EPS = Earnings per share

Net Income = the firm incomes minus expense for accounting period

Dividend on preferred stock = the payment made to preferred stock holders

Average outstanding common share = Outstanding common share at the beginning of accounting period plus outstanding common share at the end of accounting period, then divide by two

i = the i^{th} firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Using EPS has the advantage of a well-known financial ratio that gives comprehensive information on to what extent a shareholder deserve the return, but this performance measure depends heavily on a financial report system which is subject to management even if it has been evaluated for quality by an external auditor. Thus, it is possible that the number has been manipulated, due to the accrual accounting system.

Nwaeze et al (2006) study the role of operation cash flow (OCF) when a firm is earning. They believe that the OCF is contract-relevant in the presence of earning. They support their idea by showing that the OCF[4] in the compensation model is associated with the presence of earning and stock returns. They also discuss the quality of accounting earning in general. However, Skinner (1999) criticises this research, claiming that funds from the operation of a firm are better evidence than accounting income in terms of adequate economic and behavioural evidence to support these researchers' ideas.

[4] This study controls for scale-effect heteroskedasticity by scaling OCF with the average outstanding common share.

$$OCF_{it} = \frac{EBIT_{it} + Depreciation_{it} - taxes_{it}}{Average\ outstanding\ common\ share_{it}}$$

where:

OCF = Operating Cash Flow per share

EBIT = Earnings Before Interest and Taxes

i = the i^{th} firm, i = 1,2,3 … 124

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008

The use of cash flow performance has the advantage of removing estimation items which provide better quality earning than the accrual incomes. Moreover, this research benefits from the work of Jiamsagul (2007), who believes that the stock return is an indicator of the investor return. The use of stock returns is widely accepted in financial market research for explaining the return of stock. This study identifies stock return as a return rate of common stocks which presents the perception of the investors toward the future of the firm. The idea is also supported by Bushman and Indjejikian (1993), who use stock returns to predict the rising or falling of incentives. Recently, Kato et al (2007) have found that both accounting numbers and stock returns are playing a less important role today in determining the compensation system in Korea.

This study uses extracted return index (RI) from DataStream in computing stock return, which is adjusted return index to show continuously compounded returns, as follows;

$$R_{it} = \frac{RI_{it} - RI_{it-1}}{RI_{it-1}}$$

where:

R = stock return

RI = yearly return indexed on 31 December

i = the i^{th} firm, i = 1,2,3 … 124

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008

This calculation is the result of Acaranupong (2003), who suggests that stock return can be calculated by diverting the return index as follows.

$$RI_{it} = RI_{it-1} * (P_{it} + DY_{it}) / P_{it-1}$$

$$RI_{It} / RI_{it-1} = (P_{it} + DY_{it}) / P_{it-1}$$

$$(RI_{It} / RI_{it-1}) - 1 = [(P_{it} + DY_{it}) / P_{it-1}] - 1$$

$$(RI_{It} - RI_{it-1}) / RI_{it-1} = (P_{it} + DY_{it} - P_{it-1}) / P_{it-1}$$

$$(RI_{It} - RI_{it-1}) / RI_{it-1} = \text{stock return}_{it}$$

where:

R = Return on stock

RI = Return Index

P = Share price

DY = dividend yield of the price index

i = the i^{th} firm, i = 1,2,3 … 124

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008

Using stock return has the advantage of being less subject to management manipulation. It embodies a forward-looking measure of the firm value, reflecting investors' decisions and selecting of an investment (Jaimsagul, 2007) However, using stock return has some limitations in assessing the real ability of the firm because large numbers of quantitative and qualitative factors also influence the stock return.

The third variable group is ownership structure. This research uses equity ownership structure as the mediating variable. The mediating in the variable has been created to modify the level of the variable being manipulated to see its effect on the variable under review. This is the base variable to pull out 'behind the scenes' details of the relationship between the independent and dependent variables by creating an interaction variable in regression analysis (Mitchell and Jolley, 2007). This study shows how the effect of executive pay on firm performance brings in ownership structure as the moderating variable.

There are three types of ownership concentration; family ownership, corporate ownership and foreign ownership. Any firm whose type of ownership concentration is not recognised will be grouped with the local individual investors. The data were obtained from the major shareholders' section in SETSMART at the end of each year.

The classification of each ownership group is identified using the first 20% of majority shareholders. Taylor and Taylor (1996) indicate that, below a 20% share, the holding tends to be a 'passive holding' which has no influence on decision making. SET also indicates that holding 20% or more of outstanding shares is believed to be enough to wield direct influence, but not yet controlling power, over four important areas: a) influencing operation and financial decisions, b) demanding to inspect the business operations and the financial situation, c) calling an extraordinary general meeting at any time and d) submitting a notion to the court demanding the dissolution of a company if it is thought that further operation will bring only losses and that there is no chance of recovery. Edwards and Weichenrieder (2009) also agree with this idea and believe that 20% of voting rights is enough to identify the largest ultimate owner in firms. Thus, the shareholder of 20% or the largest shareholder is mainly used in the present thesis as the criterion for identifying ownership structure. The four types of ownership structure in this study are family, corporate, foreign and dispersed ownership. The first ownership group is family businesses, defined as a structure of ownership concentration under which a single family, distinguished by surname, owns the majority of shares and the family holds at least 20% of the outstanding shares. The second is local corporate investor structures, defined as those in which a Thai juristic person, such as an institutional investor, partnership or limited company, state enterprise, or administrative department holds a majority of shares, which is also over 20% of the outstanding shares and also not directly controlled by a person or family The third type is a foreign investor structure, defined as one in which a person, such as an institutional investor, partnership, limited company, state enterprise or administrative department,

whose company is not registered in Thailand as a Thai organisation, holds a majority of shares which is also over 20% of the outstanding shares; and the fourth type is a dispersed investor structure, defined as one in which no one, neither a family, an institutional investor, partnership, limited company, state enterprise nor administrative department, who is or is not registered in Thailand as a Thai organisation, holds a majority of shares which is also over 20% of the outstanding shares. Thus, the last ownership structure, the reference group where the firm is not qualified for any of the three previous types of ownership, will be located here.

The final variable section concerns the control variables. These are the firm characteristic variables which manipulate the effect of the variable being studied, although these are not the main concern of the study. The control variables of this study are the firm's size and its industrial group. Many previous studies show that firm size affects the executive compensation system and firm performance. The basic reason is the ability of bigger firms to select better qualified staff, who they have to pay more, in view of these qualifications. Also, the Marginal Productivity theory provides an indicator that executive managers in bigger firms are better able to improve productivity, due to economies of scale. The budget argument also confirms that it is economically possible for bigger firms to pay higher executive compensation whether or not the employees are considered worth it. Baker and Hall (2004) examined the effect of firm size on executive pay. They give as a reason for their findings that bigger firms are more complex, thus calling for more responsibility from their executives than from those who work for smaller firms. Thus it is reasonable that they should get higher compensation, to keep pace with their responsibilities. Almost all research finds that firm size affects firm compensation but the criteria for judging firm size varies with different researchers. The most common ones used are sales, total assets, equity and number of employees. However, most of these previous studies used logarithms of the size indicator to make the data homoskedastic. In addition, *the industry* denotes the economic environment,

which is believed to influence executive compensation pay and also firm performance. Early evidence indicates that, over time, different industries create an executive compensation practice using comparative techniques and benchmarking within the industry. Gerhart and Milkovich (1990) and Gibbons and Murphy (1990) provide supportive evidence that firms in the same industrial group have similar constraints of technology, materials, products development and pricing. A meta-analysis of determinants of financial performance by Capon et al (1990) shows that over 100 studied firms found a positive relationship between industrial concentration and firm performance. The last control variable, year, is due to the structure of the panel data. The year effect is controlled because the macro economy factor may influence executive compensation pay across firms. In a better economic environment, all firms tend to raise their executive pay with or without any change in their individual firm. In contrast, in an economic recession, firms tend to reduce their executives' pay to compensate for the situation, even though the executive managers are not responsible.

4.4 Data collection

In line with the research design, this archival research identifies the research population base in the reports of SET for all 541 listed companies from 2002 to 2008. As listed companies on the Stock Exchange, these companies are likely to automatically exhibit relatively high standards not only because they are able to design sufficient control systems but also because the market mechanism allows competition in the close monitoring of its management practice. Having to play the key role in the financial system, these firms should play the role of incentive mechanisms for all the others.

These individually collected data on executive compensation in an un-balanced panel were taken from the annual registration on the SETSMART database. Financial statement, ownership data and other relevant data were mostly taken from four sources: DataStream, SETSMART, the annual registration statements (Form 56-1) and annual corporate reports. This short form of panel data has a cross-sectional time-series observation covering 541 firms, each of which includes eight observations measured at one through to eight years. The population spans eight industries, which provided 504 complete sets of data to be gathered on the dependent variable and total compensation. This research excludes suspended or delisted shares and shares which might be delisted in the near future. The shares included must also satisfy at least three years of continuous data. The main limitation comes from the breakdown of the data supplied on compensation pay into base pay and incentive pay, which are provided in the annual registration statements of some firms only; this finally limits the number of samples to about 122 firms per year.

Table 4.1 Data collection

	Number of observations	Number of firms
Population of this study		428
No executive compensation data from Form 56-1		-27
No firm performance reported from DataStream		-15
No majority shareholder report from SETSMART		0
Number of observed firms		386
Number of firm reporting only total compensation		-230
Number of firms which have more than three years of missing data		-34
Number of firms which reported break-down	854	122
Number of observation missing some data for a firm	-104	
Number of firms with complete un-balanced data	**750**	

Source: Author

To be precise, these secondary data were gathered from various sources of data because no single database for executive compensation has so far been formed. However, the highest-quality data sources are the SET database, the annual registration statements and the annual corporate reports, because they deal with the Stock Exchange rules and regulations which oblige all listed companies to provide accurate information in order for stakeholders to understand the activities within the firm. Any company which does not do so will be targeted to receive an official warning and the possibility of later delisting. The executive compensation details, as well as the missing data from other sources, were obtained from the executive compensation section of the annual registration statements, which is available on the SET library database (accessible only at the Stock Exchange of Thailand's library). The last two years of data on executive compensation are also available on the website of SET. These two sources of data provide details of information about compensation packages, forms and figures of pay. In addition, the details on the industrial sectors can be obtained from the SET website. However, the classification of industry by sector is different from that of the International Standard Industrial Classification (ISIC). Other relevant data, such as the information related to firm characteristics, ownership structure and other capital market information relating to the listed company can be generated from SETSMART. The last data on financial statements and stock market information were gathered from DataStream.

Secondary data provide several advantages, one of which is that the data are higher in quality than primary data because they have been prepared to a standard pattern rather than for a particular objective. They thus allow the researcher to draw comparisons between settings as well as comparisons of populations of interest with the larger population. Secondary data also have fewer resource requirements than primary data. However, the present research could weigh these advantages against the limitations of this type of data, such as their internal validity. Thus, the research measurement of variables in the present work has been carefully evaluated.

Table 4.2 Classification of Industries

Industrial	Sector	ISI
1. Agricultural and food		
	Food and beverages	C10, C11, C12 Food, beverage and tobacco product
	Agribusiness	A. Agriculture
2. Consumer products		
	Fashion	C13, C14, C15 Textiles, wearing and leather product
	Home and office products	C16, C31 Wood, furniture
	Personal products and Pharmaceuticals	C21 Pharmaceuticals
3. Financial and insurance		K. Financial and insurance
	Banking	
	Finance and securities	
	Insurance	
4. Manufacturing		
	Petrochemicals and chemicals	C19, C20 Petroleum and Chemicals
	Industrial materials and machinery	C22, C23, C24, C25, C28 rubber, plastics, metals, non-metallic mineral products and machinery and equipment.
	Automotive	C29 Manufacturing of motor vehicles
	Packaging	
	Paper and printing materials	C17 Paper and paper product
5. Real estate and construction		
	Construction	F. Construction
	Property development	L. Real estate activities
	Property fund	
6. Mining and quarrying		
	Energy and utilities	D. Electricity, gas, steam E. Water supply
	Mining	B. Mining and quarrying
7. Services		
	Transportation and logistics	H. Transportation and storage
	Commerce	G Wholesale and retail trade
	Tourism and leisure	I. Accommodation and food service N. Support service activities
	Media and publishing	R. Art, Entertainment and recreation C18. Printing and reproduction of recorded media
	Health Care Services	Q. Human health
	Professional Services	M. Professional, scientific activities
8. Technology		
	Information and communication	J. Information and communication
	Electronic components	C26, C27 Computer and Electrical equipment
9. Non-Performing Group		
10. Non-compliance Group		
11. Medium-Sized Enterprises		

Source: Author

4.5 Data analysis

This study's research philosophy indicates that the quantitative approach is best for its research analysis. This approach benefits the probable concomitants and consequences of certain situations. Cook et al (1990) state that the role of statistical research is to function as a gatekeeper in designing and analysing data, and drawing conclusions. The present study follows previous studies in the executive compensation arena, of which almost all employed multivariate data analysis and multiple regression analysis in particular. Thus, multiple regression analysis is used to analyse the correlation between executive compensation and the firm performance. This analysis is the modelling and analysis of the numerical data of explanatory variables, also called independent variables, and consists of the values of a response variable, which is also called the dependent variable. The result of this process is a prediction, inferences, hypothesis testing and the modelling of causal relationships.

The standard multiple regression form is '$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$'. In the equation, Y represents the predicted variable in the regression equation. β represent the coefficient of the independent variable, which is derived using the method of least squares; this minimises the sum of the squared deviations of the residuals. X_1 represents the predictor variable. X_2 represents the moderate variable. X_3 represents the control variables. ε represents the disturbance term and a stochastic component of the model (error term). The OLS method is the best known method of estimation.

A variety of alternative regression, however, such as the Curve estimation, Generalised linear models, Nonlinear regression, Logistic regression, Discriminant function analysis, Logit regression and Poisson regression, are

also available (Agresti and Finlay, 2009). In order to perform any type of multiple regressions, correlation analysis will initially be checked. This basic analysis provides a degree of association between two observed data of partial correlation. Furthermore, basic information such as descriptive statistics is still needed to explain the location of data. Gobel and Zwick (2009) compare three estimation techniques - pooled-OLS, fixed effects, and GMM - in order to track the contradictory findings caused by the endogeneity between labour and productivity. Using the appropriate statistical method, the research hopes to get a better understanding of the establishment and the consequences of management decisions on human resources. Hausman (1978) suggests comparing different estimates and determining whether the differences are significant. If they differ significantly, the new estimation might improve the estimation quality.

4.5.1 Ordinary least squares method

The ordinary least squares method (OLS), as the main statistical method performs multiple regressions by minimising the values of the independent variables in the data set to estimate the values of the dependent variable. It has been called the most famous estimation of those called ‘Least Squares’ (Kennedy, 1999). A good estimator evaluates, by minimising a weighted sum of all the residuals, the distance between the real data and the estimated values. The estimated equation will be evaluated using the proportion of dependent variables in explaining the dependent variable. Kennedy further indicates that, because the OLS estimator minimises the sum of squared residuals, it automatically maximises R^2, the coefficient of determination. Greene (2008) indicates that the two dimensional (panel) data give an opportunity to capture the omitted variables which denote heterogeneity across firms. Baltagi (2005) confirms that panel data provide control for individual heterogeneity, while Saunders et al (2007) add that panel data provide more variability and less collinearity among the variables, besides giving more degrees of freedom and more efficiency. Even though panel data

are used in this study, it is assumed that these are not subject to either firm or time effect. Pooled-OLS, thus, is deployed to analyse all of the data.

4.5.1.1 Main effect

The OLS regression model is constructed to first identify the relationship between executive compensation, an independent variable and firm performance, a dependent variable. The estimation model is '$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$'. The second test, for the dependent variable, is the performance consequences of executive compensation, an independent variable. The estimation model is '$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \varepsilon$'. In the equation, Y represents the dependent variable. β represent the coefficient of the independent variable, which is derived using the method of least squares; this minimises the sum of the squared deviations of the residuals. X_1 represents the independent variable, X_2 represents a moderating variable, X_3 represents the control variables and ε represents the disturbance term and a stochastic component of the model (error term). In this study, the data were tested using a multi-year cross-sectional multiple regression structure for the level of compensation expressed as a function of the firm performance.

4.5.1.2 Interaction effects

Still using the OLS regression model, we identify the relationship between the variables: executive compensation, ownership structure and firm performance. The interaction effect creates a third variable based on one independent variable (either executive compensation or firm performance) and one moderator variable (in this study, ownership structure). This variable provides more detail on the way in which the independent variable together with a particular moderator variable influences the dependent variable. The estimation model is '$Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_1{*}X_2 + \varepsilon$'. In the equation, Y represents the dependent variable, β represents the coefficient of the

independent variable, X_1 represents the independent variable, X_2 represents the moderating variable, X_3 represents the control variables, X_1*X_2 represents the interaction variable and ε represents the error term. Using the interaction effect may create a multicollinearity issue. Thus, the robust and cluster (firm) option in Stata is adopted since it provides specify standard errors that are asymptotically robust to both heteroskedasticity and serial correlation.

Gujarati (1999) inserts the dummy variable, which can be used in interaction effects. For the present study, the data were also tested using the interaction effect in two directions: one, the level of executive compensation expressed as a function of performance and the ownership structure characteristics of the firm; and two, firm performance expressed as a function of the executive compensation and ownership structure.

4.5.2 Within-groups method

To perform regression analysis using panel data, then, it is important to take into consideration the influences over time and over the same individuals of observation. If there is no unique attribute of either firm observation or time period, the pooled OLS estimator is required. However, if there is any difference between the firms under observation but constancy over time for the same observation unit (firms), then a fixed effects (FE) estimator is required. This kind of estimator, also known as the within-estimator/least squares dummy variable, is an econometrics technique to deal with the unique attributes of individuals which are not the results of random variations and do not allow error variances across time. This model helps to control for unobserved heterogeneity. It allows for differences in the constant term which are included in the error term (Gobel and Zwick, 2009). The removed constant can be isolated at any time in the invariant components of the models. To get rid of the individual effect, within the transformation deployed in the data, the co-efficient is estimated via OLS regression. However, the in this study

indicate that the pay-performance sensitivity are more likely to be unable to meet the OLS assumption of the zero-conditional-mean. This causal performance measurement issue of the relationships leads to a simultaneous equation, which requires an advanced statistical technique to capture the link.

4.5.3 Two-Stage Least-Squares method

The empirical literature on pay-performance sensitivity is continuously expanding, and consequently it is important that any ignorance of the reverse causality between executive compensation and firm performance in the empirical works is addressed. Since firms do not randomly decide to pay executive compensation, performance is one of the key determinants. Even so, the better performing firms are supposed to pay higher compensation and in this sense higher compensation does lead to better firm performance. It raises the possibility of inconsistency in the OLS estimator, which requires a zero-conditional-mean assumption of linear regression (Zwick, 2006). Failure to respond to the requirement might lead to bias or inconsistent estimates for the parameters of interest (Ebbes, 2004). Providentially, the structure of the panel data provides a chance to explore the causality between independent and dependent variables. Using OLS and FE regression allows the endogenous variables to perform regression by regressing each equation. However, these estimations are biased and not consistent, particularly when lagged endogenous variables are included in the equation. This leads to the use of alternative (otherwise known as instrumental) variables.

To replace endogenous variables using a proxy variable requires the variable to be truly exogenous, and the expected proxy variable has to correlate very closely with the endogenous variables but not with the independent variable. With the new variable, the instrument variable (IV) estimator is able to not only detect the effect of X on Y but also the effect of the endogeneity. Thus, the method provides a consistent estimator and is unbiased. However, finding

the appropriate IV is a major problem. Recently, lagged variables have been introduced as instrumental variables. Shepherd (2008) suggests this approach has the potential benefit in that it is intuitively appealing to look for a proxy in past values of tariffs that does not suffer from the same problem. It also provides advantages that are simple to implement, no additional data are required, and as stated, it is intuitively appealing. This study, thus, deploys lagged level as IV for contemporary differences.

Statistical inference proceeds in the way of instrumental variable are so called statistical inference using Two-Stage Least Squares (2SLS). The process begins by replacing X_{it} with X_{it-1} in the first estimation (regressing Y to X) and then using contemporaneous data to regress X_{it} to $Y_{it.}$ However, running the two stages separately will provide incorrect standard error and might mistakenly exclude exogenous variables from the main model (Shepherd, 2008). After this, a 2SLS is introduced in order to create an IV base in the statistical estimation. This sophisticated IV needs an extension of the OLS regression to cover the violation of the zero-conditional-mean assumption. This simultaneous equation model is the well-known case in econometrics using 2SLS estimator (Ebbes, 2006). Baum (2006) explains that the first stage is to calculate new X (X-hat) in order to remove the resulting influence of Y on X. Then X-hat is regressed on Y during the second stage. Baum (2006) believes that 2SLS is a special case used because the simple IV estimator could not deal with the multiple instruments of one optimal instrument. He further explains that 2SLS employs an instrumental variable in the first-stage regressions of endogenous repressors, then obtains the predicted values to run the second-stage OLS regression (Baum, 2006; Cameron and Trivedi, 2009). Like the IV estimator, 2SLS exhibits consistent and unbiased properties. To perform IV, this study uses also the estimation Model One and Model Two, as described above. Ebbes (2006) mentions that the availability in computing packages has made 2SLS the most common to fix a simultaneous equation.

Baum (2006) further provides specific information about Instrumental Variables, estimators which not only deal with a simultaneous determination between dependent and independent variables (endogenous) but also correct the problem of omitted-variable bias, measurement errors in variables, and self-selection bias. The ordinary regression is $Y = X \alpha + \epsilon$. When ϵ suffers from the endogenous problem (not only that X relates to Y but that Y also relates to X), the problem is solved by replacing X with another variable, given the name Z, which is closely related to X but not related to Y. Thus, selecting appropriate instrumental variables ensures a consistent estimator and unbiased properties. The major issue with this technique is finding the exogenous variable; that is, the independent variable which is independent of the disturbances in the system. Nevertheless, lagged variables are also commonly used as instrumental variables.

4.5.4 Generalised method of moments

Since the direction of causality between executive compensation and firm performance is believed to be endogenous, 2SLS is preferred, while taking the benefit of panel data means that they allow the impact of lagged dependence on the contemporaneous dependent variables to be seen, and the dynamic panel-data model using a lagged dependent variable causes findings which are not strictly exogenous (Baum, 2006). The time-invariant explanatory variables may cause bias upwards in OLS and downwards biased in FE. In this case, using IV will not fix the problem. If the data consist of a large number of observations, using a set of orthogonal restrictions related to an econometric model allows the estimator to get closer to the true value of the parameter (Angrist and Pischke, 2009). This idea leads to the introduction of a Generalised Method of Moments (GMM). It benefits from not requiring any assumptions about the formation of residuals. The probability of a large sample leads to the law of large numbers: that is, the bigger number of observations leads to a similarity with the population value if they can be observed (Greene, 2008). Three natural options for the initial consistent

estimator are Anderson and Hsiao (1982), Arellano and Bond (1991) and Blundell and Bond (1998). Mileva (2007) indicates that several econometric issues often arise such as that the endogeneity of the causality may run in both directions; and also that time-invariant firm characteristics and the presence of the lagged dependent variable cause autocorrelation, and the panel has a short time dimension and a larger firm dimension. This complicated model with short-fat panel data prefers system-GMM because it combines the first-difference with a set of equations level with a suitable lagged first-difference as instruments (Rodman, 2006).

4.6 Chapter summary

This research methodology chapter provides an explanation for the three main divisions of information in the thesis: (1) the research philosophy, (2) data collection and (3) data analysis. This first section represents the research approach and research design and is followed by a look at the research process adopted by this study.

Table 4.3 Summary of the research philosophy, approach and design

Implications	Description
Epistemology	This research implication is one of positivism.
Ontology	The view of reality in this research is that it is objective.
Axiology	This research starts with the belief that the choice of what to study and how to study it should be determined by objective (value-free) criteria rather than human experiences, beliefs or interests.
Paradigm	This research belongs to the functionalist paradigm. It is the oldest and most dominant form of research because it employs a scientific approach which makes the result tangible.
Approach	The hypotheses of this research are proposed on the basis of a logical deduction process.

Implications	Description
Methodological	As with all research using a positivist approach, this research uses a quantitative method because this alone can be the basis for valid generalisations and scientific laws.
Design	As positivist, this research aims to identify causal relationships and fundamental laws which explain the behaviour of executives and firms.
Measurement	Concepts or variables in this study are operationalised in a way that enables facts to be measured quantitatively.

The positive epistemology with objective ontology and objective criteria axiology lead to a functionalist paradigm. Functionalism indicates that logical deduction is the proper approach, which leads to a positivist outlook and a quantitative method. The positivist design indicates that this study needs to be operationalised to quantitatively measure variables. Table 4.4 provides not only an illustrative platform showing the way that this study views the world, but also includes the type of data needed. The second section provides the data collection information. The four sources of data are DataStream, the annual registration statements (Form 56-1), SETSMART and the SET website.

The annual registration statements (on Form 56-1) provide data about executive pay in its totals and form. DataStream provides financial information and firms' characteristics. Ownership structure is obtained from SETSMART. Other information is gathered from the SET website.

Table 4.4 Summary of the variables and data sources

Variable name	Type	Source
Executive compensation:		
Base pay	Metric	The annual registration statements
Bonus	Metric	The annual registration statements
Total compensation	Metric	The annual registration statements
Firm performance:		
EPS	Metric	DataStream
Operation cash flow	Metric	DataStream
Stock return	Metric	DataStream

Variable name	Type	Source
Ownership structure:		
Family ownership	Dummy	SETSMART
Corporate ownership	Dummy	SETSMART
Foreign ownership	Dummy	SETSMART
Dispersed ownership	Dummy	SETSMART
Control variables:		
Industrial	Dummy	Website of The Stock Exchange
Size	Metric	DataStream
Year	Dummy	DataStream

The final section provides information about the way in which the data are analysed. It begins with the classic multivariate analysis, using the OLS method. The estimation is the main regression to investigate the relationship between variance using both main effects and interaction effects. This study approaches three characteristics of complex panel data modelling, namely, unbalanced panel data, dynamic panel data and simultaneous equations. Thus, an instrumental variable using 2SLS estimation as well as GMM is employed to get rid of the complexities.

Table 4.5 Summary of estimation techniques

Estimation technique	Nature of the data/variable
OLS	Cross-sectional data
FE	Panel data
2SLS-IV	Panel data with endogenous variable
GMM	Dynamic panel data with endogenous variable

Table 4.5 provides four estimation techniques by which to understand the pay-performance sensitivity. In each section, the first estimation is dedicated to contemporaneous independent variables, using OLS regression. The second estimation adds lagged performance using OLS regression. The third estimation controls for firm unobserved variables, using FE. The fourth estimation deals with the endogeneity issue, using the instrumental variable in order to control for the effect of the lagged dependence variable.

CHAPTER 5

Research finding:

Overview of executive pay in Thailand

This chapter provides essential information about executive compensation payment in Thai listed companies. Regarding The research carried out annually by the stock market authority, the Thai capital market has its own form of executive pay. Unlike the Anglo-Saxon setting, salary and bonus are the only two predominant executive elements paid to Thai executives. Also, the stock option is far from common in this capital market. This chapter begins by describing the background to process of executive pay setting in Thailand. Section two provides the descriptive information about compensation, performance and ownership. The three measures of executive compensation are salary, bonus and total pay. The three performance measures are EPS, OCF and stock returns. The four ownership structures comprise family-owned, corporate-owned, foreign-owned, and dispersed ownership firms. Then, the next section aims to identify the executive compensation trend.

Section three provides a partial account of the correlations between these variables. The last section summarises this chapter.

5.1 Executive compensation pays in Thailand

In order to clarify the executive compensation in Thai listed companies, this section provides basic information about the executive compensation payments, firm performance, firm size, the industry, and ownership structure of the listed companies which have been selected from the Thai capital market. Thus, this section provides descriptive statistics of variables of 750 sets of unbalanced panel data from Thai listed companies between 2002 and 2008. The unbalanced state is the result of some firms leaving the market before the end and some not being established at the beginning. The firms were selected on the basis of completing the key variables, which contain three sets of information. The first section indicates executive compensation: salary, bonus, other additions and total compensation. The second covers firm performance, in terms of EPS, OCF and stock returns. The third provides the ownership structure.

Table 5.1 Descriptive statistics of executive compensation, firm performance and size

This table reports descriptive statistics of the compensation components, firm performance and firm size of the sample of Thai listed companies. The sample consists of unbalanced panel data of executive compensation observations from the annual report (Form 56-1) for the period 2002 to 2008. Firm performance and size data are from DataStream. A median is provided because of the unique character of the data. EPS represents earnings per share; OCF stands for the operation cash flow. R is stock returns.

Variable	Median	Mean	Standard deviation	Minimum	Maximum	Observation
Executive compensation						
Salary	1,716,328	2,096,791	1,383,143	125,353	8,676,000	750
Bonus	186,165	501,662	1,123,252	0	19,800,000	750
Total	2,254,086	2,733,023	2,174,946	180,000	22,800,000	750
Firm performance						
EPS	0.58	2.29	4.95	-3.91	36.71	737
OCF	13.13	7.78	29.86	-179.43	87.05	742
R	0.02	0.14	0.52	-0.90	3.18	674
Firm size						
Equity*	1,246,058	6,935,834	27,500,000	24,797	384,000,000	750

*Thousand Thai baht

Table 5.1 provides an overview of executive compensation, firm performance and size of 750 Thai listed companies during 2002-2008. Since previous researchers suggest that almost all the executive compensation data have a unique shape, both median and mean are provided.

Panel A of Table 5.1 provides an overview of executive compensation of listed companies in Thailand, the median value of salaries was 1,716,328 Thai baht (about 34,350 GBP); it was 186,165 Thai baht (about 3,700 GBP) in the case of bonuses; and the total compensation package was 2,254,086 Thai baht (about 45,000 GBP). Despite some research on the topic of executive compensation in Thai listed companies, such as Sitthharn (2006), Puttaphiwat (2007), Keawkumsorn (2009) and Connelly et al (2011), there is no information on the median value of Thai executive compensation.

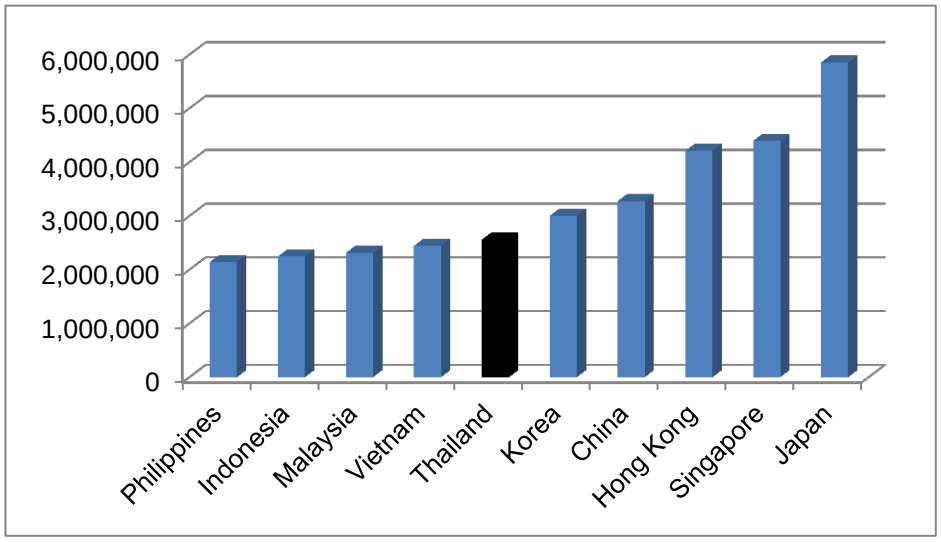
On average, Thai companies paid a salary of 1.72 million Thai baht (about 34,400 GBP) to their executives. The highest salary was 8.7 million Thai baht (about 17,400 GBP), while the lowest was 0.12 million Thai baht (about 2,400 GBP). The means of the executive bonuses stood at 501,662 Thai baht (about 10,000 GBP). The highest bonus paid was 19.8 million Thai baht (about 396,000 GBP), while the lowest was zero. On average, the fringe benefits of those executive managers amounted to 0.35 million Thai baht (about 7,000 GBP). The highest level of fringe benefits was 5.68 million Thai baht (about 113,600 GBP), while the lowest value was 0.05 million Thai baht (about 1,000 GBP). To the best of the author's knowledge, this study is the first empirical evidence on the elements of executive compensation in Thai listed companies. Furthermore, on average, the figure of executive total compensation was 2.73 million Thai baht (about 54,600 GBP); the highest value was 22.8 million Thai baht (about 456,000 GBP) where the lowest figure was 0.18 million Thai baht (about 3,600 GBP). This evidence cannot directly compare to early Thai finding because table 5.1 is the result of the first Thai panel data on executive compensation pay. However, it is comparable to early Thai findings such as Kaewkumsorn (2009) who used

2007 Thai listed companies data to reveal that on average Thai executive earn about 3 million Thai baht; the highest figure was 32 million (10 million baht higher than this current study)and the lowest was 0.02 million. The slightly lower figure of this study might be the result of taking early data as far back as 2002 in generating the overall figure of executive pay in Thai listed companies. This assumption appears to hold since Connelly et al (2011) use 2005 Thai listed companies' executive compensation. This study shows that on average a manager receives about 3 million baht where the median value was 2.3 million baht, the minimum figure of executive pay was 1.2 million, while 14.335 was the maximum executive total pay. The difference between the minimum and maximum executive pay of the three studies reflects the problematic of data quality in Thai listed companies, which also is a problem for every others' research on the emerging market. Full comparative information on the executive compensation pay in Asia is shown in figure 5.1.

Panel B of the table provides an overview of firm performance from the 750 observations of listed companies in Thailand between 2002 and 2008. The median value of EPS was 0.58 times. However, on average, firms generated EPS of 2.29 times, with a slightly high standard deviation at 4.95 times. The highest earning return from one share reached 36.71 times, while the lowest made a loss at 3.91 times. The median value of operation cash flow per share was 13.13 times, while on average the listed companies gained 7.78 times operation cash flow from one share with an extremely wide standard deviation of 29.86 times. The highest value of operation cash flow was 87.05 times, while the lowest operation cash flow was -179.43 times. Compared with the starting share price of the period, the median value of stock returns was only 2.00% by the end of the period, while listed companies gained on average 14 times the stock returns, with a wide standard deviation at 0.52. The highest stock return was 3.18%, while the lowest stock returns was negative at 0.90.

Panel C of the table provides an overview of firm size from the 750 observations of listed companies in Thailand during the period in question. The median value of equity was approximately 1.25 million Thai baht (25,000 GBP). On average, listed companies had about 7 million Thai baht (140,000 GBP) in equity with a standard deviation, which is 4 times greater than the mean. The biggest size of Thai listed firms had equity of 384 million Thai baht (7,680,000 GBP).

Furthermore, this section further provides comparative information of executive pay in Asia. In Asia, however a search of the literature found no unified information about the Asian executive compensation. Mercer, however, annually published salary information, and the 2010 data are showing below.



Source: Mercer (2010)

Figure 5.1 Mercer's international salary differentials in Asia

This figure reports the comparative means of executive compensation components between Thailand and elsewhere. Japanese executives received the highest salary at 5.85 million Thai baht. Singapore and Hong Kong executives earned about 4.40 million and 4.2 million Thai baht respectively. Chinese and Korean executives receive about 3 million Thai baht while Thai executives earn 2.6 million Thai baht. Vietnam executive total pay is on the rise, at only 0.2 million Thai baht below the Thai pay threshold. The Philippines, Indonesia and Malaysia earn the lowest pay rates with figures at 2.1 million, 2.2 million and 2.3 million Thai baht respectively.

Documentary reviewing of executive compensation pay in Asia provides slightly different result. This study found that, in 2003, Thai executives earned 2.4 million Thai baht while executives in Korea, Hong Kong and Singapore earned much higher rates at 4.7 million, 5.7 million, and 9.8 million Thai baht (Kato and Kim, 2007; Sun et al, 2010). Japanese executives earned far higher rates, equating to the highest Asian executive pay at 17.3 million Thai baht (Nakazato, Ramseyer, and Ramusen, 2011), while Chinese executives received the highest increases to their executive pay figure at 4.2 million Thai baht (Bai and Xu, 2005; Chen et al, 2001; Conyon and He, 2011; Kato and Long, 2006). This study provides evidence that Thai executives earned 3.1 million, accounting for a 17% growth comparing 2003 to 2007. Philippine executives' pay information first reveals that 5.7 million Thai baht is the figure of executive earning (Unite et al, 2008). Korea, Hong Kong, and Japan figures all increased from 2003 at about 20% (Sun, Zhao and Yan, 2010).

Moreover, regarding econometric concerns, this section provides supplementary information about a partial correlation between executive compensation, firm performance and firm size of Thai listed companies, which is shown below.

Table 5.2 Correlation analysis

This table reports correlation coefficient of the executive compensation, firm performance and firm size of the sample of Thai listed companies. The sample consists of unbalanced panel data of executive compensation observations from the annual report for the period 2002 to 2008. Firm performance and size data are from DataStream. EPS represents earnings per share. OCF stands for the operation cash flow. R is stock returns. Lequity is natural logarithm of equity as the proxy of firm size.

	salary	Bonus	Total	EPS	OCF	R
bonus	0.0875**					
total	0.7104***	0.6909***				
EPS	-0.0038	-0.0472	-0.0430			
OCF	0.0280	-0.0252	0.0080	0.0211		
R	0.0009	0.0467	0.0224	0.0394	0.0323	
Lequity	-0.0891**	-0.0223	-0.0847**	0.1278***	0.0104	-0.0383

** and *** denote statistical significance at 5% and 1%, respectively.

Table 5.2 explores the correlation between executive compensation, firm performance and firm size. It reveals that correlation coefficient among executive compensation variables indicates that the forms of executive compensation elements are positively correlated with each other, especially in the case of salary, and bonus to total compensation at 0.7104 and 0.6909, respectively. The analysis also indicates the correlation between executive compensation (salary, total compensation) and firm size (log equity) while size and earnings per share correlate with each other. However, there is no evidence on the correlation between any executive compensation and any firm performance.

Table 5.3 Descriptive statistics of variable used in the equations

This table reports descriptive statistics of the compensation components, firm performance and firm size of the sample of Thai listed companies. The sample consists of unbalanced panel data of executive compensation observations from the annual report (Form 56-1) for the period 2002 to 2008. Firm performance and size data are from DataStream. EPS represents earnings per share; OCF stands for the operation cash flow. R stands for stock returns. FAM stands for family-owned firm. COR is corporate-owned firm. FOR represents foreign-owned firm. BON is executive bonus. TOT is executive total compensation. Δ is the different level between contemporaneous and lagged value of the variable.

Variable	Mean	Standard deviation	Minimum	Maximum	Observation
Executive compensation					
Δsalary	138951.7	579140.6	-3843707	3150140	626
Δbonus	21850.3	935399.8	-10700000	16100000	626
Δtotal	180724.3	1185471	-10000000	17100000	626
Firm performance					
ΔEPS	0.00182	2.79197	-33.31	19.94	606
ΔOCF	0.74893	30.27437	-106.78	201.65	618
ΔR	-1.39110	18.06660	-298.02	112.97	543
Firm size					
lequity	14.26912	1.45163	10.6	19.77	626
Interaction role of ownership and firm performance					
FAMEPS	-0.09592	1.61886	-33.31	4.4	620
COREPS	0.05412	1.75544	-18.44	19.94	621
FOREPS	0.00641	0.60882	-7.76	9.76	623
DISEPS	0.03705	1.23511	-10.40	13.33	620
FAMOCF	0.48707	21.72533	-106.78	201.65	624
COROCF	0.21938	13.92953	-96.39	127.83	625
FOROCF	-0.02404	10.04665	-67.53	98.33	622
DISOCF	0.05880	11.86621	-88.00	102.15	625
FAMR	-0.08339	3.12857	-19.23	33.42	579
CORR	-0.10134	8.01976	-122.49	112.97	612
FORR	-0.20841	2.39356	-50.40	14.78	618
DISR	-0.84356	14.5302	-298.02	75.72	612
Interaction role of ownership and executive compensation					
BONFAM	4290	183883	-1963925	1034000	626
BONCOR	1696	323276	-3134167	3328030	626
BONFOR	12853	197374	-596363	3568360	626
BONDIS	3011	835451	-10700000	16100000	626
TOTFAM	67621	368363	-2324866	2269689	626
TOTCOR	47916	568286	-5226787	4583604	626
TOTFOR	27775	416502	-2404470	5848309	626
TOTDIS	37413	892685	-10000000	17100000	626

Table 5.3 provides an overview of variables used in regression models. The table is made up of five elements. The first panel provides executive compensation changes. It reveals that every executive element of pay was rising. On average, executives of Thai listed companies' received better pay at 0.14 million Thai baht (about 2,800 GBP). This figure accounts for 77% of executive salary change throughout the period. Bonus payments are on the rise in the Thai capital market. On average, executive managers in Thailand received an increase of 12% in bonuses throughout the period. However, the size of the changes in bonuses paid varies; it ranges from negative 11 million Thai baht (about -220,000 GBP) to positive 17 million Thai baht (about 300,000 GBP).

Panel two provides information on the changes in firm performance. It indicates that EPS and OCF are on the rise but stock returns were slightly descending. EPS change is positive but little in magnitude at 0.0018. The changes span widely from -33.31 to 19.94. Unlike EPS, OCF change in magnitude is 0.7489. The fluctuation is common in cash flow performance, since this information is unadjusted with accrual information. Stock performance is on the downward trend; however, the magnitude of change is small. The range of change is wide with the minimum at -3.62 and the maximum at 2.81.

Panel three gives natural logarithm of equity. The information shows the increase of firm size during the observation period. The next panel describes the interaction variable between ownership structure and firm performance. Most of the variables were positive. However, stock returns variables show a negative trend by their downward character. The final panel indicates that all interaction variables between ownership structure and executive compensation were on the rise.

Table 5.4 Correlation analysis of variables used in regression analysis

This table reports descriptive statistics of the compensation components, firm performance and firm size of the sample of Thai listed companies. The sample consists of unbalanced panel data of executive compensation observations from the annual report (Form 56-1) for the period 2002 to 2008. Firm performance and size data are from DataStream. EPS represents earnings per share; OCF stands for the operation cash flow. R stands for stock returns. FAM stands for family-owned firm. COR is corporate-owned firm. FOR represents foreign-owned firm. BON is executive bonus. TOT is executive total compensation.

	EQUITY	SALARY	BONUS	TOTAL	EPS	OCF	R
SALARY	0.0885*	1					
BONUS	0.0213	0.0885*	1				
TOTAL	0.0608	0.5493*	0.8402*	1			
EPS	0.1362*	-0.0012	0.0348	0.0271	1		
OCF	-0.0039	-0.0372	0.0222	0.0090	-0.0145	1	
R	0.0429	-0.1304*	-0.0261	-0.0865*	-0.0147	-0.0501	1
FAM	-0.2288*	0.0359	-0.0075	0.0078	-0.0742	0.0158	0.0419
COR	0.2957*	-0.0023	-0.0111	-0.0096	0.0432	0.0000	0.0384
FOR	0.1079*	-0.0311	0.0353	0.0203	0.0073	-0.0112	-0.0137
DIS	-0.1386*	-0.0147	-0.0058	-0.0133	0.0313	-0.0096	-0.0755
FAMEPS	0.0592	-0.0163	-0.0293	-0.0295	0.5886*	-0.0454	0.0015
COREPS	0.1199*	0.0323	0.0252	0.037	0.6371*	0.0050	0.014
FOREPS	-0.0021	-0.0575	-0.0014	-0.0251	0.2211*	0.0254	0.0025
DISEPS	0.0537	0.0009	0.0810*	0.0589	0.4479*	0.0048	-0.0503
FAMOCF	-0.0169	-0.0371	-0.0032	-0.0216	-0.0370	0.7209*	-0.0151
COROCF	0.0083	-0.0264	-0.0147	-0.0242	0.0081	0.4624*	0.0139
FOROCF	0.0155	-0.039	0.0163	0.0263	0.0167	0.3330*	-0.0056
DISOCF	-0.0021	0.0372	0.0656	0.0683	0.0065	0.3941*	-0.1152*
FAMR	-0.0149	-0.0478	-0.0119	-0.0406	0.0016	-0.0611	0.1768*
CORR	0.0571	-0.0493	-0.0031	-0.034	0.0155	0.0122	0.4704*
FORR	-0.0034	-0.0057	-0.0196	-0.0191	0.0025	-0.014	0.1353*
DISR	0.0155	-0.1047*	-0.0217	-0.0664	-0.0271	-0.047	0.8522*
BONFAM	0.0184	0.0687	0.1961*	0.1837*	-0.0992*	-0.0105	-0.0135
BONCOR	0.0130	0.1809*	0.3455*	0.3633*	0.0478	-0.0192	-0.0063
BONFOR	0.0614	0.0286	0.2104*	0.2120*	-0.0012	0.0241	-0.0091
BONDIS	0.0003	0.0073	0.8931*	0.7097*	0.0409	0.0289	-0.0218
TOTFAM	0.0102	0.4152*	0.1141*	0.2932*	-0.0745	-0.047	-0.0188
TOTCOR	0.0721	0.5197*	0.2605*	0.4699*	0.0554	-0.0232	-0.0317
TOTFOR	0.0463	0.1623*	0.1317*	0.3427*	-0.0150	0.0230	-0.0091
TOTDIS	0.0090	0.1516*	0.8414*	0.7479*	0.0377	0.0351	-0.0821

Table 5.4 cont

	FAM	COR	FOR	DIS	FAMEPS	COREPS	FOREP
COR	-0.4733*	1					
FOR	-0.2603*	-0.2289*	1				
DIS	-0.4172*	-0.3670*	-0.2018*	1			
FAMEPS	-0.0820*	0.0385	0.0212	0.0339	1		
COREPS	-0.0228	0.0485	-0.011	-0.0176	0.0018	1	
FOREPS	-0.0078	-0.0068	0.0303	-0.0060	0.0006	-0.0003	1
DISEPS	-0.0222	-0.0195	-0.0107	0.0539	0.0018	-0.0009	-0.0003
FAMOCF	0.0307	-0.0145	-0.008	-0.0128	-0.0643	-0.0007	-0.0002
COROCF	-0.0116	0.0245	-0.0056	-0.0090	0.0009	0.0122	-0.0002
FOROCF	0.0018	0.0016	-0.0069	0.0014	-0.0001	0.0001	0.0772
DISOCF	-0.0036	-0.0032	-0.0018	0.0087	0.0003	-0.0002	-0.0001
FAMR	-0.0410	0.0182	0.0099	0.0160	0.0032	0.0009	0.0003
CORR	0.0094	-0.0204	0.0045	0.0073	-0.0008	0.0247	0.0001
FORR	0.0646	0.0567	-0.2610*	0.0500	-0.0052	0.0027	0.0118
DISR	0.0434	0.0381	0.0209	-0.1072*	-0.0035	0.0018	0.0006
BONFAM	0.0318	-0.0151	-0.0083	-0.0133	-0.1666*	-0.0007	-0.0002
BONCOR	-0.0039	0.0081	-0.0019	-0.0030	0.0003	0.0750	-0.0001
BONFOR	-0.0478	-0.0420	0.1837*	-0.0371	0.0039	-0.0020	-0.0061
BONDIS	-0.0026	-0.0023	-0.0013	0.0063	0.0002	-0.0001	0.0000
TOTFAM	0.2505*	-0.1185*	-0.0652	-0.1045*	-0.1155*	-0.0057	-0.0019
TOTCOR	-0.0619	0.1308*	-0.0299	-0.0480	0.0050	0.0846*	-0.0009
TOTFOR	-0.0490	-0.0431	0.1881*	-0.0380	0.0040	-0.0021	-0.0683
TOTDIS	-0.0308	-0.0271	-0.0149	0.0737	0.0025	-0.0013	-0.0004

Table 5.4 cont

	DISEPS	FAMOCF	COROCF	FOROCF	DISOCF	FAMR	CORR
FAMOCF	-0.0007	1					
COROCF	-0.0005	-0.0004	1				
FOROCF	0.0001	0.0001	0.0000	1			
DISOCF	0.0144	-0.0001	-0.0001	0.0000	1		
FAMR	0.0008	-0.0909*	0.0004	-0.0001	0.0001	1	
CORR	0.0004	0.0003	0.0263	0.000	0.0001	-0.0004	1
FORR	0.0026	0.0020	0.0014	-0.0511	0.0004	-0.0024	-0.0011
DISR	-0.0606	0.0013	0.0009	-0.0001	-0.1345*	-0.0016	-0.0008
BONFAM	-0.0007	-0.0143	-0.0004	0.0001	-0.0001	-0.0723	0.0003
BONCOR	-0.0002	-0.0001	-0.0414	0.0000	0.0000	0.0001	-0.0107
BONFOR	-0.0020	-0.0015	-0.0010	0.0772	-0.0003	0.0018	0.0008
BONDIS	0.0913*	-0.0001	-0.0001	0.0000	0.0736	0.0001	0.0000
TOTFAM	-0.0055	-0.0630	-0.0029	0.0004	-0.0009	-0.1571*	0.0024
TOTCOR	-0.0025	-0.0019	-0.0470	0.0002	-0.0004	0.0023	-0.0782
TOTFOR	-0.0020	-0.0015	-0.0011	0.0740	-0.0003	0.0019	0.0009
TOTDIS	0.0831*	-0.0009	-0.0007	0.0001	0.0915*	0.0012	0.0005

Table 5.4 cont

	FORR	DISR	BONFAM	BONCOR	BONFOR	BONDIS	TOTFAM
DISR	-0.0052	1					
BONFAM	0.0020	0.0014	1				
BONCOR	0.0005	0.0003	-0.0001	1			
BONFOR	-0.0971*	0.0038	-0.0015	-0.0003	1		
BONDIS	0.0003	-0.0257	-0.0001	0.0000	-0.0002	1	
TOTFAM	0.0161	0.0108	0.5982*	-0.0010	-0.0120	-0.0007	1
TOTCOR	0.0074	0.0050	-0.0020	0.7590*	-0.0055	-0.0003	-0.0155
TOTFOR	-0.0887*	0.0039	-0.0016	-0.0004	0.6273*	-0.0002	-0.0123
TOTDIS	0.0037	-0.0977*	-0.0010	-0.0002	-0.0027	0.9430*	-0.0077

Table 5.4 cont

	TOTCOR	TOTFOR	TOTDIS
TOTFOR	-0.0056	1	
TOTDIS	-0.0035	-0.0028	1

This full investigation aims to detect potential multicollinearity, where two or more independent variables have a high correlation with each other, before multiple regression analysis takes place in the next chapter. Since there is a high positive correlation between executive compensation components - salary, bonus and total compensation - potential multicollinearity is found, as no equation will deploy these three variables as independent variables at one time. As a result, multicollinearity is no longer an issue of concern.

Table 5.5 Descriptive statistics on industrial categories

The sample consists of 750 unbalanced panel data, the industries which the 750 observations belong to and remarks from SET website for the period 2002-2008.

Industry	Observation	Percent
Agricultural and food	60	8.00
Consumer products	68	9.07
Financial and insurance	98	13.07
Manufacturing	90	12.00
Real estate and construction	166	22.13
Mining and quarrying	49	6.53
Services	120	16.00
Technology	49	6.53
Medium-sized enterprises	50	6.67
Total	750	100.00

Table 5.5 represents the distribution among Thai listed companies of the nine dummy variables for industries. The biggest industrial sector according to the number of firms in SET was the Real estate and construction sector which yielded 166 observations (22%). The second biggest industry was Services, giving 120 observations (16%). Financial and insurance is the industry which comes third, with 98 observations (13%). The three smallest industries were Mining and quarrying, Technology, and Medium-sized enterprises, all of which generated about 50 sets of observations (7%) each.

In order to add new knowledge, this study deploys ownership structure as a moderating variable by using the first 20% of largest shareholders as a proxy. The identification using the first 20% of majority shareholders is defined by Taylor and Taylor (1996), Edwards and Weichenrieder (2009) and SET (2010), all indicating that a higher than 20% share tends to be an ‘active holding’ which can influence decision making. There are four kinds of ownership structure; family ownership, corporate ownership, foreign ownership, and dispersed ownership. Only 0.79% of outstanding shares are held by the Ministry of Finance and other government agencies (Wiwattanakantong, 2000).

Table 5.6 Descriptive statistics of the type of largest shareholder

Thai listed companies are classified into two main groups; concentrated ownership and dispersed ownership. Using the first largest 20% of ownership as a proxy of ownership identity, the sample consists of 750 unbalanced panel data of ownership structure observations from SETSMART for the period 2002 to 2008.

Ownership structure	Number of observation	Setting				
		Thailand*	Thailand**	Japan**	U.S**	U.K.**
1. Dispersed ownership	180	24.00	29.00	23.40	53.50	21.30
2. Concentrated						
2.1 Family ownership	265	35.33	25.00	-	-	-
2.2 Corporate	222	29.60	25.76	25.50	0.00	3.60
2.3 Financial	-	-	8.30	46.10	39.80	60.80
2.4 Foreign	83	11.07	12.30	5.00	6.70	12.30
Total	750	100.00	100.00	100.00	100.00	100.00

* This current study

** Wiwattanakantang (2000)

This table indicates the distribution of the largest shareholders of the listed firms. Using the first largest 20% of ownership as a proxy of ownership identity, two main groups are constructed. Dispersed ownership has been taken as the reference group, because it is not only the sole non-concentrated form of ownership, but also because this makes it easier to compare with the standard literature on executive compensation, most of which uses data from the US. As a consequence, the value of the ownership structure would not be presented in any standard regression analysis. The last three categories, family-owned, corporate-owned, and foreign-owned firm, are also called firms with concentrated ownership.

Using 20% as the criterion by which to identify ownership structure, this study finds that the highest percentage of most of the listed companies identified as family businesses was 35.33%. This finding is comparable to Connelly et al (2010) which reported that 36.5% of Thai listed companies might classed as family-owned firm. Corporate ownership was the second most popular form of ownership, about 30%. Unlike the data from the US, these data show only

a small number of firms with dispersed ownership (about 24%). Thus, dispersed ownership does not seem to be the predominant type of ownership in the Stock Exchange of Thailand. The smallest group turns out to be foreign ownership, which represents only about 11% of the listed companies. High corporate ownership of Thai listed companies is similar to those Japanese, which one fourth of listed companies are corporate ownership. Even though the figures of individual shareholders are similar to some extent, American individuals each hold a small proportion while Thai individuals tend to present a form of family ownership (Wiwattanakantang, 2000).

5.2 Elements of executive pay in Thai listed companies

A general view of the executive compensation is presented. The data are gathered from 2002 to 2008 in Thai listed companies. Unlike others, this setting only provides three common forms of compensation pay which were salary, bonus, and others.

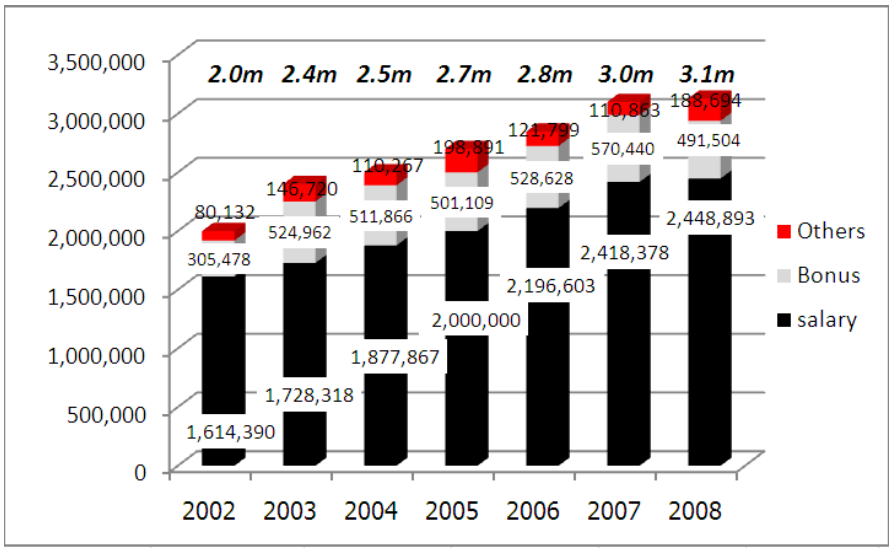


Figure 5.2 Elements of executive compensation pay in Thai listed companies

Figure 5.2 indicates that executive compensation rose constantly throughout the period of observation. The figure began at 2 million Thai baht in 2002. The number rose sharply to about 2.5 million Thai baht in 2003-2005, with another sharp rise to 2,847,030 Thai baht in 2006. The executive total compensation first reached 3 million Thai baht (3,099,681) in 2007. The figure reached its peak at 3,129,091 Thai baht in 2008. Salary was the main executive compensation to executive managers of the Thai listed companies. Salaries increased consistently from 1,614,390 Thai baht in 2002. The figure slightly rose to 1,728,318 Thai baht in 2003. The figure showed continual growth to 1,877,867 Thai baht in 2004 where it first exceeded 2 million Thai baht in 2005. The figure continued to grow to reach 2,196,603 Thai baht in 2006. The number rose dramatically to 2,418,378 Thai baht in 2007, and peaked at 2,448,893 Thai baht in 2008. In addition to salary, another element in the fixed executive compensation was other compensation (perks and the pension fund). The number of firms paying other kinds of compensation to executive managers remained the same throughout the period. However, this compensation pay was the lowest value of executive compensation offered in Thai listed companies. Given that it was not the main component of executive compensation; the result indicated that about 5% of executive pay was this kind of compensation. The numbers of firms paying other kinds of compensation to executive manager grow throughout the period, which began at 89,437 Thai baht in 2002. The number increased sharply to 148,781 Thai baht in 2003 and then reached 145,779 Thai baht in 2004. The number of firms which paid other compensation to executive managers remained the same at 1.2 million Thai baht between 2005 and 2006. The figure dropped sharply to 110,863 Thai baht in 2007 where it reached its peak at 188,694 Thai baht in 2008.

The second most valued form of executive compensation was the bonus. On average the executive managers of Thai listed companies received a bonus worth almost 0.5 million Thai baht which accounted for about 20% of executive compensation package, compared to that typically worth 1-2% in

the US. The US information is aligned with OECD (2005) which states that overall the size of performance-related pay is a fairly modest percentage of the base salary. The figure of bonus was 305,478 Thai baht in 2002 and this rose sharply to 524,962 Thai baht in 2003. The figure remains the same at 511,866 Thai baht in 2004. The figure slightly dropped to 501,109 Thai baht in 2005. The figure rose to 528,628 Thai baht in 2006 where it dramatically rose to 570,440 Thai baht in 2007. However, the figure dropped to 491,504 Thai baht in 2008. In addition to bonuses, another type of incentive compensation provided was to give executive stock options. Unlike the US and UK stock markets, the Thai Stock Market shows that stock options were the least favoured type of executive compensation. Only four Thai listed companies gave stock options to their executive managers in 2002. The number of firms providing stock options for their executive managers grew slowly to reach about 10 firms; a figure which remained constant from 2003 to 2008. The number indicates that less than 10% of listed companies included a stock option in their executive compensation pay package.

5.3 Executive compensation trend in Thai listed companies

Section 3 provides comparative information about the value of executive compensation pay in Thai listed companies from 2002 to 2008 across year, size and industry as shown below.

5.3.1 Average compensation for each year

This section provides information about the value of executive compensation pay in Thai listed companies from 2002 to 2008. The number of observations was 69, 86, 108, 123, 123, 122 and 119, in each successive year.

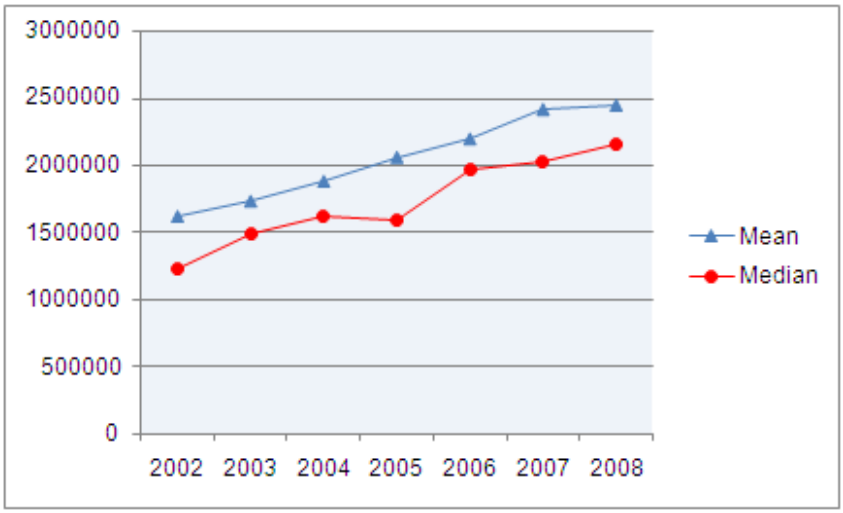


Figure 5.3 Value of executive salary pay

Figure 5.3 shows the value of both mean and median for executive salary pay between 2002 and 2008. On the whole, the amounts rose slightly throughout the observation period. On average, the middle value of executive salary grew by 4% over the period. The median value, which was 1.35 million Thai baht in 2002, increased to 1.49 million Thai baht in 2003 and then and then increased again to 1.66 million Thai baht in 2004. The number dropped slightly to 1.56 million Thai baht in 2005. The median value of executive salaries, once again, rose slightly to 1.81 million Thai baht and then 1.96 million Thai baht before it reached its peak at 2.05 million Thai baht in 2008. Overview information about mean values indicates that, on average, the salaries of executive managers grew steadily by 7% over the period. Regarding yearly data, the value of salaries grew continually throughout the period. It touched 1.65 million, 1.76 million, 1.82 million, 1.98 million, 2.04 million and 2.16 million Thai baht in each successive year in the years from 2002-2007 and finally reached 2.14 million Thai baht in 2008.

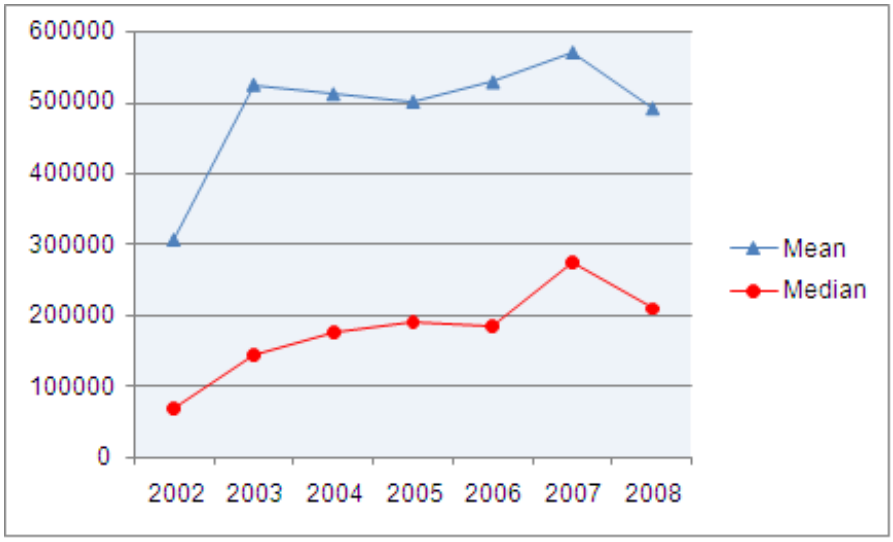


Figure 5.4 Value of executive bonus pay

This figure provides overview information about the value of executive bonuses from 2002 to 2008. In general, the median value of executive bonus grew by 5% over the period. However, there is a sharp rise in the bonus trend from 2002 to 2003 before it fell again in 2006. The value of the bonus once again rose from about 0.30 million to 0.51 million before it finally fell to 0.50 million. The trend once again rose but reach its peak in 2007, and fell to about 0.50 million Thai baht in 2008. To get a clearer picture, this study also provides information about the mean value of executive bonus pay. On average, executive managers received bonuses of 0.08 million, 0.15 million, 0.18 million, 0.19 million and 0.17 million, reaching a peak of 0.23 million before dropping slightly to 0.18 million Thai baht in 2008. On average, the mean value of executive bonus pay grew by 18% over the period of observation.

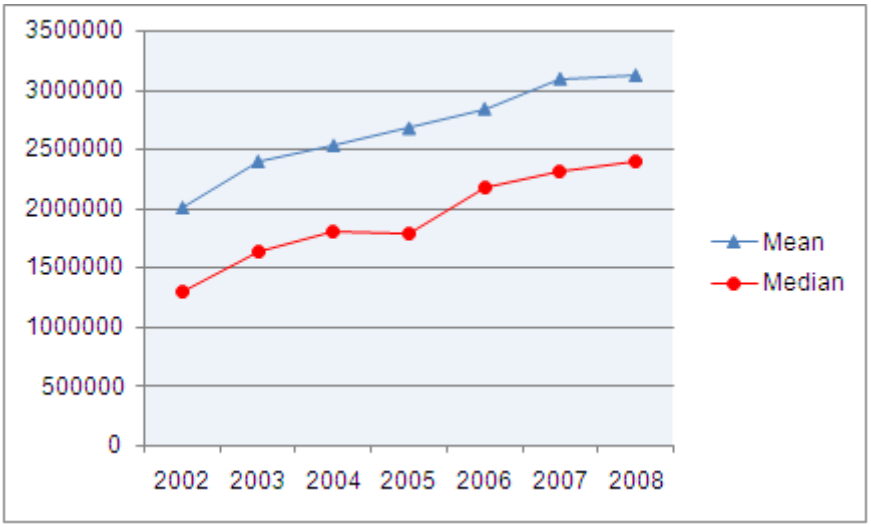


Figure 5.5 Value of executive total compensation

Figure 5.5 provides general information about the total value of executive pay. The figure shows that the median value of executive total compensation grew by 5% over the period. This median value was 1.96 million, 2.12 million, 2.29 million, 2.56 million, 2.58 million and 2.70 million in each successive year, before dropping slightly to 2.63 million Thai baht. Using mean values, the table indicates that, on average, executive managers received total compensation packages in the years under review of 1.63 million, 1.72 million, 2.07 million, 2.28 million and 2.44 million in each successive year, before they reached a peak at 2.54 million. The mean value of executive total compensation dropped slightly from a peak of 2.41 million Thai baht in 2008. A trend of 7% growth can be seen in the mean value of executive total compensation over the period.

5.3.2 Average compensation for each size of the firm

This section provides information about the value of executive compensation pay in Thai listed companies based on size, using equity as the proxy for magnitude. The first group is of small firms, which had less than 560 million Thai baht in equity. The second is above 560 million in outstanding equity but below 1,250 million Thai baht. The next group had above 1,250 million but below 3,200 million Thai baht of outstanding equity. The last group includes the biggest firms which have outstanding equity of above 3,200 million Thai baht. The numbers observed were 187, 188, 188 and 187 sets of data, respectively. The three important elements of executive compensation – salary, bonus and total compensation – are shown.

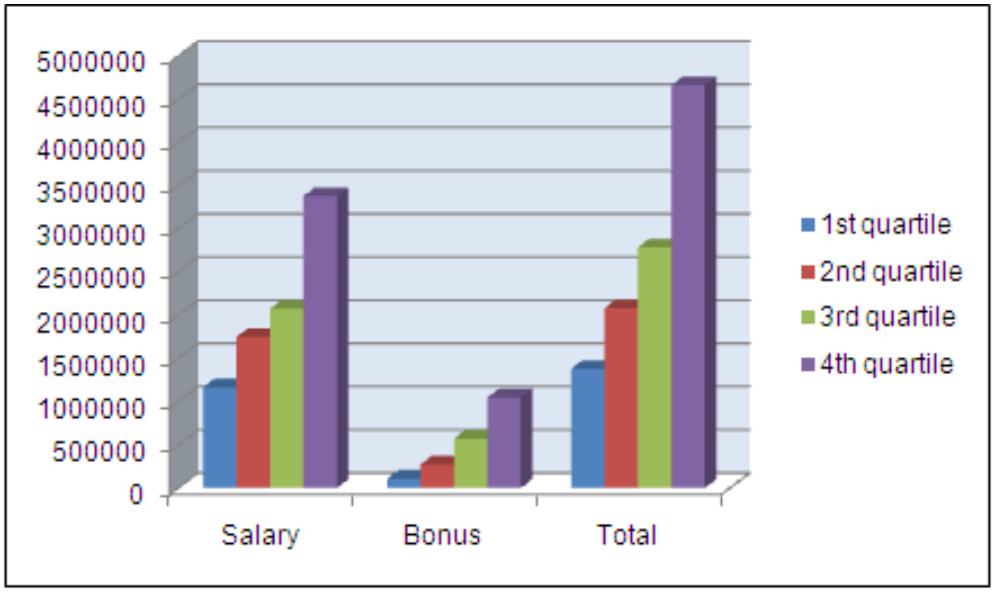


Figure 5.6 Average executive compensation by size of firm

The group of smallest listed companies paid , on average, a salary of 1.2 million Thai baht to their executive managers, while the median value was 1.1 million Thai baht. On average the executive managers of the third biggest groups of listed company earned salaries of 1.7 million Thai baht, while the median value of executive salaries was 1.6 million Thai baht. Regarding the

second biggest company group listed, on average, their executive managers earned salaries of 2.1 million Thai baht, while the median value of the executive salaries was 1.8 million Thai baht. Regarding the group of listed companies with the largest equity, on average their executive managers earned a salary of 3.4 million Thai baht, while the median value of executive salaries was 3.2 million Thai baht.

Regarding the bonus from the group of smallest listed companies, on average, their executive managers received a bonus of 0.11 million Thai baht each, where the median value of executive bonus was zero Thai baht. On average, the executive managers of the third biggest group of listed companies received a bonus of 0.27 million Thai baht each where the median value of executive bonus was 0.16 million Thai baht. The second biggest group of listed companies paid, on average, a bonus to their executive managers of 0.57 million Thai baht each, where the median value of executive bonus was 0.26 million Thai baht. Regarding the group of largest listed companies, on average, their executive managers earned a bonus of 1.05 million Thai baht each, where the median value of executive bonus was 0.88 million Thai baht.

The last element is executive total compensation. On average the executive managers in the groups of smallest size received a bonus of 1.4 million Thai baht. The executive managers of group of lower and upper median in size received 2.1 million and 2.8 million Thai baht, respectively. The executive managers in the group of biggest size received 4.7 million Thai baht.

5.3.3 Average compensation for each industrial group

This section provides information about the value of executive compensation pay in the chosen Thai listed companies according to industry. The nine industrial groups represented are Mining and quarrying, Real estate, Financial institutions, Services, Technology, Construction, Agricultural products, MAI and Industry. The number of observations for each group was 60, 68, 98, 90, 49, 120, 49, 50 and 166 listed firms, respectively.

Agro is Agricultural and food products industrial. Con stands for Consumer product group. Fin is Finance and insurance industrial. Manu is manufacturing industrial. Real is Real estate and construction. Min is Mining and quarrying. Serv stands for Services industrial. Tech is technology group. MAI is Medium-sized enterprises.

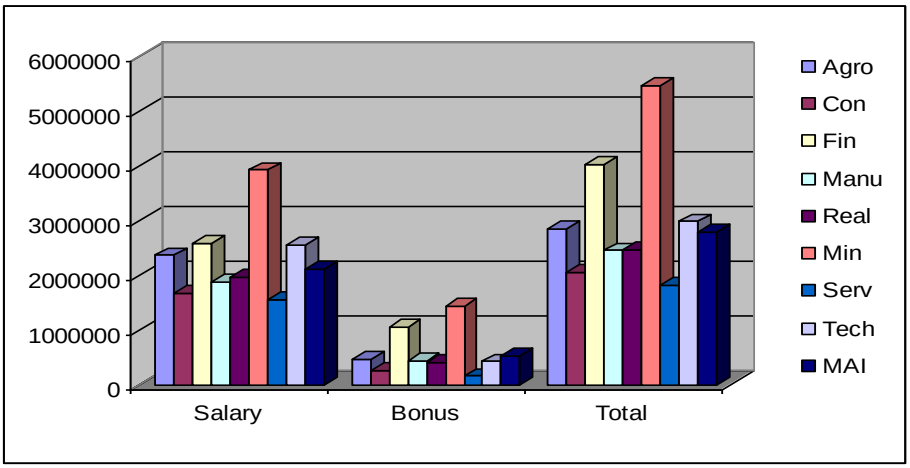


Figure 5.7 Average executive compensation of the firms according to industrial group

Figure 5.7 indicates that the industrial group which paid the biggest salary, about 4 million Thai baht, was Mining and quarrying. The next biggest salaries paid were in Financial and insurance, Technology, Agricultural and food and MAI which paid salaries of about 2.57 million, 2.54 million, 2.35 million and 2.11 million Thai baht, respectively. The smallest salary paid, 1.55 million Thai baht, was in the Service industries. In addition, the median value of the salaries paid in Mining and quarrying, Financial and insurance, Technology, Agricultural and food industries and MAI was 3.50 million, 2.50,

2.69 million, 2.15 million and 1.70 million Thai baht, respectively. The smallest salary paid using median value was in the Service industries, and was 1.27 million Thai baht.

The biggest bonuses paid were in Mining and quarrying and Finance and insurance. The average value of bonuses paid in these two industries was 1.42 million and 1.05 million Thai baht. The next three biggest bonuses paid were consequently in the MAI, Agricultural and food and Manufacturing industrial groups. The average value of bonuses paid was 0.52 million, 0.45 million and 0.44 million Thai baht, respectively. The smallest bonuses paid were in the Service industries, which paid bonuses of 0.15 million Thai baht. In addition, the median value provides the middle value of bonus paid in each industrial group. Mining, Finance, MAI, Agricultural and food and Manufacturing industry paid 1.26 million, 0.18 million, 0.19 million, 0.24 million and 0.25 million Thai baht, respectively. The smallest bonus paid using median value was by the Service industry and was 0.05 million Thai baht.

The figures indicate that Mining and quarrying, Financial and insurance, Technology, Agricultural and food and MAI were the five industrial groups which paid the highest total compensation. On average, the amounts of executive total compensation were 5.44 million, 4.01 million, 2.97 million, 2.84 million and 2.78 million Thai baht, respectively. The median values of total compensation were 5.22 million, 3.02 million, 3.13 million, 2.38 million and 2.24 million Thai baht, respectively. The smallest executive total compensation paid was in the Service industries, which paid total compensation of 1.82 million Thai baht of which the median value was 0.55 million Thai baht. The figure above is comparable to the findings of Puttaphiwat (2004). However, this current study is the only work to date on executive pay that provides a mean of executive total pay. None of the literature on Thai executive compensation has shown the detail of the median.

5.4 Chapter summary

This chapter provides descriptive statistics of executive compensation in The Stock Exchange of Thailand. In addition, firm performance, ownership structure, size and industry are also discussed. On average, Thai executive managers receive salaries of 2 million Thai baht with 0.5 million Thai baht in bonuses while other supplementary pay such as perks account for 0.01 million Thai baht. The information reveals that salary was the main element of Thai executive pay which accounts for 77% of total pay. Bonus is the most common incentive pay which accounts for 18% of the executive total pay. Unlike American and British settings, Thai executives receive 5% of their pay as other pay. A small number of managers receive stock option. On average, the earnings of Thai listed companies was 2.29 per share. Operation cash flow was 7.78 per share while stock returns came at 0.02 time. The size of firms varied significantly, ranging from 384,000 million to 25 million Thai baht in equity. This results in the calculating of the natural logarithm of equity used as proxy of size, instead of equity itself. Real estate and construction was the biggest industry by number of firms, where the minority of firm are classified as Mining and quarrying. Family ownership is the most common ownership structure, and only about 10% of Thai listed companies are classified as foreign-owned firms. Annual information reveals that salary growth has been consistent at around 0.14 million Thai baht every year. Bonus, however, fluctuates annually. The figure for bonuses rose sharply at 219,484 Thai baht in 2003, shortly after the Asian financial crisis. However, 2004-2005 was not a good year for executive managers. Even the annual bonus was paid, the figures dropped continually. The subsequent period of economic stability in 2006-2007 had a momentum effect on the incentive pay, the figure rose sharply. However, 2008 was not a good year for executives, who saw their bonuses pay dropped back to the same level as it had been in the worst year, 2005.

CHAPTER 6

Research finding:
Pay-performance sensitivities

Optimal contracting of Agency theory believes that executive compensation can be a mechanism to encourage the Agent to behave in the Principal's interest, resulting in an alignment of interest between the Principal and the Agent. Since the firms that fail to encourage their managers to serve their (the firms) best interests will be unable to compete in the market, pay-performance sensitivity is expected (Bebchuk and Fried, 2003; Jensen and Murphy, 1990). Hartzell and Starks (2003) provide further evidence that ownership structure has an effect on executive pay. Thus, this chapter is structured in three sections. The first section presents regression results of executive pay-performance sensitivity. Section two provides regression results of ownership structure as moderator of pay-performance sensitivity. The last section provides a summary of this chapter.

6.1 Pay-performance sensitivity

The hypothesis developed in Chapter 3 indicates that pay-performance sensitivity may exist. The three measures of executive compensation are salary, bonus and total compensation. The three performance measures are EPS, OCF and R. This chapter aims to find the pay-performance sensitivity, using the methodology stated in Chapter 4. This section is structured in three units. The first unit presents regression results of executive salary pay-performance sensitivity. Unit two provides regression results of executive bonus pay-performance sensitivity. The third unit provides regression results of executive total pay-performance sensitivity. The equation below is called model 1.

$$\Delta(\text{Executive compensation})_{it} = \beta_0 + \beta_1\Delta(\text{EPS})_{it} + \beta_2\Delta(\text{OCF})_{it} + \beta_3\Delta(\text{R})_{it} + \beta_4(\text{Lequity})_{it} + \beta_5(\text{Dummy industrial})_{it} + \beta_6(\text{Dummy year})_{it} + \varepsilon_{it}$$

where:

Executive compensation = Executive salary, bonus, or total compensation

β_0 = intercept term

$\beta_1 – \beta_6$ = Slope coefficients

ε = random error term

i = the i^{th} firm

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008

EPS = Earning per Share

OCF = Operation cash flow per share

R = Stock returns

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups to which the listed company belongs: Manufacturing, Mining and quarrying, Real estate and construction, Finance and insurance, Services, Technology, Consumer product, Agricultural and food

products and Medium-sized enterprises: shown as 1 if a specific interest industrial is required, zero otherwise.

Dummy year = one of seven groups in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.

Tables 6.1-6.3 provide empirical evidence to indicate whether or not firm performance has any sensitivity with executive compensation. This hypothesis is tested using the OLS in the first two columns of each executive compensation element. Column 3 of each panel provides the FE to treat the structure of the panel data which all the other variables are the same as in the OLS estimation but include ε_i that is the unobserved individual effect. This study approaches the three executive compensation matrices – salary, bonus and total compensation. Thus, this section begins the investigation with the salary, bonus, and total pay-performance sensitivity by controlling for size, industry and year effect.

Table 6.1 Regression results of the salary pay-performance sensitivity

This table reports the regression analysis to evaluate the pay-performance sensitivity using both OLS and FE estimation using model 1. The first column is dedicated to contemporaneous data of firm performance. The second column adds lagged performance. The third column controls for firm effects. EPS stands for earning per share; OCF stands for operation cash flow, where R is the stock returns. L. indicates the lagged value of these variables. The coefficient is reported in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity-consistent covariance. T-value is presented in brackets ( ). *, ** and *** denote the statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Salary		
	(1)	(2)	(3)
Intercept	-410387.37	-793678.26*	2537621.52
	(-1.25)	(-1.91)	(1.20)
EPS	1756.18	9824.38	19677.05
	(0.20)	(1.12)	(1.51)
OCF	-1063.16	-1476.25*	-1514.01
	(-1.65)	(-1.80)	(-1.20)
R	-4356.85***	-4942.57***	-4877.74***
	(-3.81)	(-3.62)	(-3.65)
L.EPS		18467.32	26570.06
		(1.34)	(1.34)
L.OCF		822.52	401.8
		(0.92)	(0.38)
L.R		6923.92***	7371.80***
		(4.05)	(3.95)
Lequity	39946.28*	65509.51**	-160154.19
	(1.67)	(2.12)	(-1.09)
Year	Yes	Yes	Yes
Industrial	Yes	Yes	Yes
R^2	0.06	0.12	0.15
Observation	521	396	396
Estimation	OLS	OLS	FE

Table 6.1 investigates the pay-performance sensitivity by controlling for size, industry and year effect. The number of observations is up to 521 in the case of contemporaneous performance and 396 in the case of contemporaneous and lagged performance. The correlation between the observations and their prediction value is low, at around 6%-15%. Column 1 reveals that contemporaneous stock return is negatively correlated with the executive salary highly statistical significance. Column 2 and 3 confirms early finding and adds that the lagged R coefficient is positively and statistically highly significant with executive salary. This finding confirms most research in the area such as Jensen and Murphy (1990), and Gregg et al (2005). It also

confirms the Chinese early findings such as those of Mengistae and Xu (2004), Long and Kato (2006), and Buck et al (2008). Connelly et al (2010) add to the Thai evidence that pay-performance sensitivity for Thai executive managers exists. Also Malaysian evidence, Salim and Wan-Hussin (2009) use 476 Bursa Malay listed companies for years 2003 to 2005. It reveals that contemporaneous stock returns had no influence while lag stock returns had a positively influence on Malaysian executive total compensation. Based on the existing evidence, Hypothesis 1.1, which predicts that firm performance has a positive relationship with executive salary, has not been rejected.

Table 6.2 Regression results of the bonus pay-performance sensitivity

This table reports the regression analysis to evaluate the pay-performance sensitivity using model 1. The first column is dedicated to contemporaneous data of firm performance. The second column adds lagged performance. The third column controls for firm effects. EPS stands for earning per share; OCF stands for operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. The coefficient is reported in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity-consistent covariance. T-value is presented in brackets ( ). * denotes the statistical significance at 10%.

Independent variable	Dependent variable: Bonus		
	(1)	(2)	(3)
Intercept	-24785.40	254740.40	2534470
	(-0.13)	(0.69)	(0.70)
EPS	27076.29*	27466.21*	38219.81*
	(1.73)	(1.70)	(1.71)
OCF	909.38	75.62	2.40
	(0.57)	(0.08)	(0.00)
R	-2195.68	-2602.81	-2052.26
	(-1.19)	(-1.27)	(-1.22)
L.EPS		10546.49	18854.67
		(0.81)	(1.07)
L.OCF		1258.10	467.75
		(1.59)	(0.57)
L.R		-2221.52	-1749.75
		(-0.95)	(-0.87)
Lequity	3246.81	-19118.90	-183832
	-0.23	(-0.65)	(-0.71)
Year	Yes	Yes	Yes
Industrial	Yes	Yes	Yes
R^2	0.02	0.06	0.04
Observation	521	396	396
Estimation	OLS	OLS	FE

Table 6.2 investigates the pay-performance sensitivity by controlling for size, industry and year effect. The number of observations is up to 521 in the case of contemporaneous performance and 396 in the case of contemporaneous and lagged performance. Column 1 shows EPS coefficient is positively and statistically significant but significant at 10% with the executive bonus. The result is confirmed in column 2 and column 3. However, the correlation between the observations and their prediction value is low, at around 2%-6%.

the sensitivity between executive pay and EPS as a firm performance sensitivity finding confirms Sitthiharn (2006), Puttaphiwat (2007) and Kaewkumson (2009) all found that EPS influences executive total pay. It also confirms the Chinese early findings such as Mengistae and Xu (2004) show a positive relation between executive compensation and accounting performance in Chinese state-owned enterprises. Long and Kato (2006) found that executive compensation has positive relationships with shareholder value. Buck et al (2008) confirm the positive relationships between executive compensation and accounting performance in Chinese listed companies from 2000 to 2003. As far as market structure is concerned, EPS evidence provides supportive evidence to the view of pay-performance sensitivity from the standpoint of Anglo-Saxon culture. However, the significance level is low at 10%. Therefore, Hypothesis 1.2, which predicts that firm performance has a positive relationship with executive bonus, has been rejected. Further pay-performance sensitivity has been explored against the rule of executive total compensation and firm performance.

Table 6.3 Regression results of the total pay-performance sensitivity

This table reports the regression analysis to evaluate the pay-performance sensitivity using model1. The first column is dedicated to contemporaneous data of firm performance. The second column adds lagged performance. The third column controls for firm effects. EPS stands for earning per share; OCF stands for operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. The coefficient is reported in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity-consistent covariance. T-value is presented in brackets ( ). *, ** and *** denote the statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Total compensation		
	(1)	(2)	(3)
Intercept	-710913*	-623711	4917812
	(-1.83)	(-0.99)	(1.05)
EPS	26918.95	32932.15	54862.73*
	(1.31)	(1.64)	(1.71)
OCF	395.22	-1240.49	-1360.83
	(0.21)	(-0.98)	(-0.78)
R	-6902.42***	-8104.93***	-7489.44***
	(-3.01)	(-3.25)	(-3.27)
L.EPS	51616.92*	44836.35	-340996
	(1.70)	(0.98)	(-1.07)
L.OCF		29109.46	46073.38
		(1.17)	(1.28)
L.R		2374.82*	1227.37
		(1.92)	(0.89)
Lequity		4332.73	5292.32*
		(1.39)	(1.68)
Year	Yes	Yes	Yes
Industrial	Yes	Yes	Yes
R^2	0.04	0.08	0.07
Observation	521	396	396
Estimation	OLS	OLS	FE

Table 6.3 investigates the pay-performance sensitivity by controlling for size, industry and year effect. The number of observations is up to 521 in the case of contemporaneous performance and 396 in the case of lagged performance. Column 1 shows that firm performance is negative but highly significant correlated with the executive total compensation. Column 2 provides further evidence that R coefficient is still negative and statistically significant at 1% with executive total compensation. Column 3 of the table above confirms the early finding that R is negatively significant at 1% correlated with the

executive total compensation. The correlation between the observations and their prediction value is low, at around 4%-8%.

The result verifies the existing evidence such as Gregg et al (1993), Thakaew (2006) and Duffhues and Kabir (2008), which found that firm performance has a negative influence on executive compensation. However, the result goes against the basic idea that the remuneration committee set a reward system using firm performance as a simple target setting because every falling of stock return brings better executive compensation pay to executive managers. It also aligns with Kubo (2000) who found that Japanese director (total) pay has no relationship with shareholder's return while British director compensation is positively correlated with firm performance. Also, the Stock Exchange of Thailand (2007) uses two cross-sectional data sets between 2005 and 2006 which provides that Thai listed companies do not pay compensation to their executives based on accrual accounting and stock performance. Wang and Stammerjohan (2004) also report that size and industry are the only factors that determine executive compensation pay in Chinese listed companies. It also supports Unite et al (2008), which reports that size is the key factor determining executive pay in the Philippines. Recently, Zhou et al (2011) provided evidence that firm size is the only factor determining the Chinese executive pay. Also, Indonesia evidence by Oviantari (2011) suggests that firm size is the only factor that plays a key role on director compensation pay. Therefore, Hypothesis 1.3, which predicts that firm performance has a positive relationship with executive total compensation, has been rejected. This result leads to further suspicion that the alignment between firm performance and executive compensation is influenced by the different structures of ownership.

6.2 The role of ownership structure on the pay-performance sensitivity

Since the form of separation between ownership and control is different from the standard Agency model, this section provides empirical evidence for Hypothesis 2 that ownership structure moderates the pay-performance sensitivity. The three measures of executive compensation are salary, bonus and total compensation. The three performance measures are EPS, OCF and R. This chapter aims to find the pay-performance sensitivity, using the methodology stated in Chapter 4. This section is structured in three sections. The first section presents regression results of ownership structure as the moderator of salary pay-performance sensitivity. Section two provides regression results of ownership structure as the moderator of bonus pay-performance sensitivity. The third section provides Regression results of ownership structure as moderator of total pay-performance sensitivity. Regarding ownership structure, the next stage is to obtain empirical evidence on the way in which ownership structure influences the pay-performance sensitivity. It shows the variables which are expected to be important in explaining the variation in executive compensation from firm to firm. The role of size and industry are controlled for. The empirical model is called model 2:

$$\Delta(\text{Executive compensation})_{it} = \beta_0 + \beta_1(\text{family ownership})_{it} + \beta_2(\text{corporate ownership})_{it} + \beta_3(\text{foreign ownership})_{it} + \beta_4 \Delta(\text{FAMEPS})_{It} + \beta_5 \Delta(\text{COREPS})_{It} + \beta_6 \Delta(\text{FOREPS})_{It} + \beta_7 \Delta(\text{DISEPS})_{It} + \beta_8 \Delta(\text{FAMOCF})_{It} + \beta_9 \Delta(\text{COROCF})_{It} + \beta_{10} \Delta(\text{FOROCF})_{It} + \beta_{11}\Delta(\text{DISOCF})_{It} + \beta_{12} \Delta(\text{FAMR})_{It} + \beta_{13} \Delta(\text{CORR})_{It} + \beta_{14} \Delta(\text{FORR})_{It} + \beta_{15} \Delta(\text{DISR})_{it} + \beta_{16}(\text{Lequity})_{it} + \beta_{17}(\text{dummy industrial})_{it} + \beta_{18}(\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Executive compensation = executive salary, bonus, or total compensation
EPS = Earnings per share
OCF = Operation cash flow per share
R = Stock returns
Lequity = natural logarithm of equity
Family ownership = ownership structure where the first 20% of biggest shareholders are held by one family name
Corporate ownership = ownership structure where the first 20% of the biggest shareholders are classified as corporate shareholders
Foreign ownership = ownership structure where the first 20% of the biggest shareholders are classified as foreigner shareholders
FAMEPS = joint effect between earnings per share and family shareholder type of ownership structure
COREPS = joint effect between earnings per share and a corporate shareholder type of ownership structure
FOREPS = joint effect between earnings per share and a foreign shareholder type of ownership structure
DISEPS = joint effect between earnings per share and no concentration in the shareholder type of ownership structure
FAMOCF = joint effect between operation cash flow per share and a family shareholder type of ownership structure
COROCF = joint effect between operation cash flow per share and a corporate shareholder type of ownership structure
FOROCF = joint effect between operation cash flow per share and a foreign shareholder type of ownership structure
DISOCF = joint effect between operation cash flow per share and no concentration in the type of ownership structure
FAMR = joint effect between stock returns and a family shareholder type of ownership structure

CORR = joint effect between stock returns and a corporate shareholder type of ownership structure

FORR = joint effect between stock returns and a foreign shareholder type of ownership structure

DISR = joint effect between stock returns and no concentration in the shareholder type of ownership structure

Dummy industrial = one of eight groups which a listed company may belong to: Industry, Mining and quarrying, Real estate, Financial institutions, Service, Technology, Construction, Agricultural products and the Market for Alternative Investment: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy year = one of seven years for which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise

β_0 = intercept term

β_1 - β_{18} = Slope coefficients

ε = random error term

i = the i^{th} firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Tables 6.4 – and6.5 investigate the effects of ownership structure on the relationship between executive salary and firm performance. It is expected that this regression analysis on the link between executive salary and firm performance will be moderated by ownership structure. The next two tables examine the influence of ownership structure on the relationship between executive bonus and firm performance. Then, Tables 6.8 and 6.9 test the influence of ownership structure on the relationship between firm performance and executive total compensation. Thus, this section begins the investigation of the role of ownership structure with the executive salary, bonus, and then total pay-performance by controlling for size, industry and year effect.

Table 6.4 Regression results of ownership structure as moderating of executive salary pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive salary by using model 2. The first two columns deploy OLS estimation. The third column controls for firm effects. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Salary		
	(1)	(2)	(3)
Intercept	-359158.72	-625990.56	3130431.24
	(-1.12)	(-1.52)	(1.35)
FAM	13939.52	-1825.01	390449.29*
	(0.31)	(-0.04)	(1.72)
COR	-31250.05	-15721.95	-115973.36
	(-0.58)	(-0.22)	(-0.33)
FOR	-197154.85*	-151039.86	130629.8
	(-1.79)	(-1.55)	(0.59)
FAMEPS	-21440.62	-12208.18	-12047.28
	(-0.64)	(-0.34)	(-0.31)
COREPS	12486.01	11400.28	25812.33
	(1.01)	(1.04)	(1.39)
FOREPS	-47604.54	69323.36	66427.96**
	(-1.37)	(1.56)	(2.18)
DISEPS	-6438.09	-2929.02	-848.26
	(-0.55)	(-0.19)	(-0.04)
FAMOCF	-1703.06**	-2334.75**	-2084.44
	(-2.44)	(-2.12)	(-1.27)
COROCF	-1617.85	-1852.99	-4521.07
	(-1.07)	(-0.97)	(-1.30)
FOROCF	-1040.96	-2803.53	-2111.94
	(-0.50)	(-1.05)	(-0.89)
DISOCF	2169.49	543.49	1694.63
	(1.23)	(0.38)	(1.06)
FAMR	-9945.42	-8202.34	-3372.72
	(-1.42)	(-0.99)	(-0.31)
CORR	-4213.1	-6076.2	-6021.37
	(-0.87)	(-0.66)	(-0.65)
FORR	-9516.08	-8276.33	-18474.87
	(-0.78)	(-0.88)	(-1.12)
DISR	-3885.97***	-4358.58***	-5286.02***
	(-4.53)	(-4.01)	(-12.61)

Independent variable	Dependent variable: Salary		
	(1)	(2)	(3)
L.FAMEPS		62429.19*	74472.01**
		(1.68)	(2.01)
L.COREPS		12805.86	20962.5
		(0.64)	(0.70)
L.FOREPS		75262.55***	78395.40***
		(3.44)	(3.66)
L.DISEPS		5708.29	8744.71
		(0.45)	(0.67)
L.FAMOCF		269.29	48.34
		(0.19)	(0.04)
L.COROCF		1300.61	-1179.81
		(1.05)	(-0.56)
L.FOROCF		-2608.99	-2649.45
		(-0.88)	(-0.87)
L.DISOCF		3083.35	4030.09
		(1.19)	(1.35)
L.FAMR		2216.01	14192.16
		(0.16)	(0.71)
L.CORR		9726.99	11231.02
		(1.07)	(0.94)
L.FORR		-4168.96	-8131.54
		(-0.24)	(-0.42)
L.DISR		6877.39***	6676.26***
		(5.82)	(4.82)
Lequity	41865.36*	58676.95*	-206776.09
	(1.82)	(1.96)	(-1.29)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
R^2	0.08	0.15	0.17
Observation	521	396	396
Estimation	OLS	OLS	FE

In Table 6.4 the moderating effects of ownership structure on the influence of firm performance on executive salary are analysed. The number of observations ranges from 396 to 521 data firms (depending on the amount of data which are required in each equation). Since the results of the regression analyses indicate that the OLS and FE regression are not represent the raw data very well, further investigation into the detail of estimations provides a better opportunity to understand the issue.

Column 1 indicates that executive salary is influenced by a particular type of ownership structure on a specific type of firm performance, size, industry and year. The interaction effect indicates that the contemporary R coefficient is negatively and statistically significant at 5% on executive salary in the case of dispersed-owned firms. Also, the contemporary OCF coefficient is negatively and statistically significant at 5% on executive salary in the case of family-owned firms. Further investigation using lagged firm performance in Column 2 confirms early findings. It adds that lagged EPS coefficient is negative and statistically significant at 5% on executive salary in the case of foreign ownership; lagged R coefficient is positively and statistically significant at 5% on executive salary in the case of dispersed-owned firms. Column 3 deploys FE estimation, which confirms most of early findings in Column 2. This finding aligns with early Thai findings such as Sitthiharn (2006), for instance, who examined 292 Thai listed companies in 2004, indicate that EPS is a statistically significant link with compensation pay in both the financial and non-financial sectors. Puttaphiwat (2007) used 337 listed companies in SET in 2006, and also found that EPS has a positive relationship with executive compensation in the consuming, industrial and real estate sectors. Kaewkumson (2009) used 432 Thai listed companies and reported pay-performance sensitivity in the capital market.

The foreign ownership results align with early studies such as Firth et al (2006), who stated that foreign investors are likely to exert pressure on the firm to adopt a pay-performance sensitivity scheme. Using year 1998 to 2000 data from the Taiwan Stock Market, the study found the positive role of foreign ownership in the relationship between executive compensation and firm performance. The authors state that foreign investors are in favoured because they have a wider choice of investment and it is more likely that it will be a firm with good corporate governance, one characteristic of which is the close link between compensation and firm performance. Thus, it logically follows that performance sensitivity in foreign investments is likely to be higher than in domestic investments.

Table 6.5 Regression results of ownership structure as moderating of executive salary pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive salary using model 2. Each column deals with the endogeneity issue using the instrumental variable in 2SLS estimation. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent Variable	Dependent variable: Salary			
	(1)	(2)	(3)	(4)
Intercept	16667928.62	-548183.91*	-464198.35	66216949.34
	(0.08)	(-1.75)	(-1.35)	(0.07)
EPS			2025.26	-853938.43
			(0.23)	(-0.08)
OCF		-1685.57*		-94912.84
		(-1.93)		(-0.08)
R		-5489.65***	-5325.56***	
		(-3.79)	(-4.25)	
FAM	1122062.56	11300.4	15306.28	-679216.12
	(0.27)	(0.19)	(0.30)	(-0.02)
COR	3153907.18	-32973.09	-16582.27	26622961.63
	(0.05)	(-0.49)	(-0.25)	(0.08)
FOR	18985261.96	-185560.01*	-219145.2*	13967252.15
	(0.10)	(-1.70)	(-1.84)	(0.07)
FAMEPS	-5767743.23	-442775.38		
	(-0.16)	(-1.07)		
COREPS	-1093435.12	-28803.1		
	(-0.04)	(-0.37)		
FOREPS	1508177.88	-98469.32*		
	(0.10)	(-1.93)		
DISEPS	-752321.85	-46696.83		
	(-0.34)	(-0.41)		
FAMOCF	-9549.12		-1831.23	
	(-0.02)		(-0.63)	
COROCF	-71820.67		-4649.20**	
	(-0.05)		(-2.04)	
FOROCF	-485439.3		-332.71	
	(-0.10)		(-0.07)	
DISOCF	84229.74		-2998.26	
	(0.10)		(-0.57)	
FAMR	1227760.44			-12800000

Independent Variable	Dependent variable: Salary			
	(1)	(2)	(3)	(4)
	(0.18)			(-0.07)
CORR	1272242.62			12511019.02
	(0.04)			(0.07)
FORR	5402556.31			-782441.25
	(0.11)			(-0.08)
DISR	-128522.42			-856015.66
	(-0.17)			(-0.09)
Lequity	-1153999.82	56802.74***	52255.72**	-6889228.64
	(-0.07)	(2.39)	(2.05)	(-0.07)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	.	.	0.08	.
Observation	396	449	455	401
Estimation	2SLS	2SLS	2SLS	2SLS

This table provides evidence that stock return has a negative impact on executive salary pay. This finding is confirmed through out the estimations. Furthermore, OCF has a negative impact on executive salary pay in corporate-owned firm at 5% statistically significant. However, this finding is not robust through out the estimation.

The result supports Unite et al (2008); that size is the key determining factor of executive pay in the Philippines. Recently, Zhou et al (2011) provided evidence that firm size is the only factor that determines the Chinese executive pay. Also, Oviantari (2011) suggests that firm size is the only factor that played a key role in Indonesian director compensation during 2008-2009. Therefore, Hypothesis 2.1 is rejected because that is no evidence on how ownership structure moderates the pay-performance sensitivity. The next table (Table 6.6) provides empirical evidence on the way in which executive bonus relates to firm performance using ownership structure as the moderation variable.

Table 6.6 Regression results of ownership structure as moderating of executive bonus pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive bonus using model 2. The first two columns deploy OLS estimation. The third column controls for firm effects. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Bonus		
	(1)	(2)	(3)
Intercept	90750.63	498841.16	3694331.61
	(0.43)	(1.06)	(0.85)
FAM	36496.87	213627.53	200165.61
	(0.74)	(1.36)	(1.10)
COR	-21027.03	195715.44	-16908.62
	(-0.31)	(0.89)	(-0.12)
FOR	178882.91	486639.88	-618536.49**
	(1.34)	(1.38)	(-2.04)
FAMEPS	-27126.15	25737.51	31786.97
	(-0.71)	(0.67)	(0.98)
COREPS	18092.58	19135.96	27604.67
	(1.40)	(1.13)	(1.08)
FOREPS	-19261.72	15158.4	52045.69
	(-0.73)	(0.37)	(1.56)
DISEPS	66143.81**	58080.09***	63247.11***
	(2.33)	(2.49)	(2.36)
FAMOCF	-290.65	-706.19	-1315.16
	(-0.33)	(-0.80)	(-1.07)
COROCF	-913.73	-638.67	-1655.58
	(-0.50)	(-0.32)	(-0.64)
FOROCF	562.16	2626.41	771.7
	(0.25)	(1.00)	(0.30)
DISOCF	7876.24	1018.81	1979.95
	(0.84)	(0.40)	(0.59)
FAMR	-4093.76	-4909.58	-3504.82
	(-0.80)	(-0.66)	(-0.31)
CORR	-2486.75	-2806.13	-4210.91
	(-0.95)	(-1.10)	(-1.59)
FORR	-4997.09	7006.94	-66471.41**
	(-0.66)	(0.81)	(-2.32)
DISR	-1135.67	-2870.51	-1315.25
	(-0.70)	(-0.96)	(-0.76)

Independent variable	Dependent variable: Bonus		
	(1)	(2)	(3)
L.FAMEPS		48147.9	56795.85
		(1.31)	(1.35)
L.COREPS		12608.5	18873.01
		(0.62)	(0.68)
L.FOREPS		30129.65	48081.97***
		(1.21)	(3.09)
L.DISEPS		1983.09	-7164.61
		(0.13)	(-0.32)
L.FAMOCF		700.3	-77.86
		(0.70)	(-0.09)
L.COROCF		1451.37	-449.52
		(0.80)	(-0.21)
L.FOROCF		5762.55	448.17
		(1.55)	(0.19)
L.DISOCF		-2365.54	-588.42
		(-0.81)	(-0.29)
L.FAMR		3915.37	7373.88
		(1.11)	(1.01)
L.CORR		2762.86	2507.05
		(0.57)	(0.41)
L.FORR		-43778.87	-94220.54***
		(-1.13)	(-2.50)
L.DISR		-3708.8	-2464.3
		(-0.95)	(-0.82)
Lequity		48147.9	56795.85
		(1.31)	(1.35)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
R^2	0.04	0.10	0.09
Observation	521	396	396
Estimation	OLS	OLS	FE

Table 6.6 presents an analysis of the moderating role of ownership structure on the executive bonus pay-performance sensitivity. The number of observations range from 396 to 521 data firms (depending on the amount of data which are required in each equation). The results of the regression analyses indicate that the OLS and FE regression do not represent the raw data very well (with a range of R^2 from 0.04 – 0.10). However, the FE with instrumental variables show limitations over the estimation due to using lagged performance as the IV. Further investigation into the detail of

estimations also provides an opportunity to better understand the issue. Column 1 indicates that only the EPS coefficient is positive and statistically significant at the level of 5% with executive bonus when the only ownership structure is dispersed. Further OLS estimation using both contemporaneous and lagged firm performance confirms the early findings. Column 3 confirms the early findings and adds that the EPS coefficient is positive and statistically significant at 1% with executive bonus in foreign ownership.

This section provides supportive evidence that ownership structure moderates the pay-performance sensitivity. It indicates that dispersed and foreign ownership positively influences the relationship between firm performance (EPS) and executive bonus. The executive pay and EPS as firm performance sensitivity finding supports Leone et al (2006), who detect the sensitivity of cash compensation to EPS. Mengistae and Xu (2004) report pay-performance sensitivity, particularly in Chinese state-owned enterprises. Buck et al (2008) reveal the pay- performance sensitivity in 601 Chinese listed companies from 2000 to 2003.

It provides further empirical evidence that foreign ownership structure has a positive effect on executive compensation. These results align with early study such as Firth et al (2006) who has stated that in cross border investment, foreign investors are likely to exert pressure on the firm to adopt a pay-performance within executive compensation system. The authors state that foreign investors are in favour of this because they have a wider choice of investments and it is more likely that it will be a firm with good corporate governance, one characteristic of which is the close link between compensation and firm performance.

Table 6.7 Regression results of ownership structure as moderating of executive bonus pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive bonus using model 2. Each column deals with the endogeneity issue using the instrumental variable in 2SLS estimation. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Bonus			
	(1)	(2)	(3)	(4)
Intercept	-21900000	258692	393145	-10800000
	(-0.09)	(0.69)	(0.98)	(-0.06)
EPS			27405.51*	216762.68
			(1.78)	(0.10)
OCF		-112.22		21690.87
		(-0.12)		(0.09)
R		-2981.37	-2926.05	
		(-1.56)	(-1.51)	
FAM	-376703.75	168964.63	172543.62	-108145.2
	(-0.08)	(1.16)	(1.29)	(-0.02)
COR	-1709595	139979.11	145532.31	-5055991.76
	(-0.02)	(0.68)	(0.74)	(-0.07)
FOR	-26500000	432775.33	438934.85	-753551.25
	(-0.14)	(1.51)	(1.59)	(-0.02)
FAMEPS	5547848.68	-531627.71		
	(0.15)	(-1.14)		
COREPS	379674.87	-30781.68		
	(0.01)	(-0.45)		
FOREPS	-2408251.46	-52910.03		
	(-0.15)	(-1.34)		
DISEPS	741871.5	41256.6		
	(0.31)	(0.50)		
FAMOCF	322.61		(1.82)	
	(0.00)		(-0.00)	
COROCF	13180.91		-1694.98	
	(0.01)		(-0.52)	
FOROCF	692651.68		-6596.37	
	(0.15)		(-1.60)	
DISOCF	-117480.24		351.18	
	(-0.13)		(0.08)	
FAMR	-881496.23			2624325.65
	(-0.10)			(0.07)

Independent variable	Dependent variable: Bonus			
	(1)	(2)	(3)	(4)
CORR	-636023.2			-2197356.31
	(-0.02)			(-0.06)
FORR	-7676534.43			776996.55
	(-0.15)			(0.31)
DISR	78945.19			243805.21
	(0.08)			(0.12)
Lequity	1509190.4	-26834.76	-36690	1219123.6
	(0.09)	(-0.76)	(-1.00)	(0.06)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	.	.	0.05	.
Observation	396	449	455	401
Estimation	2SLS	2SLS	2SLS	2SLS

This table further investigates the effects of ownership structure on the pay-performance sensitivity, using OLS with the instrumental variable of 2SLS in order to treat the endogeneity issue. No evidence has been found when this sophisticated estimation is deployed. Thus, Hypothesis 2.2 cannot be rejected because the higher EPS in dispersed ownership will higher bonuses to their executive managers. The next table (Table 6.8) provides empirical evidence on the pay-performance sensitivity in the case of total compensation, using ownership structure as the moderating variable.

Table 6.8 Regression results of ownership structure as moderating of the executive total pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive total compensation using model 2. The first two columns deploy OLS estimation. The third column controls for firm effects. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. L. indicates the lagged value of these variables. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Total compensation		
	(1)	(2)	(3)
Intercept	-398342	-145237.11	7238515.57
	(-0.89)	(-0.20)	(1.28)
FAM	38615.48	197897.26	467553.89*
	(0.62)	(1.34)	(1.74)
COR	-46468.1	195197.9	-280687.22
	(-0.60)	(0.90)	(-0.76)
FOR	-11466.83	114987.44	-300554.03
	(-0.08)	(0.39)	(-0.62)
FAMEPS	-51046.93	17540.53	22270.04
	(-0.93)	(0.34)	(0.41)
COREPS	29869.25	29312.98	55110.9
	(1.46)	(1.38)	(1.31)
FOREPS	-75185.49	54630.85	94807.54
	(-1.37)	(0.64)	(1.43)
DISEPS	56097.12	44322.62	50373.33
	(1.38)	(1.04)	(0.95)
FAMOCF	-2109.19	-3028.13*	-3180.11
	(-1.63)	(-1.94)	(-1.37)
COROCF	-2479.31	-2309.45	-6539.19**
	(-1.01)	(-0.95)	(-2.23)
FOROCF	4506.71	-1420.76	-2505.65
	(1.04)	(-0.33)	(-0.67)
DISOCF	9923.07	1420.18	3631.81
	(1.03)	(0.48)	(0.97)
FAMR	-16451.62*	-17529.27	-12243.51
	(-1.75)	(-1.50)	(-0.84)
CORR	-8063.56	-10431.48	-12142.23
	(-1.22)	(-0.92)	(-1.07)
FORR	-13343.46	-8795.47	-114697.89***
	(-0.59)	(-0.43)	(-3.00)
DISR	-5075.01***	-7372.47***	-6568.41***
	(-2.52)	(-2.62)	(-3.91)

Independent variable	Dependent variable: Total compensation		
	(1)	(2)	(3)
L.FAMEPS		109479.94*	126432.14**
		(1.95)	(2.10)
L.COREPS		25951.57	40389.56
		(0.69)	(0.73)
L.FOREPS		92582.38***	124219.46***
		(3.04)	(4.12)
L.DISEPS		7558.78	1315.99
		(0.27)	(0.05)
L.FAMOCF		1108.59	124.8
		(0.69)	(0.07)
L.COROCF		2646.8	-2378.85
		(1.10)	(-0.94)
L.FOROCF		4318.6	-428.76
		(0.84)	(-0.10)
L.DISOCF		570.41	3276.76
		(0.23)	(0.96)
L.FAMR		7926.23	22690.76
		(0.61)	(1.16)
L.CORR		11875.66	12945.39
		(0.91)	(0.76)
L.FORR		-137299.66	-192567.06**
		(-1.47)	(-2.18)
L.DISR		3068.2	4088.33
		(0.74)	(1.07)
Lequity	45713.97	11059.17	-496903.18
	(1.49)	(0.20)	(-1.26)
Industry	Yes	Yes	Yes
Year	Yes	Yes	Yes
R^2	0.05	0.12	0.16
Observation	521	396	396
Estimation	OLS	OLS	FE

Table 6.8 presents an analysis of the moderating role of ownership structure on the pay-performance sensitivity by controlling for size, industry and year effect. The number of observations ranges from 396 to 521 data firms. The results of the regression analyses indicate that the OLS and FE regression do not represent the raw data very well (with a range of R^2 from 0.05 – 0.16).

Column 1 indicates that executive total compensation is a function of stock return by statistics significant at 5%. Further OLS estimation in Column 2

confirms early finding and indicates that foreign ownership has a positive statistical influence at 5% on the rise in lagged EPS coefficient and the increase in the executive total compensation coefficient. Column 3 provides the FE estimation which confirms early findings, indicating that ownership structure plays a moderating role in the pay-performance sensitivity. This column also adds that family ownership has a positive statistical influence at 5% on the rise in lagged EPS coefficient and the increase in the executive total compensation coefficient.

These results align with early studies such as Firth et al (2006), who stated that foreign investors are likely to exert pressure on the firm to adopt a pay-performance sensitivity scheme. Using year 1998 to 2000 data from the Taiwan Stock Market, the study found the positive role of foreign ownership in the relationship between executive compensation and firm performance. The authors state that foreign investors are in favoured because they have a wider choice of investment and it is more likely that it will be a firm with good corporate governance, one characteristic of which is the close link between compensation and firm performance. Thus, it logically follows that performance sensitivity in foreign investments is likely to be higher than in domestic investments.

In addition, table 6.8 also provides further empirical evidences that being a family owner does tighten the pay-performance relationship, because it explicitly and implicitly involves the heads of families in monitoring their firm's wealth through the quasi-rents which relatives earn from employment in order to prevent poor management performance which might lead to a loss of the heads' control and wealth (DeAngelo and DeAngelo, 1985). The evidence supports Gomez-Mejia et al (2003) who empirically reported that family ownership took a positive part on driving American listed companies to set the firm performance as a criteria of executive pay during 1995-1998. Besides, Cheung et al (2005) showed that Hong Kong pay-performance sensitivity varies across the industry where family ownership does affect the

executive pay level. Sakawa and Watanabel (2009) also provided similar results by reporting that there is pay-performance sensitivity in Japanese listed companies where family ownership does affect the executive pay level. Kato et al (2007), using 246 Korean listed firms, revealed that the cash compensation of Korean executives correlates with stock returns in other ownership structures but not in family businesses. Connelly et al (2010) added that collective power of those holding ownership in family business allows them to monitor the manager directly; thus the pay-performance sensitivity for the executive managers should be stronger.

Table 6.9 Regression results of ownership structure as moderating of the executive total pay-performance sensitivity

This table reports the regression analysis to evaluate the effects of ownership structure on the influence of performance on executive total compensation using model 2. Each column deals with the endogeneity issue using the instrumental variable in 2SLS estimation. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. FAM is family-owned firm, COR is corporate-owned firm, and FOR is foreign-owned firm. The coefficient is shown in the first line of each variable. Lequity is natural logarithm of equity. The estimates are corrected for heteroskedasticity and consistent covariance. The T-value is presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: Total compensation			
	(1)	(2)	(3)	(4)
Intercept	10949391.43	-308273.3	-69781.3	96829039.72
	(0.03)	(-0.61)	(-0.13)	(0.08)
EPS			25932.12	-1083338.08
			(1.34)	(-0.08)
OCF		-1838.22		-121305.47
		(-1.22)		(-0.07)
R		-9005.57***	-8676.84***	
		(-3.50)	(-3.40)	
FAM	1028393.81	159598.09	172675.38	-1856607.23
	(0.17)	(1.02)	(1.35)	(-0.04)
COR	8397611.43	125466.83	151418.27	36376839.19
	(0.10)	(0.61)	(0.79)	(0.08)
FOR	163885.13	167472.13	155050.4	25260956.61
	(0.00)	(0.68)	(0.66)	(0.09)
FAMEPS	-1062357.78	-991020.87		
	(-0.02)	(-1.15)		
COREPS	-3951751.27	-63353.14		
	(-0.12)	(-0.45)		

Independent variable	Dependent variable: Total compensation			
	(1)	(2)	(3)	(4)
FOREPS	-472481.2	-140388.54**		
	(-0.01)	(-2.11)		
DISEPS	44573.65	-19115.02		
	(0.01)	(-0.09)		
FAMOCF	-56519.31		-2111.93	
	(-0.15)		(-0.55)	
COROCF	-242295		-6438.51	
	(-0.13)		(-1.48)	
FOROCF	58958.37		-9662.97	
	(0.01)		(-1.65)	
DISOCF	3298.83		-1845.05	
	(0.00)		(-0.35)	
FAMR	-49543.29			-17600000
	(-0.01)			(-0.07)
CORR	3885328.37			17385727.56
	(0.10)			(0.08)
FORR	-468393.52			874195.79
	(-0.00)			(0.06)
DISR	-135770.51			-1019706.92
	(-0.13)			(-0.08)
Lequity	-942377.72	31303.53	14746.39	-9813341.73
	(-0.03)	(0.73)	(0.33)	(-0.08)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	.	.	0.06	.
Observation	396	449	455	401
Estimation	2SLS	2SLS	2SLS	2SLS

This table further investigate the effects of ownership structure on the pay-performance sensitivity using OLS with the instrumental variable of 2SLS in order to treat the endogeneity. It provides no positive evidence that either the contemporaneous or lagged firm performance is positive and statistically significant at 5% with executive total compensation in any ownership structure. Thus, Hypothesis 2.3 is not rejected because the higher EPS in firms with family ownership has award on total compensation to their executive managers.

6.3 Chapter summary

This chapter provides empirical evidence which reveals that there is pay-performance sensitivity in Thai listed companies, which can be illustrated as follows:

Table 6.10 Summary of pay-performance sensitivity results

This table reports summary of the regression analysis of executive pay-performance sensitivity. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns.BON represents executive bonus, TOT shows executive total compensation. FAM stands family-owned firm, COR represents corporate-owned firm, FOR is foreign-owned firm, where DIS shows dispersed-owned firm.

Hypothesis	Independent variable	Dependent variables	Hypothesis testing
H1	EPS, OCF, R	Executive salary,	Not rejected
	EPS, OCF, R	Executive bonus	Rejected
	EPS, OCF, R	Executive total compensation	Rejected
H2	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	Executive salary,	Not rejected
	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	Executive bonus	Not rejected
	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	Executive total compensation	Not rejected

The first section reveals that there is executive pay-performance sensitivity in Thai listed companies. Section 2 provides evidence which aligns with that in the early part of this chapter which are that corporate ownership moderates OCF consequences of executive bonus, and the family-owned firm moderates the executive total pay-performance sensitivity.

CHAPTER 7

Research finding:

Subsequent firm performance

Early compensation studies were aware that it is important to understand whether or not executive compensation correlates with firm performance. The empirical examination of the pay-performance sensitivity began in the early 1990s but not much work has been done on the evidence of performance consequences of executive compensation (Heugens et al, 2009). Kabo (2000) provides Asian evidence. The study provides positive result which indicates that executive compensation causes company performance. The hypothesis development chapter indicates that executive compensation has a positive effect on firm performance where it also expects ownership structure to moderate the relationship. This study employs three performance measures which are EPS, OCF and stock returns. In additional, the earning management section will be supplementary to explore the unintended

consequences of executive compensation. Thus, this chapter is structured in four sections. The first section presents various regression analyses of the performance consequences of executive bonus. Section 2 presents various regression analyses of the performance consequences of executive total compensation. Section 3 presents regression analyses of the moderating effect of ownership structure on the performance consequences of executive compensation. Section 4 provides unintended consequences of executive compensation. The last section provides a summary of this chapter.

7.1 Performance consequences of executive bonus

This section aims to verify Agency theory; it is hoped in this section to find a positive influencing power of executive compensation over firm performance. The empirical model is called model 3a:

$$\Delta(\text{Firm performance})_{it} = \beta_0 + \beta_1 \Delta(\text{executive bonus})_{it} + \beta_2 (\text{Lequity})_{it} + \beta_3 (\text{dummy industrial})_{it} + \beta_4 (\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Firm performance = either EPS, OCF, or stock returns

β_0 = intercept term

$\beta_1 – \beta_4$ = Slope coefficients

ε = random error term

i = the i^{th} firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Executive bonus = Average bonus pay per executive manager

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups to which the listed company may belong: Manufacturing, Mining and quarrying, Real

estate and construction, Finance and insurance, Services, Technology, Consumer product, Agricultural and food products and Medium-sized enterprises: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy Year = one of seven groups in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise

The hypotheses are tested using the OLS in the first two columns of each executive compensation element. Column 3 of each panel provides the FE to treat the structure of the panel data. All the other variables are the same as in the OLS estimation but include ε_i which is the unobserved individual (firm) effect. This study introduces the IV variable in 2SLS estimation in order to treat the endogeneity issue, shown in Column 4. In order to better understand how executive compensation influences the performance, this study approaches the three performance matrices – EPS, OCF and R. Thus, this section begins the investigation with the effects of the executive compensation on the determinants of EPS by controlling for size, industry and year effect. Next, the OCF consequences of executive compensation are investigated. The last panel investigates the R consequences of executive compensation.

Table 7.1 Regression results of EPS consequences of executive bonus

This table reports the regression analysis to evaluate the performance consequences of executive bonus using model 3a. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: EPS			
	(1)	(2)	(3)	(4)
Intercept	-1.2700	-0.4360	-1.9210	0.0000
	(-1.14)	(-0.37)	(-0.28)	(0.00)
Bonus	0.0000	0.0000	0.0000	0.0000
	(-1.10)	(-1.39)	(-1.51)	(-0.19)
L.bonus		0.0000	0.0000	
		(-0.12)	(-0.86)	
Lequity	0.0820	0.0300	0.1490	0.0100
	(1.09)	(0.37)	(0.30)	(0.40)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0520	0.0500	0.0250	0.0490
Observation	602	484	484	484
Estimation	OLS	OLS	FE	2SLS

Table 7.1 begins the investigation with the affects of the executive bonus on the determinants of EPS by controlling for size, industry and year effect. The number of observations ranges from 484 in the FE estimation to 602 in the Poole-OLS estimation. This indicates that most of the regressions moderately represent the raw data (with a range of R^2 from 0.0250 – 0.0520). Column 1 shows the estimation of contemporaneous compensation with EPS using OLS estimation. It indicates that there is no evidence supporting the assumption which believes that there are performance consequences of executive compensation. Column 2 puts in the lagged executive bonus but, there too, no evidence supports the claim. Column 3 deploys an FE estimation whereas Column 4 deploys 2SLS-IV. The findings support all the earlier results in showing

that no evidence supports the performance (EPS) consequences of the executive bonus.

The table above provides no further evidence of EPS consequences of executive compensation. Ittner et al (1997) state that the performance consequences of compensation may not exist because of a large number of factors which all influence executive compensation practice and this makes it even more difficult to compare the role of compensation across firms. This trialling shows that neither the executive bonus nor executive total compensation coefficient is statistically significant with EPS. Consequently, Hypothesis 3.1 has been rejected, because no evidence suggests that executive compensation has any performance consequences.

Table 7.2 Regression results of OCF consequences of executive bonus

This table reports the regression analysis to evaluate the performance consequences of executive total compensation using model 3a. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: OCF			
	(1)	(2)	(3)	(4)
Intercept	2.5790	11.2323	-111.818	0.0000
	(0.23)	(0.99)	(-0.76)	(0.00)
Bonus	0.0000	0.0000	0.0000	0.0000
	(-1.09)	(-0.04)	(0.25)	(0.02)
L.bonus		0.0000	0.0000	
		(-0.07)	(-0.11)	
Lequity	-0.2354	-0.1684	7.9358	0.5664**
	(-0.36)	(-0.22)	(0.76)	(2.19)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0167	0.0208	0.0125	0.0199
Observation	615	497	497	497
Estimation	OLS	OLS	FE	2SLS

Table 7.2 begins the investigation with the effects of the executive bonus on OCF consequences by controlling for size, industry and year effect. The number of observations ranges from 497 in the FE estimation to 615 in the Poole-OLS estimation. The table indicates that most of the regressions moderately represent the raw data (with a range of R^2 only from 0.0167 – 0.0208). Column 1 indicates the finding that bonus has no influence on the level of the current operation cash flow. Column 2 confirms that neither the contemporaneous nor the lagged bonus has an influence on net operation cash flow. The FE and 2SLS estimations provide no evidence that the bonus influences earnings per share. Inconsistent with Hypothesis 3.2, experimentation showed that executive bonus has no influence on operation cash flow.

Table 7.3 Regression results of stock returns consequences of executive bonus

This table reports the regression analysis to evaluate the performance consequences of executive bonus using model 3a. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: stock returns			
	(1)	(2)	(3)	(4)
Intercept	0.3002	-3.7386	47.9016	0.0000
	(0.05)	(-0.62)	(1.15)	(0.00)
Bonus	-0.0000***	-0.0000***	-0.0000*	-0.0000***
	(-2.99)	(-2.62)	(-1.73)	(-2.69)
L.bonus		0.0000***	0.0000***	
		(6.92)	(7.56)	
Lequity	0.2804	0.0159	-3.5802	-0.2061
	(0.74)	(0.04)	(-1.23)	(-0.97)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0233	0.0209	0.0162	.
Observation	543	475	475	475
Estimation	OLS	OLS	FE	2SLS

Table 7.3 begins the investigation with the effects of the executive bonus on the determinants of R by controlling for size, industry and year effect. The number of observations ranges from 475 in the FE estimation to 543 in the Poole-OLS estimation. The table shows the results of the stock returns regression analyses which indicate that most of the regressions moderately represent the raw data (with a range of R^2 from 0.0162 – 0.0233. Column 1 is the estimation of contemporaneous compensation with stock returns, using OLS estimation. It indicates that bonus has a negative effect on the presenting of stock returns at 1%. Column 2 adds lagged compensation using the same estimation. The early evidence has been confirmed but added that lagged bonus having a positive effect on stock returns. The FE estimations support the earlier result that there is evidence to support the stock returns consequences of an executive bonus. Column 4 confirms the early findings that lagged bonus has a positive while contemporaneous bonus has a negative effect on the presenting of stock returns at 5%.

this finding aligns with Anderson et al (2000) who investigated the relationship between executive compensation and contemporaneous stock returns which leads to their conclusion that incentive pay leads to a positive effect on firm performance. Along with Conyon et al (2000) who indicate that stock returns is preferred since at least two supplementary reasons are given; it reflects the expectation of shareholders and the efficient market hypothesis that share prices can intermediately reflect executive actions. Consistent with Hypothesis 3.3, experimentation showed that executive bonus and total compensation have power over firm performance.

7.2 Performance consequences of executive total compensation

This section aims to trace the performance consequences of executive pay. In order to verify Agency theory, it is hoped in this section to find a positive influencing power of executive total compensation over firm performance. The empirical model is called model 3b:

$$\Delta(\text{Firm performance})_{it} = \beta_0 + \beta_1 \Delta(\text{executive total compensation})_{it} + \beta_2 (\text{Lequity})_{it} + \beta_3 (\text{dummy industrial})_{it} + \beta_4 (\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Firm performance = either EPS, OCF, or R

β_0 = intercept term

$\beta_1 – \beta_4$ = Slope coefficients

ε = random error term

i = the i^{th} firm, i = 1,2,3 … 124 and

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008.

Executive total compensation = average total compensation per manager

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups to which the listed company may belong: Manufacturing, Mining and quarrying, Real estate and construction, Finance and insurance, Services, Technology, Consumer product, Agricultural and food products and Medium-sized enterprises: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy Year = one of seven groups in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.

In order to better understand how executive compensation has an impact on performance consequences, this study approaches the three main performance matrices - earning per share, net operation cash flow and stock returns - by providing the following three tables. The first table represents the role of executive pay on the earning per share consequences. The next table provides the role of executive pay on operation cash flow consequences. The last table provides the role of executive pay on stock returns consequences.

The hypotheses are tested using the OLS in the first two columns of each executive compensation element. Column 3 of each panel provides the FE to treat the structure of the panel data. All the other variables are the same as in the OLS estimation but include ε_i which is the unobserved individual (firm) effect. This study introduces the IV variable in 2SLS estimation in order to treat the endogeneity issue, shown in Column 4. In order to better understand how executive compensation influences the performance, this study considers the three performance matrices – EPS, OCF and stock returns. Thus, this section begins the investigation with the effects of the executive compensation on the determinants of EPS by controlling for size, industry and year effect. Next, the OCF consequences of executive compensation are investigated. The last panel investigates the stock returns consequences of executive pay.

Table 7.4 Regression results of EPS consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 3b. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: EPS			
	(1)	(2)	(3)	(4)
Intercept	-1.7150	-0.3800	-1.5200	-0.2030
	(-1.61)	(-0.31)	(-0.22)	(-0.18)
Total	0.0000	0.0000	0.0000*	0.0000
	(-0.93)	(-1.46)	(-1.84)	(-0.51)
L.total		0.0000	0.0000	
		(0.21)	(-0.03)	
Lequity	0.0770	0.0220	0.1280	0.0160
	(1.01)	(0.26)	(0.26)	(0.20)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0520	0.0480	0.0220	0.0460
Observation	600	481	481	481
Estimation	OLS	OLS	FE	2SLS

Table 7.4 begins the investigation with the effects of the executive total compensation on the determinants of EPS by controlling for size, industry and year effect. The number of observations ranges from 481 in the FE estimation to 600 in the Poole-OLS estimation. It indicates that most of the regressions moderately represent the raw data (with a range of R^2 from 0.022 – 0.052). It provides empirical evidence on how executive total compensation affects EPS. The first two columns provide the OLS estimations. No evidence has been found. However, when the FE estimation is deployed, the table indicates that the total compensation coefficient is positive and statistically significant but at 10% with EPS. However, the last column confirms the earlier evidence that there is no EPS consequence of executive bonus. Thus, there is insufficient evidence to claim that is EPS consequences of executive compensation. This finding aligns with Leonard (1990) and Hogan and Lewis (2001) who also

found no EPS consequences of executive compensation. Consequently, Hypothesis 3.1 has been rejected, because no evidence suggests that executive compensation has any performance consequences.

Table 7.5 Regression results of OCF consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 3b. Column 1-2 are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: OCF			
	(1)	(2)	(3)	(4)
Intercept	2.3745	3.6466	-118.813	11.6517
	(0.21)	(0.31)	(-0.80)	(0.99)
Total	0.0000	0.0000**	0.0000**	0.0000
	(0.23)	(2.08)	(2.13)	(-0.51)
L.total		0.0000	0.0000	
		(0.91)	(0.93)	
Lequity	-0.2172	0.1538	8.5333	-0.3113
	(-0.34)	(0.20)	(0.82)	(-0.36)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.016	0.0294	0.0237	.
Observation	613	494	494	494
Estimation	OLS	OLS	FE	2SLS

Table 7.5 begins the investigation with the effects of the executive total compensation on OCF consequences by controlling for size, industry and year effect. The number of observations ranges from 494 in the FE estimation to 613 in the Poole-OLS estimation. It indicates that most of the regressions moderately represent the raw data (with a range of R^2 only from 0.016 – 0.0294). Column one and two provide the OLS estimations. When the bonus is replaced by executive total compensation, it indicates that executive total compensation has a positive influence on the OCF,

conditional on the presenting of lag total compensation. When the FE estimation is deployed, the table indicates that the total compensation coefficient is positive and statistically significant at 5% with OCF. However, the last column confirms the earlier evidence that there is no EPS consequence of executive compensation. This surprise evidence proved that sufficient total compensation improves firm cash performance as a consequence. Consistent with Hypothesis 3.2, experimentation showed that total compensation as the proxy of executive compensation has an influence on operation cash flow.

Table 7.6 Regression results of stock return consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 3b. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects whereas the fourth column deals with the endogeneity issue using the instrumental variable in the 2SLS estimation. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: stock returns			
	(1)	(2)	(3)	(4)
Intercept	-1.8927	-3.3919	53.921	0.0000
	(-0.32)	(-0.63)	(1.27)	(0.00)
Total	-0.0000*	-0.0000*	-0.0000*	-0.0000**
	(-1.87)	(-1.81)	(-1.69)	(-2.21)
L.total		0.0000	0.0000***	
		(1.30)	(2.65)	
Lequity	0.5135	0.0207	-3.9826	-0.0994
	(1.15)	(0.06)	(-1.34)	(-0.46)
Industry	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0311	0.0356	0.035	.
Observation	543	475	475	475
Estimation	OLS	OLS	FE	2SLS

Table 7.3 begins the investigation with the effects of the executive total compensation on the determinants of R by controlling for size, industry and year effect. The number of observations ranges from 475 in the FE estimation to 543 in the Poole-OLS estimation. It shows the results of the stock returns regression analyses which indicate that most of the regressions moderately represent the raw data (with a range of R^2 from 0.0311– 0.0356). The first two columns deploy OLS estimation to investigate the performance consequences of executive total compensation. In these cases, no evidence is found. The FE estimation provides no evidence that the executive total compensation coefficient is positive with R. 2SLS estimation confirms that there are no performance consequences of executive compensation. Thus, inconsistent with Hypothesis 3.3, experimentation showed that executive total compensation has no power over firm performance.

7.3 The moderating effects of ownership structure on the performance consequences of executive compensation

This section tests whether ownership structure moderates the effect of executive compensation on firm performance. It begins with the standard model of the performance consequences of executive compensation which are moderated by the ownership structure. The research model of the role of ownership structure on the determinants of firm performance is shown as model 4:

$$\Delta(\text{Firm performance})_{it} = \beta_0 + \beta_1 (\text{FAM})_{it} + \beta_2 (\text{COR})_{it} + \beta_3 (\text{FOR})_{it} + \beta_4 \Delta(\text{executive compensation*FAM})_{it} + \beta_5 \Delta(\text{executive compensation*COR})_{it} + \beta_6 \Delta(\text{executive compensation*FOR})_{it} + \beta_7 \Delta(\text{executive compensation*DIS})_{it} + \beta_8 (\text{Lequity})_{it} + \beta_9 (\text{dummy industrial})_{it} + \beta_{10} (\text{dummy year})_{it} + \varepsilon_{it}$$

where:

Firm performance = either EPS, OCF, or R

FAM = ownership structure where the first 20% of the biggest shareholders are classified as family shareholders

COR = ownership structure where the first 20% of the biggest shareholders are classified as corporate shareholders

FOR = ownership structure where the first 20% of the biggest shareholders are classified as foreign shareholders

Executive compensation*FOR = joint effect between executive compensation and the family shareholder type of ownership

Executive compensation*COR = joint effect between executive compensation and the corporate shareholder type of ownership

Executive compensation*FOR = joint effect between executive compensation and the foreign shareholder type of ownership

Executive compensation*DIS = joint effect between executive compensation and no concentrated shareholder type of ownership structure

Lequity = natural logarithm of equity

Dummy industrial = one of eight groups which list which sector the company belongs to: Manufacturing, Mining and quarrying, Real estate and construction, Finance and insurance, Services, Technology, Consumer product, Agricultural and food products and Medium-sized enterprises: shown as 1 if a specific industrial interest is required, zero otherwise.

Dummy year = one of seven groups in which data have been observed; 2002, 2003, 2004, 2005, 2006, 2007 and 2008: shown as 1 if a specific year is required, zero otherwise.

i = the ith firm, i = 1,2,3 … 124

t = 2002, 2003, 2004, 2005, 2006, 2007 or 2008

In order to better understand how executive compensation influences the performance consequences of executive compensation, this study approaches the three main performance matrices; earning per share, net operation cash flow and stock returns. The first table represents the role of executive compensation on the determinants of earning per share. The next table provides the role of executive compensation on the determinants of operation cash flow. The last table provides the role of executive compensation on the determinants of stock returns.

The hypotheses are tested using the OLS in the first two columns of each compensation element. Column 3 provides the FE to treat the structure of the panel data. All the other variables are the same as in the OLS estimation but include ε_i which is the unobserved individual (firm) effect. The treatment of endogeneity using an instrumental variable in 2SLS is used in Column 4. In order to better understand how executive compensation influences performance, this study approaches the three main performance matrices – earnings per share, net operation cash flow and stock returns. Thus, this section begins the investigation with the effects of the executive compensation on the determinants of EPS by controlling for size, industry and year effect. Next, the OCF consequences of executive compensation are investigated. The last panel investigates the stock returns consequences of executive compensation.

Table 7.7 Regression results of EPS consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 4. Executive compensation proxies are bonus and total compensation, which are presented in the first four columns and last four columns in this table. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects. The coefficient is reported in the first line of each variable. FAM means family-owned firm. COR means corporate-owned firm. DIS is dispersed-owned firm. BON represents executive bonus. TOT is executive total compensation. L is lagged value. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: EPS			
	(1)	(2)	(3)	(4)
Intercept	-3.1829**	-1.9591	-2.4977	-2.0468
	(-2.17)	(-1.21)	(-0.35)	(-1.41)
FAM	-0.2817	-0.2841	-0.3464	-0.2708
	(-1.20)	(-1.40)	(-0.64)	(-1.35)
COR	-0.235	0.0083	0.2684	-0.0018
	(-0.84)	(0.03)	(0.41)	(-0.01)
FOR	-0.2997	-0.4404	2.3250**	-0.3939
	(-0.97)	(-1.37)	(3.03)	(-1.28)
BONFAM	0.0000	0.0000	0.0000	0.0000
	(1.21)	(-0.07)	(-0.37)	(-0.16)
BONCOR	0.0000	-0.0000**	-0.0000**	0.0000
	(-1.40)	(-2.05)	(-2.29)	(-0.28)
BONFOR	0.0000	0.0000	0.0000	0.0000
	(0.32)	(-0.63)	(-0.49)	(0.79)
BONDIS	0.0874	0.0129	-0.663	0.3846
	(0.39)	(0.04)	(-1.06)	(0.94)
L.BONFAM		0.0000	0.0000	
		(0.08)	(-0.32)	
L.BONCOR		0.0000	0.0000	
		(-0.22)	(-0.35)	
L.BONFOR		0.0000	0.0000	
		(1.46)	(0.73)	
L.BONDIS		0.1073	0.5092	
		(0.28)	(1.14)	
Lequity	0.2508**	0.1614	0.1716	0.1729
	(2.27)	(1.35)	(0.35)	(1.56)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0392	0.0388	0.0292	0.0289
Observation	602	484	484	484
Estimation	OLS	OLS	FE	2SLS

Table 7.7 (cont)

Independent variable	Dependent variable: EPS			
	(5)	(6)	(7)	(8)
Intercept	-3.6008***	-2.0949	-2.1501	-1.8872
	(-2.45)	(-1.25)	(-0.32)	(-1.10)
FAM	-0.1852	-0.0137	-0.1221	-0.4364*
	(-0.94)	(-0.07)	(-0.21)	(-1.71)
COR	-0.2286	0.2073	0.3487	-0.2359
	(-0.96)	(0.90)	(0.49)	(-0.73)
FOR	-0.2122	-0.1792	2.4568*	-0.5232
	(-0.82)	(-0.64)	(1.84)	(-1.33)
TOTFAM	0.0000	0.0000	0.0000	0.0000
	(1.52)	(0.95)	(0.07)	(-0.49)
TOTCOR	-0.0000**	-0.0000**	-0.0000***	0.0000
	(-2.19)	(-2.29)	(-3.81)	(-0.99)
TOTFOR	0.0000	0.0000	0.0000	0.0000
	(0.68)	(0.67)	(1.01)	(0.03)
TOTDIS	0.0000	0.0000	0.0000	0.0000
	(-0.70)	(-1.04)	(-1.12)	-0.61
L.TOTFAM		0.0000	0.0000	
		(1.06)	(0.01)	
L.TOTCOR		0.0000	0.0000	
		(0.71)	(0.59)	
L.TOTFOR		0.0000	0.0000	
		(0.10)	(-0.20)	
L.TOTDIS		-0.0000**	-0.0000***	
		(-2.46)	(-3.34)	
Lequity	0.2472**	0.159	0.1497	0.1505
	(2.27)	(1.29)	(0.33)	(1.27)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0429	0.05	0.0436	.
Observation	600	481	481	481
Estimation	OLS	OLS	FE	2SLS

Table 7.7 investigates the role of executive compensation in firm performance by controlling for size, industry and year effect. The number of observations ranges from 481 in FE estimation to 600 in OLS estimation. The results of the regression analyses indicate that most of the regressions moderately represent the raw data (with a range of R^2 from 0.0429 – 0.05). Column 1 is the estimation of contemporaneous compensation with EPS using FE estimation. Here also there is no evidence to support the claim. Column 2 inserts lagged firm performance. It provides evidence to claim that there is EPS consequence of executive bonus in corporate-owned firm. Column 3 is controlled for the effect of firms; it indicates that foreign ownership has a direct impact on firm performance (EPS). However, the result shows an interaction effect, which indicates that there is a moderating effect of corporate ownership on the performance consequences of executive bonus. The fourth column controls for the endogeneity issue by adopting 2SLS. The finding is not support by FE estimation but confirms that there is no evidence to support the EPS consequences of an executive bonus. However, when the bonus is replaced by executive total compensation, the OLS estimation indicates that corporate ownership moderates the EPS consequences of executive total compensation. This finding is confirmed in the later FE estimation. However, 2SLS provides no evidence that ownership structure moderates the performance consequences of executive total compensation.

The result confirms contradicts early findings such as those of Hartzell and Starks (2003) who reveal that the percentage of corporate holdings positively affects the sensitivity of performance-related pay. Inconsistent with Hypothesis 4.1, experimentation shows that executive bonus and total compensation have no positive power over EPS. The next table provides empirical evidence on the OCF consequences of executive compensation using ownership structure as the moderating variable.

Table 7.8 Regression results of OCF consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 4. Executive compensation proxies are bonus and total compensation, which are presented in the first four columns and last four columns in this table. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects. FAM means family-owned firm. COR means corporate-owned firm. DIS is dispersed-owned firm. BON represents executive bonus. TOT is executive total compensation. L is lagged value. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: OCF			
	(1)	(2)	(3)	(4)
Intercept	5.5474	26.2952**	-113.384	11.6974
	(0.56)	(2.54)	(-0.80)	(0.96)
FAM	1.6077	-0.4527	4.4959	-0.8774
	(0.63)	(-0.17)	(0.13)	(-0.33)
COR	-0.6709	0.3021	8.8094	-0.0251
	(-0.39)	(0.13)	(0.59)	(-0.01)
FOR	7.6679	6.7111	4.3426	2.7792
	(1.54)	(1.13)	(0.30)	(0.38)
BONFAM	0.0000	0.0000	0.0000	0.0000
	(0.18)	(1.02)	(1.72)	(-0.77)
BONCOR	0.0000	0.0000	0.0000	0.0000
	(0.35)	(1.05)	(1.14)	(0.16)
BONFOR	0.0000	0.0000	0.0000	0.0000
	(-0.23)	(0.67)	(-0.66)	(1.00)
BONDIS	-17.2527**	-68.5295***	-57.1917***	2.7029
	(-2.62)	(-5.71)	(-5.61)	(0.22)
L.BONFAM		0.0000	0.0000	
		(1.35)	(1.26)	
L.BONCOR		0.0000	0.0000	
		(0.02)	(0.12)	
L.BONFOR		0.0000	0.0000	
		(0.66)	(0.07)	
L.BONDIS		51.4402***	64.4881***	
		(4.00)	(4.17)	
Lequity	-0.4291	-1.1652*	7.715	-0.703
	(-0.75)	(-1.75)	(0.74)	(-0.94)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0242	0.0685	0.0714	.
Observation	615	497	497	497
Estimation	OLS	OLS	FE	2SLS

Table 7.8 (cont)

Independent variable	Dependent variable: OCF			
	(5)	(6)	(7)	(8)
Intercept	2.0213	11.5767	-139.509	22.6675
	(0.20)	(0.98)	(-0.99)	(0.92)
FAM	2.2162	1.0683	8.5345	-3.4626
	(0.78)	(0.33)	(0.25)	(-0.61)
COR	-0.3645	-0.1435	8.021	-0.0627
	(-0.21)	(-0.06)	(0.55)	(-0.02)
FOR	2.5707	2.5003	-0.616	-9.0577
	(0.62)	(0.46)	(-0.02)	(-0.35)
TOTFAM	0.0000	0.0000	0.0000*	0.0000
	(0.62)	(1.59)	(1.74)	(-0.30)
TOTCOR	0.0000	0.0000	0.0000	0.0000
	(0.57)	(1.33)	(1.36)	(0.18)
TOTFOR	0.0000	0.0000	0.0000	-0.0001
	(-0.63)	(0.59)	(-0.44)	(-0.48)
TOTDIS	0.0000	0.0000	0.0000	0.0000
	(-1.00)	(-0.20)	(-0.36)	(0.46)
L.TOTFAM		0.0000	0.0000	
		-0.69	(0.76)	
L.TOTCOR		0.0000	0.0000	
		-0.3	(0.32)	
L.TOTFOR		0.0000	0.0000	
		-0.73	(0.84)	
L.TOTDIS		0.0000	0.0000	
		(-0.48)	(-0.96)	
Lequity	-0.2714	-0.4484	9.7212	-1.1637
	(-0.48)	(-0.64)	(0.94)	(-0.96)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0200	0.0359	0.0389	.
Observation	613	494	494	494
Estimation	OLS	OLS	FE	2SLS

Table 7.8 investigates the role of executive compensation on OCF by controlling for size, industry and year effect. The number of observations ranges from 494 in FE estimation to 615 in OLS estimation. The results of the regression analyses indicate that most of the regressions moderately represent the raw data (with a range of R^2 from 0.0200 – 0.0714). Column 1 shows the estimation of contemporaneous compensation with OCF using OLS estimation. It indicates that, in dispersed ownership, the bonus has a negative influence on OCF. Column 2 also uses OLS but includes a lagged year bonus in the equation. The finding confirms that, in dispersed ownership, a bonus has a negative influence on OCF. Column 3 confirms the two findings about lagged bonus. Column 4 is controlled for the effects of endogeneity, thus adopting 2SLS. The regression does not support the earlier result because there is no evidence that a bonus has a positive effect on OCF. When the bonus is replaced by total compensation, there is no evidence of any OCF consequences of executive total compensation. As a result, Hypothesis 4.2 cannot be rejected, because executive bonus plays role in the movement of operation cash flow when the ownership structure is dispersed. The next table (Table 7.9) provides empirical evidence on the stock returns as the firm performance consequences of executive compensation using ownership structure as the moderating variable.

Table 7.9 Regression results of stock returns consequences of executive compensation

This table reports the regression analysis to evaluate the performance consequences of executive compensation using model 4. Executive compensation proxies are bonus and total compensation, which are presented in the first four columns and last four columns in this table. The first two columns are dedicated to OLS estimation. Column 3 controls for the firm effects. FAM means family-owned firm. COR means corporate-owned firm. DIS is dispersed-owned firm. BON represents executive bonus. TOT is executive total compensation. L is lagged value. The coefficient is reported in the first line of each variable. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: stock returns			
	(1)	(2)	(3)	(4)
Intercept	0.3868	-2.5464	6.5005	3.8075
	(0.05)	(-0.37)	(0.29)	(0.46)
FAM	4.1500*	5.2473*	47.0449	6.9789**
	(1.70)	(1.72)	(1.55)	(2.11)
COR	3.1639	4.3453	13.7012	7.389*
	(1.32)	(1.26)	(0.93)	(1.83)
FOR	2.7012	4.5131	8.6637	7.3168
	(0.86)	(1.05)	(0.69)	(1.47)
BONFAM	0.0000	0.0000	0.0000	0.0000
	(-1.26)	(-1.08)	(-0.50)	(-0.04)
BONCOR	0.0000	0.0000	0.0000	0.0000
	(-0.39)	(-0.90)	(-0.99)	(-1.44)
BONFOR	0.0000	0.0000	0.0000	0.0000
	(-0.61)	(-0.39)	(-1.55)	(0.98)
BONDIS	-0.0000***	0.0000*	0.0000	-0.0000***
	(-3.66)	(-1.92)	(-0.98)	(-9.34)
L.BONFAM		0.0000	0.0000	
		(-0.62)	(0.47)	
L.BONCOR		0.0000	0.0000	
		(1.29)	(-0.01)	
L.BONFOR		0.0000	0.0000	
		(0.57)	(0.42)	
L.BONDIS		0.0000***	0.0000***	
		(4.53)	(5.38)	
Lequity	0.0987	-0.3039	-2.1023	-0.9569
	(0.20)	(-0.47)	(-1.31)	(-1.23)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.031	0.0334	0.0771	.
Observation	543	475	475	475
Estimation	OLS	OLS	FE	2SLS

Table 7.9 (cont)

Independent variable	Dependent variable: stock returns			
	(5)	(6)	(7)	(8)
Intercept	0.2822	-2.1040	13.3734	0.0000
	(0.04)	(-0.29)	(0.55)	(0.00)
FAM	4.1521*	5.0558*	45.937	5.2392*
	(1.73)	(1.75)	(1.50)	(1.66)
COR	3.0197	4.3548	11.5438	4.3907
	(1.36)	(1.35)	(0.80)	(1.30)
FOR	2.3534	4.4032	7.5373	3.8434
	(0.77)	(1.04)	(0.56)	(1.02)
TOTFAM	0.0000*	0.0000	0.0000	0.0000
	(-1.86)	(-1.23)	(-0.90)	(-0.88)
TOTCOR	0.0000	0.0000	0.0000	0.0000
	(-0.91)	(-1.21)	(-1.26)	(-0.54)
TOTFOR	0.0000	0.0000	0.0000	0.0000
	(-1.34)	(-1.40)	(-0.65)	(0.27)
TOTDIS	0.0000	0.0000	0.0000	-0.0000***
	(-1.26)	(-1.22)	(-1.02)	(-2.81)
L.TOTFAM		0.0000	0.0000	
		(0.35)	(0.20)	
L.TOTCOR		0.0000	0.0000	
		(0.19)	(-0.41)	
L.TOTFOR		0.0000	0.0000	
		(-0.47)	(0.06)	
L.TOTDIS		0.0000	0.0000	
		(0.90)	(1.02)	
Lequity	0.1590	-0.3141	-2.4962	-0.4268
	(0.33)	(-0.45)	(-1.50)	(-1.37)
Industrial	Yes	Yes	Yes	Yes
Year	Yes	Yes	Yes	Yes
R^2	0.0394	0.0562	0.1029	0.0175
Observation	543	475	475	475
Estimation	OLS	OLS	FE	2SLS

Table 7.9 investigates the role of executive compensation in firm performance by controlling for size, industry and year effect. The number of observations ranges from 475 in FE estimation to 543 in OLS estimation. The results of the regression analyses indicate that most of the regressions moderately represent the raw data (with a range of R^2 from 0.031 – 0.0771). Column 1 estimates the contemporaneous compensation with stock returns, using OLS estimation; it indicates that dispersed ownership moderate the associated between contemporaneous bonus and stock returns. Column 2 includes the lagged year bonus in the equation. This column reveals that dispersed ownership has influenced power over a positive relation between lagged bonuses on stock returns. Controlling for the effect of the firm, Column 3 investigates the role of bonus (and lagged bonus) on stock returns, using FE estimation. It confirms that dispersed ownership influences the association between lagged bonus and stock returns. Column 4 confirms the finding in the first column. When the bonus is replaced by executive total pay, FE and FE with IV using 2SLS, the bonus finding is confirmed that there is no influence from executive total compensation on stock returns. At the same time, there is no association between particular forms of ownership structure and the executive total compensation effect on the movement of stock returns.

Conyon et al (2000) believe that stock returns reflects the expectation of shareholders and the efficient market hypothesis is that share prices can intermediately reflect executive actions. However, the result contradicts Cooper et al (2009) who found that CEO pay is negatively related with shareholder return. Consistent with Hypothesis 4.3, experimentation shows that dispersed ownership moderates the executive bonus coefficient to associate with stock returns. Thus, Hypothesis 4.3 is not rejected.

7.4 Unintended consequences[5]

Incentives are introduced to align the interests of the Principal and the Agent. However, without careful design, this mechanism can cause side effects in driving the manager to manipulate accounting numbers. Healy (1985) suggests using the discretionary value of Total Accruals as the proxy of earning management. Chen (2008) was the first to explore how executive incentive influences earning management in Thailand, while this study adds the role of ownership structure to the earning management literature. This archival research uses 132 data sets from Thai listed companies. The data were collected from annual reports, SET database and DataStream. These were analysed by means of a cross-sectional multiple regression structure. The main regression equation, so called model 5, was as follows:

$$\text{Earning management}_i = \beta_0 + \beta_1 \text{Incentive}_i + \beta_2\, \text{ROA}_i + \beta_3\, \text{OCF}_i + \beta_4\, \text{R}_i + \beta_5\, (\text{FAM})_{it} + \beta_6\, (\text{COR})_{it} + \beta_7\, (\text{FOR})_{it} + \beta_8\, \text{industrial}_i + \beta_9\, \text{size}_i + \varepsilon_i$$

where:

Incentive = Executive bonus pay

ROA = return on asset

OCF = net operation cash flow

R = stock returns

FAM = ownership structure where the first 20% of the biggest shareholders are classified as family shareholders

COR = ownership structure where the first 20% of the biggest shareholders are classified as corporate shareholders

FOR = ownership structure where the first 20% of the biggest shareholders are classified as foreign shareholders

[5] Based on a paper presented at the European Academy of Business in Society 2009 at Navarra University, Spain, entitled 'The Role of Executive Remuneration in Earning Management in Thailand' by Swatdikun, T. Vernon, G. Nisar, T. and Chen, X.

Dummy industrial = one of eight groups which list which sector the company belongs to: Manufacturing, Mining and quarrying, Real estate and construction, Finance and insurance, Services, Technology, Consumer product, Agricultural and food products and Medium-sized enterprises: shown as 1 if a specific industrial interest is required, zero otherwise.

The value of earning management is calculated by the standard approach from McNichols (2000), which uses the Total Accrual (TA) concept.

$$TA_t = \Delta CA_t – \Delta Cash_t - \Delta CL_t + \Delta Debt_t - DEP_t$$

where ΔCA_t is change in current assets; $\Delta Cash_t$ is change in cash and cash equivalents; ΔCL_t is change in current liabilities; $\Delta Debt_t$ is change in debt which is a combination of current liabilities and long-term debts, such as loans; DEP_t is depreciation and amortisation.

The concept has been warmly welcomed, because it builds on financial reporting and all the information needed can be obtained from the financial statement. Using the TA concept, Healy (1985) introduced the proposition that non-discretionary accrual (NDA) in the current year is the value of total accruals scaled by lagged asset.

$$NDA_t = \frac{1}{n} \times \sum_t \left(\frac{TA_t}{A_{t-1}} \right)$$

where NDA is the estimation of non-discretionary accruals in the current year scaled by the lagged total assets of the previous year. Note that the model can be criticised over its accuracy, on the assumption that non-discretionary accruals are constant over time. However, there is no single technique to

detect the issue of total accrual, discretionary accrual and non-discretionary accruals. In any case, the cross-sectional model is widely accepted as a useful statistical approach to estimating earning management, because it requires fewer data than either statistical techniques using time series of the 'Jones approach' or the qualitative method using accounting technique to evaluate the quality of disclosure in the identification of red flags. This table provides regressions which aim to estimate the factors influencing earning management.

Table 7.10 The determination of earning management

This table reports the regression analysis of model 5, which investigates the influence of executive compensation on earning management, using OLS estimation techniques. The first column is dedicated to bivariate analysis between executive bonus and earning management. The second adds further firm performance and ownership structure where Column three adds interaction variable. Column four and five detect the determination using family and corporate ownership structure, respectively. ROA means return on asset. OCF represents operation cash flow, R is stock returns. FAM means family-owned firm. COR means corporate-owned firm. DIS is dispersed-owned firm. BON represents bonus. L is lagged value. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at the 10%, 5% and 1%, respectively.

Independent variable	Dependent variable: earning management				
	(1)	(2)	(3)	(4)	(5)
Bonus	0.00003***	0.00003*	0.00003*	-0.00003	0.00009
	(2.78)	(1.89)	(1.73)	(-0.32)	(0.55)
ROA		0.00371***	0.01171***	0.00041	0.00177
		(3.47)	(3.77)	(0.16)	(0.36)
OCF		-0.07832*	-0.17000	-0.05766	-0.06579
		(-1.9)	(-1.59)	(-0.69)	(-1.62)
R		0.00000	-0.00007*	0.00002*	-0.00003
		(0.25)	(-1.85)	(2.32)	(-0.99)
FAM		0.00345	-0.00624		
		(0.11)	(-0.21)		
COR		0.01838	0.02420		
		(0.64)	(0.65)		
DIS		0.01740	0.03672		
		(0.57)	(0.94)		
FAMROA			-0.00866***		
			(-2.82)		
CORROA			-0.00970**		
			(-2.04)		
DISROA			-0.00547		
			(-1.28)		
FAMOCF			0.09111		
			(0.70)		
COROCF			0.12466		

Independent variable	Dependent variable: earning management				
	(1)	(2)	(3)	(4)	(5)
			(1.04)		
DISOCF			-0.10555		
			(-0.78)		
FAMR			0.00009**		
			(2.20)		
CORR			0.00006		
			(1.39)		
DISR			0.00006		
			(1.43)		
Bonus: First quartile				-.01620	-0.03962
				(-0.38)	(-0.86)
Bonus: Median				.06626	-0.09500
				(1.48)	(-1.13)
Bonus: Last quartile				.079597	-0.14814
				(0.74)	(-0.46)
Constant	-0.08388***	-0.07791	-0.07710	-0.16275	-0.02606
	(-7.07)	(-0.65)	(-0.61)	(-0.62)	(-0.08)
Size	Yes	Yes	Yes	Yes	Yes
Industry	Yes	Yes	Yes	Yes	Yes
R-square	0.0343	0.3347	0.3852	0.6086	0.2906

Using Healy (1985) to estimate non-discretional accrual, this study finds that the Thai listed companies in the year 2007 utilised earning management. This table provides regressions which aim to estimate factors influencing earning management. Using Bivariate regression, unlike Healy (1985) this research finds no evidence as to how incentive pay influences earning management. The second regression reveals that bonus, firm performance, and industries have an influence on earning management. However, there is no evidence of how ownership structure affects earning management activities. The third column indicates that lower ROA participates upward on the earning management, especially when the firm is owned by a family or is a corporate firm. The fourth column splits family-owned firms into three groups; based on first, median, and last quartile of their executive bonus. However, there is no concrete evidence of a particular quartile playing a part in earning management. The last column splits corporate-owned firms into three groups; according to the first, median, and last quartile of their executive bonus. There is no evidence that corporate-owned firms take part in earning management.

Note that the previous section assumes that the zero pay bonus firms also employ incentive plans but the manager are unable to exceed the target. For that reason no bonus has been paid. This following table is using Healy's idea by omitting zero-bonus pay firms because he assumes that zero pay bonuses means no incentive has been adopted.

Table 7.11 The association between the quartile of bonus pay and earning management in family business

This table reports the regression analysis of model 5 which analyses the relationship between executive compensation and earning management in family ownership, using OLS estimation techniques. The first column is dedicated to those 25% highest bonus pay. The second is the firms who pay are the median bonus pay. Column three is dedicated to those 25% lowest bonus pay. ROA means return on asset. OCF represents operation cash flow, R is stock returns. The estimates are corrected for heteroskedasticity-consistent covariance, as presented in brackets ( ). *, ** and *** denote statistical significance at the 10%, 5% and 1%, respectively.

Independent variable	First quartile	median	Fourth quartile
	(1)	(2)	(3)
Bonus	0.00003	0.00006*	0.00000
	(0.70)	(1.70)	(0.02)
ROA	0.00042	0.00075	0.00031
	(0.11)	(0.19)	(0.06)
OCF	-0.06033	-0.06459	-0.10006
	(-0.63)	(-0.64)	(-0.96)
R	0.00001	0.00001	0.00002*
	(1.61)	(1.52)	(1.85)
Bonus quartile1	-0.06394*		
	(-1.82)		
Bonus quartile2-3		0.02802	
		(0.63)	
Bonus quartile4			0.06123
			(0.41)
Constant	-0.06492*	-0.10901**	-0.08607***
	(-1.95)	(-2.26)	(-2.64)
R-Squared	0.1879	0.1468	0.1543

Table 7.11 focuses on family businesses; it provides the evidence as to how the quartile of bonus pay influences the earning management. This table reveals that the first quartile bonus pay group has negative correlation with the level of earning management. That means the managers who get paid the lowest bonuses do take part in earning management by trying to decrease the accounting number in their financial reporting. However, this research finds

no evidence for how the other quartile firms manipulate their accounting number. Not as Incentive theory expected, this research cannot confirm that there is upward manipulating when the firms are located in median bonus pay. Also, no evidence can be provided in the case of the highest bonus paid or whether the manager decreased their accounting performance.

7.5 Chapter summary

Since only few of the early compensation studies provide empirical evidence of performance consequences of executive compensation, this chapter provides empirical evidence which reveals that there are performance consequences of executive compensation in Thai listed companies. The hypothesis testing can be illustrated as follows:

Table 7.12 Summary of performance consequences of executive pay results

This table reports the summary of the regression analysis of performance consequences of executive compensation. EPS represents earnings per share; OCF stands for the operation cash flow, where R is stock returns. BON represents executive bonus, TOT shows executive total compensation. FAM stands family-owned firm, COR represents corporate-owned firm, FOR is foreign-owned firm, where DIS shows dispersed-owned firm.

Hypothesis	Independent variables	Dependent variable	Hypothesis testing
H3	BON	EPS, OCF, R	Not rejected
	TOT	EPS, OCF, R	Not rejected
H4	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	EPS	Rejected
	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	OCF	Not rejected
	BONFAM, BONCOR, BONFOR, BONDIS, TOTFAM, TOTCOR TOTFOR, TOTDIS	R	Not rejected

The first section presents various regression analyses of the performance consequences of executive bonus. It reveals that there is R consequences of executive bonus. Section 2 presents various regression analyses of the performance consequences of executive total compensation. It reveals that there is OCF consequences of executive total compensation. Consequently, Hypothesis 3 is not rejected. Section 3 presents regression analyses of the moderating effect of ownership structure on the performance consequences of executive compensation. It provides evidence which aligns with findings earlier in the chapter which are that corporate ownership moderates OCF consequences of executive bonus, and dispersed ownership moderates R consequences of executive bonus. Consequently, Hypothesis 4 is not rejected.

CHAPTER 8

Discussion

This chapter discusses the empirical evidence that executive compensation has a relation with firm performance, as Agency theory would expect. Regarding the nature of the market, this study found that ownership structure differs on the relation between executive compensation and firm performance. The finding chapters examine the existing theories reviewed in Chapter 2; the discussion moves to the theoretical development in Chapter 3; and to the methodological issues in Chapter 4. The present chapter, in particular, provides discussions of the research findings which were presented in Chapters 5-7. This chapter is organised in the following five sections. The first section seeks to improve the understanding of the executive compensation trend. The next section provides a review of the findings. Section three provides a symposium of the pay-performance sensitivity, and section four provides a symposium of the performance consequences of executive compensation. The final section summarises the chapter.

8.1 Trend of executive pay in Thai listed companies

This section discusses the findings on the executive compensation in Thai listed companies during 2002 to 2008. As expected, all executive managers in Thai listed companies received a salary in return for their responsibilities. The value of salary was worth more than three quarters of executive total compensation. Bonus was the most common executive incentive; this was worth about 20% of executive total compensation. The rest, about 5%, was accounted for by other forms of compensation such as honoraria and perk such as housing, insurance, and the funding of education for their family members. The finding confirms early Thai finding in which Connelly et al (2010) indicated that only salary and bonus is commonly used in the executive pay package. The author also states that other forms of compensation (e.g., stock options) are, on the odd occasion, used in Thailand.

Unlike American and British findings, Thai findings, shown in Figure 5.2, show that only approximately 65% of all executive managers in this sample are in receipt of an annual bonus compared to 90% in the UK (Fattorusso, 2005) and 98% in the US (Leonard, 1990). However, the average bonus pay in the US is 2% (OECD, 2005) compared to salary where is eight to 10 times greater, ranging from 15 to 22%, in the Thai listed companies. Implausible as it seems, 52% of American managers receive stock option (Lowry and Murphy, 2007) while only 10% of Thai managers received a stock option as part of their compensation package. Investigating this in greater detail, this study found no emerging trends in stock option practice in Thai listed companies. This might deal with the fluctuation of the stock market in Thailand, which causes too unpredictable a value of the stock that is being granted. Thus, it should be claimed that this is a unique aspect of the executive compensation in Thai listed companies.

This study further investigates the amount of executive pay during 2002 to 2008. Early chapters provide empirical evidence which suggests no fundamental shifts in the executive compensation pay level in Thai listed companies during the period. This is the result of post-regulation restructure and best practice in the early 2000s, shortly after the financial crisis took place in Bangkok before spreading throughout the rest of Asia. However, there are two noteworthy points which should be taken up.

Firstly, the median salary dropped in 2005. This movement was the first major change of compensation structure since the last long period of financial trouble in 1997-2001. The tsunami on 26 December 2004, avian 'flu and global petrol prices repeatedly rising, with trading volume, were a drag on growth in 2005. This showed in the rapid fall by 20% in the trading of the Stock Exchange of Thailand. The Bank of Thailand (2005) further explained that the manufacturing productivity index gave stability from the domestic purchasing power and export industry. However, the private consumption index was in decline, falling from 5.1% growth in 2004 to 4.0% in 2005. This caused a severe slowdown of private investment from 16.3% in 2004 to 11.0% in 2005. As a result, the year 2005 was the first year of the weakening of economic growth from above 6% in 2002-2004 to 4.5% in 2005 since the end of the Asian financial crisis (Asian Development Bank, 2006; Bank of Thailand, 2005). The economic red flag then recalls the earlier financial crisis. All the factors together caused a drop in executive salaries in 2005. Further investigating finds that some top salary-paying firms have appointed new executive managers to cover risk management and accounting policy in order to cope with the up-coming financial difficulties. Events such as the reversal of allowances for doubtful accounts, losses in the decline in the value of inventories and loss on exchange rate were seen in 2005.

Second, both the mean and the median of bonuses dropped in 2006. Unlike the salary drop in 2005, all firms (both big and standard size) announced lower bonuses. The Bank of Thailand (2006) indicated that the tourist industry went back on track with a rise of 20% after the rapid fall in the wake of the tsunami disaster. Furthermore, the economy took advantage of the expanding international trade at 17.4%. However, the private sector still worried about the continual rise in petrol prices and the statistically high inflation rate at 6% (compared to about 2% during 2002-2005). This caused a slowdown in private investment to a statistical low at 4.47% of total fixed investment (compared to the average of 10.93% during 2002-2005) which directly affected the import volume. This contradiction between import and export firms caused the difference between mean and median in the stock market return. BOT (2006) believes that the growth of the Thai economy in the first half of the decade was the product of the different government policy approach of Thaksin Shinnawatra after he won the election in early 2001. However, like other Southeast-Asian countries, Thailand is still not politically stable. During September 2006 there was a coup by the Royal Thai Army coup against Prime Minister Thaksin Shinnawatra for his unlawful business activities and he was prohibited from doing business with the government office which the officers were working for. This unexpected political activity led to seven bomb explosions in Hat Yai, the biggest city in the south of the country and one bomb in Bangkok. The political unrest led to economic instability, since the coup was the first for 15 years. It may have also led to negative confidence over economic transactions in general and thus may have produced the sudden fall in bonus figures in every listed company during the year 2006.

Figure 5.7 provides controversial evidence that, unlike anywhere else, Thailand’s highest executive compensation is paid in the Mining and quarrying industry. This industry covers a combination of electricity, gas, water and the mining and quarrying sector. The biggest segment is that of petroleum and natural gas which is piped to households; and raw materials for plastics, chemicals, medicines, etc. The Encyclopaedia of the Nations

(2010) reports the growth in the production of crude petroleum and natural gas; however, the products of this industry are mostly used domestically. The United States Department of Labour (2010) indicates that there is high pay in oil and gas extraction (22% higher than average pay) and support activities for mining (5% higher than average pay); however, the mining section itself yielded 2% (lower than average profit). The unusual and possibly dangerous work, in particular in offshore oil rigs and underground mining, makes demands of a particular nature on executive managers which might drive up the level of executive pay, since firms have to pay what these workers ask.

8.2 Summary of empirical evidences

This study draws on two remarkable works on the relation between executive compensation; the relation between executive pay and firm performance (Jensen and Murphy, 1990), which reveals that there is pay-performance sensitivity in listed companies, and institutional investors and executive compensation (Hartzell and Starks, 2003), which reveals that is moderation role of ownership structure on the executive pay. Combining these two crucial pieces of knowledge, the finding chapters provide empirical evidence to support the fact that performance sensitivity does exist. Gomez-Mejia (2003), however, indicates that firm size is the most important variable in explaining the movement of the element of executive compensation. Besides, firm size shows that industry and year also affect the pay of executive managers. These findings verify the early Asian findings of Wang and Stammerjohan (2004) who reported that size and industry are the two main factors significantly affecting the executive compensation pay in Chinese listed companies. It further provides evidence that there is a relation between executive compensation and firm performance, and that ownership structure is included, as shown below.

Table 8.1 Summary of evidence on the relationships between executive compensation and firm performance

This table provides evidence on the relation between executive pay and firm performance. EPS stands for earning per share; Bonus is executive bonus. Total is executive total pay.

Hypo-theses	Independence Variable	Moderating Variable	Dependence Variable	Sign
H1: Firm performance has a positive influence on executive compensation.				
	Stock return	-	Executive salary	+
H2: Ownership structure moderates the positive influence of firm performance on executive compensation.				
	EPS	Foreign ownership	Executive salary	+
	Stock return	Dispersed ownership	Executive salary	+
	EPS	Dispersed ownership	Executive bonus	+
	EPS	Foreign ownership	Executive bonus	+
	EPS	Foreign ownership	Executive total compensation	+
H3: Executive compensation has a positive influence on firm performance				
	Bonus	-	Stock return	+
	Total	-	Operation Cash Flow	+
H4: Ownership structure moderates the positive performance consequences of executive compensation				
	Total	Corporate ownership	EPS	-
	Bonus	Dispersed ownership	Operation Cash Flow	+
	Bonus	Dispersed ownership	Stock return	+

Table 8.1 contains the econometrics results of the positive relations between executive pay and firm performance. The first panel reveals that pay-performance sensitivity has been established in Thailand. The second panel confirms that ownership structure plays a mediation role in the relation between executive compensation and firm performance. It reveals that foreign, and dispersed ownership moderates the positive pay-performance sensitivity. This finding is comparable to Asian findings such as those of Mengistae and Xu (2004), Bai and Xu (2005) and Firth et al (2006) which all report that the state-owned enterprise moderates the relation between executive compensation and firm performance.

Moreover, the third panel reveals that executive total compensation positively influences both operation cash flow and stock return. This finding is verified by early American finding which indicates that executive compensation has a positive effect on firm performance. The last panel reveals regression results which indicate three main findings. Corporate ownership moderates the negative performance (EPS) consequences of executive compensation. Disperse ownership affects the OCF and R consequences of executive bonus. This research finding confirms that the incentive mechanism causes the performance consequences of executive bonus pay.

8.3 The pay-performance sensitivity

Since the announcement that there is a greater nexus of contract between shareholder and manager in non-entrepreneurial firms which causes the problem of the distribution of firm wealth (Fama and Jensen, 1983b), incentive compensation has become a key player in aligning the interest between shareholder and manager (Jensen and Meckling, 1976). The shareholder would design the executive working contract to direct and motivate the managers to serve their own interest (Jensen and Murphy, 1990). If this is the case, the pay-performance sensitivity should exist (Murphy, 1999).

In addition to theoretical consideration, this study considers the estimation issue by drawing a comparison between the widely used OLS-regression, with FE and 2SLS-IV. Most results from the first two estimations are robust; however almost all results are swept out when IV is deployed. The problem arises when, as proposed by Palia (2001), the OLS estimation on the detection of relationship between executive compensation and firm performance is suffering from the endogeneity problem. However, the attention paid to tracking the causality between executive compensation and

firm performance might result in the omission of findings in the early estimations. Guy (2000) and Lilling (2006) revealed that, when heterogeneity biases have been taken into consideration, the pay-performance sensitivity no longer exists. However, this study finds most result consistent with OLS and FE estimations.

Chapter 6 and 7 provide comparable evidence, particularly when lagged variables are added. Most OLS provides similar evidence to FE estimations. However, most of the findings are eroded when 2SLS was developed. These chapters also reveal that is a positive relation between executive salary and stock return in the Thai Stock Market. The result confirms US findings such as those of Jensen and Murphy (1990), Kaplan (1994) and Murphy (1999),as well as China (Mengistae, 2004), Korea (Kato et al, 2007), and the Philippines (Unite et al, 2008) Malaysia (Salim and Wan-Hussin, 2009), Thailand (Connelly, 2010), and Indonesia (Suherman et al, 2011).

8.4 Ownership structure relating to the pay-performance sensitivity

Given that the capital market as an external market for corporate control plays an important role in the market-oriented system of the traditionally well-developed mainly Anglo-Saxon countries, but not in network-oriented systems such as continental Europe and Asia (Moerland, 1995), this study provides evidence that more than 75% of Thai listed companies are of concentration ownership. This finding confirms that of Wiwattanakantang (2000) who revealed that the Thai stock market presents high intensely concentrated ownership. Ali and Chen (2006) provided American evidence that lower levels of total compensation pay occur when families take control of the CEO compensation contract. Core et al (1999) explain that unnecessary pay is

reduced, thus pay-performance sensitivity should be established. Connelly et al (2010) indicated that ownership structure is expected to play a partial role in control and coordination, thus, the shareholders' desire should be considerably reflected by tightening executive compensation with realisable firm performance when the shareholder is from a concentrated firm.

8.4.1 The moderation of the dispersed ownership on the pay-performance sensitivity

Jensen and Murphy (1990) found that the use of incentives is made part of executive compensation to raise the Agent's motivation by observing the pay-performance sensitivity. However, Bebchuk and Fried (2003) believe that executive compensation is the source of inefficiencies in the design of executive compensation packages. The Thai evidence, however, does not lend supportive evidence to Bebchuk and Fried (2003) who expressed concerns about managerial power on the board of director activity. The evidence indicates that executive compensation design is the result of greater power of the shareholder through voting rights. As a result, the change in performance might lead to adoptions of executive pay (Hall and Liebman, 1998). Thus, it might not require a further form of mechanism since corporate governance has capacity in all economic systems which include the form of concentrated ownership. The empirical evidence supports findings on early large western economies such as the US (Jensen and Murphy, 1990), the UK (Gregg et al, 2005) and Australia (Langfield-Smith, 2005), and Asian studies such as Korea (Kato et al, 2006), Japan (Basu et al, 2007), China (Buck et al, 2008), the Philippines (Unite et al, 2008), and Malaysia (Sulivan et al, 2010).

8.4.2 The non-moderation of the family ownership on the pay-performance sensitivity

Despite being part of one of the world most famous issue-executive compensation, family-involved CEO pay is a mystery in a wealth of executive pay-performance sensitivity arenas. La Porta et al (2000) indicated that good attention should be taken since the family-owned firm is the world's dominant ownership structure form. The claim is valid in the Thai Stock Exchange since early discussion in Chapter 5 reveals that the biggest portion of Thai listed companies is classed as the family-owned firm.

The ideas of the impact of family ownership on the relation between executive pay and firm performance are divided into two schools. The mainstream idea is concern that family business is likely to perform worse than dispersed-owned business. Villalonga and Amit (2006) and Connelly et al (2010) take this approach by indicating that separation of ownership and control in the family-owned business is not distinct; thus the conflict between Principal and Agent might have less chance to occur. However, this author raises the alarm on potential conflict of interest between family owners, being a majority shareholder, and the minority shareholders. Connelly et al (2010) believe that it is the separation between ownership and control in large firms owned by one group of investors which left so little power in the hands of the minority investor. The family are in the position to control and monitor the management or even divert the firm's wealth to meet their own interests (Otten, 2007). Mallin (2007) provided a user-friendly explanation that a family-owned firm still ultimately needs to make a profit but that it is less likely to be driven by the short-term demands of the market. It has more flexibility as to when and how profit is sought. This study provides supportive evidence for this view. That is no evidence on the direct controlling power of the family-owned firm to cause the alignment between executive compensation and firm performance.

Alternatively, Suehiro (2001) believes that family ownership provides benefits on the enhancing operations efficiency. Ali and Chen (2006) believe that direct control over executive causes the avoidable unnecessary pay; thus executive compensation in family control should be low. Also, the lower level of executive compensation of family firms causes the removing of unnecessary pay which causes the sensitivity between executive compensation and firm performance. This thought aligns with Oreland (2007) who found the same situation in Swedish listed companies during 2004. Even though the moderation effect was expected on the negative relation between executive compensation and firm performance, the Swedish result indicates that the family-owned firm has not differed from those executive compensation practices in the Anglo-Saxon culture setting. Groci et al (2010) show that the pay-performance sensitivity would strengthens when executive compensation is designed under the guided direction of interest of the family. Early Asian findings such as those of Cheung et al (2005) also found that Hong Kong family-controlled firms moderate the positive relation between executive compensation and firm performance.

8.4.3 The moderation of the corporate and foreign ownership on the pay-performance sensitivity

Since concentrated ownership can accumulate direct power through the voting right, this collective power could become one mechanism to control the managers' behaviour. One might expect that ownership concentration negatively affects the level of executive compensation pay, but links executive compensation with firm performance. Evidence from Germany indicates that institutional ownership has a negative impact on the level of executive pay (Elston and Goldberg, 2003). This study provides supportive evidence to these early claims that there is a positive effect of corporate ownership on the pay-performance sensitivity, as shown above. It also provides sympathetic results for the original work on institutional ownership of Hartzell and Starks (2003), which proposes that the institutional investor is positively

related to pay-performance sensitivity. The evidence also verifies early Asian finding such as those of Lee and Chen (2011) who reveal that Taiwanese institution ownership causes the relation between executive compensation and their firm performance. Salim and Wan-Hussin (2009) provide Malaysian evidence that institutional shareholders enhance the pay-performance sensitivities.

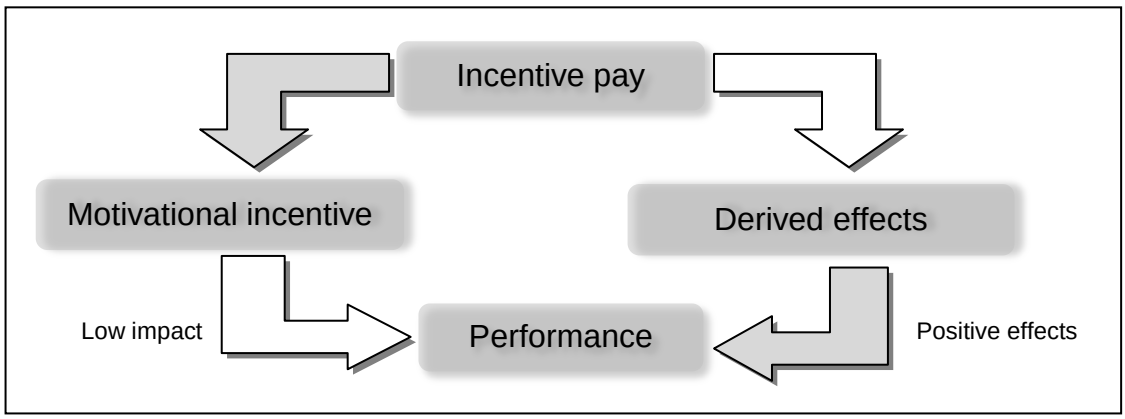
The concentration owner proves that an investor has the opportunity, resources, and ability to monitor, discipline, and influence management mechanisms that include compensation design (Cornett, Marcus and Tehranian, 2008). CIMA (2010) reminds us that the significance of the collective power of those investor interactions has been proved to produce benefits for the majority shareholders. La Porta et al (2000), Dyck and Zingales (2004) and Jiang (2009) all indicate that large shareholders can exercise their right by the approach of value maximisation of their interests. Since typical performance indicators such as EPS in executive bonuses contract is subject to adjustment and unwinding, corporate ownership seems take the more realisable of the performance indicators, which is OCF.

8.5 The performance consequences of executive compensation

Since executive managers are the decision maker in the organsation, increasing compensation should cause increasing motivation in decision making, which results in better firm performance. Wasserman et al (2010) indicate that executive compensation does contribute to firm performance, but less than 5%. Milkovich and Newman (2008) indicate that even though all elements of compensation are crucial, bonus is the key incentive mechanism to motivate managers in order to achieve the desired goal since the increasing salary involves long-term commitment and is expensive. Thus, this

section tests whether compensation - bonus and total compensation - increases the executive's motivation which causes action in the organisation. It hopes to establish that using incentive compensation should cause the improvement of an organisation's performance (Mackey, 2006). The findings section of this study provides empirical evidence which is stated in Section 5.3.3. It confirms that there is higher executive total compensation which causes a better OCF. However, the magnitude of the performance consequences of executive compensation is low.

This evidence supports early American research such as those of Abowd (1990), Leonard (1990),and Anderson et al (1999), which show a weak but positive relation between executive compensation and firm performance; Gerhart and Milkovich (1990), Palia (2001) and Grunditz and Lindqvist (2004) provide no evidence that this relation is a performance (ROA) consequence of long-term incentive compensation. The evidence supports Mackey (2006), which claims that a proper use of estimation technique has little or no performance consequences of executive compensation. Also, this study provides supportive evidence to the only Asian finding (Kubo, 2005) on the performance consequences of executive compensation. The OCED (2005) indicates that the low-powered forms of executive pay and derived effects might explain the low impact of incentive compensation on firm performance.



Source: OECD (2005)

Figure 8.1 Performance consequences of executive compensation model

Mackey (2006) also indicates that there are at least five possible explanations for this. The first is population constraints – ecologists', institutional and legitimacy constraints. The next is the interchangeable management position which might affect the impact of executive compensation on firm performance. The third is that executive compensation has a symbolic rather than a substantive role in the organisation. The fourth explanation is the role of a board of directors, which may have a greater influence on firm performance than the CEO as an individual. The last explanation is the estimation technique, which cannot control the power of industry, firm factors and CEO characteristics. Armstrong and Baron (2007) assert that human capital strategy consists of six inter-connected factors; people, work processes, managerial structure, information and knowledge, decision making, and reward. In order to create the best shareholder value, this human asset together with capital assets, as well as organisational architecture, needs to be well designed.

8.6 The ownership structure and its performance consequences

The impact of ownership structure on firm performance attracts the interest of researchers who focus on the choice of ownership structure which is believed to play an important role in the development of the theory of the firm. Since the ownership structure creates direct controlling power over the agency conflict, the agency costs decrease (Wiwattanakantang, 2000). However, type of ownership structure plays a different role in monitoring activities. The main American concentration ownership is the financial institution, and foreign ownership, which are believed to be active and have a positive impact on monitoring.

Family ownership, however, is believed to have a negative impact since it provides opportunity for the majority shareholder to divert that wealth to become their own. Later, Villalonga and Amit (2006) confirm that descendants who serve as CEOs with no control in family ownership have negative effect on firm value. Two Thai studies indicate that the founding family has a negative effect on firm performance (Athiapinya, 2005; Suktitipat, 2009). This study (Tables 7.7 and 7.9) provide empirical evidence that family ownership causes better RI. This finding verifies most of the research on the effects of ownership structure on firm performance using Thai data. Wiwattanakantang (2001) first propounds that family ownership plays a positive role in firm value. It also is the first study to particularly focus attention on the ownership structure in Thai listed companies. Soon afterward, Yammeesri and Lodh (2003) provided supportive evidence by indicating that family business positively affects stock return. Tontivanichanon (2004) also confirms that family ownership has a positive relationship with stock return. Boonlert-U-Thai and Kuntisook (2009) support the view that, after controlling for industry and year-fixed effects, family ownership has a positive role in firm performance (EPS).

8.7 Chapter summary

This chapter began with a review of the pay-performance sensitivity and its consequences. The next section discussed the trend of executive pay in Thai listed companies in which there was no structural change during the observation period. The third section presents the regression results. It reports that EPS and RI influence executive bonuses and total compensation. Interaction effect reports the role of ownership structure on the pay-performance sensitivity when size, industry and year are controlled for. It begins with the discussion of the role of EPS and RI in the determination

of executive compensation in dispersed ownership. Then, the role of the OCF on the determination of executive compensation in corporate ownership is considered. After this, the performance consequences of executive compensation are discussed. An additional discussion explains the side-effect of executive compensation on earning management and the direct effect of ownership structure on firm performance.

CHAPTER 9

Conclusion

This study examines the relation between executive compensation and firm performance in The Stock Exchange of Thailand during 2002-2008. Both accounting- and market-based performances have been used as firm performance. The three pay measurements used were salary, bonus, and total compensation. The role of ownership structure is placed at the heart of this study. Using archival data extracted from the annual registration statement, annual corporate report, DataStream and SETSMART of Thai listed companies during 2002-2008, this study tests the four hypotheses. Various estimation techniques are deployed in order to verify the understanding of the pay-performance sensitivity and its performance consequences, while earning management as a side effect of the incentive pay is also considered. Giving the first priority to fixed effects, the research findings are summarised below.

The overview to this study is in five sections. The first section reviews the research objective presented in the first chapter. The second provides a review of the research findings and then links to section three, on the way in which this research results relates to executive compensation. The fourth section discusses the research implications. The last section presents the research limitations and suggestions for further research, before drawing some research conclusions.

9.1 Introduction

In the middle of a financial crisis, the executive pay is often blamed as not reflecting the performance of the executive had performed. This study set out to advance the current state of executive compensation knowledge with respect to Agency theory using advanced statistical techniques, on the basis of publicly available executive compensation data in the Stock Exchange of Thailand. It began with the empirical investigation of the forms of executive compensation and the level paid in listed companies, and second, it empirically examined the pay-performance sensitivity in Thai listed companies. Its third objective was to investigate the role of ownership structure in the determination of executive compensation and firm performance in Thai listed companies. The fourth objective was to evaluate the performance consequences of executive compensation. The final objective was to provide further investigation of the role of ownership structure in moderating the performance consequences of executive compensation. A theoretical model was derived from four hypotheses. These hypotheses were tested using archival data extracted from annual registration statements, and annual corporate reports in DataStream and SETSMART of Thai listed companies during 2002-2008.

9.2 Review of the hypotheses and findings

Agency theory expects that incentive compensation can be utilised to minimise agency cost and maximise firm value (Jensen and Meckling, 1976). Pay-performance sensitivity was thus expected. This study targets this approach by re-evaluating the role of ownership on the moderating effect of pay-performance sensitivity. It was also hoped to demonstrate the performance consequences of executive compensation. Four hypotheses were constructed as follows.

Hypothesis one predicted a positive influence of firm performance on executive compensation. This study provides confirmation evidence for the theory since a relation between executive salary and stock return has been found. Hypothesis two predicts a moderating effect of ownership structure on the pay-performance sensitivity. This study provides supportive evidence that foreign and dispersed ownership moderate the pay-performance sensitivity. The finding responds to the Agency theory assumptions on the role of the separation between ownership and control. Since the distance between ownership and control plays a key part in organisation design, the finding shows that firm performance positively influences executive compensation in dispersed ownership. Another finding responds to the concentrated ownership literature, which affirms that firm performance positively influences executive compensation in foreign ownership.

Hypothesis three predicts a performance consequence of executive pay. The result indicates that there is stock return as a performance consequence of executive bonus. Hypothesis four predicts that ownership structure influences the performance consequences of executive compensation. The result indicates that there is a positive performance consequence of executive bonus in dispersed ownership.

Unlike other Thai executive compensation studies (e.g Connelly, 2010; Kaewkumson, 2009; Puttaphiwat, 2007; and Sitthiharn, 2006), using panel (seven-year) data, this study takes advantage of the most recent time series of cross-sectional data to explore in greater depth our knowledge on the relationship between executive compensation and firm performance concerns. Recent econometric development provides a good chance to deploy a new estimation technique which controls endogeneity in executive compensation. This study begins the estimation using the Poole-OLS. This method is of benefit in exploring the characteristics of the overall data but leaves out the panel structure. It is hoped to produce understandable results which are comparable with previous findings. The fifth chapter reveals that most results confirm the early evidence. In order to control for firm effect, the panel data provide an opportunity to explore the state using the FE technique. The FE are applied to treat the structure of the panel data. All other variables are the same as the OLS estimation, but include ϵ_i , which is the unobserved individual (firm) effect. Using FE helps to control the effect of individual firms on overall data. However, the causality of executive compensation and firm performance is believed to cross over the assumptions of OLS and FE estimation. This study goes beyond the research agenda in tracking the endogenous issue by means of the instrumental variable, using the two-stage least square method. 2SLS-IV was the preferred estimation method, and this it is reported as the main result.

Table 9.1 Summary of the findings

Objective	Hypotheses	Independence variable	Dependence variable	Expected sign	Result of hypotheses testing	Result table
1 To investigate the pay-performance sensitivity						
	H1.1	EPS	Executive salary	+	rejected	column 3 table 6.1
	H1.2	OCF	Executive salary	+	rejected	column 3 table 6.1
	H1.3	R	Executive salary	+	Not rejected	column 3 table 6.1
	H1.4	EPS	Executive bonus	+	rejected	column 6 table 6.2
	H1.5	OCF	Executive bonus	+	rejected	column 6 table 6.2
	H1.6	R	Executive bonus	+	rejected	column 6 table 6.2
	H1.7	EPS	Executive total compensation	+	rejected	column 9 table 6.3
	H1.8	OCF	Executive total compensation	+	rejected	column 9 table 6.3
	H1.9	R	Executive total compensation	+	rejected	column 9 table 6.3
2. To investigate the role of ownership structure on the pay-performance sensitivity						
	H2.1	FAMEPS	Executive salary	+	rejected	column 3 table 6.4
	H2.2	FAMOCF	Executive salary	+	rejected	column 3 table 6.4
	H2.3	FAMR	Executive salary	+	rejected	column 3 table 6.4
	H2.4	COREPS	Executive salary	+	rejected	column 3 table 6.4
	H2.5	COROCF	Executive salary	+	rejected	column 3 table 6.4
	H2.6	CORR	Executive salary	+	rejected	column 3 table 6.4
	H2.7	FOREPS	Executive salary	+	Not rejected	column 3 table 6.4
	H2.8	FOROCF	Executive salary	+	rejected	column 3 table 6.4
	H2.9	FORR	Executive salary	+	rejected	column 3 table 6.4
	H2.10	DISEPS	Executive salary	+	rejected	column 3 table 6.4
	H2.11	DISOCF	Executive salary	+	rejected	column 3 table 6.4
	H2.12	DISR	Executive salary	+	Not rejected	column 3 table 6.4
	H2.13	FAMEPS	Executive bonus	+	rejected	column 3 table 6.5
	H2.14	FAMOCF	Executive bonus	+	rejected	column 3 table 6.5
	H2.15	FAMR	Executive bonus	+	rejected	column 3 table 6.5

Table 9.1 (cont'd.)

Objective	Hypotheses	Independence variable	Dependence variable	Expected sign	Result of hypotheses testing	Result table
	H2.16	COREPS	Executive bonus	+	rejected	column 3 table 6.5
	H2.17	COROCF	Executive bonus	+	rejected	column 3 table 6.5
	H2.18	CORR	Executive bonus	+	rejected	column 3 table 6.5
	H2.19	FOREPS	Executive bonus	+	Not rejected	column 3 table 6.5
	H2.20	FOROCF	Executive bonus	+	rejected	column 3 table 6.5
	H2.21	FORR	Executive bonus	+	rejected	column 3 table 6.5
	H2.22	DISEPS	Executive bonus	+	rejected	column 3 table 6.5
	H2.23	DISOCF	Executive bonus	+	rejected	column 3 table 6.5
	H2.24	DISR	Executive bonus	+	rejected	column 3 table 6.5
	H2.25	FAMEPS	Executive total compensation	+	rejected	column 3 table 6.6
	H2.26	FAMOCF	Executive total compensation	+	rejected	column 3 table 6.6
	H2.27	FAMR	Executive total compensation	+	rejected	column 3 table 6.6
	H2.28	COREPS	Executive total compensation	+	rejected	column 3 table 6.6
	H2.29	COROCF	Executive total compensation	+	rejected	column 3 table 6.6
	H2.30	CORR	Executive total compensation	+	rejected	column 3 table 6.6
	H2.31	FOREPS	Executive total compensation	+	Not rejected	column 3 table 6.6
	H2.32	FOROCF	Executive total compensation	+	rejected	column 3 table 6.6
	H2.33	FORR	Executive total compensation	+	rejected	column 3 table 6.6
	H2.34	DISEPS	Executive total compensation	+	rejected	column 3 table 6.6
	H2.35	DISOCF	Executive total compensation	+	rejected	column 3 table 6.6
	H2.36	DISR	Executive total compensation	+	rejected	column 3 table 6.6
3. To investigate performance consequences of executive compensation						
	H3.1	executive bonus	EPS	+	rejected	column 3 table 7.1
	H3.2	executive bonus	OCF	+	rejected	column 3 table 7.2
	H3.3	executive bonus	R	+	Not rejected	column 3 table 7.3
	H3.4	executive total	EPS	+	rejected	column 7 table 7.4

Table 9.1 (cont'd.)

Objective	Hypotheses	Independence variable	Dependence variable	Expected sign	Result of hypotheses testing	Result table
	H3.5	executive total	OCF	+	Not rejected	column 7 table 7.5
	H3.6	executive total	R	+	rejected	column 7 table 7.6
4. To investigate the role of ownership structure on the performance consequences of executive compensation						
	H4.1	BONFAM	EPS	+/-	rejected	column3 table 7.7
	H4.2	BONCOR	EPS	+/-	Not rejected	column3 table 7.7
	H4.3	BONFOR	EPS	+/-	rejected	column3 table 7.7
	H4.4	BONDIS	EPS	+/-	rejected	column3 table 7.7
	H4.5	TOTFAM	EPS	+/-	rejected	column7 table 7.7
	H4.6	TOTCOR	EPS	+/-	Not rejected	column7 table 7.7
	H4.7	TOTFOR	EPS	+/-	rejected	column7 table 7.7
	H4.8	TOTDIS	EPS	+/-	Not rejected	column7 table 7.7
	H4.9	BONFAM	OCF	+/-	rejected	column3 table 7.8
	H4.10	BONCOR	OCF	+/-	rejected	column3 table 7.8
	H4.11	BONFOR	OCF	+/-	rejected	column3 table 7.8
	H4.12	BONDIS	OCF	+/-	Not rejected	column3 table 7.8
	H4.13	TOTFAM	OCF	+/-	rejected	column7 table 7.8
	H4.14	TOTCOR	OCF	+/-	rejected	column7 table 7.8
	H4.15	TOTFOR	OCF	+/-	rejected	column7 table 7.8
	H4.16	TOTDIS	OCF	+/-	rejected	column7 table 7.8
	H4.17	BONFAM	R	+/-	rejected	column3 table 7.9
	H4.18	BONCOR	R	+/-	rejected	column3 table 7.9
	H4.19	BONFOR	R	+/-	rejected	column3 table 7.9
	H4.20	BONDIS	R	+/-	Not rejected	column3 table 7.9
	H4.21	TOTFAM	R	+/-	rejected	column7 table 7.9
	H4.22	TOTCOR	R	+/-	rejected	column7 table 7.9
	H4.23	TOTFOR	R	+/-	rejected	column7 table 7.9
	H4.24	TOTDIS	R	+/-	rejected	column7 table 7.9

Table 9.1 confirms that pay-performance sensitivity does exist, where ownership structure plays a crucial part in determining the strength/weakness of the link. This study contributes to the concentration ownership literature in that corporate and family ownership does play a role on the diversion of the pay decision to their own interests. The performance consequences section reveals the consequences of OCF on executive total pay. Further information shows that dispersed and corporate ownership moderates the consequences of executive pay.

9.3 Review of discussion

This study provides confirmatory evidence that widely held firms are efficiently tailoring their executive salaries to EPS and stock returns, which indicates transparency of compensation policy-making on the reflection of the high demand for a good quality CEO (Chalmers et al, 2006). The bonus finding provides supportive evidence to Jensen and Murphy (1990); the Principal thus offers working contracts in order to encourage the Agent's motivation to serve the Agent's need through performance criteria. An efficiency contract proved right in dispersed ownership but wrong in family ownership, because family owners are not maximising the utility of the firm but their own aims. It insists that management behaviour is not as straightforward. Family-owned firms do attempt to tighten the pay-performance sensitivity. The evidence indicates the role of the owner in the mechanism design even without a good governance request. Hence, the success of working contracts is not based on a sole designed. It interplays with others' control and coordination mechanisms. Thus, the display of power should then be added to the Agency theory since the evidence indicates that market influence proves to push the compensation design toward value-maximising the contract (widely-held firm in the case of salary). The performance

consequences section reveals that dispersed and corporate ownership moderates the consequence. It should be emphasised that dispersed ownership influences the incentive pay and it does receive reward in the performance consequences form. This confirms that well-designed executive compensation does receive its deserved firm performance.

9.4 Contributions of the study

In addition to a comprehensive synthesis literature on executive compensation to date, this section provides the methodological, theoretical contributions and the policy implications of this study. As the first study on the moderating role of ownership structure in the pay-performance sensitivity, this provides original ideas on the interplay between incentive compensation, the separation between ownership and control and the performance consequence of executive compensation in Thai listed companies. It is also the first pay-performance sensitivity study that takes account of the causal relationship between these two variables using 2SLS-IV. Furthermore, this original work is the first to provide a complete picture of the determination of executive compensation and firm performance in Thai listed companies. It should contribute to executive compensation practice and determinant requirements for researchers, authorities and practitioners.

9.4.1 Methodological contributions

As with other emerging economies, the availability of data is the key concern. Unlike the developed market where data on executive pay have been widely available since 1992 (Florin, Hallock and Webber, 2010), the executive compensation data in Thailand has only developed recently. In 2006, SET published the first research on executive compensation in Thailand using the

data from the year 2005. Surprisingly, the data were hand collected. Even pay-performance sensitivity cannot be found due to the estimation issue, but technically it reveals that undertaking executive compensation research is possible and thus a concern of the authorities.

The selection of Thai listed companies allows this study to explore the specific environment of the Stock Exchange of Thailand. There is less influence of Anglo-Saxon cultures, in which setting Agency theory setting is primarily used to test whether or not dispersed ownership, as an organisational structure, deploys incentive compensation theory in its executive compensation pay. Similar forms of ownership but variations in remuneration committee regulations may contribute to the unique perception and awareness of executive compensation practice in Thailand. Further data allow testing of the different forms where ownership is concentrated.

The measurement of variables contributes to this research methodology area, since most of the American literature focuses on Stock-Option, salary and bonuses as the key components of the executive compensation package. Less than 10% of listed companies offer their executive manager a stock option. The rest of the literature uses total compensation as a proxy of incentive compensation. Since the objectives of salary, bonus and stock option are all different, it is hard to interpret the findings. The measurement of firm performance is another concern. The ability of accounting and market performance to do this has long been debated. This study deploys the claims of both of them.

The third methodology is the estimation technique. OLS regression has been used since executive compensation began to attract public interest. This estimation is simple but entails inconsistent error. Since executive compensation and firm performance are endogenous by nature, most research tests only one way or the other. This study is one of the very few pieces of research

that takes the opportunity to use newly developed techniques such as 2SLS and GMM to allow the data to be treated as they really are. Treating them in a two-way direction reduces the level of bias, thus, it is hoped, providing a more valid result, which in turn gives better understanding of this research area.

9.4.2 Theoretical contributions

Based on the findings from this research, the novel underpinning to Theory of the Firm should add the limitations of the incentive compensation knowledge in respect of ownership structure before embarking on the best practice; that is, high incentive compensation causes better performance.

This study verifies the implication of the Agency theory that there is pay-performance sensitivity in well-balanced power settings. The role of a performance matrix in executive compensation design is another contribution. Not only RI and EPS but also OCF provide useful information to the firm on executive compensation design. The three performance proxies provide the different approaches of the firms on operations outcome.

The moderating effect of ownership on pay-performance sensitivity is raised. Since not all listed companies have asymmetric information between groups of investors, incentive compensation may be used to divert the wealth. The conflict of interest between majority and minority shareholders is considered to be a recent phenomenon. Also, most of ownership concentration research focused on total ownership concentration; this study, aligned with that of Jiang (2009), classifies sub-categorisation of large shareholders which proved to influence the firm in different ways. With or without expectations of Agency theory, this study provides empirical evidence to confirm that there is performance consequence of executive compensation.

9.4.3 Policy implications of the study

At least three important regulatory implications can be suggested from this study. First, it provides the primary suggestion to the policy makers in Thailand to review executive compensation practice in the Stock Exchange of Thailand, particularly in the family-owned firm. The setting, however, did prove to have a problematic issue since the distinction between ownership and control is not clear and problems between the majority and minority shareholders occur.

The second regulatory implication is the listed companies, with their remuneration committee in particular. Benefits are realised by talking about the importance of transparency and disclosure. The awareness of the separation between ownership and control should be raised. Transparency and information disclosure about compensation design can differentiate well-governed firms from others.

Lastly, this study provides some implications for investors' decisions. Having the evidence of particular ownership is becoming less required than their personal judgement on management control system. It also suggests that shareholders are actively taking part in the structure of executive compensation.

9.5 Limitations of the study

Having listed the benefits of this study, the chapter should also indicate its limitations. Two limitations of this study are the data and the variable set. Firstly, the sample size is a primary constraint since executive compensation data are not compulsorily required except for the total executive

compensation for the current year. Although robust testing confirms the reliability of the data, having a whole population should allow further detailed testing. Also since the data have been extracted from the annual registration statement, they may have been subject to the judgement of the collector. Secondly, a range of variables such as corporate governance is not included. The reason behind this is that the primary focus of this study is the role of ownership structure as a control mechanism which substitutes for concentrated ownership.

9.6 Future research

Three recommendations can be made for further studies to anyone who wishes to extend the present study, since it surveys a limited number of ownership structures on pay-performance sensitivity and also a limited number of forms of executive compensation in Thailand.

First is the role of foreign portfolio investment in the determination of executive compensation. Extending the number of foreign portfolio investment observations might allow further study by which to understand more about the role of these investors on management practice in Thailand.

Second is tax motivation on the determination of executive compensation in family ownership, since the transferring of wealth using executive compensation is complicated and under-observed. Including a variable set of corporate governance codes of conduct might allow further research to understand the effect of tax practice, using compensation as a tool.

Last is earning management as a side-effect of the use of accounting numbers on the executive compensation package. This study explores the

issue and finds signs of some problems. Future research might go beyond the basic earning management model to provide rich evidence of whether or not executive compensation has side-effects to motivate the executive manager to put effort into manipulating numbers.

9.7 Chapter summary

This chapter has presented an overview of the whole study. It begins with an explanation of research objectives. A review of the hypotheses and findings is provided in the second section. Both supportive and non-supportive hypotheses are provided. The next section provides a research discussion regarding these findings. The following section provides the research contribution in which both theoretical and policy implications are mentioned. After this, the research limitations are discussed, before the last section suggests future directions for research in the field.

Appendix

Linear assumptions

In order to use regression analysis properly, Kennedy (1999) and Gujarati (1999) mentioned that the classical assumptions of the linear regression model should be investigated. These are linearity, randomness of variables, homoskedasticity and exogenous and linear independence. Details of linearity, normality, heteroskedasticity, multicollinearity, and endogeneity assumption are provided below.

1. Linearity

The relationship between each independent variable and dependent variable is required to have a linear form on which a dependent variable can be calculated as a linear function of a specific set of independent variables, plus a disturbance term. If this assumption is violated, the linear regression will try

to fit a straight line to data that do not follow a straight line. Kennedy (1999) indicates that a problem may arise if the equation omits relevant independent variables or includes irrelevant independent variables or if the relation between the dependent and dependent variables is not linear. A problem may also arise if the parameters do not remain constant. To detect nonlinearity, Ayyangar (2008) suggests graphical techniques, using a scatter plot of dependent variables and residuals. The consequence of using multiple regressions in nonlinearity is biased parameter estimates, which lead to underestimating the estimators and R-square. This study uses multiple scatter plots for the variables used in equations but found no issue.

2. Normality

The second assumption requires all variables to be normally distributed, since highly skewed variables or those with substantial outliers can affect the relationships and significance tests. This assumption suggests that small errors provide higher confidence intervals for the predicted values; however normality is not required in multiple regression (Regression with Stata web book) because Agency theory puts forward the assumption that executive compensation and firm performance are linear in nature. Like other incentive compensation research, this study found that there is a skewness and kurtosis issue in these data. This study goes further in data transformation using the transformation techniques which are logarithm, square root, reciprocal and square transformation. Since all transformation methods require the data to be greater than zero where firm performance - EPS, OCF and RI - could be negative, it systematically scraps all negative data. This study also sketches in the potential issues: outliers, leverage and influence data. Since a single observation may deeply affect the estimation, this study rechecks all possible causes: data entry error and sampling error, but found no issue.

3. Heteroskedasticity and Autocorrelation

The third assumption requires the disturbance terms all to have the same variance and not to be correlated with one another. If this is ensured, even the parameter estimates are unbiased but the P-values are unreliable. Ayyangar (2008) suggests plotting the residuals against the predicted value. Then the patterns in the graph will reveal the problem.

Heteroskedasticity arises when not all the disturbances have the same variance. It indicates that the variance of the independent variable does not equally explain the variance of the dependence variable which results from limiting the explanation of the effects of the regressors. Ayyangar (2008) indicates that the results of heteroskedasticity are inefficient estimators and show biased standard error, rendering the t-test and confidence intervals unreliable. Thus, the test for heteroskedasticity of such writers as Breushch and Pegan (1979), White (1980) and Cook and Weisberg (1983) should be adopted. If heteroskedasticity is discovered, its causes if known must be corrected; otherwise the estimator will probably make heteroskedasticity-consistent standard errors for the regression coefficients and linear restrictions. Regarding this potential problem, this study provides the standard performance indicators of return on assets, operation cash flow per share and stock return, rather than performance itself. Also, all estimation deploys robust standard errors. Kennedy (1998) indicates another potential problem, which is autocorrelation. Autocorrelated error arises when the disturbances are correlated with one another. Ayyangar (2008) suggests the problem arises when the observations are not independent, for in this case the regression analysis will suffer, leading to the problem of biased intercept (Kennedy, 1998). However, this issue does not threaten the estimation since panel data obtain the character of a cross-section. The most recent econometrics development on the autocorrelation of panel data is GMM estimation, using Arellano-Bond dynamic panel estimation which is also reported in this study.

4. Multicollinearity

Regression analysis assumes that the number of observations is greater than the number of independent variables and there are no exact linear relationships between independent variables; it avoids the problem of two or more variables which convey essentially the same information but do not contribute significantly to the model if another is included, yet together they over-contribute. Gujarati (1999) suggests that the problem arises when there are high R^2 but few significant at t ratios also this issue can be seen through partial correlations. To avoid the problem, all but one of the highly correlated variables should be removed from the analysis. The alternative is to combine the variables but, in order to do this; support from a theoretical background is needed. Thus, this study has checked correlation between independent variables because of its concern over multicollinearity. Table 5.4 confirms that there is no correlation between executive compensation components and that firm performance and firm size proxies are higher than 50%. There is no small t with large R-squared reported, thus this study claims that is no severe multicollinearity in this study.

5. Endogeneity

Since this study approaches simultaneous equations between executive compensation and firm performance, the endogeneity issue arises. The observations on the independent variable can be considered fixed in repeated samples. This causes parameter estimates to become biased. Kennedy (1998) indicates that violation of this assumption is referred to as ‘endogenous’, which renders the equations simultaneous. The problem of auto-regression may arise when using a lagged value of the dependent variables to regress with independent variables. To fix the problem, a two-stage least squares regression should be employed. The problem in employing this technique is the existence of strong instrumental variables to put into the equation.

LIST OF REFERENCES

ABDEL-KHALIK, A. & AJINKYA, B. (1979) Empirical research in accounting: A methodological viewpoint, Florida: American Accounting Association.

ABELL, P. 2007. Organisation theory: an interdisciplinary approach Available at: http://www.lse.ac.uk/collections/MES/pdf/peterE8047_Organisation%20theory.pdf

ABOWD, J. & KAPLAN, D. (1999) Executive compensation: six questions that need answering. The Journal of Economic Perspectives, 13, 145-168.

ABOWD, J. M. (1990) Does performance-based managerial compensation affect corporate performance? Industrial and Labour Relations Review, 43, 52-73.

ACARANUPONG, K. (2003)The effects of year 1999 changes in Thai accountings standards on value relevance of accounting information. Bangkok: Chulalongkorn University

AGARWAL, N. (1981) Determinants of executive compensation. Industrial Relations: A Journal of Economy and Society, 20, 36-45.

AGRESTI, A. & FINLAY, B. (2009) Statistical methods for the social sciences, 4th ed. New Jersey: Pearson Prentice Hall.

AKERLOF, G. A. (1970) The market for lemons: quality uncertainty and the market mechanism. The Quarterly Journal of Economics, 84, 488-500.

ALANGAR, S. M. (1993) Incentive problems and the structure of executive compensation: theoretical and empirical evidence. PhD thesis, Texas Tech University, U.S.

ALCHIAN, A. A. & DEMSETZ, H. (1972) Production, information costs and economic organization. The American Economic Review, 62, 777-795.

ALI, A., & CHEN,T.Y. (2006) Compensation contracts of professional CEOs of family firms. Available at http://acctwkshop.cox.smu.edu/acctwkshop/W20052006/c.pdf

ANDERSON, M., BANKER, R. & RAVINDRAN, S. (1999) Interrelations between components of executives compensation and market and accounting based performance measures. Working paper, the University of Texas at Dallas.

ANDERSON, T. & HSIAO, C. (1982) Formulation and estimation of dynamic using panel data. Journal of econometrics, 18, 47-82.

ANGRIST, J.D. & PISCHKE, J. (2009) Mostly harmless econometrics: an empiricist's companion, Princeton University Press.

ARELLANO, M. & BOND, S. (1991) Some tests of specification for panel data: Monte Carlo evidence and an application to employment equations. The Review of Economic Studies, 58, 277-297.

ARMSTRONG, M. & BARON, A. (2007) Managing Performance, London: CIPD Publishers.

ARORA, A. & ALAM, P. (2005) CEO Compensation and stakeholders' claims. Contemporary Accounting Research, 22, 519-547.

ARROW, K. J. (1963) Social choice and individual values, New York: Yale University Press.

ARROW, K. J., PRATT, J. W. & ZECKHAUSER, R. J. (1985) Principals and Agents: the structure of business, Boston: Harvard Business School Press.

ARTZ, B. (2010) Fringe benefits and job satisfaction. International Journal of Manpower, 31, 626-644.

ATHIAPINYA, T. (2005) CEO's characteristics and firm performance of the companies listed in the Stock Exchange of Thailand. MSc dissertation, Chulalongkorn University, Thailand.

AYYANGAR, L. (2008) Skewness, Multicollinearity, heteroskedasticity: you name it, cost data have it. Available at: http://www.lexjansen.com/wuss/2006/posters/POS-Ayyangar.pdf

BAILEY, W. & JAGTIANI, J. (1994) Foreign ownership restrictions and stock prices in the Thai capital market. Journal of Financial Economics, 36, 57-87.

BAKER, G. & HALL, B. (2004) CEO incentives and firm size. Journal of Labour Economics, 22, 767-798.

BAKER, G. & JORGENSEN, B. (2004) Volatility, noise and incentives. Unpublished manuscript. Harvard University, U.S.

BAKER, G., GIBBONS, R. & MURPHY, K. (2002) Relational contracts and the theory of the firm. the Quarterly Journal of Economics, 117, 39-84.

BAKER, G., JENSEN, M. C. & MURPHY, K. J. (1988) Compensation and incentives: practice vs. theory. The Journal of Finance, 43, 593-616.

BALSAM, S., YANG, S. & YIN, J. (2006) A reexamination of the association between CEO compensation and the components of accounting earnings. Working paper, University of Texas at San Antonio, U.S.

BALTATI, B. (2005) Econometric analysis of panel data. 3rd Ed, Chichester: Wiley John and Son.

BARKEMA, H. G. & GOMEZ-MEJIA, L. R. (1998) Managerial compensation and firm performance: a general research framework. Academy of Management Journal, 41, 135-145.

BARROS, C. P. & NUNES, F. (2007) Governance and CEO pay and performance in non-profit organizations. International Journal of Social Economics, 34, 811-827.

BARTH, E., GULBRANDSEN, T., & Schone, P. (2005) Family ownership and productivity: the role of owner-management. Journal of Corporate Finance, 11, 107–127.

BASU, S., HWANG, L.S., MITSUDOME, T. and WEINTROP, J. (2007) Corporate governance, top executive compensation and firm performance in Japan, Pacific-basin finance journal, 15, 56-79

BAUM, C.F. (2006) An introduction to modern econometrics using Stata, Texas: STATA Press.

BEBCHUK, L. & FRIED, J. (2003) Executive compensation as an agency problem. Journal of Economic Perspectives, 71-92.

BEBCHUK, L. A., FRIED, J. M. & WALKER, D. I. (2002) Managerial power and rent extraction in the design of executive compensation. University of Chicago Law Review, 69, 751-846.

BENITO, A. & CONYON, M. J. (1999) The governance of directors' pay: Evidence from U.K. companies. Journal of Management and Governance, 3, 117-136.

BENNEDSEN, M. & NIELSEN, K. (2010) Incentive and entrenchment effects in European ownership. Journal of Banking & Finance, 34, 2212-2229.

BERLE, A. & MEANS, G.C. (1932) the modern corporation and Private Property. New York: McMillan

BHAGAT, S. & BOLTON, B. (2008) Corporate governance and firm performance. Journal of Corporate Finance, 14, 257-273.

BIDDLE, G. C., BOWEN, R. M. & WALLACE, J. S. (1999) Evidence on EVA. Journal of Applied Corporate Finance, 12, 69-79.

BIDDLE, G., BOWEN, R. & WALLACE, J. (1997) Does EVA® beat earnings? evidence on associations with stock returns and firm values. Journal of Accounting and Economics, 24, 301-336.

BLACK, B. (1990) Shareholder passivity re-examined. Michigan Law Review, 89, 520-608

BLUNDELL, R. & BOND, S. (1998) Initial conditions and moment restrictions in dynamic panel data models. Journal of econometrics, 87, 115-143.

BONNER, S., HASTIE, R., SPRINKLE, G. & YOUNG, S. (2000) A review of the effects of financial incentives on performance in laboratory tasks: Implications for management accounting. Journal of Management Accounting Research, 12, 19.

BOOTSMA, A. (2010) Pay-for-performance? Accountability, 166-184.

BOSCHEN, J. F., DURU, A., GORDON, L. A. & SMITH, K. J. (2003) Accounting and stock price performance in dynamic CEO compensation arrangements. Accounting Review, 78, 143-168.

BRATTON, J. & GOLD, J. (2007) Human resource management: theory and practice, Basingstoke: Palgrave Macmillan.

BREUSCH, T.S. & PAGAN, A.R. (1979) Simple test for heteroscedasticity and random coefficient variation. Econometrica, 47, 5, 1287-1294.

BRICK, I., PALMON, O. & WALD, J. (2010) Too much pay performance sensitivity? Available at: http://business.rutgers.edu/files/bpwrisk092308.pdf

BROWN, L. & CAYLOR, M. (2006) Corporate governance and firm valuation. Journal of Accounting and Public Policy, 25, 409-434.

BRUCE, A., SKOVORODA, R., FATTORUSSO, J. & BUCK, T. (2007) Executive bonus and firm performance in the U.K. Long Range Planning, 40, 280-294.

BRUNELLO, G., GRAZIANO, C. & PARIGI, B. (2001) Executive compensation and firm performance in Italy. International Journal of Industrial Organization, 19, 133-161.

BRYMAN, A. (2008) Social Research Methods, Oxford: Oxford University Press.

BUCK, T., BRUCE, A., MAIN, B. & UDUENI, H. (2003) Long term incentive plans, executive pay and U.K. company performance. Journal of Management Studies, 40, 1709-1727.

BUCK, T., LIU, X., & SKOVORODA, R. (2008) Top executive pay and firm performance in China, Journal of International Business studies,1,1-18

BURKART, M. & PANUNZI, F. (2006) Agency conflicts, ownership concentration and legal shareholder protection. Journal of Financial Intermediation, 15, 1-31.

BURRELL, G. & MORGAN, G. (1979) Sociological paradigms and organizational analysis. London: Heinemann.

BUSHMAN, R. & INDJEJIKIAN, R. (1993) Accounting income, stock price and managerial compensation. Journal of accounting and economics, 16, 3-23.

CAMERON, A.C. & TRIVEDI, P.K. (2009) Microeconometrics using Stata, Texas: STATA Press

CAPON, N., FARLEY, J. & HOENIG, S. (1990) Determinants of financial performance: a meta-analysis. Management Science, 36, 1143-1159.

CAVALLUZZO, K. & SANKARAGURUSWAMY, S. (2000) Pay-to-accounting performance and ownership structure in privately-held small corporations, working paper, Georgetown University, U.S.

CHALMERS, K., KOH, P. & STAPLEDON, G. (2006) The determinants of CEO compensation: rent extraction or labour demand? The British Accounting Review, 38, 259-275.

CHARTERED INSTITUTION OF MANAGEMENT ACCOUNTANTS. (2001) Executive remuneration. London: CIMA technical services.

CHARTERED INSTITUTION OF MANAGEMENT ACCOUNTANTS. (2010) Global perspectives on governance: lessons from east and west. London: CIMA technical services.

CHEN, J. And EZZAMEL, M., & CAI, Z. (2011) Managerial power theory, tournament theory, and executive pay in China, Journal of corporate finance, 17, 4, 1176-1199

CHEN, J.J., Liu, X., Li, & Weian,L. (2010) Corporate governance implications in the determination of executive compensation: evidence from China, joint symposium journal of contemporary accounting and economics at Seoul National university, Seoul, Korea

CHEN, X. (2008) An empirical investigation of the relationship between earning management, tax avoidance and executive compensation. MSc dissertation, University of Southampton, U.K.

CHENHALL, R. & LANGFIELD-SMITH, K. (2003) Performance measurement and reward systems, trust and strategic change. Journal of Management Accounting Research, 15, 117.

CHEUNG, L. STOURAITIS, A. & WONG, A. (2005) Ownership concentration and executive compensation in closely held firms: Evidence from Hong Kong, Journal of empirical finance, 2, 4, 511-532.

CHONG, V. K. & EGGLETON, I. R. C. (2007) The impact of reliance on incentive-based compensation schemes, information asymmetry and organisational commitment on managerial performance. Management Accounting Research, 18, 312-342.

CHOWDHURY, S. D. & GERINGER, J.M. (2001) Institutional ownership, strategic choices and corporate efficiency: Evidence from Japan. Journal of Management Studies, 38, 271-292.

CICHELLO, M. (2005) The impact of firm size on pay-performance sensitivities. Journal of Corporate Finance, 11, 609-627.

CLAESSENS, S., DJANKOV, S. & LANG, L. (2000) The separation of ownership and control in East Asian Corporations. Journal of Financial Economics, 58, 81-112.

COASE, R. H. (1937) The nature of the firm. Economica, 4, 386-405.

COASE, R. H. (1990) The firm, the market and the law, Chicago: University of Chicago Press.

COFFEE JR, J. (2001) The rise of dispersed ownership: The roles of law and the state in the separation of ownership and control. Yale Law Journal, 111, 1-82.

COLLIS, J. & HUSSEY, R. (2009) Business research: a practical guide for undergraduate and postgraduate students, Basingstoke: Palgrave Macmillan.

CONNELLY, J., LIMPAPHAYOM, P. & SULLIVAN, M. (2010) Corporate governance, family ownership and executive compensation: evidence from Thailand. Working paper, available at: http://mbais.acc.chula.ac.th/Document/17/Session%209%20-%20Connelly_Limpaphayom_Sullivan.pdf

CONNOLLY, S. & MUNRO, A. (1999) Economics of the public sector, London: Prentice Hall Europe.

CONYON, M. & HE, L. (2010) Executive compensation in China. Working paper, available at: http://www.cf.ac.uk/carbs/conferences/mcc10/JCF_CHINA_AUGUST_2010.pdf

CONYON, M. J. & PECK. S.I. (1998) Board control, remuneration committees and top management compensation. The Academy of Management Journal, 41, 146-157.

CONYON, M. J. (2006) Executive compensation and incentives. Academy of Management Perspectives, 20, 25-44.

CONYON, M. J. And MURPHY, K.J. (2000) The prince and the pouper? CEO pay in the United States and United Kingdom, Royal economic society, 110, 640-671.

CONYON, M., PECK, S. & SADLER, G. (2000) Econometric modelling of U.K. executive compensation. Managerial finance, 26, 3-20.

CONYON, M.J. (2011) Executive compensation consultants and CEO pay, Vanderbilt law review, 64, 3, 399-428

CONYON, M.J. and HE, L. (2011) Executive compensation and corporate governance in China, Journal of corporate finance, 17, 4, 1158-1175

CONYON, M.J.& MURPHY, K.J. (2000) The prince and the pauper? CEO pay in the U.S. and U.K., Economic Journal, 110, 640-671

COOK, R.D. & WEISBERG, S. (1983) Diagnostics for heteroscedasticity in regression, Biometrika, 70,1, 1-10.

COOK, T., CAMPBELL, D. & PERACCHIO, L. (1990) Quasi experimentation, California: Consulting Psychologists Press.

COOPER, M., GULEN, H. & RAU, P. (2009) Performance for pay? the relationship between CEO incentive compensation and future stock price performance. Working Paper, University of Utah, U.S.

CORE, J., GUAY, W. & LARCKER, D. (2003) Executive equity compensation and incentives: A survey. Economic Policy Review, 9, 27-50.

CORE, J., GUAY, w., & VERRECCHIA (2003) Price versus non-price performance measures in optimal CEO compensation contracts, Accounting review, 784, 957-981

CORE, J., HOLTHAUSEN, R. & LARCKER, D. (1999) Corporate governance, chief executive officer compensation and firm performance. Journal of Financial Economics, 51, 371-406.

CORNETT, M.M., MARCUS, C.A. & TEHARANIAN, H. (2008) Corporate governance and pay-for-performance: the impact of earning management. Journal of Financial Economics, 87, 357-373.

CORPORATE GOVERNANCE CENTER (2008) Remuneration committee guidelines, available at http://www.set.or.th/en/regulations/cg/files/RCinEngPublishing.pdf

CORPORATE GOVERNANCE CENTER (2010) Remuneration committee guidelines. Available at http://www.set.or.th/en/regulations/cg/files/RCinEngPublishing.pdf

CROCI, E., GONENC, H., & OZKAN, N. (2010) CEO compensation, family control and institutional investors in continental Europe. Proceeding paper, Finance Meeting EUROFIDAI-AFFI, Paris, France.

DAVILA, A. & PENALVA, F. (2006) Governance structure and the weighting of performance measures in CEO compensation. Review of Accounting Studies, 11, 463-493.

DAVIS, G.F. & USEEM, M. (2002), Top management, company directors and corporate control, in Pettigrew, H., WHITTINGTON, T.R. The handbook of strategy and Management, London: Sage.

DAVIS, J. (2001) Explaining Stock Returns: A literature survey. Available at: http://www.ifa.com/Library/Support/Articles/Scholarly/files/ExplainingStockReturns.pdf

DEANGELO, H. & DEANGELO, L. (1985) Managerial ownership of voting rights: A study of public corporations with dual classes of common stock. Journal of Financial Economics, 14, 33-69.

DECKOP, J. (1988) Determinants of chief executive officer compensation. Industrial & Labour Relations Review, 41, 215-226.

DEMSETZ, H. & LEHN, K. (1985) The structure of corporate ownership: Causes and consequences. The Journal of Political Economy, 93, 1155-1177.

DOERINGER, P. (2003) Foreign direct investment, management practices and social capital: new evidence on the host country effects of Japanese multinationals. IED Discussion paper. Boston University, U.S.

DOUMA, S. & SCHREUDER, H. (2008) Economic approaches to organizations, London: Prentice Hall.

DUFFHUES, P. & KABIR, R. (2008) Is the pay-performance relationship always positive?: Evidence from the Netherlands. Journal of Multinational Financial Management, 18, 45-60.

DUTTA, S., & REICHELSTEIN, S. (2005) Stock price, earnings, and book value in managerial performance measures. The accounting review, 80, 1069-1100

DYCK, A. & ZINGALES, L. (2004) Private benefits of control: An international comparison. The Journal of Finance, 59, 537-600.

EBBES, P. (2004) Latent instrumental variables. PhD thesis, University of Groningen, the Netherlands.

EDWARDS, J. & WEICHENRIEDER, A. (2009) Control rights, pyramids and the measurement of ownership concentration. Journal of economic behaviour & organization, 72, 489-508.

EISENHARDT, K. (1989) Agency theory: An assessment and review. Academy of management review, 14, 57-74.

ELLISON, G. (2006) Bounded rationality in industrial organizations.

ELSTON, J. & GOLDBERG, L. (2003) Executive compensation and agency costs in Germany. Journal of Banking & Finance, 27, 1391-1410.

FAKHFAKH, F. & PEROTIN, V. (2000) The effects of profit-sharing schemes on enterprise performance in France. Economic Analysis, 3, 93-111.

FAMA, E. F. & JENSEN, M. C. (1983a) Agency problems and residual claims. The Journal of Law and Economics, 26, 327.

FAMA, E. F. & JENSEN, M. C. (1983b) Separation of ownership and control. The Journal of Law and Economics, 26, 301.

FAMA, E. F. (1980) Agency problems and the theory of the firm. The Journal of Political Economy, 88, 288-307.

FARMER, M. (2008) Chief executive compensation and company performance: a weak relationship or measurement weaknesses? . 17th EDAMBA Summer Academy, Soreze, France

FATTORUSSO, J. (2006) U.K. executive pay: the special case of executive bonuses. PhD thesis, Loughborough University. U.K.

FERRIS,S., KIM, K.A., KITSABUNNARAT, P. And NISHIKA, T. (2007) Managerial power in the design of executive compensation: evidence from Japan, Advance in Financial Economics, 12, 3-26

FILATOTCHEV, I. & MICKIEWICZ, T. (2006) Ownership concentration, 'private benefits of control' and debt financing, New York: Palgrave McMillan.

FINKELSTEIN, S. & BOYD, B. K. (1998) How much does the CEO matter? The role of managerial discretion in setting of CEO compensation. The Academy of Management Journal, 41, 179-199.

FIRTH, M., FUNG, P. & RUI, O. (2006) Corporate performance and CEO compensation in China. Journal of Corporate Finance, 12, 693-714.

FLORING, B. HALLOCK, K.F. & WEBBER, D. (2010) Executive pay and firm performance: methodological considerations and future directions. Compensation Research Initiative, paper 15, Cornell University.

FRANCO-SANTOS, M. (2007) The performance impact of using measurement diversity in executives' annual incentive systems. PhD thesis, Cranfield University, U.K.

FRYDMAN, C. & JENTER, D. (2010) CEO compensation. Unpublished working paper, Stanford University, U.S.

GAREN, J. (1994) Executive compensation and Principal-Agent theory. Journal of Political Economy, 102, 1175-1199.

GERHART, B. & BRETZ JR, R. (1994) Employee compensation. Organizations and Management of Advanced Manufacturing. Indiana: John Wiley and son.

GERHART, B. A. & MILKOVICH, G.T. (1990) Organizational differences in managerial compensation and financial performance. The Academy of Management Journal, 33, 663-691.

GHAURI, P. & GRØNHAUG, K. (2005) Research methods in business studies: a practical guide, London: Prentice Hall.

GIBBONS, R. & MURPHY, K. (1990) Relative performance evaluation for chief executive officers. Industrial and Labour Relations Review, 43, 30-51.

GIBBONS, R. (1998) Incentives in organizations. The Journal of Economic Perspectives, 12, 115-132.

GÖBEL, C. & ZWICK, T. (2009) Age and productivity-evidence from linked employer employee data. ZEW discussion paper no.09-020, Mannheim, Germany.

GOMEZ-MEJIA, L. & WISEMAN, R. (1997) Reframing executive compensation: an assessment and outlook. Journal of Management, 23, 291.

GOMEZ-MEJIA, L., LARRAZA-KINTANA, M., & MAKRI, M. (2003) The determinants of executive compensation in family-controlled public corporations, Academy of Management Journal, 46, 2, 226-237.

GRANT, J. & KIRCHMAIER, T. (2004) Corporate ownership structure and performance in Europe. Centre of Economic Performance, London School of Economics.

GREENE, W. H. (2008) Econometric analysis. 6th ed, New Jersey: Prentice Hall.

GREGG, P., JEWELL, S., & TONKS, I. (2005) Executive pay and performance in the U.K. 1994-2002. The Centre for Market and Public Organisation Discussion Paper, 5, 122.

GREGORY-SMITH, I,D. (2008) Empirical studies in UK corporate governance and executive remuneration, PhD thesis, University of Nottingham, U.K.

GROSSMAN, S. & HART, O. (1986) The costs and benefits of ownership: A theory of vertical and lateral integration. The Journal of Political Economy, 94, 691-719.

GRUNDITZ, J. & LINDQVIST, J. (2004) CEO compensation and company performance: an empirical study on the situation in Sweden's listed companies, MSc thesis, Goteborg University, Sweden.

GUESNERIE, R. (1992) An exploration of the educative justifications of the rational-expectations hypothesis. The American Economic Review, 82, 1254-1278.

GUJARATI, D. (1999) A guide to econometrics, 2nd ed. Singapore: Mcgraw-Hill Irwin.

GUY, F. (2000) CEO pay, shareholder returns, and accounting profits. International Journal of the Economics of Business, 7, 3, 263-274.

HAID, A. & YURTOGLU, B. B. (2006) Ownership structure and executive compensation in Germany. Working paper, available at: http://cgft.sabanciuniv.edu/tr/Kaynaklar/documents/osecg.pdf

HALL, B. & LIEBMAN, J. (1998) Are CEOs really paid like bureaucrats? Quarterly Journal of Economics, 113, 653-691.

HART, O. & MOORE, J. (1990) Property rights and the nature of the firm. Journal of Political Economy, 98, 1119-1158.

HARTZELL, J. C. & STARKS, L. T. (2003) Institutional investors and executive compensation. The Journal of Finance, 58, 2351-2374.

HAUSMAN, J.A. (1978) Specification tests in econometrics, Econometrica, 46, 6, 1251-1271.

HEALY, P. (1985) The effect of bonus schemes on accounting decisions. Journal of accounting and economics, 7, 85-107.

HENGARTNER, L. (2006) Explaining executive pay: the roles of managerial power and complexity, DBA thesis, University of St.Gallen, Switzerland.

HEUGENS, P., VAN ESSEN, M. & VAN OOSTERHOUT, J. (2009) Meta-analyzing ownership concentration and firm performance in Asia: Towards a more fine-grained understanding. Asia Pacific Journal of Management, 26, 481-512.

HILLIER, B. (1997) The economics of asymmetric information, London: Palgrave Macmillan.

HOGAN, C. E. & LEWIS, C. M. (1999) The long-run performance of firms adopting compensation plans based on economic profits. Working paper: Vanderbilt University, U.S.

HOLMSTROM, B. & MILGROM, P. (1991) Multitask Principal-Agent analyses: Incentive contracts, asset ownership and job design. Journal of Law, Economics and Organization, 7, 24.

HOLMSTROM, B. & MILGROM, P. (1994) The firm as an incentive system. The American Economic Review, 84, 972-991.

HÖLMSTROM, B. (1979) Moral hazard and observability. The Bell Journal of Economics, 10, 74-91.

HOLMSTROM, B., TIROLE, J., SCHMALENSEE, R. & WILLIG, R. (1989) The theory of the firm. Handbook of industrial organization. Elsevier, 1, 148-222.

IMF (INTERNATIONAL MONETARY FUND) (2007) Thailand: Selected issue. IMF country report no.07/231

ITTNER, C. D. & LARCKER, D. F. (1998) Innovations in performance measurement: Trends and research implications. Journal of management accounting research, 10, 205-238.

ITTNER, C. D., LARCKER, D. F. & RAJAN, M. V. (1997) The Choice of performance measures in annual bonus contracts. Accounting Review, 72, 231-256.

JAAFAR, S.B., WAHAB, E.A.A & JAMES, K. (2012) Director remuneration and performance in Malaysia family firms: An expropriation matter? Proceeding in 6th Asian Business Research, Bangkok.

JENSEN, M. C. & MECKLING, W. H. (1976) Theory of the firm: managerial behaviour, agency costs and ownership structure. Journal of Financial Economics, 3, 305-360.

JENSEN, M. C. & MURPHY, K. J. (1990) Performance pay and top-management incentives. Journal of Political Economy, 98, 225-264.

JENSEN, M. C. (1994) Self interest, altruism, incentives and agency theory. Journal of Applied Corporate Finance, 7, no.2, 40-45.

JENSEN, M. C., MURPHY, K. J. & WRUCK, E. G. (2004) Remuneration: where we've been, how we got to here, what are the problems and how to fix them. ECGI Working Paper Series in Finance no.44, Harvard university, U.S.

JIAMSAGUL, S. (2007) The performance effects of transparency and disclosure and board of directors: the case of SET100 Thailand. DBA thesis, National Institute of Development Administration, Thailand.

JIANG, H. (2009) Three essays on ownership concentration in New Zealand. PhD dissertation, Lincoln University, New Zealand.

JIANG, H., HABIB, A. & SMALLMAN, C. (2008) Ownership concentration and CEO compensation pay-for performance sensitivity in New Zealand. PBFEAM 2008. Brisbane, Australia.

JOH, S. W. (1999) Strategic managerial incentive compensation in Japan: relative performance evaluation and product market collusion. The Review of Economics and Statistics, 81, 303-313.

JOHN, K. & QIAN, Y. (2003) Incentive features in CEO compensation in the banking industry. Economic Policy Review, 9, 109-121.

JONGSUREYAPART, C. (2006) Factors that determine corporate governance in Thailand, PhD thesis, Victoria University, Australia

KAPLAN, S. (1994) Top executive rewards and firm performance: A comparison of Japan and the United States. Journal of Political Economy, 102, 510-546.

KATO, T., & LONG, C. (2004) Executive compensation, firm performance, and ownership structure: an empirical study of listed firms in China. Working paper. Available at: http://www.wesleyan.edu/econ/ChinaStockMarket.pdf

KATO, T., KIM, W. & LEE, J. H. (2007) Executive compensation, firm performance and Chaebols in Korea: Evidence from new panel data. Pacific-Basin Finance Journal, 15, 36-55.

KATO,T., & LONG, C. (2006) Executive compensation, firm performance, and corporate governance in China: Evidence from firms listed in the Shanghai and Shenzhen Stock Exchange. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=555794

KAWEKUMSON, B. (2009) Relationship between executive compensation and firm performances: Empirical evidence for companies listed in the Stock Exchange of Thailand, MBA dissertation, Kasetsart University, Thailand.

KE, B., PETRONI, K. & SAFIEDDINE, A. (1999) Executive pay and accounting performance measures: evidence from publicly and privately-held insurance companies. Journal of accounting and economics, 28, 185-210.

KENNEDY, P. (1999) A guide to econometrics, 4th ed. Oxford: Blackwell Publishers

KERR, S. (1975) On the folly of rewarding A, while hoping for B. academy of Management Journal, 18, 769-783.

KHAN, H. (2003) Corporate governance: the limits of the Principal-Agent approach in light of the family-based corporate governance system in

Asia. Working paper, available at: http://ideas.repec.org/p/tky/fseres/2003cf230.html

KIM, K., NOFSINGER, J. R. & MOHR, D. J. (2010) Corporate governance, New Jersey: Pearson International Edition.

KLEIN, B., CRAWFORD, R. G. & ALCHIAN, A. A. (1978) Vertical integration, appropriable rents and the competitive contracting process. Journal of law and economics, 21, 297-326.

KOSAIYAKANONT, A. (2011) The influence of corporate disclosure on investor confidence in Thai listed companies, PhD thesis, University of Southampton, U.K.

KOZAN, J. & BOULANGER, C. (2004) Managing the complex relationship between executive pay and performance. Ivey Business Journal, 68, 1-8.

KRAFT, K. & NIEDERPRÜM, A. (1999) Determinants of management compensation with risk-averse Agents and dispersed ownership of the firm. Journal of economic behaviour & organization, 40, 17-27.

KUBO, K. (2000) The determinants of executive compensation and its effect on company performance in Japan and the UK, PhD thesis, London School of Economics and Political Science, U.K.

KUBO, K. (2005) Executive compensation policy and company performance in Japan, Corporate governance, 13, 3, 429-436.

KUNTISOOK, K., & BOONLERT-U-THAI, K. (2009) Accounting conservatism and controlling shareholder characteristics. 2010 American Accounting Association Annual Meeting, California, U.S.

LA PORTA, R., LOPEZ-DE-SILANES, F., SHLEIFER, A. & VISHNY, R. (1998) Law and finance. Journal of Political Economy, 106, 1113-1155.

LA PORTA, R., LOPEZ-DE-SILANES, F., SHLEIFER, A. & VISHNY, R. (2000) Investor protection and corporate governance. Journal of Financial Economics, 58, 3-27.

LAMBERT, R. & LARCKER, D. (1987) An analysis of the use of accounting and market measures of performance in executive compensation contracts. Journal of Accounting Research, 25, 85-125.

LANGFIELD-SMITH, K. (1997) Management control systems and strategy: A critical review. Accounting, Organizations and Society, 22, 207-232.

LEE, S.P., and CHEN, H.J. (2011) Corporate governance and firm value as determinants of CEO compensation in Taiwan, Management research review, 34, 3, 252-265

LEONARD, J. S. (1990) Executive pay and firm performance. Industrial and Labour Relations Review, 43, 13-29.

LEONE, A., WU, J. & ZIMMERMAN, J. (2006) Asymmetric sensitivity of CEO cash compensation to stock returns. Journal of accounting and economics, 42, 167-192.

LEVINTHAL, D. (1988) A survey of agency of organizations. Journal of Economic Behaviour and Organization, 9, 153-185.

LI, RYAN, H.E., WANG, L. (2011) The economics of executive compensation in family firms. Available at: http://theceodaily.com/wp-content/uploads/2011/03/ceopayatfamilyfirms.pdf

LILLING, M. (2006) The link between CEO compensation and firm performance: does simultaneity matter? Atlantic Economic Journal, 34, 101-114.

LIN, Y. F. (2005) Corporate governance, leadership structure and CEO compensation: evidence from Taiwan. An International Review, 13, 824-835.

LIPMAN, F. D. & HALL, S. E. (2008) Executive compensation best practices, New Jersey: John Wiley and sons.

LIPSEY, R. E. (2002) Home and host country effects of FDI. ISIT conference on Challenges to Globalization, Sweden.

LOWRY, M. & MURPHY, K. (2007) Executive Stock Options and IPO under-pricing, Journal of Financial Economics, 39-65.

LYNCH, L. & PERRY, S. (2003) An overview of management compensation. Journal of Accounting Education, 21, 43-60.

MACHO-STADLER, I., PÉREZ-CASTRILLO, J. D. & WATT, R. (2001) An introduction to the economics of information: incentives and contracts, New York: Oxford University Press.

MACKEY, A. (2006) Dynamics in executive labour markets: CEO effects, executive-firm matching and rent sharing. PhD thesis, Ohio State University, U.S.

MALLIN, C.A. (2007) Corporate governance. 2nd ed. Oxford: Oxford university press.

MATOLCSY, Z. & WRIGHT, A. (2007) CEO compensation structure and firm performance. Available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=971300

MATSUMURA, E.M. & SHIN, J.Y. (2005) Corporate governance reform and CEO compensation: Intended and unintended consequences. Journal of Business Ethics, 62. 101-113.

MAURY, B. (2006) Family ownership and firm performance: empirical evidence from Western European corporations. Journal of Corporate Finance, 12, 321-341.

McCONAUGHY, D.L. (2000) Family CEOs vs. Nonfamily CEOs in the family-controlled firm: an examination of the level and sensitivity of pay to performance, Family Business Review, 13, 2, 121-131.

McKINNON, S. & BRUNS, W. (1993) What production managers really want to know. Journal of Management Accounting, 74, 29-29.

McNICHOLS, M. (2000) Research design issues in earning management studies. Journal of Accounting and Public Policy, 19, 313-345.

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

MENGISTAE, T., & XU, L,X. (2004) Agency theory and executive compensation: The case of Chinese State-owned enterprises, journal of labour economics, 22, 3, 615-638

MERCER (2012) International geographic salary differentials: worldwide salary comparisons, available at http://www.imercer.com/Uploads/common/pdfs/12-IGSD_Sample.pdf

MERCHANT, K. A., VAN DER STEDE, W. A. & ZHENG, L. (2003) Disciplinary constraints on the advancement of knowledge: the case of organizational incentive systems. Accounting, Organizations and Society, 28, 251-286.

METZGER, D. (2011) Human capital and decision making with the firm, PhD thesis, London School of Economics and Political Science, U.K.

MILEVA, E. (2007) using Arellano–Bond dynamic panel GMM estimators in Stata: an Example. Download at http://www.fordham.edu/economics/mcleod/Elitz-UsingArellano%E2%80%93BondGMMEstimators.pdf

MILGROM, P. & ROBERTS, J. (1992) Economics, organization and management. London: Prentice-Hall.

MILKOVICH, G. & NEWMAN, J. (2008) Compensation, Boston: McGraw-Hill Irwin.

MITCHELL, M. & JOLLEY, J. (2007) Research design explained, California: Wadsworth Pub Co.

MOERLAND, P. (1995) Alternative disciplinary mechanisms in different corporate systems. Journal of economic behaviour & organization, 26, 17-34.

MONKS, A.G. & MINOW, N. (1995) Corporate Governance, 2nd ed. M.A.: Blackwell publishing.

MURPHY, K. (1999) Executive compensation. Handbook of labour economics, 3, 2485-2563. Amsterdam: The Netherlands.

NAKAZATO, M., RAMSEYER, J.M., & RAMUSEN, E.B. (2011) Executive compensation in Japan: Estimating levels and determinants from tax records, Journal of Economics and Management Strategy, 20, 3, 843-885

NEWMAN, H. (2000) The impact of ownership structure on the structure of compensation committees. Journal of Business Finance & Accounting, 27, 653-678.

NWAEZE, E. T., YANG, S. S. M. & YIN, Q. J. (2006) Accounting information and CEO compensation: the role of cash flow from operations in the presence of earnings. Contemporary Accounting Research, 23, 227-265.

O'BYRNE, S. F. & DAVID YOUNG, S. (2010) What investors need to Know about executive pay. The Journal of Investing, 19, 36-44.

ORELAND, C. (2007) CEO cash compensation and ownership structure: the effect of family control on the pay-performance relationship. Available at http://www.snee.org/filer/papers/398.pdf

ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (2005) Paying for performance: policies for government employees. Available at http://www.oecd.org/dataoecd/13/51/34910926.pdf

OTTEN, J. (2007) Origins of executive pay & corporate governance reform codes: Essays on an institutional approach to corporate governance. PhD thesis, Utrecht University, the Netherlands.

OVIANTARI, I. (2011) Directors and commissioners remuneration and firm performance, proceeding in 2nd international conference on business and economic research

OZKAN, N. (2007) CEO compensation and firm performance: an empirical investigation of U.K. panel data. European Financial Management. Available at: http://onlinelibrary.wiley.com/doi/10.1111/j.1468-036X.2009.00511.x/full

PALIA, D. (2001) The endogeneity of managerial compensation in firm valuation: A solution. Review of Financial Studies, 14, 735.

PALLATHITTA, R. (2005) Corporate governance and firm performance: an analysis of ownership structure, profit redistribution and diversification strategies of firms in India. PhD thesis, Tilburg University, The Netherlands.

PARTHASARATHY, A., BHATTACHERJEE, D. & MENON, K. (2006) Executive compensation, firm performance and corporate governance: An empirical analysis. Economic and Political Weekly, 41, 4139-4147.

PLATT, H. (1987) Determinants of executive compensation: The neoclassical model versus concept formation. Journal of Economic Psychology, 8, 255-272.

PRENDERGAST, C. (1999) The provision of incentives in firms. Journal of economic literature, 37, 7-63.

PRENDERGAST, C. (2002) The tenuous trade-off between risk and incentives. Journal of Political Economy, 110, 1071-1102.

PUTTHAPIWAT, W. (2007) Executive remuneration and company performances of companies listed in the Stock Exchange of Thailand, MAcc dissertation, Kasetsart University, Thailand.

RAJAGOPALAN, N. & DATTA, D. (1996) CEO characteristics: does industry matter? Academy of Management Journal, 39, 197-215.

RANKIN, M. (2007) Determinants of executive remuneration: Australian evidence. Unpublished working paper. Monash University, Australia.

ROCHANANONDA, C. (2006) Tax Incentives and FDI in Thailand. Fiscal Policy Office Ministry of Finance in Thailand

RODMAN, D. (2006) How to do Xtabond2: an introduction to difference and system GMM in Stata. Centre for Global Development, working paper no.103.

ROE, M.J. (2004) The institutes of corporate governance. In CLAUDE, M. & SHIRLEY, M.M. Handbook for New Institutional Economics. Norwall: Kluwer Academic publishers.

SAKAWA, H. & WATANABEL, N. (2009) Managerial compensation, corporate governance, and business performance in Japan: evidence using new micro data. Hi-Stat Discussion paper, Hitotsubashi University

SALIM, B., & WAN-HUSSIN, W.N. (2009) Remuneration committee, ownership structure and pay-for-performance: evidence from Malaysia, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1515166

SANDERS, W.G. & HAMBRICK, D.C. (2007) Swinging for the Fences: The Effects of CEO Stock Options on Company Risk Taking and Performance, The academy of management journal archive, 50,5, 1055-1078

SAUNDERS, M. LEWIS, P. & THORNHILL, A. (2007) Research methods for business students. 4th ed. Essex: Pearson Prentice Hall

SCHWARTZ, H. (2002) Herbert Simon and behavioural economics. Journal of Socio-Economics, 31, 181-189.

SHANKER, M. C. & ASTRACHAN, J. H. (1996) Myths and realities: family businesses' contribution to the US economy – a framework for assessing family business statistics. Family Business Review, 9, 107-123.

SHEPHERD, B. (2008) Endogeneity and its consequences. ARTNET capacity building workshop for trade research.

SIMON, H. (1951) A formal theory of the employment relationship. Econometrica: Journal of the Econometric Society, 19, 293-305.

SIMON, H. (1955) A behavioural model of rational choice. The quarterly journal of economics, 69, 99-118.

SIRISOM, J. (2003) Determinants of incremental information content of cash flows beyond earnings: evidence from the Stock Exchange of Thailand, PhD thesis, Chulalongkorn University, Thailand.

SITTHIHARN, T. (2006) The effect of executives' compensation types on company performance: a case study on listed companies in Stock Exchange of Thailand, MBA dissertation, Kasetsart University, Thailand.

SKINNER, D. (1999) How well does net income measure firm performance? A discussion of two studies. Journal of Accounting and Economics, 26, 105-111.

SLOAN, R. (1993) Accounting earnings and top executive compensation. Journal of accounting and economics, 16, 55-100.

SMITH, A. (1776) An inquiry into the nature and causes of the wealth of nations, London: Methuen.

SPEKLE, R. (2001) Explaining management control structure variety: a transaction cost economics perspective. Accounting, Organizations and Society, 26, 419-441.

STATHOPOULOS, K., ESPENLAUB, S. & WALKER, M. (2004) U.K. Executive compensation practices: new economy versus old economy. Journal of Management Accounting Research, 16, 57.

STROH, L. K., BRETT, J. M., BAUMANN, J. P. & REILLY, A. H. (1996) Agency theory and variable pay compensation strategies. The Academy of Management Journal, 39, 751-767.

SUHERMAN, W.R. and BUCHDADI, A.D. (2011) Firm performance, corporate governance, and executive compensation in financial firms: evidence from Indonesia, available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1805532

SUKTITIPAT, P. (2009) The relationship between ownership structure and firm performance, MSc dissertation, University of Southampton, U.K.

SUN, S.L., ZHAO,X., & YANG, H. (2010) Executive compensation in Asia: a critical review and outlook, Asian-Pacific journal of management, 775-802

TALMOR, E. & WALLACE, J. (2002) Compensation determinants and efficient contracting. Working Paper. London Business School and University of California, Irvine.

TAYLOR, P. & TAYLOR, P. (1996) Consolidated financial reporting, Sage Publications Ltd.

TEVLIN, S. (1996) CEO incentive contracts, monitoring costs and corporate performance. New England Economic Review, January-February, 39-50.

THAKAEW, T. (2006) The relationship between Economic value added, earning per share, and executive compensation. MSc dissertation, Thammasart University, Thailand

THE BANK OF THAILAND (2002) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2002_E.pdf

THE BANK OF THAILAND (2003) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2003_E.pdf

THE BANK OF THAILAND (2004) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2004_E.pdf

THE BANK OF THAILAND (2005) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2005_E.pdf

THE BANK OF THAILAND (2006) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2006_E.pdf

THE BANK OF THAILAND (2007) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2007_E.pdf

THE BANK OF THAILAND (2008) Payment system report. Available at: http://www.bot.or.th/English/PaymentSystems/Publication/ps_annually_report/Documents/Payment_2008_E.pdf

THE BANK OF THAILAND (2010) Financial market, available at: http://www.bot.or.th/English/FinancialMarkets/Pages/index.aspx

THE ENCYCLOPIDIA OF THE NATIONS (2010) Thailand, available at: http://www.nationsencyclopedia.com/Asia-and-Oceania/Thailand.html

THE ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT (2005) Performance-related pay policies for government employees. Paris, OECD publications.

THE SECURITIES AND EXCHANGE COMMISSION OF THAILAND (2003) Economic and capital market development in Thailand. Available at: http://www.oecd.org/dataoecd/26/11/18989812.pdf

THE SECURITIES AND EXCHANGE COMMISSION OF THAILAND (2007a) Director's handbook volume 1: Roles, duties and responsibilities of directors and board of directors. Available at: http://capital.sec.or.th/webapp/nrs/data/499a8.pdf

THE SECURITIES AND EXCHANGE COMMISSION OF THAILAND (2007b) Director's handbook volume 2: practice guidelines for directors. Available at: http://capital.sec.or.th/webapp/nrs/data/499a9.pdf

THE SECURITIES AND EXCHANGE COMMISSION OF THAILAND (2007c) Director's handbook volume 3: Rights and equitable treatment of shareholders and shareholder meetings. Available at: http://capital.sec.or.th/webapp/nrs/data/499a10.pdf

THE STOCK EXCHANGE OF THAILAND (2004) Directors' handbook available at: http://capital.sec.or.th/webapp/nrs/data/499a8.pdf

THE STOCK EXCHANGE OF THAILAND (2007) Directors and Executive compensation in listed companies 2005 (in Thai) available at: http://www.set.or.th/th/regulations/cg/files/2006/Remuneration_48.pdf

THE STOCK EXCHANGE OF THAILAND (2009) The listed companies handbook available at: http://www.set.or.th/en/regulations/supervision/listed_download_p1.html

THE STOCK EXCHANGE OF THAILAND (2010) Market statistics, online at http://www.set.or.th/en/market/market_statistics.html

THE THAI INSTITUTE OF DIRECTORS AND MCKINSEY AND COMPANY (2002) Strengthening Corporate Governance Practices in Thailand, Available at http://econ.tu.ac.th/archan/rangsun/MB%20663/MB%20663%20Readings/%E0%B9%93.%20%E0%B8%9A%E0%B8%A3%E0%B8%A3%E0%B8%A9%E0%B8%B1%E0%B8%97%E0%B8%A0%E0%B8%B4%E0%B8%9A%E0%B8%B2%E0%B8%A5/Corporate%20Governance/Corporate%20Gov%20Reform/Strengthening%20CorpGov%20Practices%20in%20Thailand.pdf

The U.S. DEPARTMENT OF LABOUR (2010) Mining safety and heal administration (http://www.msha.gov/) last access 24 March 2011

THOMSEN, S. & PEDERSEN, T. (1998) Industry and ownership structure. International Review of Law and Economics, 18, 385-402.

TIAN, G.G. (2011) Managerial Pay-performance sensitivity in Asian, Proceeding in AFAANZ2011

TIROLE, J. (1988) The theory of industrial organization. Cambridge, MA : MIT press.

TONTIVANICHANON, C. (2004) Founding-family ownership and firm performance: evidence from the Stock Exchange of Thailand. MSc dissertation. Chulalongkorn University, Thailand

UNITE, A.A., SULLIVAN, M.J., BROOKMAN, J., MAJADILLAS, M.A., & TANINGCO, A. (2008) Executive pay and firm performance in the Philippines, Pacific-Basin Finance journal, 16, 606 - 623

VERNON, G. (2000) Issues of method in research on employment relations. SKOPE discussion paper no.9. Oxford, U.K.

VILLALONGA, B. & AMIT, R. (2006) How do family ownership, management and control affect firm value. Journal of Financial Economics, 80, 385-417.

WALI-UL-MAROOF, M (2006) Corporate Governance in Family-Run Businesses in Thailand, available at http://www.asianscholarship.org/asf/ejourn/articles/maroof_m.pdf

WALLACE, W. A. (1991) Accounting research methods: do the facts speak for themselves?, Illinois: Irwin.

WANG, Y., & STAMMERJOHAN, W. (2007) Determinants of executive compensation: a study of executive compensation in China, journal of organisational leadership and business, 1-20

WASSERMAN, N., NOHRIA, N. & ANAND, B. (2010) When does leadership matter? The contingent opportunities view of CEO leadership. IN

NOHRIA, N. & KHURANA, R. (Eds.) Handbook of Leadership Theory and Practice, Boston: Harvard Business School Publishing.

WATANAPALACHIKUL, S. (2003) The characteristics of the financial system of developing countries: a study of the Thai Stock Market, DBA thesis, Victoria University, Australia

WHITE, H. (1980) A heteroscedasticity-consistent covariance matrix estimator and a direct test for heteroscedasticity, Econometrica, 48, 4, 817-838.

WILLIAMSON, O. E. (1975) Markets and hierarchies: analysis and antitrust implications: a study in the economics of internal organization. New York: the Free Press.

WILLIAMSON, O. E. (1985) The Economic Institutions of capitalism: firms, markets, and rational contracting, New York: the Free Press.

WIWATTANAKANTANG, Y. (2000) The ownership structure, capital structure and performance of Thai firms. PhD thesis, Hitotsubashi University, Japan.

WIWATTANAKANTANG, Y. (2001) Controlling shareholders and corporate value: Evidence from Thailand. Pacific-Basin Finance Journal, 9, 323-362.

WOLK, H. I., DODD, J. L. & ROZYCKI, J. J. (2007) Accounting theory: conceptual issues in a political and economic environment, California: Sage Publications.

YAMMEESRI, J. & LODH, S. (2003) The effects of ownership structure on firm performance: Evidence from Thailand. Hawaii International Conference on Business. Hawaii, U.S.

YAYLA, A. & HU, Q. (2008) Determinants of CIO compensation structure and its impact on firm performance, proceedings of the 41st Hawaii International Conference on System Science, Hawaii, U.S.

YOUNG, M. & BUCHHOLTZ, A. (2002) Firm performance and CEO pay: relational demography as a moderator. Journal of Managerial Issues, 14, 296-316.

ZAJAC, E. & WESTPHAL, J. (1995) Accounting for explanations of CEO compensation: substance and symbolism. Administrative Science Quarterly, 40, 283-308.

ZHENG, Y. (2010) Heterogeneous institutional investors and CEO compensation. Review of Quantitative Finance and Accounting, 35, 21-46.

ZHOU, W., GEORGAKOPOULOS,G., SOTIROPOULOS,I., VASILEIOU,K. (2011) The impact of executive payment on firm performance of financial enterprises in china, Asian Social Science,7, 8.

ZOU, L. (1997) Incentive roles of fringe benefits in compensation contracts. Journal of Economics, 65, 181-199.

ZWICK, T. (2006) The impact of training intensity on establishment productivity. Industrial Relations, 45, 26-46.