ESSAYS ON EXECUTIVE STOCK OPTIONS IN MALAYSIA

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DECLARATION

Whilst registered as a candidate for the above degree, I have not been registered for any other research award. The results and conclusions embodied in this thesis are the work of named candidate and have not been submitted for any other academic award.

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LIST OF ABBREVIATIONS

ABI	Association of British Insurers
SC	Securities Commission of Malaysia
PN17	Practice Note 17/2005
PLCs	Public listed Companies
FTSE	Financial Times Stock Exchange Malaysia
CBOE	Chicago Board Options Exchange
CLCR	Malaysian Corporate Law Reform Committee
FSMA	Financial Services and Markets Act
HMRC	HM Revenue and Customs
LSE	London Stock Exchange
ITA	Income Tax Act 1967
MCCG	Malaysian Code on Corporate Governance
MIRB	Malaysian Inland Revenue Board
MYR	Malaysia Ringgit
NAPF	National Association of Pension Funds
PAYE	Pay as you earn
S & P 500	Standard & Poor's 500
SFA	Securities and Futures Act of 2001
SGX-ST	Singapore Exchange Securities Trading Limited
SO Act	Sarbanes-Oxley Act of 2002
UKLA	UK Listing Authority

ABSTRACT

This thesis examines four questions in the field of executive stock option plans: the legal framework governing their use in Malaysia, their effects on firm performance, managerial turnover and the tax effects. The research presented in this thesis extends the literature on stock options in these directions. Owing to the dearth of studies that have examined the issue of stock option plans, as well as the uniqueness of the Malaysian corporate environment which is dominated by family controlled firms. Using standard event study methodology, in the short-term, the results indicate a negative share price before announcement and a slight positive effect following the announcement. The announcement, however, does not carry any surprise to the market and this seemingly confirms that early information releases before official announcement could be ruled out. Over the long-term, the results indicate that stock option plans have no significant effect on the performance of Malaysian firms, suggesting that executive stock option plans do not entirely improve the value of Malaysian firms. Further examinations over the incentive of stock option plans indicate reductions in top executive turnover in Malaysia listed firms. The effects of executive stock option plans in mitigating unplanned turnover at the executive levels take into account the mediating control variables at firm level such as ownership structure, corporate governance, firm characteristics and level of pay. The consequences of executive turnover are focused on firm performance. Using accounting and market performance measures, the result indicates that poor firm performance lead to high executive turnover. However, the study documents weak support for performance measures in the evaluation of executive turnover. The thesis also examine other factors that are likely to influence executive turnover, of which the empirical results indicate that managerial ownership, board attributes and firm size do not lead to high executive turnover. However, mix payments are found to be influenced the management turnover. This thesis also examines and attempts to understand the effect of stock option and tax benefits between corporate taxpayer and personal taxpayer, which is found to be ambiguous. Although previous empirical results indicate that taxpayers may extend their tax liability usually for three to five following the grant date, but it would seem that Malaysian stock option programs do not produce any tax preferential treatments in our sample. This is due to limitation in the Malaysia tax policy which makes no allowance for expenses-related to stock options. This appears that Malaysia taxation rules do not affect tax benefits. However when the data for tax groups were decomposed according to information disclosed in annual reports for executive and the firm, the result suggests that executive stock options are responsive to changes in personal income tax rate. For firm, awarding stock option is perhaps driven by a psychological contract between executives, rather than tax incentives, which suggest that cash payment salary and bonus are significant component for executive payments in Malaysia.

1.0 INTRODUCTION

1.1 Background and motivation of the study

In the economics and finance literature the most commonly cited justification for the granting of executive stock options is to align the interest of managerial employees and shareholders and by doing so, it is held that stock options will not only help to increase the value of the firm but be also shareholder wealth enhancing. In this way the granting of stock options is argued to tie a managerial employee's wealth to the firm's stock price which, it is hoped, will motivate them to work harder and thereby increase the firm's performance, since both of their interests are intertwined. In this respect, the motivational role of stock options is consistent with the work of Fishman (2000) and Thompson (2003) which indicate that the granting of stock option would also serve as a catalyst not only for motivation and the retention of the existing employees, but crucially it will help to attract new management talents. On this issue, Balsam and Miharjo (2007) point out that the incentive to retain executives is limited to the vesting period because the retentive effect is likely to reduce when the actual vesting period ends. This is because the executive may leave after the vesting period ends without forfeiting the money for unvested stock options. Within this field, it has been argued that the granting of executive stock options may serve as a substitute for cash payment in order to gain some favourable advantage associated with non-expending cash payment, particularly for firms with dividend constraints (Hanlon, Rajgopal and Shevlin, 2003). On the same issue, the literature on corporate governance point note a tendency among companies to invite their employees to purchase a company's shares, particularly companies experiencing financial difficulties, in order to avoid a hostile takeover.

Through the granting of employee stock options, the firm is explicitly seeking to align the interests of managers with shareholders, but the granting of such options may also give rise to the risk-adverse type employees, while at the same time encouraging excessive risk-taking behaviour among top executives. The reported empirical evidence in this area shows that while stock options might be a popular

method for executive payments, its popularity tends to wane when the stock option is largely allocated to non-executive employees (Core and Guay, 2001; and Kedia and Mozumdar,2002). Other sections of this wide and extensive field note that the use of stock option compensation plans are not entirely consistent with the intention of awarding stock options, which therefore raises questions on the efficiency of stock options (Meulbroek, 2001; and Hall and Murphy, 2002). The efficiency of stock option has also received attention in the corporate governance literature with emphasis placed on managerial efforts to increase firm value within the spirit of agency theory. Notably, the application of stock option plans in an emerging market, such as Malaysia is not a new phenomenon, since the first use of stock option was first documented in the last two decades, and to the best of our knowledge studies on the use of stock options in Malaysia has not featured in the literature.

As a result of the growing use and influence of stock options in corporations, a substantial literature has focused on the application of stock options, with attention given to uncovering the positive role stock options may have on firm performance. One of the reasons for the wide use of executive stock options is to provide incentives for managers so that they take decision that is, from the standpoint of the firm, value enhancing. A review of numerous contributions to the field indicate that when firms announce stock option plans, the usual response is for the market to process the new information which then shifts the share price in terms of its short-term and long-term performance. But while there's agreement that stock options might result in improvements in firm performance, some studies counter this by noting that the use of stock options have little or no influence in improving firm performance and thus firm value. In light of this observation, it is crucial for this study to examine the impact of stock options on the performance of Malaysian firm, given the prevalence of different ownership types. This should go some way towards helping to shed light on the effects stock options plans have on, in particular, family owned versus non-family owned firms, as well as the corporate governance structure of Malaysian firms. In the latter respect, Claessens, Djankov and Lang (2000) point out that in the corporate sector of Malaysia, there is significant involvement of owners in management as represented, especially in family owned firm. This immediately suggests that the agency problem might be widespread within

Malaysian family owned firms due to the high number of major shareholders who are also members of the board of directors whose attributes directly contrast to what is directly observed in developed markets such as the United States and the United Kingdom in which firms are managed by outside executives. According to the literature, under this arrangement there is a tendency for executives to pursue their own interests rather than the interests of the firm which suggests that stock options might be the best mechanism to counter this problem, while at the same time allowing the interests of both parties to be aligned. The question of whether stock options plans is the best mechanism to align the interest of executives and shareholders provides a further motivation to the study of the effects of stock options on the performance of Malaysian firms.

Another reason for the present investigation derives from a number of notable studies which shed light on the incentive effect of stock option plans in the United States and the United Kingdom using firm level data. Although few studies have examined the incentive effects of stock option plans in Malaysia, perhaps due to the statutory requirements for a centralised government-managed retirement fund (Obiyathulla, Syarifah Raihan, Mohd Eskandar and Azhar, 2009), the literature is more partial towards accounting disclosure. Closer examination suggests that many Malaysia PLCs began to adopt stock option plans as part of a wider compensation package, which might explain why there is a dearth of studies that have examined the use of stock options in Malaysia. On a practical level, all the indications are that the use of stock option plans in Malaysia is widespread due to the perceived benefits which, in turn, has motivated Malaysia PLCs to increase the size of their stock options, while the Malaysian government in seeking to seize an opportunity launched, in 2011, a Private Pension Fund for the benefit of private sector employees and the self-employed.

The third motivation for this thesis derives from the response to the statement made by Samsa and Scheidt (2003) who note that the nature of Malaysian laws and regulations' should be compiled separately because it does not provide clear guidance as to how the law should be enforced. In consequence, the speed of law

enforcement is seriously impeded. Seemingly, there is no interrelation among the legal structure practised in Malaysia. The law that is currently enforced is not compatible with laws on stock options that have been enforced in countries such as the United States and the United Kingdom. By studying the laws applied to the use of stock options will go some way towards shedding light on best practices in countries that have employed wide use of stock options, as well as providing an input for government to update the regulatory frameworks in line with international standards. One of the areas that should be given due emphasis are the rules applied to taxation, which is closely associated with the issue of tax benefits. In this area Malaysian taxation rules do not provide favourable tax, either for individuals or firms. However, in countries where stock option plans have a long history, such plans do offer tax benefits in the form of a tax shield due to the absence of any expenditure at the time of the granting of stock options (Aier and Moore, 2008). Besides, it defers the tax liability until such time the employee realises the gains from exercising his or her stock options, which provides us with a further motivation to embark on a study of Malaysian PLCs to uncover the personal tax effects associated with the use of stock options.

Having recognized the effects stock options plans can have on firm performance, understanding its role and influence in Malaysia becomes an important issue to detect. As it stands however, while the literature is large, it is often at odds regarding the overall effects of stock option plans. And although this is not entirely surprising due to the complexity of the problem at hand, it suggests that any contribution to the literature should carefully explore the robustness of the conclusions drawn. This therefore represents one of the key motivations for this thesis. Accordingly, our purpose is to examine the effects of executive stock option grants in Malaysia along a number of dimensions that contributes to the existing literature.

1.2 Research methodology

The literature on executive stock options is not explicit about which particular statistical approach should be applied to this question. It rather consists of a combination of empirical methods to explore several related aspects. The present research follows in this line and makes use of the range of statistical approaches used in the literature.

The subsequent essays in this thesis address specific issues, commencing with Essay 1, which assess the legal and regulatory framework governing the use of executive stock option plan in Malaysia. The study use a common method used in legal studies which draw on both positive and normative analysis. The positive analysis approach is based on descriptions to explain the phenomena of using executive stock option and evaluate the impact of the legal policy changes given the ways to respond to the incentives of the policy, whereas the normative analysis approach is conducted on a prescriptive and judgmental basis. Thus making policy recommendations based on the economic consequences of various policies have affected the application of executive stock options.

Essay 2 examines the effects of the announcement of executive stock option on firm performance, testing for both short-term market reaction and long-term performance. An event study methodology is used to investigate the effects of stock options on share price performance, which allows us to determine whether there is an abnormal stock price effect associated with an event. From this, it infers the significance of the event based on the assumption of an efficient market. It should be noted that the length of time period used in this study accounts for the possibility that investors might respond to event signals in cases where the share prices does not immediately or fully reflect all available information.

Essay 3 examines the consequences of executive stock option plans on executive turnover. The relationship is empirically examined using the logit regression model. This method is appropriate for the response takes one of only two possible values representing executive turnover and no turnover in given years for the study.

Moreover, using the logit regression model allows us to provide valid estimates, regardless of the design of the study (Harrell 2001).

Essay 4 examines the effects of executive stock option grants on taxation. In particular, the study identifies the impact of changes in tax policy (marginal tax rates) on stock option grants in relation to cash pay received by executives. Gritsch and Snyder (2007) employ both logit and tobit model to determine tax savings, in which two tax rates, personal and capital gain tax entered the equation. There are some studies that use ordinary regression model to capture its effects. However, since the dependent variable is not binary in nature and also given non-presence of censored data, the logit and tobit regression model could not be employed in this study. As a result, I use an ordinary regression model which is more appropriate for this study to examine the degree of impact stock option has on total compensation. Therefore, from the tax standpoint, stock options are likely to have a positive relation during periods of good corporate performance, and therefore the tax saving is likely increase. Thus, stock options may be used as a means of producing tax preferential for executives and the firm, and seemingly a clear relationship should exist between tax incentives and stock option plans.

1.3 Structure of the thesis

In the subsequent section I review the literature on executive stock options placing emphasis on the main themes of this thesis. In this context, I review a number of studies dealing with the use and effect of stock options plans that divides into employee and executive stock options comprising a number of incentive effects and the effect of stock option grants on taxation. This section of the thesis extends and reinforces some of the points made in this introduction. In addition to this general literature review, I also provide a brief survey of the literature in each of the corresponding chapters. Based on the literature reviewed, the discussion in this chapter discusses the main findings as they relate to the incentive effects on firm performance, executive turnover and taxation. Essay 1 introduces our first investigation, which examines the legal and regulatory frameworks governing executive stock option plans in Malaysia. It begins with a brief discussion on the

feature, basis and legal aspects on how stock options operates within the market at the international level which principally focus on the U.S, U.K., Japan and Singapore. The essay then proceeds to examine the regulatory frameworks underpinning stock option plan in Malaysia and discusses the associated issues under which the plans operate (that is accounting and taxation), before discussing the reform in jurisdictions that would benefit Malaysian firms as Malaysia moves closer into line with international standards.

Essay 2 examines the effect of announcement executive stock option on firm performance in the short-term and long term. Using a standard event study methodology, the results reveal a negative share price before announcement in the short-term followed by a positive effect which is in line with conclusions obtained in previous studies. However, such announcements do not carry any surprise to the market which confirms that early information releases before official announcement can be ruled out. For the long-term effect, the results indicate that stock option plans do not have a significant effect on long-term firm performance, which implies that executive stock option plans do not entirely improve firm value in Malaysia.

The next essay is essay 3 which examines the relationship between executive stock option plans and top executives turnover in Malaysian listed firms. In brief, the study examines the effects of executive stock option plans in mitigating unplanned turnover at executive levels by taking into account the mediating control variables at firm level such as ownership structure, corporate governance, firm characteristics and level of pay. The consequences of executive turnover are focused on firm performance. The result shows that poor firm performance lead to high executive turnover based on the use of accounting and market performance measures. In evaluating executive turnover, the study found no evidence that accounting measures are any better than market–based performance measures. When examining executive replacement decisions according to turnover types such as routine and forced turnover, the empirical results indicate that current firm performance influence decisions taken for executives to be dismissed. Other factors are also found to influence executive turnover, as the finding indicate that managerial ownership,

board attributes and firm size do not leads to high turnover. However mix pay is found to influence top management turnover.

The last essay is Essay 4 which examines the tax incentives on executive stock option plans. In brief the study identifies the preferential tax treatment for personal taxpayer and the firm. The result indicates that personal taxpayer may extend their tax liability usually for three to five year following the grant date. For granting firms, however, executive stock options do not provide any preferential tax treatments. This is due to limitation in taxation rules which do not allow expenses-related stock option for tax deduction. Further analysis indicates that tax policy changes affect the tax benefits received by executives and the firm. The empirical result suggests that changes in the income tax rate influence equity-based payments. Similar effects are observed for gains from stock option exercised which implies that executive stock options are responsive to changes in ordinary income tax rate. Moreover, the study emphasize that by imposing similar tax rate for executive stock options and cash pay is likely to be driven by a psychological contract between executives and the firm, which implies that changes in tax policy (i.e. a decrease or increase in the marginal tax rate) will not reflect the stock option value of the firm.

Finally, the thesis concludes by providing a summary of the main conclusions of each essay and assesses the implications for prior empirical findings, and also offer suggestions for future research.

2.0 EXECUTIVE STOCK OPTION PLANS: A REVIEW OF THE LITERATURE

2.1 Introduction

There is a large number of studies that constitute the literature on the role and use of stock option plans in corporations. In the last 30 years scholars have studied different aspects of the use of stock option plans and their effects on the corporation. Developments along this dimension of enquiry have produced important theoretical and empirical contributions accordingly. To date, researchers have examined several aspects of the use of stock options in corporations with the majority of research papers focusing on executives and employee stock option plans that comprise a number of incentive effects in stock options usage, as well as the effect of stock option grants on taxation.

The main objective of this section of the thesis is to provide an overview of the literature on stock option plans as well as to highlights the approaches used for the valuation of stock option pricing and the rationale for adopting stock option plans in corporations. Our goal is to place the research topics of this thesis in a broader context, emphasising the relationship to different strands of the literature. I intend to review these branches of the literature in order to mark the sensitivities of our main variables of interest.

2.2 Main strands of the literature

According to Gelderblom and Jonker (2003) and Espen and Nassim (2009), the application of stock option plans is a not a recent development. Historically, the first use of option contracts occurred in the 1600s, although no specific information is known about the exact time and date when options were first traded. Nevertheless, it has been argued that the first trading in options contracts was conducted in Holland when they were first used by Amsterdam grain dealers in 1550. Since 1550, the extensive use of this instrument was observed around the time of tulip options

trading in 1637, followed by trading on London's financial market during 1700s. Since the 1700s, stock options have been widely used across European countries.

The development of stock options is common place and has been increasingly available in the U.S. since 1920s, though some studies note that the origin of stock option plans in the U.S. only became widely used in the 1930s when they were seen as a means of tax avoidance among salaried executives. The 1960s is the period in which stock options became more pronounced at the non-executive levels when new economy firms such as the high tech firms in Silicon Valley began to offer stock options at all levels of the firm. Since then, stock options have gained popularity and are now increasingly used within the corporate sector.

In the 1970s, trading in stock options was expedited by the development of the theory of option pricing as well as the emergence of organized stock options exchanges such as the Chicago Board Options Exchange (CBOE), which was the first exchange to commence trading in stock options. In the 1980s, the deregulation of financial markets combined with enhanced market volatilities stimulated activity in the use of options, and now options exchanges are to be found in international markets. Over the years, a growing number of the listed options have shown positive developments in response to the passing of new laws which allowed financial institutions to incorporate options in their portfolios. As the use of options grew, so too was the trend in the use of stock option grants which continued well into the 1990s as a result of a growing number of U.S. corporations showing interest in equity sharing. Further emphasis was given to stock options during economic expansion and, with it, the rapid growth of technology-based companies in the 1990s which led to the popularity of stock options as a method for executive pay in a number of countries (Hall, 1998). However, it is widely acknowledged that the misuse of stock options can affect not only grant value but may also have a detrimental effect on the reputation of the firm, thereby giving rise to two major effects. These effects include the allocation of stock options extended to non-executive employees. This has been highlighted by the reported evidence of Sharma (2006) who notes that that stock option size has been reduced by one-third (from $119 billion to $71 billion) and that non-executive are predominantly holders within the US corporations. In addressing this issue, Hall and Murphy (2003) note that it

makes little economic sense to provide all employees with stock options as it incurs unnecessary expenses particularly when it comes to the administration of options plans.

In addition, the U.S. corporate scandal over accounting methods produced additional effects with stock option grants which become a source of public debate among academics and finance experts. One of the debates revolved around packages offered to executives, which contend that the roles of stock options are not consistent with the real intention of awarding equity plans (Meulbroek, 2001; and Hall and Murphy , 2002). It is also argued that stock options might substitute the manager's interest in the place of the shareholders. This particular perspective suggests that stock option grants help executives to mitigate moral hazard problem in the context of pay-setting designs. This would ensure that the stock option grants for senior executives are not exceeding the optimal level of existing shareholders (Hanlon, Rajgopal and Shevlin, 2003). Related studies on this issue conclude that stock options would be best served as an alternative to cash payment which would go some way towards motivating existing staff and at the same time helping to attract new talents into the firm. Other than that, the likelihood of some firms granting stock options to employees is primarily for the purpose of gaining the non-expending cash payment incentive, so that their profits can be retained. However, it is widely acknowledged that all firms believe that attractive compensation plans would enhance staff performance and firm value and, if successful, will ultimately minimise potential agency problems.

2.3 Stock option pricing model

The growth and application in the use of derivatives and, in particularly, in the use of warrants begun in 1900s in the U.S and European countries. With regard to the development of warrants, Wang and Ma (2008) divide its growth into three phases involving an early pricing and method theory as the first phase which covers the period in which the mathematical formulation that influence finance theory and improvement in results. The second phase of development highlights the impact on the practice of finance and the application of option pricing models such as the Black and Scholes (1973) option pricing model which become more influential owing to

the ease at which practitioners could use the model to price options. Thus the Black-Scholes model provides a reliable method of pricing stock options that is widely employed by the industry. The third phase is a modification of the Black-Scholes model whereby many scholars have made amendments to the model and as a result the model has become more applicable.

The earliest theoretical work on option pricing is attributed to Bachelier, a French mathematician, whose thesis deals with the pricing of options in speculative markets, an activity which is an essential part of modern finance. Bachelier's work provides a framework on option pricing which marks the path of continuous-time mathematics of stochastic processes and the continuous-time economics of derivatives security pricing. Bachelier's only influenced Kiyoshi Ito's work on stochastic calculus but also Paul Samuelson's (1965) theory of rational warrant pricing. The new financial models that emerged, such as stochastic differential dynamic portfolio theory, the capital asset pricing model and derivative-security pricing which appeared towards the end of the 1960s and in the early 1970s were developed using the aforementioned mathematical tools.

Among the most notable progress in the financial application literature is the period between the 1960s and 1970s, just prior to the development of the Black-Scholes model, which witnessed a series of innovative finance papers which was to have a significant bearing on modern finance. These include Sprenkle (1961), Ayres (1963), Boness (1964), Samuelson (1965), Thorp and Kassouf (1967), Samuelson and Merton (1969) and Chen (1970), all of which make some contribution prior to the publication of the Black-Scholes-Merton option pricing models which helped to provide a more profound understanding of option pricing. Schaefer (1998), for example, point out that the pricing formula of Sprinkle (1961) is very close to the model of Black-Scholes (1973) with the assumption that stock prices are log-normally distributed and drifted in the random walk, but had overlooked the negative share price that allowed risk aversion and had also failed to estimate the value of the parameter for share price growth and the degree of risk aversion. Another significant development is the work of Samuelson (1965) which includes the stock risk level by

the arbitrary parameters, dependent upon investors' preferences towards the level of risk and rate of returns. Samuelson (1965) used a Brownian motion to eliminate the occurrence in negative asset prices and, in combination with Merton (1969), the extension of the theory is primarily in the use of a discount rate to establish investors' decision to hold the option and the fact the option price is a function of the stock price. Both papers are built on a strong set of assumptions that:

i) the stock price is log-normally distributed,

ii) the investors utility function is ISO-elastic, and

iii)the bond and option are in zero net supply

These approaches are similar to Black-Scholes option pricing formula which, it has been argued, is a milestone for splitting between warrant and option. A stock option is a simple-type of European call option, whilst the parameters of Black and Scholes formula are easy to estimate. The derivation of the Black-Scholes options pricing model is based on a number of assumptions as follows:

a) The short term interest is known and is constant through time,
b) The stock price follows a random walk in continuous time,
c) The stocks pay no dividend,
d) The option is European and it can only be exercised at the maturity date,
e) No transaction costs of buying or selling the option,
f) It is possible to borrow any fraction of the price of a security and to buy or to hold it at the short term interest rate,
g) Short selling is allowed such that an investor can sell shares that he does not own and trading takes place continuously.

Based on the above assumptions, stock option value seemingly could be affected by the factors of price and time and other constant variables. If a long and short position in the stock option is relied on the time and the value of known constants, it would therefore create a hedge position. As a consequence, the stock option value is derived as a function of the stock price and time. The principal contribution of Merton to option-pricing relates to the dynamic trading strategy as prescribed by Black-Scholes which is used to offset the exposure risk of stock option. It also

provides a hedge in the continuous trading limit, while the payoffs on the options will be exactly replicated, if one can conduct trading continuously without cost combined with the use of the underlying traded and riskless assets.

The final stage in the development of option pricing models lies in the study of Wang and Ma (2008) which covers the period following the publication of Black-Scholes model when some scholars discovered that pricing models formulated on strict assumptions seemingly predicted that the market does not exist for investment opportunities. It is also observed that the existing Black-Scholes model fails to take into account dilutive effect and the volatility of stock prices, while the literature on model improvement in the traditional Black-Scholes model involved several modifications to the existing assumption on dividend payments, dilution and volatility. The traditional Black-Scholes model indicates that a dividend would not be paid in advance, but in reality this is not impossible, as highlighted by Merton (1973).

With regard to the dilution effects, it is noted that upon the employee exercising the options that the likely result is for an increase in the equity capital of the firm. On this particular issue, Wang and Ma (2008) note a number of studies that consider the impact of dilution on option pricing, including Gala and Schneller (1978) and Hall (2003). Several extensions to the Black-Scholes option pricing formula have also been documented by Jennergren and Naslund (1993) which include the variable of forfeiture and early exercise behaviour in the Black-Scholes-Merton model. Pandher (2003), for example, finds that the model ignored the realisation value of early exercise that would generate loss or in other words the stock option becomes worthless, while Finnerty (2005) modified the Black-Scholes-Merton frameworks by including four critical factors involving vesting requirements, early exercise, forfeitures and transfer restrictions. The modified model emphasises that the employee cannot exercise the stock option before the vesting ends and that the value will be worthless if the employee leaves the firm with reasons such as resignation, retirement, death or voluntary termination. All these reasons are considered as the risk-type that cannot be hedged by firms, though the effects would be different if the

holder voluntary forfeits within the allowed period and exercises after the vesting period. Thus if an employee decides to voluntarily forfeit his benefits of the stock options, the probability for the stock options to expire and render it to be worthless is high. This is due to the fact that stock options are non-transferable. Finnerty (2005) classifies this kind of risks as idiosyncratic which can be diversified away if the risk adverse investors value the stock options based on the risk-neutral probability of vesting. It is noteworthy to mention that if the value of options is in-the-money, then the employee will be able to exercise the option freely between the vesting date and the expiration date in the annual fraction value. In addition, Finnerty (2005) provides reasons under which the stock options' holder may exercise early to accommodate financial liquidity needed through diversifying the portfolio (risk adverse type), even though it will be very costly to sacrifice the remaining time value of stock options. Thus in order to gain the liquidity, the holder must exercise and sell the share in which the stock option provides risk on the defer payment for the shares until exercised. It should be noted that early exercise behaviour might occur until the vested and, if-in-the-money, will require adjustment during the vesting period. Finnerty (2005) treats the exercise and forfeiture of stock options as the type of stochastic process in the Black-Scholes-Merton model that leads the employee stock options to be overvalued. In a more recent study, Espen and Nassim (2009) review the historical evidence and report no invention pricing formula in the Black, Scholes and Merton due to the removal of some economic determinants of the "risk" parameter through "dynamic hedging".

Several attempts have also been made to develop alternative option pricing models post the Black-Scholes and Merton era. Models include Huddart (1994) and Kulatikala and Marcus (1994) who developed computations for a certain price between trade and hedge-restriction option and non-option in the risk-free asset, while Rubinsten (1995) using forfeiture risk faced by option holders developed an alternative option pricing model based on the binomial utility-based model, and Carr and Linetsky (2000) who drew on a continuous-time executive stock option (ESO) valuation model to develop a model based on the assumption of constant exercise and forfeiture intensity. These developments aside, some studies have focused on extending the existing models. For example, Aboody (1996) extended the binomial

model introduced by Cox, Ross and Rubinsten (1979) to value employee stock options under the assumption that ESO price must be adjusted downward due to probability of early termination in the firm. However, since this is not one of the main research themes of the thesis, I do not devote further attention to other strands of the literature except to note that from an accounting standpoint; only two models are used to value option grants through the use of either the lattice model or the Black-Scholes-Merton model. But it stands to reason that the Black-Scholes-Merton model has made the most significant of contribution to the academic literature.

2.4 Employee stock option plans

A considerable amount of literature has discussed at length the use of stock options across the firm (Yermack,1995; Aboody,1996; Baker, 1999; Murphy,1999 and Core and Wayne, 2001). These studies generate evidence about interests amongst firms that establish stock option plans which gained popularity during the 1980s and over recent times due an increase in economic activity and the growth technology based firms. Stock option plans are now more commonplace and are therefore frequently used to compensate executive and non-executive employee pay. In essence, stock option plans refer to the right of employees to purchase a firm' shares at a pre-specified price (exercise price) with the terms that they cannot immediately exercised. Moreover, the common exercise price charged to employees is equal to the market price on the grant date (at-the-money) and expires in several years (normally in a ten year period). The expiry date occurs due to the non-transferable feature of stock option plans, which will be automatically forfeited should the employee leaves the job before the vesting ends.

Generally, stock option grants are split based on the beneficial groups and it serves as an explanation for the observed application which might vary substantially across firms. Several studies emphasise the application of stock option plans allocated at executive levels (Bettis, Bizjak and Lemmon, 2005; Core and Guay, 2001; and Kedia and Mozumdar (2002). Bettis, Bizjak and Lemmon (2005) note that the executive positions encompasses posts such as chief executive officer (CEO), chairman of the board, president, chief operating officer (CEO), non-management

board's member, vice president, chief financial officer and divisional manager. Core and Guay (2001) and Kedia and Mozumdar, (2002) define executives to be those in the top-five positions who are highly compensated, whilst other employees are defined as non-executive. A study by Landsman, Lang and Yeh (2007) split the definition of executive and non-executive based on the nature of publicly available data such as broad-based stock option plans.

In the early years of their use, stock option plans were granted primarily to top executive employees. The evidence on the use of stock option plans in the U.S. by Williamson and Kleiner (2004) note that stock option plans have been in use since the 1940s and 1950s, and mainly granted to key executives and restricted to top managements. However, and following the excesses of stock option value for managerial levels which generated much public debate, particularly in U.S. corporations, stock option plans were extended to non-executive employees and subsequently other countries followed suit. The reason behind this extension is because stock option plans are considered to be the best available mechanism to mitigate the agency problem between employees and shareholders. As a result, the equity-based compensation plans become more favoured as it helped to tie management to performance-based rewards. Naturally, by implementing stock option plans the firm is essentially signalling that increasing ownership in the form of shares would strengthen the linking interests of the employee to those of shareholders by tying payment to share price performance. However where emerging markets are concerned, Ding and Sun (2001) caution that the advantages of stock option plans as a means of aligning interests between employees and shareholders are not always in tandem with the intended incentives.

Most of the empirical studies emphasise the incidence of extensively adopted stock options for non-executive employees. A large number of these studies examine the factors associated with option grants (Core and Guay, 2001; and Kedia and Mozumdar, 2002) and conclude that the incentive effects of stock option plans tend to have an impact across positions in the firms examined. Core and Guay (2001) find strong evidence that the granting of stock options to the non-executive level is an

incentive that helps to attract new employee, while also serving to help retain existing employees. Another benefit of stock option plans is its ability to motivate employees. On this, Fishman (2000) and Thompson (2003) find that stock option plans have contributed towards not only making the workplace more attractive but is also a useful aid in helping to galvanize staff loyalty and inspiring employees to work harder. Similarly Selvarajan, Ramamoorthy, Flood and Rowley (2006) note that the incentive conveyed by the granting of stock options helps to foster better understanding between the firm and its employees which can be seen through positive changes in employee attitude, increase job satisfaction, commitment and reductions in intentions to walk away from the firm. While agreeing with this argument, Balsam, Gifford and Kim (2009) argue that the retention of employees is only for a short while and that the retentive effect will soon waver after the vesting period ceases. This suggests that employee turnover is likely to increase substantially after this period and, moreover, that employees may choose to walk away following the conclusion of the vesting period without forfeiting the money of the unvested stock option.

Based on earlier discussion above for advantages of stock options grant to executives are in general, the theory contents that they are playing big roles as agents for principal. This means that executive stock option plans may work differently than the stock option schemes provided for employees, particularly when pursuing strategies to meet the shareholders' expectation. Therefore, the likelihood of executive stock options reduce agency problems and serve as mechanisms that align and safeguard shareholders' interest is higher. It could also serve as executives' financial well-being. The useful of executive stock option schemes for interests aligning is well documented in most developed market. Instances of studies on this area have been carried out by DeFusco, Johnson, Zorn, (1990); Bizjak, Brickley, and Coles (1993); Mehran, (1995); Yermack, (1995);Yeo, Chen, Ho and Lee, (1999); Core, and Guay(2001); Ding and Sun, (2001); Hillegeist and Penalva, (2004). All these studies are conclusively indicate that executive stock option plan is work well to align the interest of shareholders; thereby it lowers agency cost and better firm performances. In other words, granting stock option at the executive levels works the

way it was intended to solve the problem between managers and owners by making them to share part of the consequences of their decisions.

However, in later literatures such as Gerety, Hoi, and Robin (2001); Hanlon, Rajgopal, and Shevlin, (2003); and Bebchuk, and Fried (2004) argue the usefulness of stock options to solve the conflict between managers and owners are remained questionable. As the owner cannot observe executive's actions due to of high cost of monitoring agent's actions, and the executive actions do not completely determine the intended outcome, this leads to make stock option plans are available for non-executive employees. Moreover, in the agency theory literature there has also focused to provide same incentive for executive and non-executive employees. This can be achieved through establishment of broad-based stock options which could increase of interests aligning between management and non-management employees. There has recognized that broad-based stock options create more incentive for employees to improve firm value that is beyond the executive groups. Although, a negative perception that broad-based stock options could potentially drain on shareholder return, but it provides incentive for employees to access valuable information and encourage them to act based on superior information (Sesil, Kroumova, Kruse and Blasi, 2005). This is consistent with their finding which shows that adopting broad-stock options increase productivity and maintaining firm growth. The precise question is whether stock option plans targeted to executive employees could overcome the problem between principal and agent in a short run or long-run is remained as unsolved issues. According to past studies, executive stock options lead manager to maximize their utility through utilizing own position produce conflict between manager and shareholder (Jensen and Murphy, 1990; Shleifer and Vishny,1989; and Sigler, 2009). In some part of studies address that executive stock options could align the interests between manager and shareholders and in short, executive stock options usually generate advantages for firms to increase risk-taking behavior and selectively invest in a high profitable project. For long-term effect, executive stock options are use for retaining key executives as stock option creates a sense of psychological contract between the organization and employee (Pierce et al., 1991). However, Sigler (2009), for example, emphasize four issue in his study include overpaying managers, the payoff from the stock option is due to market but

are not related to a manager's overall performance and lastly firm faces dilution of ownership.

The diverse patterns that exist in the application of stock option compensation plans are illustrated in many regional studies which tend to be more inclined towards factors associated with firm specific characteristics. In particular, Ding and Sun (2001) using Singapore data report evidence which suggests the size of the firm determines the adoption of stock option plans and that larger firms are more likely to make use of employee stock option plans (ESOP). Interestingly, Nagaoka (2005) finds that an increasing number of younger firms adopt stock option plans and that such firm's tend to be negatively affected when they grant stock options to employees. Kato, Lemmon, Luo and Schallheim (2005) offer comparable results between Japan and the U.S., which indicate that stock option plans in Japanese firms offers higher ownership to their employees than their U.S. counterparts. It is important to note that a study of U.S. firms by Tzioumis (2008) report that stock option plans do not increase ownership structure but rather have a negative effect on the payment of dividends. On the other hand, Uchida (2006) report results which show that Japanese firms that rely exclusively on debt financing produce a negative association between leverage and stock option plans. Notably, such evidence has not been found in U.S. based studies. Using Canadian data which focuses on the determinants of CEO stock options, Chourou, Abaoub and Saadi (2008) find that firms with moderate levels of risk tends to offer more stock options to executives. Chourou, Abaoub and Saadi (2008) further contend that other factors should be considered when awarding CEO stock options including such variables as firms growth opportunity set, firm size, leverage, CEO age and CEO ownership – all of which contributes to the adoption of stock option plans by firms.

2.5 Employee stock options and the incentive effect

Different types of incentive arrangements may be important when it comes to explaining differences in the level of firm performance when employee stock options plans are utilised. This issue has been tackled by researchers who have produced contributions at the theoretical and empirical level. Studies along these lines highlight the beneficial use of stock option plans as well as providing empirical

evidence on the positive outcomes of such plans. Firms are therefore keen to adopt stock options for two reasons. First, it helps to align the interests of executives and shareholders and secondly it helps shareholders to monitor the behaviour of top management within the spirit of the framework of agency theory (Jensen and Meckling, 1976). Based on literature, the positive outcomes reported are associated with agency theory (aligning interests), performance (performance related pay) and human resources (motivation, retention and turnover).

Generally, the granting of stock options is associated with the incentive effects as it is seen to help in aligning the interest of managers with those of shareholders. Thus both parties are considered to share a common goal towards increasing the value of the firm. Studies in this direction have examined the extent to which managerial effort contributes towards increasing firm value, but the results they yield fail to provide satisfactory answers. Bushman and Indiejikian (1993) suggest using accounting figures, that is, accounting earnings, and stock price performance as a proxy to measure the outcome of managerial efforts. However, the indicator associated with the firm's decision to adopt a stock option plan, sometime is not consistent between executive and non-executive employees. In fact, the effect is more apparent when the value of share prices moves above or below stock option price (deep-out-of money) in which an increase in the price of the stock may create the desired performance incentive. However, Sigler (2009) highlights the problem when share price drops the executive stock options being out of money, therefore firm will re-price stock option or issuing more option at lower exercise price. As consequence, firm commonly used an equal value of stock option price with market value in order to avoid it become worthless, if the holder still hold the same value. This means that the option grantee holds benefit of having option until the maturity ends. However, some option grantees are likely to sell their stock options as time value decreases as it close to expiry date. And also this suggests that the likelihood of managers to focus on short-term returns (that is, to boost the share price) instead of long-term performance.

On this basis of theoretical models that have been applied to determine the incentive effects from the use of stock options, the results indicate that associated incentive produces information about manager behaviour which suggest that the decision to exercise behaviour depends on various factors such as risk-taking behaviour, other than that, the factor of increase personal wealth, stock holdings and psychological also play a crucial determinant (Lambert, Larker and Verrecchia,1991; Health, Huddart and Lang, 1999; and Hall and Murphy, 2000). For example, Huddart (1994) suggests that the non-executive employee is of the risk-adverse type which implies that patterns of early exercise behaviour in stock option programmes are not always uniform (Huddart and Lang, 1996). However, Huddart (1994) and Carpenter (1998) opine that in a short-run exercise pattern is more apparent when they are expected benefits are greater. However, the incentive is different for executive levels because non-executive levels tend to be more risk averse and so their tendency to exercise early will be greater.

In a more recent study by Boyd, Brown and Szimayer (2007) find that the behaviour to exercise stock options is to achieve personal financial incentive with expectation to receive higher returns in dividends. This suggests that the attitude of willingness to sacrifice the value of stock options might increase the personal liquidity and diversification. Sautner and Weber (2005) attempt of studying behaviour within the context of risk-aversion and diversification find that it would assist to determine impact of psychological biases on economic determinants. Although, they find less empirical evidence on linking between individual behaviour on economics and psychological variables, part of their study results support the former findings like those of Health, Huddart and Lang (1999). From executive point of view, Hall (2000) argues that the stock option plan is for ensuring the long term success. In this response, Oyer and Schaefer (2005) indicate the stock option plan is not the best way to remunerate the executive levels except for sorting to their groups' expertise. In fact, it is difficult to determine the marginal returns to effort and the variance of the individual executive performance.

The incidence of corporate scandals in U.S. corporations such as Enron, WorldCom and Global Crossing provoked much public criticisms directed towards the adoption of stock options which, in turn gave rise to changes in compensation pay structures, particularly to executive stock options. Even though, the corporate scandals were linked to excessive risk taking and a fixation on stock prices, there is an association with stock option grants. Therefore, appointments of external directors became crucial factor in attempts to bring about some degree of normality to U.S. corporate environment. This also suggests that independent directors tend to monitor CEOs and key executives for making the correct decision, on that is focused on enhancing firm performance. In addition, firms must take into account that outside directors may take risks and increase their management efforts to enhance firm value. In this respect Fich and Shivdasani (2005) provide evidence of the positive effect outside directors have in increasing firm value since they are responsive to the reactions of investors. Aside from the effects of directors, Chourou, Abaoub and Saadi (2008) notes that ownership concentration and the equity-market could also help to lessen agency costs.

Sections of the literature acknowledge the incentive effects stock option plans have in not only working to increase firm value but in motivating manager to be a risk-taker for undertaking profitable projects (DeFusso, Johnson and Zorn, 1990; and Bettis, Bizjak and Lemmon, 2005). According to Lie (2005) and Zhang (2006) better decision making can be achieved through manager opportunistic behaviour. Studies Yermack (1997) and Aboody and Kasznick (2000) report consistent evidence which indicate that stock-option rewards have a positive effect on manager behaviours such as the behaviour of CEOs as well as on disclosures which help to increase the value of their stock options. This implies that top executive enhances firm value in a way that increases the stock price which, in turn, provides incentive for managers to increase the firm's risks. From the shareholders' viewpoint, this produces unclear outcome for less risk taking managers as it depends on the stock option holdings. For the risk-averse managers with large undiversified holdings of financial and human capital in the firm, they would prefer to maximize their own utility through reducing firm volatility. Thus stock options may help to decrease the agency problem. The literature argues that the negative effect on shareholders is

more apparent when managers accept projects with negative net present value (Cohen, Hall and Viceira , 2000). However, Rajgopal and Shevlin (2002) find that the granting of stock options induce the risk-adverse type manager to invest in projects for risk-neutral shareholders. Similarly Hutchinson (2003) examines the associated incentive effect of stock options on risky project and firm value and finds a negative relationship. In particular, the firm's risk is found to be weaker when they hold a substantial proportion of stock options than their investment shares in the firm, which would seem to suggest that executives who share in their firms' risk through stock options are more likely to participate in risky and profitable projects.

2.6 The effect of employee stock options on firm performance

Theoretically, stock option plan are designed based on the principle that the agency problems can be alleviated if the firm has clear lines of separation between ownership and control (Jensen and Meckling, 1976). The literature in this area mostly examine whether compensation plans are effectively designed for achieving specific goals. A part of the goal is to motivate executives to increase shareholders' wealth. In short, stock option plans are viewed as an effective method to achieve this objective and for aligning the interest of principal (i.e. shareholders) and agent (i.e. managers). In the recent main stream of literature highlights the share price effects and compensation plan announcements, particularly with information carried out by the plans to capital markets. Thus if the planned announcement contains value to the market, the market will process it and it will be reflected in the performance of the share price both in the short and long-term. Such impact on the share price may differ according to the target groups and announcement types.

The findings relating to the short-term effects of executive stock option plans on share price behaviour, which is largely based on U.S. firm level data, is mixed. Larker (1983), for example, examines whether the abnormal gain is pronounced within U.S. corporations in 5 days trading over the period 1971 to 1978. The results indicate positive cumulative abnormal returns (CARs) following the announcement of stock option plans which are significant within two days trading. Using a sample of 175 U.S. corporations that had implemented compensation plans, Brickley,

Bhagat and Lease (1985) found that 44 had a small share price effect between the date of board and stamp duties and that the share prices reacted favourably but insignificantly neighbouring the 2-day announcement. This suggests that compensation plan types are not solely affected by share price performance. In fact, Tehranian and Waegelin (1985) observed that where short-term compensation plans are concerned, share prices consistently drift positively in response for several months before the announcement of plans. Other empirical evidence on the incentive effects of stock options on share price such as Conrad (1989) and Detemple and Jorion (1990) report positive share price effects with stock option grants. Both studies studied the share price effects over the period 1973 to 1986 and found a positive share price reaction between the periods 1973 to 1980, but find no substantial effects after 1980. Defusso, Johnson and Zorn (1990) studied 641 stock option plans documents and report abnormal gain for the single event date (i.e. SEC stamp date). However, when the event dates are extended for longer periods from the board meeting date and SEC stamp date, the results are found to yield a positive return of almost 4 percent. The positive share price effect implies that the shareholders reacted favourably to the adoption of stock option plans, however, the reported evidence of Oyer and Shaefer (2005) suggests that the positive price effects could be as a result of favourable labour market condition, which is consistent with Boyd, Brown and Szimayer (2007). They report a positive share price reaction to stock options plan for Australian firms.

A segment of the literature also investigates the relation between executive stock option plans and their wealth-increasing effect. The general consensus is that executive stock options create a conflict between shareholders and managers, particularly with respect to managerial quality and effort to increase the firms share price which is a common measure of performance observed by shareholders. The capability of executive employee to influence the individual share price performance is more direct than the non-executive employees. One of which could be that management have better control over information releases. As a result, management are considered to receive more benefits due to the effects of incentives even when stock prices fall. On occasions executives tends to be overly cautious with the incentive effects that stock option plans bring, particularly when making decisions

that directly benefits their own self-interests without damaging shareholders' wealth. As this suggests, executives tend to be risk-takers, engaging in high profitable projects while at the same time they become less risk-taker for increasing firm value (Defusso, Johnson and Zorn, 1990; Cohen,Hall and Viceira, 2000; and Rajgopal and Shevlin, 2002). Thus the generosity of shareholders which is reflected in equity compensation pay may result in a marginal loss by way of the dilution effects (Ikaheimo, Kjellman,Holmberg and Jussila, 2004). Therefore, shareholders accept stock option plans unfavourably when the plan adoption produces decreasing-wealth effects.

Gaver and Gaver (1993) studied the share price effects of over 209 companies and report that the insignificant market return may be generalised at two levels. Firstly, the positive abnormal return which is usually associated with the meeting dates effect rather than the meeting contents. Yermack (1997), for example, examined 620 CEO stock option grants and found that positive return could be managed through the timing of plan announcements. In respect to this, Aboody and Kasznick (2000) suggest that managers tend to be more opportunistic when selecting the contents of disclosure during times of good market condition in order to drift the share prices up. Gerety, Hoi and Robin (2001) also investigate share price behaviour in response to the incentive plan proposal to directors, and conclude that shareholders might lose their benefits. Nevertheless, the positive assessment that broad-based stock option plans improved firm performance would appear to offset the dilution effects from the issuance stock option, which implies that stock option plans produce a neutral impact on shareholders' returns.

In addition to U.S. based studies on stock options, several attempts have also been made in other regions to assess the share price effects of the use of stock option plans. For example, using data for Singapore firms Ding and Sun (2001) report that abnormal stock returns are significant around the announcement of the adoption of stock option plans, while Matsuura (2003) used Japanese market data to determine the share price effect of stock option plan announcement within the context of agency theory found that firms with high managerial ownership tend to make the

agency problems less severe. This also implies that the implementation of stock option plans has a greater effect and that firms with high management ownership have the potential to eliminate agency problems. Ikaheimo et al. (2004) studied the market reaction to stock option plans announcement using European data, with attention given to the short-term share price effects, and found that positive returns for managerial levels are affected only by the initial plan or first-time announcements. Other than the announcement types, the share price reaction over stock option plan is also determined by the target groups of recipients. Prior studies in this direction indicate that recipient non-executive employees usually lead to negative market reaction. This particular observation is consistent with Kato et al. (2005) who report positive announcement returns of about 2 per cent in the five-day period surrounding the announcement for Japanese firms, and especially for firms who set aside a large fraction of shares for top executives. Kato et al. (2005) also notes that large allocation of stock option plans to employees usually result in the market reacting negatively due to further portions of the dilutive effects over the shareholders. Langmann (2007) also examined stock option plans using data from German firms and report that share prices increased by 1 per cent during the announcement day. This positive share price reaction before the announcement date indicates that the timing of proposed stock option plans usually coincides with positive market conditions. In relation to this, Triki and Ureche-Rangau (2012) studied the stock option plan announcements effect on the French capital market and found similar results that support the positive share price effects. However, when the market reaction is examined, the announcement is split according to the type of announcement. Accordingly, the initial plans announcement during the 21 days of the event window reports average returns of 4 per cent.

With reference to the long-run share price performance and the effects of stock option plans, the reported empirical evidence is generally mixed, while the use of executive stock options as an instrument to improve long-term firm performance is reported to only have mild effect on firm value. A number of studies suggest that stock option plan may enhance firm value. For example, Sesil, Kroumova,Blasi and Kruse (2002) report that U.S. corporations that provide stock options are likely to enhance productivity, accounting performance and market returns, even though it

does not automatically improve the outcome. Hillegeist and Penalva (2004) also report the effect of stock option plans on performance using a variety of performance measures target groups during the period 1996 to 1999 and find a positive relationship across the sample. Likewise Hassan and Hoshino (2007) measured the effects of stock option plans for 1600 firms for the period 1997 to 2004 with respect to enhancing corporate value and found that operating performance and stock market returns increased after the plans announcement. The positive effect of stock option plans on long-term performance is also found in European market studies such as Duffhues,Kabir Mertens and Roosenboom (2003), Duffhues and Kabir (2008) and Ozkan (2009). Duffhues et al. (2003) and Duffhues and Kabir (2008) investigate the performance-enhancing effects of stock options using Dutch market data as a proxy by return of asset (ROA) and return on equity (ROE) and report a positive association between the variables. Their findings are consistent with Ozkan (2009) who used UK data to study the long-term incentive effects of stock option plans. Their findings suggest a strong association between stock return, ROA and stock option plans. However, Smith and Swan (2008) provide more robust results on the positive effects. Their findings indicate that the combination of the level of pay (that is, equity and cash basis) create an incentive value for managers to enhance firm performance. They also report that stock option plans are not the main method at the disposal of owners to induce performance --enhancing effects.

Quite a few studies have attempted to explain unsuccessful stories about the performance enhancing effect that stock option plans could generate in long-term . For example, Sanders and Hambrick (2007) claim that stock option plans result in extreme firm performance. In brief, they suggest that a large fraction of stock options allocated to top executive employees could lead to big losses rather than gains. This is possible, particularly when executives are motivated to be more of a risk-taker. Similarly, Obiyathulla et al. (2009) using Malaysian data investigate the effect of stock option plans on long-term firm performance and found that accounting profits declined three years before and after the implementation of stock option plans. Bulan, Sanyal and Yan (2010) found similar effects which indicate that stock option plans do not have productivity-increasing effects and thus fail to influence accounting performance. Triki and Ureche-Rangau (2012) examined the long-term

relationship between stock options and firm value using French data and report weak direction for both variables as measured by the industry-adjusted ROA, ROE and abnormal returns. This finding suggests that stock option plans fail to create the incentive for value-increasing, even though it is widely applied in the French companies. Arguably, the extent to which stock option plans can generates benefits for shareholders and managers with the ascribed effects does depend on the harmonisation of their interests. This is apparent, since both parties might capture the benefits that stock option plans bring, even though part of the study included mixed results. In addition, there is also evidence which indicate that stock option plans provide signalling effects to the market in the short-term and share prices could be expected to react according to the approval of the option plans (Tehranian and Waegelein,1985). While for the long-term effect on corporate performance, it is likely to generate mixed results, which as earlier discussed is as part of the literature which report both positive and negative effects from the use of stock options.

2.7 The effect of employee stock options on executive turnover

In a competitive labour market, retaining key managerial talents has become an important issue for many firms. Therefore, the granting of stock options would appear to be the best mechanisms by which the firm can enable executives to become part owners of the firms and thereby lead them to share the common objective of maximizing the firms' value. However, offering executives the opportunity to be shareholders also gives rise to questions which directly focus on whether they would make decisions that are in the long-term interest of the firm. Thus aligning the interest of managers and shareholders will go some way towards alleviating the agency problem, which has been the main concern in the design of executive compensation structure. Previous studies on this issue by Kole (1997) and Oyer and Schaefer (2005) suggest that stock option plans might help to retain managerial talent. These studies find that retention is a significant enough reason for firms to issue stock options, the effects of which are more obvious when employee turnover is very costly for termination, hiring, training and loss of productivity. Accordingly, using stock option plans in one way in which the firm can reduce intentions to leave the firm. Anecdotal evidence on this issue suggests that executive employees are usually reluctant to forfeit their unexercised stock option value, even though the

effect would be weaker when the share price plunges below the exercise price. Then, the value of stock options being underwater leads to high executive turnover. Brenner, Sundaram and Yermack. (2000) propose an alternative approach to prevent the longer impact through the repricing of stock options. In regard to this, a number of researchers report empirical evidence which suggests that firms usually tie executive pay to firm performance, something which shareholders would not object to if the executive increases the firm's earnings and create additional value for them. As a result, the linking of stock option plans and the shareholder value is straightforward as previous studies report a positive relationship between stock option plans and firm value (Core and Wayne, 2001). However, the retentive effect on executive decisions to leave the firm is only temporary, which is to say that it is only valid until the vesting period ends which implies that the turnover rate would be lower during the vesting period. Thus the association for stock option plan, firm performance and the probability of key employee turnover imply that equity-based pay would serve as a mechanism to align interests using all these proxies. Previous studies in this field note that the turnover rate is commonly high when the firm performs poorly (Warner, Watts and Wruck, 1988; Weisbach, 1988; and Dennis, Denis and Sarin, 1997).

Since the initial implementation of stock option plans, stock options have been directed at executive employees, therefore, the sensitivity of equity-based plan and performance is relatively high. In some cases, the benefits received by executives have been found to be unsatisfactory, even though firms have been performing well. Rachpradit, Tang and Khang (2012) for example, suggest that executive turnover (i.e. CEOs) is also affected by internal factors and on how the style of top management directs the firm. Among the attributes are ownership structure and board characteristics all of which contribute to determining firm performance. Where Malaysia firms are concerned, Claessens, Djankov and Lang (2000) note that Malaysian corporations are dominated by family owned firms, which implies the potential for agency problems to exist. The literature in this area report evidence which suggests that family-controlled firm tend to give rise to conflicts between the principal (shareholders) and agents (management). Thus, the use of stock option plans may be one solution to alleviating this problem.

As mentioned earlier, most of the literature on the use of stock options places much emphasis on executive pay as a means of helping to retain and motivate management efforts and thereby increase firm value. In this instance, when the majority shareholders approve management to be part of the firm shareholders, it is likely to affect the executive decision to remain or leave the firm. Nevertheless, the high incidences of allocated stock options to employees have been reported to have a limited positive effect on firm performance. One reason for this is the extent of non-executive employee influence, which is less direct than a top executive employee. Therefore, examining the holdings of stock options by top executive levels might engender advantages as they have more control on firm factors and are also directly involved in setting up a firm's policy of the type of compensation system to use. In fact, a large fraction of stock option plans for specific target group make the cost to be more obvious on firm performance and also make the turnover price to be costly (Core and Guay, 2001). The evidence in relation to stock option plans and top executive turnover has produce mixed results for firm performance. From our discussion, it is also evident that firm value is the most frequently observed indicator of the incentive effects in the use of stock option grants in order to reduce executive turnover. Coughlan and Schmidt (1985), amongst other studies, note that the sensitivity of executive turnover and corporate performance are negatively associated. They find that forced turnover is likely to be higher when the share price performance is low. Similarly Warner, Watts and Wruck (1988) report an inverse relationship between ineffective managers and share price returns, while Kaplan (1994) found an association between stock returns, income levels and executive turnover. In a related branch of the literature, Kang and Shivdani (1995) investigate the effects corporate governance mechanisms have in reducing executive turnover in Japanese corporations and finds results consistent with prior U.S. studies. Their findings suggest the likelihood of non-routine turnover is related to industry-adjusted return on assets, excess stock returns, and negative operating income. Moreover, the observed sensitivity for non- routine turnover among executives increases when the major shareholder is the institutional investor. However, for industry performance, the evidence suggests no impact for non-routine managerial turnover in Japanese corporations.

Despite the replacement of top executives as firm performance deteriorates, the main focus of attention is on the role of stock option plans in helping to dissuade the intention of managerial employees to leave the firm. Clearly, inviting managerial employees to be shareholders could lead result in improvements in firm value due to reason of interest alignment. However, the establishment of stock option plan is very costly for shareholders in terms of dilution effects. Thus the question here is whether the incentive effects of stock option plans can justify ownership and control based on the economic performance of the firm. In relation to this, Mehran and Yermack (1999) using 452 U.S. corporations, report a negative association between stock option plans and the probability of executive turnover, while Fee and Hadlock (2003) found that turnover is not entirely affected by equity-compensation plans as part of their earlier results linking stock option plans and firm performance. Studies by Coughlan and Schmidt (988) and Leonhardt (2000) note that stock option holder may leave the firm when the plan becomes less effective as values are worthless. The suggestion here is the consequence of stock option plans on firm performance and turnover which are not directly cash pay. In this respect, the loss of stock option value to holders may be felt in two ways. The first effect is when the excess market price is over the exercise price at the time they leave the firm and the second is the probability of share price increases in the future (Balsam and Miharjo, 2007). Maury (2006) concludes that firm performance is sensitive to executive turnover as executive departure increases following firm losses, although prior performance has no impact on CEO turnover. This also suggests that replacing managers when they are inefficient or that they should be punished for failing to maximise efforts when exercising their core duty (Huson, Malatesta and Parrino, 2004). In relation to this, Denis and Denis (1995) argue that managerial turnover might improve corporate performance. Their study of 908 management succession events indicates a positive stock return. While Huson, Malatesta and Parrino (2004)) report results which suggests that forced turnover leads to improvements in firm performance through increasing managerial efforts is good news for investors. However, the latter findings remain unresolved due to the fact that by replacing executives merely signals improving by better management.

The decision to remove ineffective top executives relies on a type of ownership structure which agency theory claims conflicts of interests could be aligned through separation of ownership and control. Therefore, using stock option plans would serve as an alternative solution to the imperfection of cash incentive pay. Furthermore, by inviting executive employees to be part of the firm's shareholders is likely to incentivise managers behave in ways that are consistent with aligning their own interest and the interest of major and minor shareholders. In the context of Malaysia, since the main features of ultimate shareholdings is largely controlled by domestic shareholders such as family and state-controlled (Gibson, 2003)], the family and political members are actively involved in business operation and thus serve on the boards of firms. To determine this effect, several regional studies offer two contrasting views on the involvement of family members in the management of the firm. First, Lausten (2002) reports that Danish family founding firms are likely reduce the number of executive turnover, while Volopin (2002) reaches similar conclusions for Italian family owned firms. The second view relates to firms controlled by non-family members. Tsai, Hung , Kuo and Kuo (2006), note that the effect here is weakened which there is low sensitivity of top management turnover and performance. They reason that the non-family-owned business is less effective for monitoring and thus the turnover rate during firm performance is low.

Most of the empirical evidence relating the effects of stock option plans indicates an increase in managerial ownership. However, the effect on executive turnover is not clear, since different levels of stock option grant size across positions disperse shareholdings, which, in turn, alters the incentive effects for individual owners. This implies that enhancing managerial ownership could solve the agency problem, but the low stakes for individual executive in the firm constitute limited control and participation in decision making (Conyon and Leech, 1994). Denis, Denis and Sarin (1997) opine that the lowest incidence of managerial turnover is associated with the number of outside directors on firm boards, but the high stakes of executive employees make the effect to be less sensitive to turnover despite the presence of independent directors whose role is to monitor managers. The controlling effect, however, is more apparent when executives have stakes of more than 25 per cent. Thus ownership structure has an inverse effect on turn over. While granting

executive stock options to family members merely increases their stake in the firm which is not good news for existing shareholders' particularly if the board plans to appoint an outside candidate to chair the CEO position. With respect to this, Suchard, Singh and Barr (2001)) examine the relationship between the monitoring of CEO's by inside and outside directors in Australian firms and found that non-executive directors are more likely to monitor managers. The turnover of Australian CEOs is associated with past performance instead of current firm performance as found in U.S. studies. Suchard et al. (2001) further note that the behaviour of institutional shareholders for solving corporate governance issues produce different results between Australian and U.S. firms. Shen and Canella (2002) conduct a longitudinal study to determine the effect of CEO dismissal following an inside successor selection. Their findings indicate a negative relationship between CEO turnover and firm performance and a positive reaction following succession. The results support the proposition that increasing managerial ownerships through equity pay for management in the firm significantly impacts CEO dismissal followed by succession, instead of dismissals impacting outside succession.

Iqbal and French (2007) investigates individual managerial ownership in 260 firms facing financial difficulty and report that the fewer voting rights executives have the more likely were they to be dismissed than their higher-owning counterparts. Also retained executives were found to increase their shareholding prior to their removal which suggests that such a strategy could be an indication to acquire shares during financial distress in order to avoid being removed. This also implies that high shareholdings might exercise greater control although there is a strategy among executives to entrench or shield themselves from turnover during a period of poor firm performance (Lu, Reising and Stohs, 2007). Moreover, the inverse effects between performance and turnover could be reduced if stock option plans are properly designed, so that a firm might incur the turnover cost on the employees' departure (Balsam and Miharjo, 2007). In addition, the cost of leaving the firm typically defers in the few years ahead after the grant date which amounts to losing the high value of unvested stock options. Thus lower turnover rates are usually observed during the vested period (Balsam and Miharjo, 2007).

Since the main function of boards is to play an agency role to shareholders both parties have a responsibility to practice good corporate governance, particularly in the monitoring of management activities. The important role of the board includes decision making to ensure healthy corporate performance. However, negative firm performance not only damages the reputation of the board but also board members expos themselves to the threat of being dismissed or removed. This suggests a direct relationship between corporate governance attributes, firm value and executive turnover. Haniffa and Cooke (2002) report a positive relationship between good corporate governance and firm performance for Malaysian firms, while Black et al. (2002) found that better governed firms might have more efficiency in their operations which is consistent with conclusion reached by Haniffa and Hudaid (2006) who report that good corporate governance has value-enhancing effects on the firm. Studies such as Gibson (2003) and Defond and Hung (2004) associate corporate governance and executive turnover to performance sensitivity. They found that the corporate governance of a firm works well following poor firm performance if the managements respond quickly. In other word, when corporate performance declines, the board would react by replacing or removing inefficient top management which suggests that corporate governance plays a key role in determining top executive turnover. Previous studies are in agreement that several board's characteristics such as board structure, board size and board composition are likely to influence the probability of executive turnover. The study by Haniffa and Hudaid (2006) report board characteristics such as smaller boards, independent boards and the separation of roles between CEO and chairman would result in better monitoring functions. Rachpradit, Tang and Khang (2012) also report that high turnover leads to poor firm performance.

In the corporate governance literature, board size is one of the main attributes linked to executive turnover and is widely accepted as a key determinant. Proponents note that effective board size might enhance management control, reduce costs, and thereby increase firm value. Lipton and Lorsch (1992) contend that smaller boards might affect the capacity for monitoring management, while Haleblian and Finkelstein (1993) argue that larger board are likely to increase their capabilities and resources in order to solve the problems of the firm. Conflicting views on the size of

board of directors have created an argument that smaller boards have become more successful than larger boards, particularly in making decision concerning the replacement or termination of directors. In response, scholars propose an ideal number of board members. For example, Jensen (1993) indicates that boards with eight or fewer directors are more effective for monitoring CEO activities, while. Shivdasani and Yermack (1999) suggest that eleven is a more appropriate size for firm board of directors. This implies that various numbers of board members might vary according to the firms' characteristics. In the case of Malaysia, Wan Nordin (2009) notes that the average size of Malaysian board of directors is between 7 to 8 members which are represented by executive and non-executive directors. This is in line with Malaysian legal practices in Listing on Bursa Malaysia, whereby the firm's board of directors should represent at least two persons or equivalent to one-third of the independent directors (Paragraph 15 (2), 2002). The requirement has a significant impact on the decision-making process for board selection as well as the replacement process. On this issue, Borkhovich, Brunarski, Donahue and Harman (2006) report that smaller boards might influence executive replacement decisions, while larger boards find it easier to find a successor. In other words, in the process of selecting candidates for board composition, the firm is likely to choose an outsider and so create the main feature of a two-tier board of executive directors and independent directors to balance the board size and work cooperatively with executive directors. Accordingly, the effect of executive turnover and board size is an inverse relation. Studies by Faleye (2003) and Borokhowich et al. (2006) indicate that smaller boards are more efficient and are therefore more likely to change executives as corporate performance declines, while larger boards might increase the number of independent directors but are less sensitive to underperforming directors. This is broadly in agreement with Yermack (1996) who report that CEO turnover is less sensitive to firm performance as the board size increases, while executive turnover is more likely when the firm has a smaller board of directors.

The second characteristic of board attributes is board composition. Anecdotal evidence suggests that the presence of outside directors may enhance board's effectiveness for the purpose of internal monitoring. The corporate governance literature reports a similar effect, especially when outside directors provide their

independent expertise and judgment. However, the risk appears to be greater when board members have a substantial stake in the firm. Thus to encourage a high level of board independence, at least one-third of board members should be external directors, since they have no relationship with the major shareholders or hold any position in the firm. Despite appointing independent directors to achieve the intended objectives for monitoring top executive levels, the key question is how outside director influence the board's decision. Also, since one of the main functions of board composition is that of internal control, the presence of outside directors on the boards provides a clear division of executive roles to serve on behalf of shareholders. On this issue, Renneboog (2000) notes that the appointment of outside directors is vital to the interest of major shareholders through the exercise of their fiduciary duty to monitor firm performance, while Weisbach (1988) reports a strong effect between turnover and performance in firms with outsider-dominated boards. This implies that independent board members would respond quickly to underperforming director by replacing them. Weisbach (1988) also notes that top executive turnover is likely to occur when the firm experiences poor corporate performance and forced departures among top executives which is considered a form of boards reaction. This evidence justifies the existence of an external director on the board of directors as one of the solutions to remove poorly performing top management executives, since they should be penalised for poor firm performance. This would also suggest that outsider-dominated boards are better at monitoring management performance. This is an issue taken up by Klein (2002) who report that board independence is inversely related to earnings management, indicating that outsider-dominated boards play an effective role in monitoring corporate performance. However, the U.S. findings of Bhagat and Black (2002) suggest otherwise. They note that an increasing number of independent director on boards do not lead to better firm performance. However, Hsu-Huei, Paochung, Haider and Yun-Lin (2008) report strong evidence that independent directors have a positive effect on firm value in Taiwan. The next hypothesis is the likelihood that top executive turnover is lower when the board is less independent or if the management is occupied by an outsider-dominated board.

The literature also reports the effect of CEO duality and performance. For example, Anderson and Anthony (1996) report positive effects of CEO duality which

improved operating performance, though the firms in the sample were exposed in earnings manipulation activity (Dechow, Sloan and Sweeney, 1996), while Moscu (2013) notes that CEO duality improved performance. However, the agency theory literature indicates opposite results. The suggestion here is that the separation of CEO and Chairman of boards is to avoid domination inside the firm. In regard to this, Dahya, Garcia and Bommel (2009) report that the title of separation in U.K. companies do not lead to superior firm performance, while Goyal and Park (2002) found a negative association between turnover and firm performance when CEO and chairman are granted to the same individual role which is consistent with Jensen's (1993) findings relating to the failure of the firm to take hold of internal control. These arguments illustrate that CEO duality affects performance and lead to turnover. Notably, the dividing role between both positions thus makes it easier for the boards to dismiss inefficient managers. Studies by Goyal and Park (2002) show that CEO turnover is likely to be lower when CEO and chairman are granted to the same person, while Maury (2006) reports that Finish firms despite having supervisory board and board of directors report higher CEO turnover following low stock price performance. However, when the role of CEO and chairman are combined, the result shows no difference with effects between two-tier and a single-tier board structure. A later study by Hou and Chuang (2008) found that turnover is sensitive to performance, which is attributable to CEO duality. Most of the empirical evidence in this field suggests that the separation of roles between both positions does not imply that firms have weaker monitoring boards that are unable to remove inefficient top executive. However, it may be added that the code of corporate governance states that the separation of CEO and chairman might ensure the intended objectives of balancing power between the two positions, since it helps to avoid conflicts of interest and domination by a single person on the board. This argument supports the theory that executive turnover increases when there is an unclear separation role of CEO and chairman or alternatively that executive turnover is likely to be lower as CEO serves as chairman of boards indicating that firms apply low corporate governance.

Other than board attributes, demographic factors such as the age of board members is an important determinant for estimating the probability of turnover. Age is

commonly used to distinguish between forced and routine turnover. However, the test effect of age on turnover is usually divided between younger and older. In this respect, studies have been conducted using age as an explanatory variable. Among these studies Coughlan and Schmidt (1985) examined the turnover-firm performance effects by using the compulsory retirement age of 64 to differentiate between younger and older CEO, while Weisbash (1988), Barro and Barro (1990) and Rachpradit, Tang and Khang (2012) use age 65, 55 and 60. Lausten (2002) and Goyal and Park (2002) also applies a similar approach to estimate the probability of turnover through CEO age. In linking the age of board members to turnover sensitivity, Goyal and Park (2002) and Rachpradit, Tang and Khang (2012) report a positive relationship, while in an earlier study Coughlan and Schmidt (1985) conclude that younger CEOs has a negative relationship on stock price performance, since the coefficient of CEO turnover above retirement age indicate a positive and weak relationship. In addition to these studies, Barro and Barro (1990) estimate the turnover of bank CEOs and report a strong effect on turnover decisions. They find that the probability of turnover is lower amongst younger CEO and increase when they are about to reach the mandatory retirement age. However, Rachpradit, Tang and Khang (2012)) report both positive and weak relationships for all CEOs turnover, though additional test on a sub-sample younger and older CEOs find that younger CEO are likely to be replaced following poor firm performance.

Prior studies also indicate that firm characteristics may influence the likelihood of executive turnover. One of firm characteristics that could be attributed to executive turnover is firm size which is commonly measured by total assets or market capitalizations. High firm value in place of assets or market capitalization shows the firm is categorized as being a mature firm. Earlier empirical studies indicate that firm size plays a significant role in determining executive turnover. For example Cosh and Hughes (1997) report a negative relationship between turnover and large size firms, which suggests that larger firms are less likely to terminate top managements, which is in line with Rhim, Peluchette and Song (2006)) who find that large firms are expected to enjoy good corporate performance since the benefit from more stable income. Therefore, such firms are less likely to change their executives compared to small firms in which turnover is expected to be lower.

There is also a branch of the literature that justifies high executive compensation pay by drawing attention to the need to align the interests of managers and shareholders. The consensus is that since top management are an important human resource factor attractive pay packages has the ability to attract and retain managerial talents, particularly at CEO level. It has also been argued that the level of pay for executives should influence their decisions to remain with the firm. For example, Mehran and Yermack (1997) indicate that alternative strategy designed to change the mix level of payments could help to retain executives. They also argue that using solely cash pay and bonus for executive appraisals is a subjective decision made by the firm because in real labour markets not all firms are able to compete for talent using cash based compensation, particularly smaller firms. Those who are broadly in agreement with this view suggest that firms should use share-based payments as a retention mechanism (Anderson, Banker and Ravindran , 2000). Accordingly, the use of stock options is considered as one way in which the firm can extend an intention to leave the firm for several years after the grant date which is normally between three to five years. Thus it may be concluded that turnover among executives would be lower during the vesting period (when stock options cannot be exercised) and the retention effects lead them to stay with the current employer (Balsam and Miharjo, 2007). Also, since the main structure of stock options is to link the share price to performance, stock options may encourage the firm's executive to be involved in highly profitable projects. However, if firm performance declines, the compensated value for executives is likely to reduce whilst turnover increases. This has lead Hassenhuttl and Harrison (2002) to argue that high compensation for the purpose of retaining loyal CEOs is questionable, particularly for signalling that they are outstanding. Their findings indicate that stock options are negatively related to CEOs turnover in large firms. Similarly, Fee and Hadlock (2003) find that equity payments play an insignificant role in the retention of CEOs, while Dennis, Denis and Sarin (1997) indicate that a large amount of share ownership does play a role in determining executive turnover. The literature further suggests that the implementation of stock option plans at managerial levels will not only increase their share ownership but also the level of effects on turnover-performance is twofold. The first effect is that executive with low ownership interest may leave their position if the firm records poor performance and the new replacements is expect to enhance

firm value. In this respect, Hochberg and Lindsey (2010) examine the relationship between stock option plans and operating performance and found a positive relationship, while Blasi, Freeman, Mackin and Keuse (2010) note that employees who receive stock options are less likely to find a new job, which suggests that share options leads to lower voluntary turnover. Nonetheless, a section of the literature suggests that the effect of reduction in turnover is temporary until the stock options vesting period, which would seem to imply that stock option plays a role in delaying, rather than in preventing turnover (Serdar, Parker, Wesep and Dickersin, 2011). The second resulting effect is that where the executive has significant ownership through stock option, they might shield their position from poor corporate performance. This particular effect is consistent with a study conducted by Finkelstein (1992), which found that substantial stockholding is a source of managerial power. Therefore, a significant ownership stake is likely to reduce the CEOs removal by the board and is one of the ways through which a large amount of stock option grants can be exercised.

2.8 The effect of stock option on taxation

Numerous studies report evidence which suggests that firms using stock option plans benefit from taxation. One of the earliest studies was carried out by Dillavou (1945) who note that regulators and investors focus more attention on stock option grants, particularly for estimating the real effect on tax claims. At that time courts paid attention to the adequacy and motive of equity plans and considered the incentive effects for increasing employee efforts and job satisfactions as not sufficient enough a legal concern to support tax claims. As a result, some of the incentive compensation programmes are set up for the purpose of securing a tax advantage of employee which contributes to firm losses. The issue of tax benefits continued until the 1960s and 1980s as the divisions of stock options are entirely based on the Internal Revenue Code and legal cases. This is consistent with Kim (1990) who report that tax benefits resulted in the success of stock options in the 1960s, the effect of which increased two-folds in 1980s and later contributed to the wide use of stock options, even though there is a claim by some accounting practitioners that accounting treatments provide more incentive features for stock option grants.

In tax based U.S. studies, it has been argued that the tax effect of stock option plans (i.e., non-qualified option) is different than cash plan because unlike cash compensation payments when the stock option has met the specific criteria of the Internal Revenue Code, the gain may be taxed at the time of grant exercise or when the stock is acquired until the shares are sold. In some countries, when the stock option is sold, any resulting gain is taxed at the capital gain rate which is significantly lower than the ordinary income tax rates (i.e. the capital gain tax rate is 25 per cent while the ordinary income tax rate is between 28 to 70 per cent). Studies by Huddart (1998) and Hanlon and Shevlin (2002) note that firm's usually suffer a loss in their attempt to gain tax advantages when they fail to plan and adjust the reported income, while Hall and Liebman (2000) note that tax benefits have an effect on executive compensation, though they found no evidence that tax changes lead to increasing use of stock option grants at executive levels in lieu of cash-based payments.

Arguably, an increasing number of firms apply stock option plans, which indicates that firm perceived tax benefits might be captured through equity plans. Nevertheless, the tax advantage of stock option plans relying on tax policies. In relation to this, Hall and Liebman (2000) investigate the extent to which various tax changes could affect the tax benefit due to the rise of using stock options in the US corporations. Using longitudinal data, their finding shows that tax changes have a moderate effect on stock option grants. Moreover, due to offsetting effects, stock options have made the tax implication not as clear cut. It may be the cases that stock options reduce shareholders profit, which implies that tax advantages weaken shareholders incentive to motivate executives. In attempting to link the tax effect with stock option plans within the spirit of agency theory, the result produces less evidence to support tax advantages from the standpoint of cash pay. Core and Guay (2001) find that tax benefits are commendable and increases firm value if the tax rate in the current period is low and predict an increase in the future. However, the tax saving for stock options is less certain and it is more likely affected by exercise behaviour and share price performance. Moreover, a study by Graham and Rogers

(2002) found that managerial stock options are more sensitive to share price changes which can lead to an idiosyncratic risk exposure.

While, the increasing use of stock option plans are connected with advantages on internally generated funds, the stock option plan has produced a clear indication that it generates no agency cost. These kinds of corporate financing for investment activities are more preferred by firms as the fund is less risky as compared of using external funds. The effect of stock options plan also indicates the pay contract plays an essential role for the manager's capital structure decisions (MaccMin and Page, 1996). This particularly show that the existence of stock options contract provides the manager with an incentive to make capital structure decisions that do not dilute their stake in the corporation. This incentive effect is manifested in the preference for internal equity or equivalent to, retained earnings, over debt and outside equity in financing an investment. Other main characteristic of stock option plans is that it could defer any tax advantage until stock options are exercised, usually three to five years after the grant date. Amromin and Liang (2003) find evidence which indicates that firms use stock option plans as a tax shelter, and Graham, Lang and Shackelford (2004), Kahle and Shastri (2005) and Aier and Moore (2008) note with respect to tax shelter and stock option grants, that firms utilise stock option in order to gain the maximum tax benefit. In other words, stock option produces a unique non-debt tax shield and ignores the effect which may result in overstating tax advantages, which leads to erroneous conclusions about the firm status as underleveraged (Hanlon and Shevlin , 2002). In relation to the association between stock options and firm debt ratio, Amromin and Liang (2003) present two opposing points. First, they empirically examine the offsetting effects on debt through the role played by stock option grants and stock repurchase. The result shows that employee stock options could affect the firm's debt financing and capital structure after the firm alters the taxable income and the expected stream of tax payments. For the second point, using panel data from 1995 to 2001 for nonfinancial firms in the S&P 500, the results indicate that employee stock options could serve as a non-debt tax shield to lessen debt financing. This is in line with Graham, Lang and Shackelford (2004) who found that deduction for stock options would serve as a non-debt tax shield which yielded less debt financing and thereby reduce corporate tax payment. However, the extent

of stock option grants influence on a firm's debt policy is associated with the capability of size to have an effect on marginal tax rates. Graham, Lang and Shackelford (2004) find that in a marginal tax rate, which readily incorporated tax benefits of exercise gains, the expected benefit from new stock option grants are included. Therefore, the relationship between stock options and marginal tax rate is a positive one. Other related studies in this area examine the tax benefits associated with a firm's debt policy, stock option grants, and the role of the firm's tax status. Aier and Moore (2008) studied the link between tax benefits on stock option with debt according to the tax status of the firm (i.e., tax sensitive firm and tax insatiable firm). They report an inverse relationship between the use of debt and tax benefits (i.e., as a tax shield) on employee stock option in tax sensitive firms, which suggests that stock options and tax status interact with each other in determining a firm's debt policy.

A number of studies investigate whether an association between personal income tax effects and stock option grants exist. Studies by Hite and Long (1982), Miller and Scholes (1982), Hall and Liebman (2000) and Katuscak (2004 and 2009) examined the impact of personal income tax on compensation pay and the impact of the tax system for compensation pay design within the scope of global contracting. From the studies mentioned, Hall and Liebman (2000) find weak evidence that tax changes lead to increasing use of stock options. However, when compared to cash pay, the tax effect is found to produce a slight tax advantage which implies that using cash pay is preferred to stock options. In some countries different tax rates imply for cash and equity pay. For example, in the U.S. corporations are allowed to use different tax rates for any gains arising from stock option grants. Table 1 compares both U.S. and Malaysia tax regulation:

Table 1: Comparison of taxable income between U.S and Malaysia taxation rules

Compensation types	US	When taxable	Malaysia	When taxable
Salary	Personal	Payout	Personal	Payout
Bonus	Personal	Payout	Personal	Payout
Non-qualified stock option	Personal	Exercise	Personal	Exercise
Stock option gains	Capital gains tax	Sales of the stock	Personal	Exercise (Section 25 (1) (A), ITA 1967
Dividends	Personal	Payout	Personal	Payout

In the context of Malaysia, the one tax rate is imposed for all types of compensation and this is what is currently applied under Malaysia taxation rules. When the tax treatment of both countries may be compared for the purpose of determining the tax benefits inherent in equity based plans. In this case, U.S. tax regulation allows stock option plans to be taxed at different tax rates for gains when sold. However, it appears that capital gains tax is not relevant for the design of compensation contracts for Malaysian firms, since stock option plans offer no tax advantage relative to salary and bonus. Therefore, the personal tax effects of Malaysian stock option lead to ambiguous results.

ESSAY 1

3.0: THE LEGAL FRAMEWORK GOVERNING EXECUTIVE STOCK OPTIONS IN MALAYSIA.

3.1 Introduction

A growing body of literature offers evidence for the widespread use of stock option plans in Anglo-Saxon countries. Developments in this area as spilled over into other regions as an increasing number of companies develop interest in equity sharing as part of a compensation package. The commonly cited examples for the use of stock option plans have their origins in the 1990s, principally for the purpose of gaining a tax benefit (Aboody, 1996). In addition, the expansion in economic activity which gave rise to the rapid growth of technology based companies helped to escalate compensatory stock option plans at the executive levels in a number of countries (Hall, 1998), while the corporate scandals in the US and the excessive value of stock options granted at the executive level generated a controversy that forced many corporations to extend the granting of share options to non-executive employees. Some economic observers provide contrasting argument which questions the economic justification for award stock options to all employees (Hall and Murphy, 2003). Nonetheless, the non-executive levels are still predominantly the main holders of stock options of U.S. corporations albeit Sharma (2006) points out that the trend for stock option plans at this level has reduced in size from $119 billion in (2000) to $71 billion in (2002).

It is conjectured that the efficient functioning of legal frameworks has a substantial impact for the shaping, design and operation of stock option plans. However, the legal practice adopted in guiding stock option plans might vary from country to country. In consequence, the associated legal and regulatory frameworks usually require a series of amendments that should be in place before stock plans are established. In respect to this, the Malaysian authorities should therefore consider

reforming the process for every facet of the regulatory and legal frameworks in order to enhance the best legal practice.

The main aim of this essay is to assess the legal and regulatory frameworks governing stock option plans in Malaysia. In the process of making a coherent review, I will examine the basis and jurisdiction with respect to how the regulatory framework operates within the capital market, as well as to appraise the legal aspects at the international level, principally among four selected countries – the U.S., U.K., Japan and Singapore before turning our attention to the regulatory framework guiding the use of the stock option plans in Malaysia. Our discussion, in this respect, highlights the associated issues under which stock option plans operate, noting in particular issues specific to accounting and taxation.

The essay is organized as follows. Section 3.2 reviews the regulatory frameworks governing stock option in some developed countries include U.S, U.K., Japan and Singapore. Section 3.3 provides brief description of Malaysia legal frameworks concerning employee stock option plans and discusses the initiative has been taken so far to overcome weaknesses in legal structures. The last section is 3.4 concludes.

3.2 The regulatory frameworks executive stock option plans

The use of stock option plans in Malaysia has a very short history. The first stock option plan was announced as recent as 1989, which indicates that the stock option plan have only been around in Malaysia for almost 20 years. However, there is still a lack of discussion about the practical use of stock options in the corporate sector of Malaysia. At present, most applications emphasize the accounting treatment of stock options, and because of this there has been no real need to devise a complex legal framework to govern the use of such instruments. According to Obiyathulla et al. (2009), the presence of statutory requirements for a centralized government-managed retirement fund could be one of the reasons for why there has been limited discussion regarding the legal effects of stock options. However, and given the growing popularity of stock options, the trend for an employee compensatory system has changed and the Malaysian government has responded in turn by allowing the

establishment of a new scheme for private employees and the self-employed. In this respect, the present legal structure requires a coherent review and update in order to cope with both current and future needs. As a result, updating the laws is likely to produce clearer guidelines for firms and ultimately achieve a higher standard for practice. For precisely this reason, the legal structure is commonly designed as lying between regulation and complete laissez-faire.

During the process of creating the structure for the legal and regulatory framework governing corporate activities, a crucial part of the process has been to consider the dimensions that facilitate the business community on the one hand and on the other hand, dimensions that protect corporate directors and stakeholders in line with international standards. In the context of compensation payments, there is no single source of regulations governing the operation of stock option plans which are commonly controlled by two types of law: company law and securities law. In general, company law serves as a principle of the regulatory frameworks that establishes a standard system for adoption by all companies which contain the law for, among others, administration, directors' duties and company audits. Whereas the general function of securities law is to regulate the issuance of securities and to protect the rights and interests of stakeholders. Therefore, both legal sources function simultaneously in order to prevent inequitable and unfair practice on the stock exchange.

Together with the legal structures underpinning stock option plans, the specific guidelines in the frameworks play a vital role in setting boundaries that guide the duties of directors'. This therefore enables stock option plans to operate in an efficient way. In addition, stock option plans usually require the issuance of new shares that would have dilutive effect on the existing wealth of shareholders', which suggests that the process of establishing a stock option plan involves a series of business activities that requires changing the company's capital and information disclosure, and financial management practices. Hence, a different set of corporate activities is seemingly applied to a different stage of jurisdiction. In this example, the establishment of a stock option plan also relates to the issue of corporate governance

within the corporation, particularly when the agency problem is widespread in the corporation. For that reason, the legal and regulatory frameworks would seem to play an important role in helping to solve potential corporate governance issues that may arise. On this particular issue, it worth mentioning that the corporate governance literature presents mixed results on the actual relationship between corporate governance practice and stock option plans. For example, a positive association could be found when the stock option plans appear to align the interest of managers with those of the shareholders of the corporation, thereby giving the impression that the corporate governance framework in place is functioning well. However, the contrasting effect could also be generated if the corporate governance framework fails to exercise its core functions.

Investigation on a country-by-country basis reveals that the Anglo-Saxon countries, specifically, the U.S. and U.K., apply more comprehensive law which is often cited as a main source of reference for Malaysia. The main features of corporate law and exchange regulations governing the use of stock option plans in the both countries appear not to be too restrictive. This differs from the laws applied to stock option plans in Malaysia, where the focus is on the stock option plan disclosure and procedural guidance. This implies that the law as currently applied is overly restrictive. Moreover, in the U.S., the design of the regulatory frameworks for management compensatory methods is shared between the judicial system and the tax authorities. In this way, the regulatory framework is designed to prevent excessive compensation at the executive level. Furthermore, the demand for information disclosure is given the highest priority by the regulatory body in order to overcome the issue of insufficient information. In addition, there appears to be some interaction between the strict law enforcement of the regulatory bodies and the Companies Acts with the non-mandatory provisions of the Corporate Governance Code. This makes it very clear that provision in their main statute. In contrast to Malaysia regulatory frameworks underpinning stock option plans, it require for a comprehensive of updating of laws in order to meet high standard of legal practices as been applied in U.S. and U.K. This also for fulfil current and changing needs. For one of example, the provision in the Malaysia Companies Acts that specifies the directors' interest in the share dealings reflects the changes for the list of directors'

duties which makes the laws more certain. However, some parts of the lists are not exhaustive; hence the process of changes and amendments to the main laws often produce a direct impact on practices in corporate governance[1]. Therefore, expanding the existing corporate governance code is one of the possible ways to balance its effects. There is, however, a dilemma here because changes in the main law of Malaysia are sometimes not fully consistent in terms of the company's commercial interests and corporate social responsibility. Nevertheless, the effect on the practical implications is obvious. In fact, whether the new or expanding existing provision produces a positive or a negative effect in the Malaysia company's interests crucially depends on how the top management conducts the company's business. Moreover, the behaviour of management with respect to the interests of the firm is generally influenced by how they conduct themselves and their relationship with stakeholder groups.

With regard to the effect of stock option plans on management behaviour (i.e. directors), even part of the listed duties are clearly indicated in the Malaysia laws. However, among other things, it might discourage the corporate risk-taking so that Malaysia directors are become more risk averse when making their judgements. In ther instances of duties, as stated, might also produce the effect of discouraging non-executive director from holding multiple directorships. Therefore, the existing Acts note the extent of the changes that might prevent behaviour that conflicts with the interests of the corporation in the same way. At this point, it should note that the process of modernizing existing regulatory frameworks and practices in Malaysia could be served as examples for major reform. However, the extent to which of law changes that would benefit Malaysia as to move closer into line with international standards remains on debate. So far, among the Asian countries, Japan and Singapore are show a great progress in their law reforms and in this example, Japanese laws did a major reform for stock option programs at the executive levels in order to move closer with the US and European countries[2]. This shows their great

[1] For example, in the UK Company Act 2006 was superseded the 1985 act and came into force in stages, with the final provision being commenced on 1 October 2009. Under the current acts, there seven general duties set out in the section 171 and 177 with some new additions introduced by the Act.

[2] For example, Japanese provides a major reform in 1997 on the Japanese Commercial Code to allow companies offer stock option plans to directors and it also moves closer into line with the US and Europe. See a study discussed by Junko Mori of Asahi Law Offices, Tokyo. "Japan gives green light to employee share options, International Financial Law Review 16 .45-46

initiative for modernizing the law practices as been applied in most developed markets.

3.2.1 Stock option plans in the United States (U. S)

Similar to other forms of securities, the process of establishing a stock option plan in a U.S. corporation is under the control of two provisions of the Securities Act. This includes Sections 3(a) and 5(a) of the Securities Act of 1933, which require the corporation to prepare a registration statement (prospectus).[3] Section 3(a) of the Securities Act of 1933 emphasizes that there are exemptions from the registration requirements of the Securities Act known as the 'safe-harbour exemption'. The Act provides an exemption to stock option plans in Regulation D, specifically known as Rule 504, Rule 505 and Rule 506.[4] Among other things, these rules indicate restrictions for US employees on the resale of securities[5], the offer price and the number of purchasers. Regulation D has been criticized because it provides more benefit for small companies. However, Rule 701 provides exemptions for large corporations that make it more attractive to gain an exempted registration, because there is no limitation on the number of securities offered unless for an aggregate sales price. Rule 701 can be used with exemptions in Regulation D. For the process documentation, the company is required to deliver a copy of the contract to all eligible employees[6].

In the event of a stock option plan, major amendment has been made following the incidence of corporate failures in the U.S. which led to the introduction of a new law – the Sarbanes-Oxley Act of 2002 (SO Act). The SO Act is used to ensure that more protection is provided to employees and so provides restrictions on insider trading activity that involves directors (Samsa and Scheidt , 2003). In particular, this SO Act prohibits the provision by the company of personal loans to directors and executive officers to cover the exercise price or income tax obligations, when

[3] Section 3(a) and 5(a), of the Securities Act 1933
[4] Section 3(a) of Securities Act 1933 and All types rule provide exemptions from registration requirements of the Securities Act which also known as "safe-harbour exemption"
[5] Typically, shares disposal by employees that were required through stock option plan meets the exemption in the Section 4(1) of Securities Act 1933.
[6] If the aggregate sale price exceeds US5.000.000 for the period of 12 months, an additional information such as terms of the plan, investment risk and financial statement.

exercising the stock option[7]. Nevertheless, this prohibition does not apply to outstanding loans after the effective date of the SO Act.

Other than the securities acts, U.S. tax law also play a role in forming the regulatory framework governing stock option plans. In the U.S., the tax treatment of stock options depends on the plan structure. Moreover, the different tax results from gaining such benefits are dependent on whether companies use an incentive stock option plan (ISO) or employee stock purchase plan (ESPP).[8] The tax treatment for ISO, which means that it does not meet the requirements set out in Section 422 of the Act, is determined based on the ascertainable value. This shows that the tax consequence of the nonqualified stock option with an ascertainable value is slightly different from that with no ascertainable value. For instance, the nonqualified stock option with ascertainable value will be taxed to the extent of the realized gain on the sale of the option, while the nonqualified stock option with no ascertainable value will be taxed at the exercise date and fully vested in accordance with the terms and conditions of the agreement. From the standpoint of U.S. taxation, the tax advantage of stock option plans for employees, it would seem, greatly outweighs that of the company, since the company is not allowed any deduction for costs incurred.

3.2.2 Stock option plans in United Kingdom (U. K.)

The U.K. regulatory framework provides clear prescriptions for the establishment of stock option plans, although not all equity plans fall within the scope of the definition.[9] In the U.K., there is however a slight advantage for a company offering a stock option plans in which it may enjoy the advantage without taking into consideration that the rights of shareholders' will be diluted.[10] The power to establish stock option plans is generally contained in the memorandum and articles of association. Thus companies intending to offer stock option plans should examine

[7] § 402 of Sarbanes-Oxley Act 2002 and the prohibition also include an arranging for credits.
[8] ISO is a shareholder-approved plan that satisfied the requirements of Section 422 and if the stock is sold without meet the qualifying period will be treated as Nonqualified Stock Option (NQSQ). While, ESPP is a purchase right that granted to employees for acquiring company shares at particular date under Section 423 Internal Revenue Code of 1986.
[9] Based on the section 743 of Companies Act 1985, it is define as a scheme for encouraging or facilitating the holding of stocks or debentures in a company by or the benefit of the bona fide employees or former employees of the company, the company's subsidiary or holding company or a subsidiary of the company's holding or he wives, husbands, widows, widows or children or step-children under the age of 18 of such employees or former employees.
[10] Section 89, Companies Act 1985

both documents concerning the relevant powers associated with the stock option plan. The amendment is required for both documents, and if it is not stated in the documents, then the relevant powers associated with stock option plans will be put in place. Accordingly, there are clear guidelines relating to the responsibility of directors, which under U.K. regulation is to ensure that prior to the implementation of stock option plans, they have the authority to do so by gaining the approval of shareholder at a general meeting. A similar process must be carried out for the issuance of new stocks.[11] And if agreed, the approval must be communicated to all shareholders through a circular, which contains the full description of the plan except for any minor amendments. Unlike the U.S. arrangements, there is no general exemption provision for the issuing of shares in relation to the stock option plan. However, the listed companies would benefit from the exemption in the prospectus rules. This indicates that listed companies on the London Stock Exchange (LSE) are not required to produce a prospectus, while non-listed companies are subject to the requirement of the prospectus as pursuant to the Public Offers of Securities Regulations 1995. In addition, the current implementation of the European Union (EU) Prospectus Directive has led to changes in the law in the offering shares to the public. The new provisions of the Financial Services and Markets Act 2002 (FSMA) have come into full force, along with rules for when a prospectus is required and the publication needed for an approved prospectus.

Similar to that in other country jurisdictions, the main structure of stock option plans is determined by provisions in the Companies Act and listing rules. Specifically, the laws governing disclosure and directors' duties for managing stock option plans indicates that directors are obliged to prepare a report containing all information relating to their ownership interests in the company.[12] For example, the directors' remuneration report must be prepared for every financial year end and laid down in a general meeting by the board of directors for the approval of shareholders.[13] The report should also be audited by the company auditor and sent to every member eligible to attend the meeting within 21 days before the general meeting date.

[11] Section 80, Companies Act 1985 Para 13.13, the UKLA.
[12] As section 324 Companies Act 1985 specifies the requirements for listed companies to disclose the information about directors' interests inside the company in the annual reports. The term of the directors' interests are then been extended to the spouses and children as the section 328 or any person enters in the company's register by virtue of section 325.
[13] See an new schedule 7A requirement in the Companies Act 1985 (Section 234B[1])

Included in the process are relevant documents, such as the directors' remuneration report, the annual accounts and auditor reports, all of which must be filed at the Registrar of Companies before the end of the laying and delivering accounts.[14] In the event of a part implementation of the EU Market Abuse Directive, the law provides a benefit in terms of reducing disclosure and the record-keeping obligations of the company. However, there is a requirement for disclosure of share dealings by directors under the Disclosure and Transparency Rules and the Model Code of Listing Rules. And companies must register with the Regulatory Information Service information stock option grants to a director or any person connected with a director.

This seems very clear that disclosure about directors' interests may be considered as corporate governance practices, which are controlled by the Combined Code on Corporate Governance (2003).[15] The combined code clearly prescribes the requirement for companies to provide sufficient reward to act as an attraction and therefore a spur for a company's success and thus to avoid excessive compensation.[16] However, the supporting code contains the requirement that the form of compensation packages for executive directors should be associated with performance, which is designed to align interests.[17] Nevertheless, since the combined code is not mandatory and interaction with the listing rules promotes a 'comply or explain' approach, for that reason a listed company is required to insert a statement in the annual reports and to explain how and to what extent it has complied with the principle of the combined code. Effective from the 1st July 2005, the combine code is no longer attached to the Listing Rules.

In the U.K. the corporate ownership environment reveals that the institutional investor constitutes a substantial shareholder in listed companies. Therefore, it is

[14] See section 242 and 244. Companies Act 1985 indicate that should be submitted within the 7 month after the financial year-end.

[15] The Combine Code is not a law or regulation, but it is a set of recommendations guideline for corporate governance practices within the listed companies. The code is designed to avoid the directors or any person related to them abuses the price sensitive information or place themselves under suspicion of abusing during the period of announcement (Ferrarini, Moloney and Vespro, 2003). It applies for all UK listed companies and it passes a series of amendment to fit with current needs.

[16] The main principle in B.1 Code of 17.

[17] In the main principle B.2 specifies the procedure of designing the remuneration packages for executive indicates that fixing remuneration packages should be formal and transparent. Hence, the disclosure on directors' fee are then been extended under the regulation of the Directors' Remuneration Report Regulations 2002. The relevant information has to reveal including the details of stock options on the units exercised, outstanding at the end of financial year and the performance conditions attaching the options. Other information should be included in the report about the length and explanation of performance conditions under long term plans and the amendment (if any) of the options during the financial year

subject to the investor guidelines prepared by the two major lobbying organizations such as the Association of British Insurers (ABI) and the National Association of Pension Funds (NAPF).[18] As indicated earlier, stock option plans need approval from shareholders; therefore, institutional investors have an opportunity to vote if the company fails to not comply with their guidelines. Also, because there are significant influences on the stock option plans, the company will often conduct a discussion at the preliminary level by using their voting rights and will only give their support for compensation plans that improves firm performance and with the purpose of aligning the interests of employees with shareholders. This is a fundamental principle in a recommendation of the Greenbury Committee (paragraph 5.33), which note that:

"Shareholders should be invited specifically to approve all new long-term incentive schemes (including share option schemes) whether payable in cash or shares in which Directors or senior executives will participate which potentially commit shareholders' funds over more than one year or dilute the equity"

Similarly, other incentives to provide stock option plans are to gain the associated tax benefit. Therefore, in the U.K., the scheme subject to law involves four types of taxation: income tax, national insurance, capital gains tax and corporation tax. Although no tax is imposed on an approved stock option plan by HMRC, shares acquired under unapproved plans are subject to such law.[19] As with other regulations, a series of amendments have been passed to tax law, particularly in relation to changes for unapproved arrangements introduced by Schedule 22 of the Finance Act of 2003. The value charged for income tax depends on the type of securities and when the shares are ready to convert into assets (called readily convertible assets). The employer is responsible for paying the tax through pay-as-you-earn (PAYE), whereas the employee should reimburse the value to the employer within 90 days. The tax paid value will be treated as a tax benefit, which is based on

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[18] The both associations represent the institutional shareholder investors through issuing the guideline for their members. Other institutions such as Morley Fund Management and ISIS Asset Management take their own initiative through publishing their own guidelines for corporate governance and voting principles.

[19] A HRMC approved scheme covers the company share option plan, share incentive plan and saving related share option plan (SAYE).

the grossed-up amount. However, when employees sell stock options and receive any gains, then these will be subject to capital gains tax. This treatment provides a slight advantage when the shares owned by employees qualify as business assets and eligible for business asset taper relief.[20]

3.2.3 Stock option plans in Japan

The development of the law governing stock option plans in Japan has experienced a series of reforms in response to current needs. Before the amendment of the Japanese Commercial Code, more than 50 companies granted a quasi-stock option plan, although this has been prohibited under the law. This prohibition is due to its dilutive effects on shareholders' wealth (Mori, 1997). The major reform of Japan's regulations in 1997 deregulated stock option plans, allowing companies to offer stock options designed to facilitate an employee incentive scheme. In addition, the Japan's securities law are quite complicated, but an amendment of exchange law was made to conform to changes in the commercial code which brought Japanese regulations into line with international practice. Another significant amendment in the provision of the Japan's commercial code involves Articles 210-2 and Articles 280-19.[21] Under these arrangements, Japanese companies intending to offer stock option plans in the form of treasury shares should obtain shareholder approval at the ordinary general meeting. The warrant stock option, for example, requires an amendment in the article of incorporation and approval of an extraordinary resolution.[22] Previous restrictions on the number of shares offered to employees, for both types of stock option, no than 10 percent of the total issued shares, no longer applies. Although under Japan's securities law, the term of public offering provides clear guidelines on the number of share participants in stock option plans, which are also considered as a public offering.

[20] As an example, if the business assets hold for one full year, the rate is reduced from 40 percent to 20 percent and 10 percent for two full years. By following the Schedule 23, Finance Act 2003 companies established share plans are able to claim tax relief on the cost funding, nevertheless it limits to the certain circumstances such as it applies for the accounting periods beginning or after 1st January 2003.

[21] The Article 210-12 indicate that the stock option plans offer by the means of treasury shares and Article 280-19 emphasize such plan in the form of warrants.

[22] The resolution for warrant stock option must consist of a quorum of shareholders which representing by one-half of the total issued shares and the two-third of shareholders voting right, represent this resolution.

In the case of a public offering,[23] securities registration statement must be prepared and filed prior to the acquisition of shares will be deemed a prospectus. In accordance with the amended code, the provision in the Securities and Exchange Law requires companies to make a disclosure about such plans based on the aggregate value.[24] If companies establish a treasury stock option plan through repurchase by a tender offer, they are required to prepare a pre facto report and file it with the Minister of Finance. Further, the Tokyo Stock Exchange has published rules for treasury stock options so as to encourage timely disclosure and seemingly produced an impact on the application of insider-trading provisions. For the warrant option plan, a company must provide the information at the time of resolution. Moreover, Japanese listed companies are required to provide information when issuing a stock option plan as well as to file a report when stock options are exercised.

In relation to a tax qualification for a stock option plan, Japanese companies are allowed to defer tax payment until the time of sale. In contrast, a foreign company offering a stock option plan is not eligible to claim the benefit. In addition, the whole of the capital gains tax may be imposed on employees when they make the ultimate sale of the shares. In terms of the costs incurred for compensatory stock options, there is no tax benefit offered by the Japanese government for local and foreign companies. It suggests that any expenses related to stock option plans are not eligible for a claim for any deduction.

3.2.4 Stock option plans in Singapore

The general rules relating to the offering of shares to the public require the preparation of a prospectus in accordance with the Securities and Futures Act of 2001 (SFA). However, the establishment of stock option plans without a prospectus

[23] Under the general rules, public offering of securities for more than 50 persons and subject to certain registration and disclosure requirement. However, the stock option grant for one person is also considered as public offering.
[24] For example, Para 1, Article 4 for public offering more than 100 million yen and provide to a 50 person or more must file the securities registration statement with the Prime Minister prior the commencement of the plan.

is allowed, but only if it falls within the exemption requirements.[25] Furthermore, a company unable to meet the exemption requirements is required to issue a prospectus.[26] And before the commencement of a stock option plan, the company must obtain shareholder approval at a general meeting. With regard to stock option grants for directors and employees, the available shares are subject to a restriction value of not more than 20% of outstanding shares. The listing manual of Singapore Exchange Securities Trading Limited (SGX-ST) prescribes that shares acquired through stock option plans for each controlling shareholder must not exceed 10 per cent – and in total cannot exceed 25 per cent – of the aggregate number of shares available. However, this event is subject to the approval of independent shareholders.[27]

Pursuant to Singapore law, companies may issue stock options in two ways: using either existing shares, or unissued shares. Under the Companies Act, a company is not allowed to buy its own shares unless it is permitted to do so by its constitutional documents. Moreover, a company may acquire shares equal to a scheme approved in the previous general meeting, through agreement by a special resolution or by redemption. For a continuing plan, there are no requirements for the same stock option plan, apart from the disclosure requirements in the annual reports.

Included in the Companies Act is a requirement for directors who own a shareholding interest in a Singapore company to disclose and maintain a register of such plans, particularly on the acquisition and disposal of stock options. In fact, directors are required to provide notice in writing within days after the appointment of all interests in the company. Under the companies Act, a company is obliged to update the register within three days after receipt; the information is available through common public announcement on the SGX-ST website.

[25] The exemption requirements include the requirement of stock option plans provide by Singapore Company, the employees do not receive any inducement to buy shares by an expectation of employment or continued employment and no expenses incurred in connection with the securities offered unless fees for services rendered.
[26] The contents of a prospectus should contain sufficient provide information that investors or advisers would reasonably made assessment on the companies.
[27] Singapore Exchange Securities Trading limited (SGX-ST) listing manual prescribed that shares acquisition through stock option plans for each controlling shareholder cannot exceed 10% and in total not exceed 25% of the aggregate number of shares available.

It should be evident on the basis of the increased use of stock options in the countries whose regulatory arrangements we have discussed, that there are advantages associated with stock option plans. Overall, and because the advantages of stock option plans far outweigh their disadvantages, this has encouraged the Singapore government to put in place initiatives designed to foster greater use of option plans. One particular initiative designed to make the most of stock options is in the area of taxation. Such incentives are being extended to other forms of equity with a minimum holding period, which produces a similar effect to the minimum vesting period. Under Singapore taxation rules, three equity-based compensation schemes enjoy tax benefits: qualified, entrepreneurial and company. Each of these schemes is subject to different requirements, which is the purpose behind its introduction.

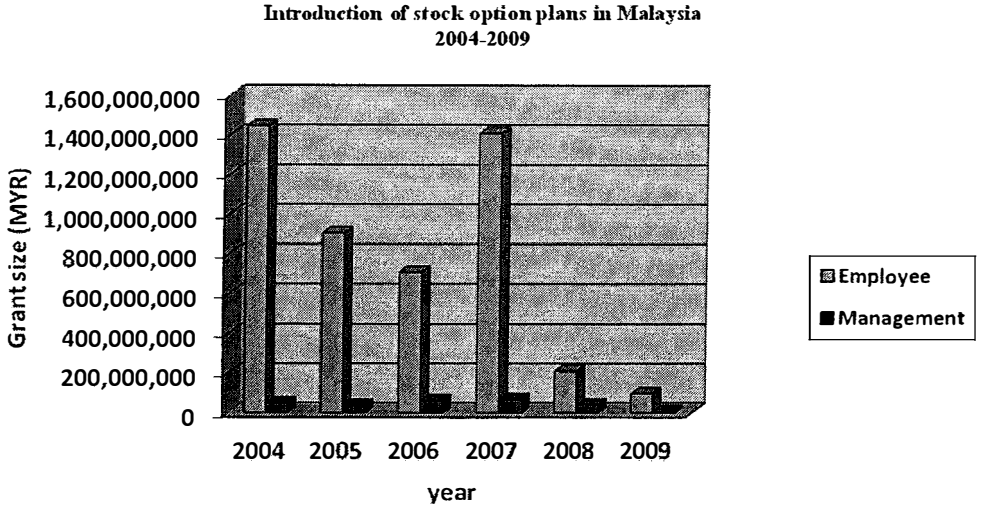
The current practice where the tax treatment of stock option plans is concerned indicates that employees will be taxed on gains during the exercise of the option, and when the market value is higher than the exercise price. Private companies also provide stock option plans to employees where the market share price is not readily determined, and in such cases the controller of income tax will indicate the share value based on the net asset of the shares. In relation to expenses incurred to bear the plan, there is no provision in the income tax legislation that allows for deduction. However, it may be argued that expenses on stock option plans improve employees' performance and profits, which makes them allowable for deduction.

3.3 Regulatory framework governing stock option plans in Malaysia

As mentioned earlier, stock option plans are not a new phenomenon to Malaysia, since they were first used as early as 199s. Throughout the 1990s, it is indicated that Malaysian public listed companies (PLCs) on the Bursa Malaysia began to use stock option plans as part of their compensation package for employees (Ariff, Mohamad and Nassir, 1998). The development of employee stock option plans in Malaysia did not foresee the Asian financial and economic crisis in 1997, and although the impact of the crisis did not affect the Malaysian economy as deeply as other Asian countries

the grant size of Malaysian PLCs with employee stock option plans were significantly affected. Figure 1 shows the varied trend in the size of stock option grants for the period 2004-2009. It is evident from figure 1 that Malaysian companies increased the grant size of equity sharing in times of good market performance, as indicated by the pattern for the period 2004 and 2007, when the size of option grants reached a peak and decreased in 2008 and 2009. This trend was primarily due the slow recovery from the downturn in economic activity in the wake of the Asian financial crisis.

Figure 1: Number of existing of stock option plans in Malaysia 2004-2009



The information regarding practice of setting up eligibility criteria for stock option plans in Malaysia indicate that the value of stock option plans are heavily allocated to employees, instead of management levels. The evidence shows that managements are no longer the predominant holders of stock option plans within Malaysian PLCs. However, in view of the fact that Malaysian corporate sector is dominated by a significant involvement of owners in management, as represented by family owned firms, this may give rise to potential of agency problems which also raises a number of corporate governance issue among Malaysian PLCs. One way to prevent such a problem is through the establishment of stock option plans in the spirit of regulatory and public policy as set out in local laws. While the regulatory framework could serve as a guideline on how plans should operate, based on information obtained on best practice from variations in stock option plans from one country to another.

Taking into consideration the role of law in other countries, it seems that an exhaustive regulatory framework would be the best cure for the problems in Malaysian corporate governance. And although Malaysian law has developed organically, it is physically structured on the basis of the Anglo-Saxon model of the U.S. and U.K[28]. The present law is largely borrowed from the U.K. and although Malaysian corporate and securities laws have been recently reformed, the actual reforms are widely viewed as not going far enough in overhauling particular provisions. Unlike U.S. and U.K. corporate and securities law, some parts of Malaysian corporate and securities law are not applied as strongly and at times are not equally enforced. As result, the system in place gives the impression of being unable to provide very clear legal guidance and is often quite slow in making progress towards law enforcement. And although corporate and securities law has undergone a comprehensive reform programme, the reforms are not sufficient to ensure the delivery of strong corporate governance practice. For example, although the report on Corporate Governance Country Assessment for Malaysia undertaken by the World Bank indicates that Malaysia is one of the best ranking countries in Asia, in terms of legal frameworks for corporate governance, in reality this is not reflected by its achievements[29]. Although new initiatives have been put in place by the regulatory bodies in order to reap the perceived benefits from the changes; such initiatives are always implemented on 'a piecemeal basis'. While the lack of a coherent review process often means there is a lag in the process of legal reforms. As response, Pascoe (2008) suggests that the main reason for these failings is due to weaknesses in the rule of law in Malaysia and the degree of political influence on corporate control.

Returning to the framework governing stock option plans in Malaysia, the main focus and attention of the underdeveloped legislative mechanism suggests that reforming the main statute is not sufficient to ensure exclusive legislation to guide the operation of stock options. In fact, the existing regulatory framework only considers three factors that worth noting with respect to its usefulness. This includes

[28] In the Anglo-Saxon countries apply a common law system in which more freedom in formulating incorporation acts
[29] Corporate Governance Country Assessment:Malaysia, June 2005, World Bank. Available at http://www.worldbank.org/ifa/ro

the basic conditions, approval procedures and disclosure of stock option plans. As a result, a different source of laws is required aimed at providing a more comprehensive legal structure; one with clear directions on how to successfully implement such plans.

Other than the Companies Act and the Securities Industry Act of 1983, which was later repealed, there are four legal sources governing corporate activities namely the Securities Commission Act of 1993, the Capital Market and Services Act of 2007, the Bursa Malaysia Listing Requirements and the Common Law. Instead of reviewing the existing regulatory framework for the purpose of devising regulation that can accommodate the requirements of developments in the use of stock options, the authorities have always opted to push through initiatives which invariably are not consistent with current needs. On this issue, Sheehan (2009) points out that despite the piecemeal approach, the Malaysian government are willing to allow sufficient room for the market to shape the practice of stock option plans without imposing any legislative constraints.

As the Asian financial crisis of 1997 provides a useful starting point in helping to identify what is precisely the true picture of weak governance practices among Malaysian PLCs. The government of Malaysia had already put in place a reliable corporate legal framework; however it has been argued that the reason for the crisis in Malaysia was due to the existence of fragile financial structures, ineffective boards, audit committees, and poor quality disclosure of information. Thus the corporate collapse and scandals that resulted were primarily due to a lack of effective laws to protect investors, combined with a lack of transparency in the regulatory processes.[30] In response to the inherent weaknesses in Malaysian corporate and securities regulatory framework, the Malaysian government was forced to put in place a comprehensive law reform programme directed towards enforcing the Capital Market Master plan, the Code of Corporate Governance and a revamping of the Bursa Malaysia Listing Requirements. To a degree these initiatives had the desired effect in helping to improve corporate governance practices in Malaysia,

[30] Philip et al. (2007). Corporate Governance in Malaysia: Regulatory Reform and Its Outcomes. Asian Productivity Organization. 92-128.

though the evidence reveals a less impressive governance culture, since Malaysia remain in 6 position in corporate governance rankings[31]. However, it is noteworthy to note that the evidence indicates that Malaysian corporate governance improved in terms of the form rather than in substance of corporate governance arrangements.

Although much discussion suggests that corporate governance failure in widely held firms, but the assumption typically greater insider ownership leads to better corporate governance produces contrasting result for Malaysian corporate sector which is high-dominated with family-owned firms. This is consistent with Claessens et. al (2000) and Morck et.al (2004) pointed out that firms have dominant shareholders might achieve control resulted in the rent activities where the country they operated. Moreover, Bebchuk et. al (2000) indicates that in economy, as the family-dominated firms grow and tend to be larger, the benefit in the hand of these firms explain why the pyramidal firm is likely come to existence in Malaysia. This suggests that agency problems cause expropriation of shareholders does exist among Malaysia firms as similar to the problem described by Jensen and Meckling (Claessens et. al, 2000). However, in most developed capital market like U.S. and U.K., La Porta et.al (1999) find that the role of non-leading families firms are controlled not by family members, but by professional managers. Even though, there is a concern that professional managers may fail in exercising their fiduciary duty to act for shareholders. The existence of strong boards committee decreases the agency problem through effective monitoring function. Moreover, the non-family firms who owned large ownership is more likely to take actions that increase the firm value. This shows that agency problems might be minimized in wide held firms than those controlled by families.

In essence, the Malaysian regulation applied stock option plans is very similar to that in the U.K., except that some parts of the law tends to be enforced in a preferential ways. Table 2 provides a brief guide on the degree to which the Malaysian government are pushing through with plans to update the regulatory framework in

[31] CLSA/ACGA:"Stray not into perdition: Asia's CG momentum slows", Available at http://www.acga-asia.org/public/files/CG_Watch_2010_Extract_Final.pdf.

line with international standards. Among the initiatives, the Companies Act of 1965 has been passed more than 30 times with amendments. However, some of the approaches taken have often been on a piecemeal basis and without their being a coherent review, leading to the establishment of the Malaysian Corporate Law Reform Committee (CLCR).

Table 2: Regulatory initiatives on employee stock option plan (ESOP) in Malaysia

	Subject	**Action taken**	**Steps**	**Adequacy**
Supervision	Supervisory framework	Legislative proposal	Legislative proposal	High restrictive and involve jurisdiction enforcement
Regulatory gaps	Formulating Malaysian corporate Governance Frameworks	Corporate Governance Code	Code of Practices	Mandatory to listed companies and it has to be applied as a part of the listing obligation.
Degree of confidence	Establish a capital market framework to protect the interest of minority shareholders through shareholder activism.	The Minority Shareholder Watchdog Group (MSWG)	The Malaysian Corporate Governance (MCG) Index	Clearly revealed a selection score and criteria for achievement.
Risk management	Company Rating	Approved an independent credit research and advisory –Rating Agency Malaysia	Rating Criteria	Highly adequacy and it has been conducted with collaboration of international agencies such as Standard & poor.
Market application	Strategic framework Corporate Law Reform Programme of the Companies Commission of	Established the Malaysian Corporate Reform Committee (CLCR)	Working Group – Working Group A on Company's Formation, Private Companies and Alternative Forms of	Corporate Law Reform Programme

	Malaysia		Business Vehicles Working Group B on Capital Raising & Capital Maintenance Rules Working Group C on Corporate Governance and Shareholders' Rights Working Group D on Corporate Securities and Insolvency Working Group E on Sanctions and Enforcement	

The CLCR serves as the starting point in the modernization of current practices in Malaysian corporate law and other jurisdictions, which allows it to determine important benchmark for changes and to decide on how far reaching reforms to the law in Malaysia should be made. To date the CLCR has produced 12 consultation papers with some recommendations for core provision. Some of the recommendations have come into force via the Companies Act.[32] And as Pascoe (2008) points out, although other significant recommendations for core provision have yet to be incorporated in the Act, however, some of law reforms may cause to become overdue.

Another issue surrounding the Malaysian regulatory framework that has received attention in connection with stock option plans relates to tax concessions. Although tax benefit has not been clearly introduced under the Malaysian regulatory framework, however, it has received the attention of the Malaysian government which has taken steps to promote the growth of such plans. As an indication on how far developments have reached, stock option plans may now be considered as a tax shelter when it defers tax obligation until employees exercise the options. The

[32] "High Level Finance Committee, Report on Corporate Governance, February 1999

benefit is liable for tax in the year the option is exercised. Thus the timing of exercise is important and employees must decide on when they prefer to exercise their options.

Regarding the major changes to the tax rules affected the stock option plan in Malaysia began in 2006 when the tax ruling on stock options changed. However, it less produce incentive for stock option plan establishment except for tax treatment on how to determine tax calculation value. In particular, before the year of assessment, which in effect was 2006, any benefits received from stock options by employees were deemed as gross income and therefore subject to income tax. The value of income from each share was determined based on the difference between the market price of the share on the date of the offer and the discounted price for each share. It should be noted that this does not take account of the market value of the stock on the date when the stock option was exercised. Thus no tax was imposed if the exercise price of the stock option was set at the market price on the grant date. However, and given the new tax ruling which came into effect in 2006, the value of the benefit of each stock option is now determined based on the difference between the market price on the date the stock option is exercised or exercisable, whichever is lower, and the discounted price offered by the employer.[33] Although there are no capital gains tax on equities, except on gains from the disposal of shares in a real property company incorporated in Malaysia. With regard to a company's costs on the arrangement of compensatory stock options, the deductibility of such expenses will only be permissible if the cost is incurred by the offshore parent company and is incurred 'wholly and exclusively' in the production of business income.[34] The allowable cost also covers the maintenance of the stock option plan or reimbursement to the parent company.

[33] Exercisable date means the date when the right shall be exercised, assigned, released or acquired if the right is exercisable on a specified date or otherwise.
[34] Section 33 (1) of the Income Tax Act 1967.

3.4 Concluding remarks

The motivation in this essay was to investigate the legal and regulatory frameworks governing stock option plans in Malaysia and to appraise the regulatory framework governing stock option plans in the U.S, the U.K., Japan and Singapore to emphasize the differences in regulatory arrangements. In this respect I have provided evidence that confirms that stock option plans in Malaysia do not produce incentives to the target groups which suggests that the role of the regulatory mechanisms is to accomplish that goal. I also noted that the regulatory aspects governing stock option plans in Malaysia involved a series of amendments which enabled the Malaysian government to respond to current needs. It was noted that since Malaysian laws are differ from developed countries that parts of the law currently in place is not as strong or as equally enforced in Malaysia. As a result, the legal framework governing stock option plans would appear not to provide clear guidelines, while only making slow progress towards law enforcement. As noted in our discussion, the regulation applied to stock option plans is quite similar to that practiced in the UK, though some part of the law as enforced varies in a preferential way. As a result, the Malaysian government is always preoccupied with updating the regulatory framework in line with international standards.

In relation to the legal environment a number of initiatives have been carried out, although some of the approaches taken have often been on a piecemeal basis and without coherent review. Nonetheless, what initiatives that have been implemented have led to the establishment of a law reform committee which serves as a starting point in the modernization of current practices in Malaysian corporate law. The role of the committee in other jurisdictions is also considered a key determinant in establishing benchmarks for change and response to what is required in the reform of Malaysia's corporate law. However, the failure to incorporate in the act some significant recommendations for core provision may cause steps taken to reform Malaysia's corporate law to fall behind schedule.

ESSAY 2

4.0 : THE EFFECTS OF EXECUTIVE STOCK OPTION PLANS ON FIRM PERFORMANCE

4.1 Introduction

Our motivation in this essay stems from the need to ascertain whether the granting of executive stock options plans is an effective mechanism that motivates managers sufficiently to increase firm performance. In relation to executive stock options, success stories concerning stock option plans in developed countries have spurred companies in emerging markets to adopt similar plans for executives. Prior developed countries studies provide evidence which suggests that incentives in the way of stock option plans closely align the interest of managers with that of the owners of the firm — that is, the shareholders. Thus both managers and shareholders share the same goal of maximising firm performance. However, it should be noted that stock option plans are not always a perfectly effective method for increasing firm value, but are effective nonetheless in diminishing agency problems. For example, when managerial ownership increases, evidence suggests that agency problems are reduced, which further lends credence to the view that stock option plans are preferred for reducing agency costs rather than increasing profits. To date the empirical results relating to the effects of executive stock options on aligning the interest of managers and shareholders in an effort to improve firm performance for a number of developed countries are mixed, though the literature suggests that the benefits resulting from the use of stock option plans far outweigh the perceived costs or weaknesses. It is known that stock option plans do create costs for shareholders. And while the recipient group gain, the least contribution to the firm is from the same recipients. It is argued that an excessive value of stock option grants for managerial ownership creates a negative affiliation between stock option plans and firm performance. Yermack (1997) and Ding and Sun (2001) note that one should not rule out the possibility that management behaviour directed towards exploiting internal information for the purpose of maximising self-interests at the expense of

shareholders may worsen the effects. A particular concern, however, is whether managers' goals are truly aligned with those of shareholders thereby leading to enhanced firm value.

Having already established the motivation of our research, it is important to note the relevance of the topic analysed in this essay. The effects of executive stock options on firm performance have received an increasing share of research effort over recent decades. This is in part a consequence of a trend in the use of such instruments as an incentive mechanism in developed countries. A large number of emerging markets, including Malaysia has implemented programmes based on the successful use of stock options in developed countries and as to be expected studies based on data from Malaysia. Among the reference study in South-east Asian countries, such as Singapore has examined whether stock option plans do in fact have an effect on firm performance. A study by Yeo, Chen, Ho and Lee (1999) find no interaction between stock options and improved post firm performance while Ding and Sun (2001) report mixed results for the effects of stock option plans on firm performance, though they point out that shareholders react favourably to stock option plans. To the best of our knowledge, the only Malaysian study to have examined the impact of stock option plans on market reaction and firm performance is the work of Obiyatulla et al. (2009) who found that firm size determines performance level among the broad-based stock option plan firms, since the Malaysia capital market might anticipate the outcomes. There are also find that broad-based stock option plans fail to fulfil the evidence of interests aligning as predicted because Malaysian shareholders are mostly loose while benefits go directly to selected beneficial groups.

Therefore, in response to the extracted conclusions from prior empirical findings in most developed markets as well as the initial result by Obiyatulla et.al (2009), this essay is specifically used the Malaysia executive stock option plans dataset will add to a debate on what extent of firm performance plays a good indicator to estimate if the specific objective of stock option plan is met. Reviews of previous studies suggest a positive financial outcome response for a short-term, particularly in post – adoption plan, using a richer Malaysian dataset produce new evidence for the effects

of executive stock option plans on the performance. In this context, emphasis is placed on uncovering issue whether the announcement of stock option plans have a favourable effect on firm performance in the short-term as well as in the long-term. In all, I examine the nature and characteristics of adopting stock option plans, as well as the market reaction to the announcement of stock option plans based on a number of performance measures. To progress the study I split the data used into event characteristics which allows us to then make inferences on the difference between first-time announcements and seasonal announcements, as well as the target groups such as stock option plans to all employees and executive, stock option plan to executives and stock option plan to employees only. All variables utilised in the study reflects the main features covered by stock option grants. The second contribution of this essay is to explore the findings of Obiyatulla et al. (2009) who report in his study of Malaysian firms that stock option plans had no effect in aligning the interests of agents, which is contradicts the work of Jensen and Meckling (1976).Therefore, this essay differs from and add to the few papers in the Malaysia existing literature that have tried to examine firms without stock option plans are having an effect on their financial outcomes. This vital that this study to be carried out to make a distinction for impact of executive stock option adopting firm on firm value using dual performance measures (accounting and market-based measure) .

The rest of this essay is organised as follows. Section 4.2 discusses the empirical approach used to investigate the effects of executive stock option plans on firm performance. Section 4.3 describes the data used to investigate the effects of executive stock option on firm performance, while section 4.4 presents the empirical results, in the first instance, for the short-term effects and, second, for the long-term performance effects of executive stock options and proceed to discuss the central findings from our empirical investigation. Section 4.5 concludes.

4.2 Empirical methodology

A. The short-term effects of executive stock options

One of the main goals of this study is to assess the response of Malaysia's stock market response to the arrival of short-term announcement of executive stock option plans. In this context, a large number of models have appeared in the economics and finance literature to investigate such announcements and these models in turn provide us with a practical way of assessing factors that move individual stock prices and is thus the main reason why I chose the event study methodology which is a branch of econometrics to answer our research questions. On the understanding that stock prices reflect the underlying economic values of securities, changes in the value of stock prices can be expected to capture changes in the profitability of the firm. This also requires us to accept the hypothesis that stock markets are efficient and that prices reflect all relevant publicly available information relating to the prospects of Malaysian firms. Thus the effect of an event, such as the announcement of a stock option plan, will be reflected almost immediately in stock prices. For when new information reaches efficient markets, share prices can be expected to react immediately, though it is noted that information leakages reaching the market before the official announcements can also have a damaging effect.

Event models consist of identifying the event and testing for excess profit. Tests are constructed in such a way that they detect abnormal performance. There are two broad approaches that have been applied when conducting the tests: parametric and non-parametric. The parametric approach is usually based on a standard t-test. In the case of event studies methodology, standard t-test is used to check whether the residuals are statistically different from the normal student t distribution. The numerator of the t-test represents the abnormal returns for a particular date while the denominator scales the top part by the level of dispersion or the standard deviation of a given time series. The present study includes a test which examines whether the announcements have content value that provides a signalling effect in the market. The selection criteria from full sample (n=177 firms) for the event are accepted if the following firm holds:

a) The announcement clearly indicates the beneficial group of stock option plans (only 83 firms included).

b) The announcement date is clearly printed in a press release and the stock exchange (only 83 listed firms included).

c) The proposition firm had been listed for at least 210 trading days prior to the plan announcement in order to ensure firm contained sufficient information and all 83 firms are included.

d) Further investigation on the selected firms were carried out for ensuring that no confounding events leading to share price changes or unrelated events to the stock option plan exists. And after removing firms with extreme stock option plan announcements, finally, 58 listed firms are fulfil the above criteria. All the firms correspond to 4,989 stock option announcements.

The determination of event dates is a key part in the event study analysis. Thus based on the regulatory guidelines of Malaysia, the establishment of stock option plans with listed companies is subject to three event dates. The first event date is an approval date from the company's board of directors regarding the issuance of new shares applicable to any listed companies implementing stock option plans. The second event date is the initial consent of the company's board and shareholders decision to grant stock options, whether at the annual general meeting (AGM) or extraordinary general meeting (EGM). Once approval is obtained, the listed company immediately informs the Malaysia Bourse and makes a public announcement about the executive stock option (ESO) application on both its website and its stock monitor. Although the listing date on the website might consider the third event date, its listing is subject to shareholders' approval whether in the AGM or EGM. However, 2004 requirements indicate the approval of the Securities Commission of Malaysia (SC) for stock option plans prepositions are no longer effective. Based on the chronology of events, the event dates include a day the company has its board meeting to approve the plan, the date of public disclosure on the stock monitor and the dates to allot and implement the plan. The board meeting date for stock option plan approval is chosen as an event day and there are 58 companies included as a clean sample.

In respect to non –selected sample firms, this study excludes firm without sponsor stock options plan or stock option plans that established before 2000. Most of firms are called as "unknown event date" or "missing data" since the detailed data was not available. As most of the past studies create comparator groups, I use the Bursa Malaysia listing circulars to construct the groups that includes firm that sponsor employee stock option plans only, executive stock option plans only and combination between executive and employee stock option (broad-based stock options). However, the comparators groups cannot be constructed due to same firm and same year offer more than one stock option plan, therefore to avoid redundant in sample, finally 58 firms were chosen. A detailed and identified the population on the firm with stock option programs, the process of selection of the final sample as follows:

Descriptions	**Number of firms**
Firms with stock option programs as listing in Companies announcements.	177
After deduction of unknown event date, sponsor stock option before 2000 and missing data	94
After deduction of firms with extreme announcements and events leading to share price changes or unrelated events to the stock option plan exists.	25
Final sample	58

The standard event study methodology requires that each time a firm's security is selected an event day is generated, in our case the trading day of January 2000 and December 2010. The event day is designated as day '0' for each security with a maximum observation of daily return for at least 210 trading days around the actual event. The longer observation period for 210 days might guarantee a more precise parameter assessment. The time frame covers the event effect in each security around its respective event which commences on day -199 and ending on day +60. Estimating the parameter is designated within the period of -199 through -61 trading

day, and the following estimation for the event period is determined by a time window of 5 trading days prior to, and 5 days following the event date. If there is a significant event such as the announcement of quarterly earnings or the announcement of dividends at the same time as a stock option plan which is believed to impact the capital market, then the event window will be observed for 60 days around the actual event day.

To measure the abnormal return, I use two statistical models. These are the market model and the market-adjusted model. Despite their simple representation, these models can be effectively used in the event study methodology. For each firm the daily abnormal return of each stock *j* at time *t* is calculated from the following:

$$AR_{j,t} = R_{j,t} - R_{i,t} \qquad (1)$$

Where $R_{j,t}$ is the rate of return on stock j for event day T. To detect the abnormal return, it is necessary to define the event time, t. In this study, the event date is defined as, t = 0, the event window is represented by $T = T_{1+1}$ to $t = T_2$ and finally, $t = T_0 + 1$ to $t = T_1$ is the estimation window. The length of the event window and the estimation window is given by the following equations: $L_2 = T_2 - T_1$ and $L_1 = T_1 - T_0$ respectively. The post event window is $t = T_2 + T_1$ to $t = T_3$. The length of the post event window is $L_3 = T_3 - T_2$. The event window for each firm for each day is just the difference between the actual return on day T and the expected return. The return of a given stock is calculated as follows:

$$R_{j,t} = (P_{j,t} - P_{j,t-1})/P_{j,t-1} \qquad (2)$$

Where and the is the stock prices of firm *j* on the day *t* and t_1. The return on the market portfolio ( ) is calculated as:

$$R_{m,t} = ((P_{m,t} - P_{m,t-1})/P_{m,t-1}) \qquad (3)$$

Where $P_{m,t}$, $P_{m,t-1}$ are the market prices on day t and day t_{-1}, respectively. In accordance with the literature I make the assumption of the existence of a linear relationship between the predicted return and the market index in the market model. For each equation, the regression is of the following form:

$$= + R_{i,t} = \alpha_i + \beta_i R_{m,t} + \mu_{i,t} \quad (4)$$

where and $R_{m,t}$ are security and market returns at time t, respectively. and are the coefficients of the market model, and is a statistical error term. To determine the signalling effects of the release of information relating to the announcement of a stock option plan, Cumulative Abnormal Return (CAR) are used to capture the share price movement within the event window [t_1 to t_2] of a given stock as follows:

$$CAR_{t_1 t_2} = \sum_{t=t_1}^{t_2} AR_{i,t} CAR_{t_1 t_2} = \sum_{t=t_1}^{t_2} AR_{i,t} \quad (5)$$

For each stock, the average cumulative abnormal returns are calculated as:

$$CAAR_{t_1 t_2} = \frac{1}{n} \sum_{t=t_1}^{t_2} CAR_{i,t} \quad (6)$$

The significance of calculating CAARs for the stock of each firm is to determine whether the announcement of a stock option plan impacts short-term market performance. This is accomplished by using the following:

$$Z = \frac{CAAR\ [t_1;t_2]}{\sqrt{\frac{1}{n^2} \sum_{i=1}^{n} [\ CAR_i\ [t_1;t_2] - CAAR\ [t_1;t_2]]^2}} \quad (7)$$

After determining the announcement effects of a stock option plan I proceeded to verify the extent to which the returns abnormally constitute a market reaction to the actual announcement. I use the nonparametric rank test specified in Corrado (1989) for the excess performance, which has similarities with the standard t-test. However,

as opposed to the standard t-test, the rank of the abnormal return is used with the estimation period and event period treated as a single time series.

To commence, I consider a sample of observations of abnormal returns in the event window for each N firms. To apply the nonparametric rank test, the rank of the abnormal returns for the sample period for each security is required. Accordingly, the highest rank is given to the highest price of the security for the sample period and vice versa for the lowest rank (Lehman,1975). The rank test transforms the securities excess returns into a uniform distribution across ranks. Therefore, in the case of the nonparametric rank test, it is necessary to convert the given time series into its respective ranks. Accordingly, let $K_{i,t}$ be the rank of abnormal return ($AR_{j,t}$) of stock i, the Corrado (1989) rank test requires the following test statistic:

$$CT \quad = CT = \frac{\frac{1}{N}\sum_{t=1}^{N}\left(K_{i,t}-\bar{K}\right)}{\sqrt{\frac{1}{D}\sum_{t=-S}^{t=k}\left(\frac{1}{N}\sum_{t=1}^{N}\left(K_{i,t}-\bar{K}\right)^{2}\right)}} \qquad (8)$$

where is the end of the event period, the rank of abnormal return of stock i in t, the number of stocks, , the number of observations in the estimation and event period, and the average rank for all observations. I also apply the Wilcoxon sign test, as the length of event window increases, which provides us with a more powerful tool to assess the positive and negative abnormal returns to support the mean value [Cowan (1992)].

B. The long-term effects of executive stock option plans

As well as examining the short-term effects of executive stock option plans, I also examine the long-term effects in the use of such instruments. In the latter respect, there is substantial evidence on the assessment of stock option plans on long-term firm performance and the most common performance indicators apply in many studies use stock market return, asset return and equity return (Hall and Liebman, 1998; and Abdelaziz, Amine and Lanour, 2011). In estimating the effects of the adoption of stock option plan on the firm level of performance, this study follows a

similar approach taken by Triki and Ureche-Rangau (2012) who use panel data for three year before and after stock option grants. In specific, their study applies return on assets (ROA), return on equity (ROE) and Tobin's-Q for estimate the relation between performance and stock option plans.

As previously mentioned, the accounting and market –based measures to represent performance, I choose a multivariate regression analysis in which the performance measures are calculated. Accordingly, the return on assets (ROA) is calculated with earnings before interest, tax and depreciation to total assets by percentage before and after stock option grants, while the return on equity (ROE) is set equal to net income before ordinary items divided stock option grants, and Tobin's Q is the ratio market value of share capital to the book value of total assets following stock option grants. Note that Tobin's Q measures whether the firm's market value is equal to replacement cost. If the ratio finds greater than 1, then it implies that the company's share is overvalued and vice-versa (see Defusso et.al, 1990; Hillegist and Penalva, 2004; and Langsman,2007).

For eexplanatory variables employed, the size of stock option grants corresponding to the number of stock option awards at the time of the board meeting date divided by the number of outstanding shares at the closest fiscal year. Since the expected effect of stock option grants may lead to improved firm efficiency through alleviation of the agency problem between managers and shareholders, the firm performance can be expected to improve (Triki and Ureche-Rangau, 2012). It has been suggested that by isolating the consequences of the adoption of executive stock options and broad-based stock options that this produces advantages (Hillegeist and Penalva, 2004). However, the effects between the beneficial groups might differ because executive levels have direct influence for decision-making and risk-taking behaviour. As a result, the prediction signs for ROA and ROE are positive in the following year of stock option grants, while Tobin's Q is expected to increase following the adoption of executive stock option plans, which can be expected to impact firm value (Triki and Ureche-Rangau, 2012)

Regarding the effect of broad-based stock option grants to increase firm value, the expected coefficient sign could be a positive and negative because employees are less directly influenced by firm policy (Blasi et al, 2010). As a result,I also include further additional variables in the regression equation to control for potential effects on firm performance. These control variables which are likely to affect the performance of firms in our sample are split into firm characteristics and event characteristics (Triki and Ureche-Rangau, 2012). The firm characteristics include leverage, the size of the firm and the growth of the firm. While the event characteristics proxy are by announcement types (first-time and seasonal) and beneficial or target groups (executive stock options and broad-based stock options) (see Landsman et,al,2007; Langmann, 2007; and Triki and Ureche-Rangau,2012).

The more specific control variables are a leverage variable equal to the log of total debt divided by total assets, which contends that high debt ratios might affect the firm's growth and therefore result in less firm specific profit. It is generally argued that firm with large debt tends to reduce the size of their stock option plan. From the debt holder's perspective, stock option plans are viewed as monitoring instruments used to keep an eye on management incentives to mislead free cash flows, which is expected to improve firm performance (Triki and Ureche-Rangau, 2012). The similar predicted sign for the coefficient of the impact of stock option plans on the leverage ratio can be expected to have both positive and negative effects for Malaysian firm. The second control variable, the size of the firm, is measured by the logarithm of total assets. Prior studies report the size of the firm an important predictor of stock option grants which is relevant to firm performance and is frequently observed as a major determinant in compensation payments. Following studies by Mehran (1995), Core,Holthausen and Larker (1999) and Hillegeist and Penalva (2007), the size of stock option is also used for examining the relation between stock option and performance. Since larger size firms generate higher profits, as a result of benefit from economies of scale, it is argued that this not only provides greater opportunities to create internal funds but also access to external sources of finance for undertaking investment projects (Obiyatulla et.al, 2009). Therefore, I would expect the size of the firm to have a positive on the adoption of stock option plans. The growth opportunity of the firm is measured by the log of market-to-book ratio, as many studies suggest

that high growth opportunities frequently indicate higher firm performance. Therefore, firms with high growth opportunities tend to allocate a large fraction of stock options in order to enhance managerial efforts towards generating profitable projects, especially firms that operate in the highest volatile industry (De Fusso et.al, 1990; and Hassan and Hoshino, 2007). From an agency theory perspective, firms with stock option plans are likely to implement them to reap the benefits from aligning the interests of employees and shareholders, which would also encourage managers to make better decisions to invest in highly profitable projects on behalf of shareholders. Therefore, the ratio M/B is used to capture the incentive effects, which is expected to generate a positive sign for stock option plans.

For study the event-characteristic, the announcement of a stock option plan is represented by a dummy variable equal to 1 if the firm advertised the plan for the first-time, and 0 otherwise. The expected sign for coefficient is a positive, since the stock option plans granted to beneficiaries at the first-time of announcement can be expected to serve as an incentive for employees' thereby resulting in improved firm performances (Ikaheimo, et.al, 2004; and Triki and Ureche-Rangau, 2012). Whereas for target group is also represented by a dummy variable equal to 1, if the firm allocates the stock option plan to employees and 0 otherwise. The coefficient sign is expected to be negative since employees are less control by firm specific factors designed to increase firm value.

In addition, the intra-industry differentiation of firms is an immediate concern, since stock option grants may reflect industry-based trends. In regard to this, the literature identifies industry membership as a key factor in broad-based stock option use which correlates to a firm's performance. In particularly, firms issuing stock options with an intensity of retaining talented and skilful employees are viewed as high priority, and the same effect to firms involved in intensive research and development (R&D) activities. In a similar area of studies by Ittner, Lambert and Larker, (2003) argue that the retention of key employees is more crucial to technological firms and firms with a rapidly growing labour force. For this reason competition for employees among firms within the same industry is more volatile. Thus the granting of stock

options might eliminate the necessity of firm to adjust cash payments in order to reflect the state of the labour market. Nonetheless, Oyer (2004) notes that firm value is still essential for determining the value of stock option-based pay packages. Accordingly, industry-adjusted performance measures for ROA, ROE and Tobin's Q are measured three years after the announcement of a stock option plan.

Since our purpose is to assess the effects of stock option plans on firm performance, I employ the following performance production function:

$$Perf_{it} = \beta_{1i} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \beta_6 X_{6it} + \beta_7 X_{7it} + \mu_{it} + \varepsilon_{it} \qquad (9)$$

where is the accounting performance measures for firm i at t time (i = 1,...., N; t = 1,....,T), are respectively the size of stock option grant, leverage, firm size and growth of firm i at t time, and are the respective dummy variables relating to announcement types and target groups, represents firm-fixed effects, 's are slope coefficients and is a disturbance term. A variety of specifications is estimated for the purpose of analysis using panel data of the announcement years of stock option grants. In the literature, this approach produces evidence of positive and negative performance outcomes associated with plan adoption decisions.

4.3 Data descriptions

Stock option plans have been in operation in Malaysia since they were introduced by public listed companies in 1989 and since then plans have become more pronounced, particularly in 2004 and 2007. Figure 2 shows the size of stock option grants, in percentage, over a twenty year period. As can be seen stock option plans for non-executive employees, who are the predominant holders within Malaysian corporations, peaked in 2004 to approximately 16 per cent in 2004 and dramatically declined in size in 2009, while in contrast the compensatory stock option plan at the executive levels reveals very little difference in the awarding trend over the same period.

Although data on the use of stock option plans have been around in Malaysia since 1990, I find it necessary to limit the observation period due to limited data and post-performance analysis requirements. The event window used in the present study covers the periods January 2001 to December 2010. The sample size consist of 177 listed companies in the Malaysia Bourse, regardless of the trading board and excludes companies engaged in merger and acquisition (PN17, finance industry and missing data). From the lists, 83 firms have complete information and these are included in our sample. All financial information was collected from the firms' annual reports and includes information on stock option grant sizes extracted from director reports and balance sheets. Stock option plans are evaluated based on the information on corporate performance. Data relating to the announcements of stock option plans were obtained from *Investors Digest* (Malaysia Bourse magazine) and the stock exchange website consisting of 7,945 proposition announcements.

Figure 2: Classification of stock options plan according to the target groups

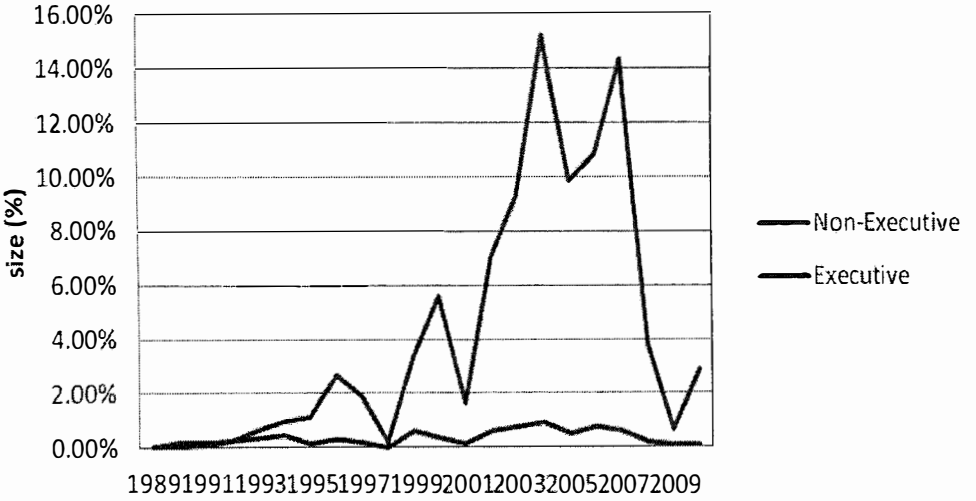


Table 3, Panel A displays the distribution of stock option plan announcements by Malaysia-listed companies for the period 2000-2010. There are a total of 177 companies that comprise the full sample, which is approximately 21 per cent of all listed companies at the end of 2010. From the sample, I excluded companies with confounding events, which leaves 58 companies as our clean sample, which is 33 per cent of the full sample which have implemented stock option plans. Analyses of the distribution of stock option plans, based on the maximum size of shares that could be awarded under this plan are shown in Table 3, panel B, and as can be seen the majority of companies have 10 per cent of their issued capital. Panel C summarises the distribution of stock option plans by option period under the full sample, which indicates that 43 per cent of the beneficiary groups are exercised within a one year period. From the clean sample it is clearly noticeable that 48 per cent of recipients purchased company shares after two years from the grant date.

Table 3: Employee stock option plans (ESOPs) by year of announcement, size of plan and option period

PANEL A : Distribution by year of announcement

	Full sample		Clean sample	
Announcement Year	**N**	**%**	**N**	**%**
2000	12	6.8	3	5.2
2001	1	0.6	1	1.7
2002	0	0.0	0	0.0
2003	92	52.0	26	44.8
2004	38	21	16	27.6
2005	9	5.1	2	3.4
2006	10	5.6	3	5.2
2007	13	7.3	7	12.1
2008	0	0.0	0	0.0
2009	1	0.6	0	0.0
2010	1	0.6	0	0.0
Total	177	100	58	100

PANEL B : Distribution by the size of the plan based on issued capital

	N	**%**	**N**	**%**
5% of issued capital	4	2	3	5
10% of issued capital	149	84	44	76
15% of issued capital	16	9	9	16
20% of issued capital	3	2	2	3
25% of issued capital	5	3	0	0
Total	177	100	58	100

PANEL C: Distribution of option period (Month relative to grant date)

	N	**%**	**N**	**%**
0 to 12	76	43	26	45
13 to 23	0	0	0	0
24 to 36	74	42	28	48
37 to 60	27	15	4	7
Total	177	100	58	100

Further analysis of the data in Panel A indicates that the distribution of stock option plan announcements by Malaysia-listed firms in each of the years from 2000 and 2010 in which the full sample comprises 177 firms, while firms with compounding events (PN17 and finance firms) are excluded from the clean sample. Panel B summarises stock option plan distribution by size, which refers to the maximum number of shares that can be issued under this plan, and Panel C presents stock option plan distribution according to the option period (i.e., the period over which the option can be exercised).

The descriptive statistics summarised in Table 4 shows the event characteristics which identifies whether the firm establishes stock option plans for the first-time or seasonal announcements for any group of employees. Table 4 also shows the distribution of announcements and the conditions required for employees to be eligible included in a stock option program. Panel A also show that the percentage of firms with seasonal announcements is higher than new stock option plans which indicates that there are about 33 per cent of the firms with equity-based plans in their compensation structures. For the new adoption plans, the results are marginally low with the highest percentage value observed in 2003 consisting of 16 per cent. A careful examination of the data suggests that for eligibility groups to which stock option plans were allocated, the majority recipients (80%) were targeted employees, which also suggests that non-executive employees were the predominant holders within Malaysian corporations as stock option plans evolved.[35]

[35] Detailed data on stock option plans distribution granted to various levels of executives is not available or disclosed in annual reports or press releases announcements.

Table 4: Distribution of stock option plans over time of firms' exists and according to announcement events

	Panel A: Announcement types (n = 58)				Panel B: Target group (n = 4989)			
Year	Initial	%	Seasonal	%	Management (n=495)	%	Employee (n=3994)	%
2000	0	0	1	2	0	0	228	6
2001	0	0	1	2	0	0	179	4
2002	0	0	2	3	12	2	332	8
2003	9	16	19	33	23	5	424	11
2004	8	14	5	9	40	8	564	14
2005	4	7	2	3	44	9	481	12
2006	5	9	0	0	75	15	469	12
2007	7	12	4	7	100	20	727	18
2008	0	0	1	2	79	16	248	6
2009	1	2	0	0	122	25	342	9
2010	0	0	0	0	0	0	0	0

Distribution of Malaysian stock option from the time of firm exists. And the announcement types indicate the firm establishes stock option programs at the first-time, while seasonal plan indicates that firm continues existing plan. Target groups refer to the recipient of stock options provided for executive position includes CEO, Chairman of boards, President, Chief Operating Officer, non-management board members, vice president, chief financial officer and divisional manager. Other than stated as executive is treated as employee.

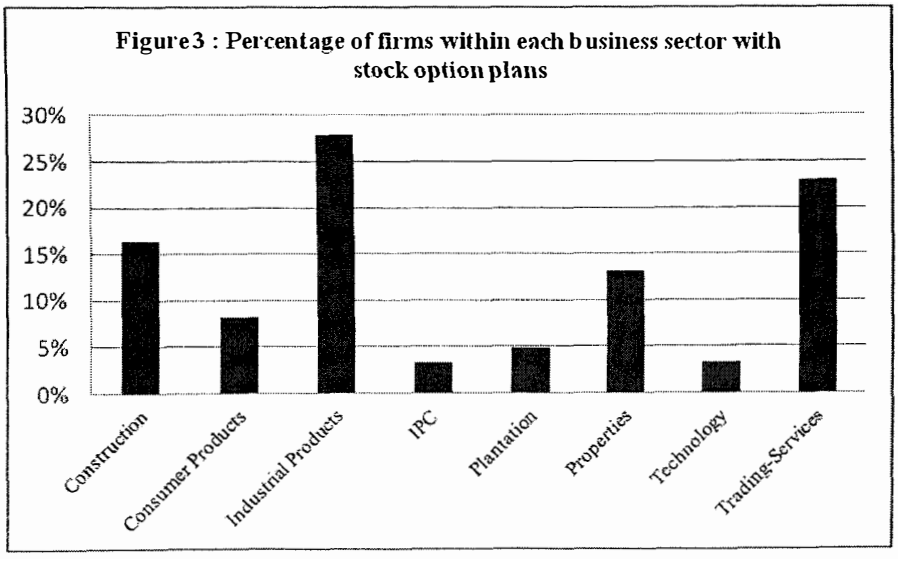
Regarding the price of Malaysian stock option plans, the results show that most companies offer a stock option plan at a price below or close to market value. Table 5 provides descriptive data which illustrates the results for exercising stock options, in contrast to the percentage of maximum shares allocated to firms announcing stock options plans within a range of 5 per cent and 25 per cent of paid-up capital.

Table 5: Distribution of size of stock option plan and time to maturity

Number of company	Percentage of capital issued	Average of maturity periods
3	5%	6.67years
44	10%	6.02 years
9	15%	6.11 years
2	20%	7.5 years

While the time to maturity of stock option plans comes within a range of 5 and 10 years on average, the maturity of plans to expiration is 6.12 years. Moreover, most granting firms have maturations of 5 years. These observations are consistent with previous studies which reveal the standard average time to maturity to be 6.2 years for Finnish companies, 5.6 years for Japanese companies and 6.6 years for German companies (Ikaheimo et.al, 2004; Kato et.al, 2005; and Langmann (2007). Figure 3 shows that stock option plans based on business classifications on average consist of 30 per cent of the sample that employ compensation payments have been companies involved in industrial products.

Figure 3 : Percentage of firms within each business sector with stock option plans



It may be argued that the nature of these businesses require talented staffs, given that such firms tend to operate on very short product life cycles. As a result stock options are used to recruit highly talented workers for innovation and long-term business success. Other types of business classifications including trading-services comprise approximately 23 per cent of compensatory stock option plans, followed by construction (16 per cent), property (13 per cent) and consumer products (8 per cent). Business plantation, technology and IPC contribute less than 5 per cent.

4.4 Empirical results for short-term market reaction to executive stock option plan announcements

The purpose of this section is to analyse the results from our application of the event study methodology relating to the market's reaction, in the short-term, to announcements of executive stock option plans. Table 6 report abnormal gains around stock option plan announcement dates. Included are the mean, median and standard deviation which allows us to detect whether there are outliers in our data. The standard deviation indicates how much variation exists from the mean. A low standard deviation would indicate that the data is close to the mean, while a high standard deviation would indicate that the data is spread out over the mean. To determine the significance of abnormal gains, the study employs the Corrado and Wilcoxon-sign rank test, which is a non-parametric test.

Table 6: Average Abnormal Returns (AARs) Surrounding the announcement day of stock option plans

Event Days	AAR (%)	Z-Statistics	Median CAR	Wilcoxon p-value	% positive	S.D
Day 10 before stock options announcement	-0.84	0.0516	0.0342	0.7123	59	0.3508
Day 9 before stock options announcement	-0.85	0.7065	0.0356	0.8826	60	0.3526
Day 8 before stock options announcement	-0.25*	1.6370	0.0288	1.0452	64	0.3711
Day 7 before stock options announcement	-0.69	1.1373	0.0304	0.7897	57	0.3777
Day 6 before stock options announcement	-0.80**	1.7921	0.0373	0.8904	60	0.3922
Day 5 before stock options announcement	-1.78	0.8788	0.0371	0.5497	59	0.3937
Day 4 before stock options announcement	-1.61	0.5342	0.0345	0.5962	59	0.3904
Day 3 before stock options announcement	-2.18	0.000	0.0382	0.6271	62	0.3902
Day 2 before stock options announcement	-2.19	-0.448	0.0304	0.5497	59	0.3945
Day 1 before stock options announcement	-2.60	-1.4647	0.0348	0.5652	59	0.3979
Announcement day	-2.18	-0.6031	0.0328	0.9191	57	0.4050
Day 1 after stock options announcement	-1.67	-0.3102	0.0395	0.7355	57	0.4083
Day 2 after stock options announcement	-1.77	-0.0689	0.0353	0.5807	55	0.4105
Day 3 after stock options announcement	-1.34	0.5342	0.0407	0.0407	62	0.4066
Day 4 after stock options announcement	-0.86	1.2234	0.0373	0.8129	62	0.4020
Day 5 after	-1.34	-0.3446	0.0355	0.6194	59	0.4019

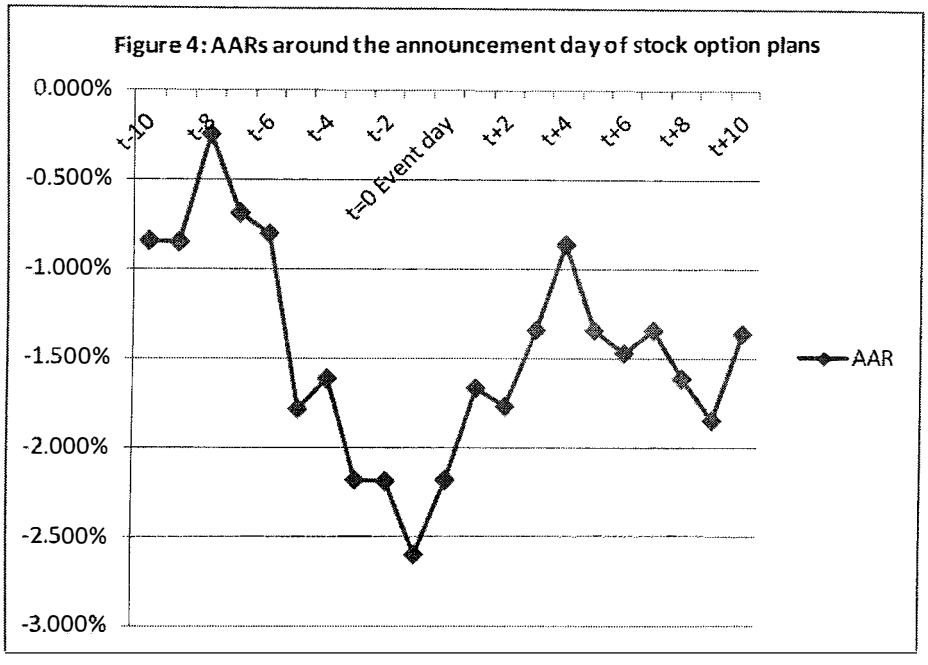
stock options announcement						
Day 6 after stock options announcement	-1.47	-0.4997	0.0338	0.5033	55	0.4064
Day 7 after stock options announcement	-1.34	-1.0339	0.0405	0.5653	57	0.4118
Day 8 after stock options announcement	-1.61	-1.4819	0.0443	0.5033	55	0.4221
Day 9 after stock options announcement	-1.85	-1.7404	0.0228	0.3949	52	0.4307
Day 10 after stock options announcement	-1.36	-0.4997	0.0350	0.5342	53	0.4301

Notes: The modified test statistics follow Langmann (2004), where the abnormal returns are independent and the relative efficiency of the Corrado rank test is equivalent to 95.5 % of the efficiency of the t-test.. Therefore, the critical value for the Corrado rank test follows the table of the normal distribution as well as for the Wilxocon rank test.. ***,** and * indicate significance levels at 1%, 5% and 10% on a one-tailed basis. The p-values for the means are based on the Corrado test, and the medians are based on the Wilcoxon Signed test. SD is the standard deviation around the mean values. Announcement day refers to the day of stock option plans approved by shareholders at Annual general meeting.

Table 6 reveals a number of findings on share price reactions. First, on the day of announcement stock option plan, there is no significant share price reaction in which the mean (median) return is -2.18 (3.3) per cent. The second analysis is share price performance before and after the announcement of stock option plans in which the results display a negative reaction to the pre-announcement. It is quite noticeable that on the basis of the Corrado rank test that share prices generated a loss in returns from 0.84 to 2.60 per cent, indicating negative returns that are statistically significant at day-6 and day-8 before approval by shareholders at AGM. The abnormal returns show a slight decrease in loss of returns. In regard to this, the negative mean value is documented at the day-1 (-1.67 %) and day-10 (-1.36 %) subsequent to plan announcements which suggests that if the share price movement does not respond favourably to the equity-compensation pay, the market would anticipate negative news. It is observed that the standard deviation is quite large relative to the mean values in the range of abnormal returns which vary from the lowest of 0.35 on **day-**10 before and the highest of 0.43 at day-9 after indicating that the result is insignificant at t_0 which is explained by the variability of returns.

The insignificant and negative share price reactions for pre- and post-announcement day may indicate for several reasons. First, the announcement of a stock option plan does not carry any good news to the market, while the negative values might be as a response of managerial behaviours to decrease share prices before the official announcements and push them afterward. Second, there is often quite a long process relating to the establishment of a stock option plan and if this information become known to the market or there has an information leak before an official announcement the response may not be as expected, since the information would have already been factored by the market into share prices at the time of announcements (Ikaheimo et al., 2004; and Langmann, 2007). This finding also confirm conclusions reached by Kato et al. (2005) and Langmann (2007), which find a positive reaction between share prices and stock option plan announcements, which might reflect the content value of released information. This is very clear the stock option plan would seem to have an effect on share prices which is consistent with the previous findings of Yermack (1997) and Chauvin and Shenoy (2001) who report some association with the timing of the announcements. Whereas, the insignificant

effect on returns at the event day might explain that stock options are for internal staffs do not have content value for the market. However, the observed negative mean values for the 21-day event period does seem to suggest that the market anticipates good news of stock option plans for the particular groups, though clearly the shareholders would mostly lose due to the dilutive effects [Obiyatulla et al. 2009)]. A plot of the AARs around the announcement date of stock option plans is shown in Figure 4.



To assess whether the announcement of stock option plans convey favourable news to the capital market, I consider the total impact of announcements released. For this reason cumulative abnormal returns (CAR) are used to capture the entire share price movement within the event window. The results reported in Table 7 displays the entire event period of 121 days from t = -60 and t = + 60 for the various event windows of share price reactions around the event date. The sample is disaggregated under different sub-announcement types as shown in Panel A, B and C. Panel A lists the results for the full sample, while Panel B provides the results for first-time announcements and Panel C shows the results relating to seasonal announcements. It can be seen that multiple event windows provide different effects over share prices

on the announcement of stock option plans. For the entire event window of 121 days, the average cumulative abnormal returns (CAARs) for the full sample announcement are insignificant for all the event windows in which the highest return is 3.26 per cent. When the CAARs value is split into two event windows before the [-60; 0] and after the [0; .+ 60] announcement, the CAARs remain insignificant although a positive return is observed before the announcement day.

Table 7 : Cumulative average abnormal returns (CAARs) in the event window [-60;+60]

Event window	CAAR	Z -Statistic	Median	Wilcoxon sign rank	% positive
Panel A:Full sample					
[-60; +60]	3.2633	0.1165	0.2702	0.8708	50
[-5;+5]	-0.0705	-0.1393	-0.0020	0.6271	45
[-2;+2]	-0.0887	-0.1614	-0.02568	1.4245	41
[-60,0]	3.2273	0.1152	0.2029	0.0774	48
[-5,0]	-0.0829	-0.1521	0.0025	0.9523	47
[0,+5]	-0.0823	-0.1597	-0.0256	1.3007	40
[0;+60]	-0.0588	-0.1197	-0.0441	0.5729	45
Panel B : First-time announcement plan					
[-60; +60]	4.3773	0.1340	0.2036	0.1625	49
[-5;+5]	-0.0796	-0.13595	-0.0020	0.3876	46
[-2;+2]	-0.1034	-0.16237	-0.0270	1.1253	39
[-60,0]	4.3448	0.133007	0.1857	0.2250	48
[-5,0]	-0.1001	-0.15852	-0.0175	0.8377	46
[0,+5]	-0.0904	-0.15129	-0.0344	0.8127	43
[0;+60]	-0.0078	-0.13731	-0.05084	0.4376	44
Panel C : Seasonal announcement plan					
[-60; +60]	0.3389	0.0467	0.3673	0.6464	53
[-5;+5]	-0.0468	-0.2432	0.0021	0.6464	41
[-2;+2]	-0.0498	-0.2702	-0.0127	0.8014	44
[-60,0]	0.2938	0.0403	0.3273	0.5429	50
[-5.0]	-0.0377	-0.2012	0.0321	0.3878	47
[0,+5]	-0.0613	-0.3314	-0.0135	1.2151	38
[0;+60]	-0.0071	-0.0498	-0.0114	0.3361	47

The sample of cumulative abnormal returns (CARs) comprises 58 companies using the beta market model for the estimation periods of day -199 and day -61. The event day is the date the board approves stock option plans by shareholders. The significance level employs the generalised sign test, which is described in a study by Cowan (1992). The Wilcoxon sign rank test for the median and the percentage (%) of positive CAR is also reported.

From the table, one inference that could be drawn from the statistics is that the market has already incorporated the information in the share prices. It is for this precise reason why the event window [0; + 60] indicates a small share price reaction of 0.06 per cent which may also be attributed largely to high returns before the event day. The results also show that for the event window of 11 days, the statistics indicate no positive share price reactions to the announcement of stock option plans. The findings relating to CAARs are negative suggesting that nothing was earned over several days in which the share price performance generated a loss in the range of 0.07 and 0.09 per cent.

Table 7 also show the Median values and percentage for the firms in our sample with positive abnormal returns during the event window. The statistics of median values are found not to be significant over the period examined. The results suggests, in terms of the overall effects, that when Malaysian companies launch stock option plans they tend to have negative impacts on the capital market. Table 7 shows that in the event window of 121 days that 50 per cent of the firms in our sample have positive abnormal returns, and 60 days before the announcement day this was 48 per cent, compared to 45 per cent 60 days after the announcement. When compared to other regional studies in this area, the results are in sharp contrast to those reported. For example, Kato et.al (2005) found positive market reactions, so too does Langmann (2007) who found that the percentage of positive abnormal returns among the sample of German firms included in his study on announcement day were about 57 per cent, which is lower than the 71 per cent. The weak evidence of positive market reaction is observable on announcement day, which suggests that stock option plan propositions have a negative signalling effect on the market which represents a loss for shareholders. In regard to this, the findings of Yeo et al. (1999) and Obiyatulla et al. (2009) note that the negative market reaction to stock option

plans is short-lived while in contrast, Langmann (2007) finds positive trends within the same event period.

The reported weak evidence surrounding the market's reaction to the announcement of stock option plans would seem to argue against the hypothesis that the share price effects differ between announcement types. The hypothesis asserts that firms with first-time stock option plan announcements generate a positive effect on share price performance, compared to seasonal announcements. Previous studies in this area, such as for example, Yermack (1997), Aboody and Yaznik (2000) and Chauvin and Shenoy (2005) report that stock option plans at the first-time sponsor have content value in markets conveying information about company performance. This suggests that first-time announcements should lead to favourable downward market reactions from the share price before the event day and upward thereafter. This is consistent with the results of the full sample of this study, because we find no significant value in the reported median statistics between first-time and repetitive stock option plan announcements in Malaysia. This result can be concluded that the long process between the board approval date and the official announcement date lead to the result of information leakages before an official announcement. When the stock option plan is already known in the market, then the information is processed and factored through share price. The manager as potential shareholder through stock option plans might use any selective approach for increasing personal interests such release good news in order to influence the share price performance.

Recently, there is an increasing trend of stock option plans allocation at managerial levels, which is more pronounced in a number of countries such as the U.S. and UK and some Asian countries. This could be the reason behind much public criticisms directed towards the over-subscriptions of stock options among managerial levels being an immediate cost to shareholders (Ikaheimo, Kjellman,Holmberg.and Jussila, 2004). Because allocating a large fraction of stock options concentrated with specific target groups might cause a free-rider problem. Thus to examine the effects on Malaysian capital market the target groups are divided between the executive (managerial levels) and non-executive employees (non-managerial levels). For

executive employees this covers executive positions consisting of chief executive officer (CEO), chairman of the board, president, chief operating officer (COO), non-management board member, vice president, chief financial officer (CFO) and divisional manager (Bettis, Bizjak and Lemmon, 2005). Non-executives encompass all employees other than the five most highly compensated executives, who are identified in the proxy statement (Core and Guay, 2001; and Kedia and Mozumdar, 2002; and Landsman, Lang and Yeh, 2007) split option grants between executive and non-executive, based on the nature of publicly available data. Therefore, stock option plans are identified as broad-based if the substantial proportion of options is granted to all employees. However, clarification to explain dilution effects on shareholder wealth might vary substantially. This study examines whether there is a difference in wealth effects associated between executive stock options and employee stock options.

Table 8 displays test statistics relating to announcement types according to beneficial groups. For announcements of stock option plans targeted to executive employees, the results did not show statistically significant stock market reactions for any length of event windows. Similar evidence holds for stock option plans awarded to non-executive employees. Panel A and B shows the entire event period under study [-60; +60] which indicate that the CAARs reacted positively for all target groups. This suggests that Malaysian investors responded optimistically to stock option programs. However, the cumulated average of returns for the shortest period [-2; +2] reveal a negative reaction to the stock market as it resulted in a loss in returns of 0.002 per cent for executives and 0.097 per cent for non-executive employees.

Table 8: Test statistics for share price reaction to stock option plan announcements.

Event window	CAAR	Z-Statistic	Median	Wilcoxon sign rank	% positive
Panel A: Target group - executive levels					
[-60; +60]	0.7880	0.2103	0.5090	0.0000	60
[-5;+5]	-0.0441	-0.2302	0.0031	0.0000	40
[-2;+2]	-0.0019	-0.0109	0.0134	0.0000	40
[-60,0]	0.8205	0.2182	0.4484	0.0000	60
[-5,0]	-0.0330	-0.1739	0.0422	0.0000	60
[0,+5]	-0.0075	-0.0544	-0.0142	0.0000	40
[0;+60]	-0.0289	-0.1765	-0.0081	0.0000	60
Panel B: Target group - non-executive levels					
[-60; +60]	3.4968	0.1194	0.2543	0.0797	49
[-5;+5]	-0.0730	-0.1385	-0.0072	0.5135	45
[-2;+2]	-0.0969	-0.1692	-0.0278	1.4784	41
[-60,0]	3.4544	0.1179	0.1792	0.0000	47
[-5,0]	-0.0876	-0.1543	-0.0027	0.9030	45
[0,+5]	-0.0894	-0.1662	-0.0310	1.2748	42
[0;+60]	-0.0616	-0.1203	-0.0451	0.5135	43

***,** and * indicate a statistical significance at the 1%, 5% and 10% levels. The significance level employs the generalised sign test, which is described in a study by Cowan (1992). The Wilcoxon sign rank test for the median and the percentage (%) of positive are also reported.

Using the same event window length also generated results which are inconsistent with previous findings based on European market data (Ikaheimo, et al., 2004; and Thouraya and Ereche-Rangau, 2012). When comparing the CAARs value for 60-day to announcement day, the results indicate that the loss in returns are relatively small, particularly for 60-day after the announcement. Similar results for both of the sampled target groups may be attributed to higher returns before the event date. From the results, it appears that stock option plan announcements do not reveal any content value to the stock market. Therefore, neither positive nor negative observed results impact Malaysian stock market returns which is in line with the findings of Ikaheimo et al. (2004) using Finnish stock market data.

4.5 Empirical results for long-term effects of stock option grants on firms' performance

This section presents and discusses results relating to the long-term effects of stock option plans on firm performance for three years following the announcement of stock options. The study follows Yeo et al. (1999) by employing accounting performance measures such as the return on asset (ROA), the return on equity (ROE) and Tobin's Q. The reported median value measures operating performance, while industry-adjusted performance is used to control for industry effects. The analysis of the long-term effects of stock option plans on firm performance highlights the pattern of firm performance following the announcement of stock option plans, followed by an analysis linking firm characteristics and event characteristics. Table 9 shows the pattern of performance measures for a sample of firms and industry, including a summary of the unadjusted and industry-adjusted year-on-year changes in which $\mathbf{t_{-1}}$ (one year before the announcement of stock option plan) is chosen as the base period. The overall analysis covers five (5) accounting years, which includes $\mathbf{t_{-1}}$ to t + 3 (three years before the announcement of stock option plans).

The overall results provide an unclear pattern in accounting performance measures following the announcement of stock option plans. Compared to the base period (year-1), the median firm change values are lower and weakly significant and suggests that the use of stock option plans by Malaysia-listed firms do not have a

strong influence on firm performance. If anything, the findings suggest that listed firms with stock option plans do not increase operating performance. This particular observation is consistent with the findings of Yeo et al. (1999) who report no significant change in the performance of Singapore listed firms following the adoption of stock option plans. It is worth noting that the highest median changes observed in year-2, and the negative in year-3, indicate that the performance of firm's are not enhanced by the adoption of stock option plans but instead result in poorer firm performance. From the test results, the statistics for the median value is insignificant and suggest that awarding stock options do not entirely reflect a firm's performance. However, it is also noticeable that when the median to industry-adjusted change is replaced the results improve, since the number of positive median change is higher than the negative value. This therefore tells us that the use of stock option plans does have an effect on firm performance. For example, it is evident from the statistics that the industry-adjusted median changes from the base period of three fiscal years following the adoption of stock option plans are all positive. The result is somewhat inconsistent to earlier findings on the positive impact hypothesis in U.S. studies such as Larker (1983), Brickley, Bhagat and Lease (1985), Defusso, Johnson and Zorn (1990) and Cresson (2007). Consistent results on positive returns are also shown in European studies offering stock option plans (Langmann, 2007; and Thouraya and Ereche-Rangau, 2012).

Nevertheless, going on the basis of the conclusions of studies on Asian countries there are positive share market reactions to stock option plans (Yeo et al., 1999; Ding and Sun, 2001; and Kato et al., 2005). However, the first Malaysian study carried out by Obiyatulla et al. (2009) finds contrasting results between market reactions and the granting of stock option plans. However, the negative significant statistics for the median industry-adjusted change in ROA in year-3, as compared to the base period, indicate poor levels of profitability for the firms in our sample or that cash-strapped firms are likely to use stock options in place of cash pay. This particular result support the findings of Yermack (1995) and Core and Guay (2001), perhaps because the actual granting of stock options defer the impact of compensation on earnings since ROA reflects earnings before interest, tax, and depreciation to total assets.

Table 9: Accounting performance measures of firms for three years before and three years after stock options plan adoption

Results of the change in operating performance				
	Year -1 to 0	Year -1 to 1	Year -1 to 2	Year -1 to year 3
Return on assets				
Firm median year-1 = 4.1266				
Industry-adjusted median year1 = 1.2226				
Median firms change	-0.031	0.804	1.234	-0.367
Median industry-adjusted change	-0.285	-0.684*	0.378	-1.243**
Number of Observations	77	77	77	77
Return on equity				
Firm median year 1 = 9.1479				
Industry-adjusted median year-1 = 1.5323				
Median firm change	-0.217	-0.539	1.380	0.182
Median industry-adjusted change	0.88	0.81	1.49	2.11**
Number of observations	78	78	78	78
Tobins's Q				
Firm median year 1 = 0.9961				
Industry-adjusted median year-1 = -0.1148				
Median firms change	0.011	0.023	-0.003	-0.076
Median industry-adjusted change	0.149***	0.141***	0.045*	0.018
Number of observations	77	77	77	77

This table indicates the change in the accounting performance measures of firms represented by return on assets (ROA), return on equity (ROE) and Tobin's Q from the one year before stock option plan announcement (year-1). Year 0 is the fiscal year in which the stock option plan is announced. The significance levels are based on the Wilcoxon signed rank test. *,** and *** describe statistical significance at the 90, 95 and 99% levels, respectively.

4.5.1 Determinants of stock option plans

The literature on stock options plans provides evidence which strongly suggests that firm level characteristics and event characteristics may have a potential effect on the long-term performance of firms. The results for both firm characteristics and event characteristics are displayed in Table 10. The overall results, reported in Panel A, indicate positive statistical mean for all performance measures prior to and following the adoption of stock option plans. For example, following the adoption of stock option plans the mean values for both ROA and ROE increase, suggesting that Malaysian firms are optimistic that the adoption of stock option plans will result in improvement in corporate performance. Panel B indicates that when linked to event and firm characteristics that on average firms with stock option plans issued 11,258,668 shares following plan approval, which is approximately 7 per cent of outstanding shares. It is noticeable that the standard deviations for most characteristics are relatively high which also indicate the significance of observed factors influencing firm performance.

Table 10 : Average levels for three years before adoptions and three years after plan adoptions

Variable	Before					Grant					After				
	N	Mean	Sd	Min	Max	N	Mean	Sd	Min	Max	N	Mean	Sd	Min	Max
Panel A :Performance measures															
ROA	227	1.72	1.27	-3.47	5.09						249	1.89	1.20	-2.75	4.58
ROE	227	1.05	1.16	-4.25	3.30						249	1.25	1.16	-3.18	3.88
TOBIN'S Q	227	0.10	0.39	0.02	2.40						249	0.05	0.40	-0.82	2.06
Panel B :Event characteristics and Firm characteristics															
Grant (N)						83	11,258,668	12,278,164	477,150	52,590,000					
Size(%)						83	7.94	6.14	0.21	44.15					
Leverage	227	2.92	1.36	-3.54	5.91						249	2.77	1.21	-2.36	4.61
Size	227	5.79	1.31	1.99	9.27						249	6.12	1.38	3.19	10.27
Growth	227	0.05	0.66	-2.09	2.48						249	-0.01	0.76	-1.75	4.08

The tables reports summary statistics for ROA,ROE and Tobin's Q which correspond to firm performance variables at three years before and after stock option grants at the of announcement date (EGM date),divided by the number of outstanding shares at the closest fiscal year. Leverage is equal to the log of firm's total debt divided by assets value, size is measured by log of total assets and growth is measured by M/B ratio.

4.5.2 The long-term effects of stock option grants on firm performance

Table 11 displays the results for the fixed effects model for performance measures and stock option grants. Panel A shows the results based on the raw performance measures, while Panel B summarises the findings of industry-adjusted performance measures. Each column corresponds to specifications for the long-term effects of performance which represented by ROA, ROE , Tobin's-Q , Industry-adjusted for ROA, Industry-adjusted return for ROE and Industry-adjusted return for Tobin-Q to stock option grants. The equation for the fixed effect models for raw performance measures as follows:

$$Perf_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it} \quad [10]$$

$Perf_i$: A performance measure is represented by ROA, ROE and Tobin-Q.

Grant: Equal to the number of stock option grants at the time of announcement (EGM date) divided by the number of outstanding shares at the closest fiscal year.

Lev: Is a firm's leverage that equal to the firm's total debt divided by the total assets.

Size: Firm size which is measured by the log of total assets value.

Growth: Growth opportunity is calculated based on market to book ratio (M/B ratio) is calculated the company's market capitalization divided with the company's total book value.

Ann: is a dummy variable for announcement types, which is equal to 1 if the firm establish stock option plans for the first-time,0 otherwise.

Tg: Tg is a dummy variable for target group, which is equal to 1, if the stock options are provided to employee, 0 otherwise.

ε_{it} : is a disturbance term.

The equation for the fixed effect models for industry-adjusted performance measures as follows:

$$\text{Ind-Adj}_{it} = \beta_0 + \beta_1 \text{grant}_{it} + \beta_2 \text{lev}_{it} + \beta_3 \text{size}_{it} + \beta_4 \text{growth}_{it} + \beta_5 \text{ann}_{it} + \beta_6 \text{tg}_{it} + \mu_{it} + \varepsilon_{it} \quad (11)$$

Ind-Adj_{it} Ind-adjusted is represented by Industry-adjusted ROA, ROE and Tobin-Q

Grant: equal to the number of stock option grants at the time of announcement (EGM date) divided by the number of outstanding shares at the closest fiscal year.

Lev: is a firm's leverage that equal to the firm's total debt divided by the total assets.

Size: Firm size which is measured by the log of total assets value.

Growth: Growth opportunity is calculated based on market to book ratio (M/B ratio) is calculated the company's market capitalization divided with the company's total book value.

Ann: is a dummy variable for announcement types, which is equal to 1 if the firm establish stock option plans for the first-time,0 otherwise.

Tg: Tg is a dummy variable for target group, which is equal to 1, if the stock options are provided to employee, 0 otherwise.

ε_{it} : Is a disturbance term.

Results of the first specification in Panel A for ROA produces R^2 value = 0.4752, F = 86.62, with p = 0.00. The second specification, using the performance variable of ROE, reveals R^2 value = 0.5824, F = 7.210540 with p = 0.00 and Tobin's Q generates R^2 value = 0.4569, F = 4.3490 with p = 0.00. The generated R^2 values in the fixed model indicate that 48 per cent of the independent variables can be explained the dependent variable of ROA, which is 47 per cent for ROE and 46 percent for Tobin's-Q.

The overall results, using the raw performance measures, show the grant size coefficient to be positive. However, the column indicates that the ROA model generates significant interaction, while the columns for ROE and Tobin's-Q report a weak association, indicating evidence that stock option size does not lead to increased firm performance levels. Prior studies reveal the variables of firm

characteristics and event characteristics as generating potential effects in influencing the firm's decision to establish stock option plans. The test results relating to firm characteristics show the prediction signs are fulfilled and strongly significant. Particularly, the three independent variables of leverage, firm size and firm growth are significantly related to all performance measures at the 1 and 5 percent levels. In contrast to the variables of event characteristics, the overall coefficients are found to be weakly significant except the target groups in ROA model show a strong interaction. It is noted that non-significant variables in event characteristics closely related to stock option grants, authenticating first-time announcements, do not lead to a firm's improvement in performance. The findings also indicate that stock option grants do not entirely benefiting employees.

Since the overall results in panel A revealed weak performance effects among Malaysian firms with stock option plans, all regressions were rerun using adjusted accounting performance measures. The industry-adjusted performance measures are examined for three (3) years after the stock option plans have been established with no changes in the firm and event characteristics. The findings of Panel B are included in Table 11 for the purpose of comparison only. At first glance, the regression results in Panel B show that R^2 values are lower when using the raw performance measures, while the industry-adjusted fixed effects models produced an R^2 of 0.26, F = 1.8157 with p = 0.00, an R^2 of 0.28, F = 2.0136 with p = 0.00 for ADJROA and ADJROE, respectively. The highest generated R^2 is for ADJTQ of 0.44, F=3.992390 with p = 0.00. The results indicate that all independent variables are explained as 26, 28 and 44 per cent for the dependent variables ADJROA, ADJROE and ADJTQ, respectively.

The regression coefficient values for grant size are found to be insignificant. The weak evidence suggests the industry membership of firms with stock option plans are not reflected exclusively on account of industry-based trends. Prior studies in this area strongly suggest that technology or R&D based firms adopt more stock options for retaining or attracting skilful staffs; however, the negative impact for industry-adjusted ROA provides little support to this conclusion. When industry–adjusted

specifications are extended with firm characteristics, it is found that the coefficients of firm growth is positive and highly significant in the ADJROA (β = 0.171062), ADJROE (β = 0.207232) and ADJTQ (β = 0.164505). In addition, all variables of event characteristics have non-significant effects on a firm's performance, except the leverage ratio which is found to have a significant coefficient value in the industry-adjusted Tobin's Q. Similar patterns are reported for event characteristics using raw performance measures in which all variables are shown to have non-significant coefficient values.

Table 11 provides a summary of the results relating to the effects of stock option plans on return on assets (ROA), return on equity (ROE) and Tobin's-Q. The statistics show that there are no differences in results using raw performance or industry-adjusted measures, since all performance measures are not significant with stock option grants. The results provide little evidence of the existence of an association between stock option grants and firm performance levels. In particular, the characteristics of firms with stock option plans generating results based on raw performance measures strongly authenticated the study's arguments. However, the findings of using industry-adjusted performance measures provide less support to the study's conclusions. The variables represent that event characteristics construct similar patterns, resulting from non-significant relationships to firms' performance, which suggests that additional characteristics of stock option plans do not lead to improvements in firm performance. Thus the non-significant effects of the models might be a direct result of mis-specification in the estimator. Therefore, I use Hausman statistical test, which is more rigorous, to address the issue. The purpose of Hausman test is to determine no mis-specification exists in the estimator based on its differences with the random effects estimator. The results reported in Table 11 show that the test statistic of ROA is 79.4618 with p-value of 0.000; ROE is 45.7269 with p-value of 0.000 and Tobin's-Q is 21.1451 with p-value of 0.000. Thus it may be concluded that there is a difference between random effects and fixed effects models with fixed effects models being better estimators for determining the long-term performance effects on stock option grants. The analysis for all specifications and stock option plans closely follows the fixed effects estimator. Similar to the test employed in the sample reported in Panel A, the Hausman tests for Panel B reports

contrasting results. Two out of three specifications show there are mis-specifications in the fixed effects estimator, based on its differences with the random effects estimator. And this suggests that random effects estimators for industry-adjusted ROA and ROE are better.

Table 11: Summary of results for return on assets (ROA), return on equity (ROE) and Tobin's-Q for stock option plan adoption

Fixed Effects Panel Model							
		PANEL A			PANEL B		
		ROA $[ROA_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}]$	ROE $[ROE_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}]$	TOBIN'S Q $[Tobin_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}]$	INDUSTRY-ADJUSTED ROA $Ind\text{-}Adj\_ROA_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}]$	INDUSTRY-ADJUSTED ROE $[Ind\text{-}Adj\_ROE_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}]$	IND-ADJUSTED TOBIN'S Q $Ind\text{-}Adj\_Tobin_{it} = \beta_0 + \beta_1 grant_{it} + \beta_2 lev_{it} + \beta_3 size_{it} + \beta_4 growth_{it} + \beta_5 ann_{it} + \beta_6 tg_{it} + \mu_{it} + \varepsilon_{it}$
Explanatory Variables	Prediction sign						
Constant		-0.364398	0.442756	-0.022636	-0.249465	-0.230194	-0.011014
Grant size	+	0.480902***	0.046534	0.032965	-0.022719	0.005674	0.036992
Firm-characteristics							
Leverage	?	-0.082609***	-0.081094**	0.045029***	-0.030517	-0.059710	0.042315***
Size	+	0.147763***	0.081356**	-0.012740	0.043316	0.057107	-0.012234
Growth	+	0.178934***	0.205801***	0.186091***	0.171062***	0.207232***	0.164505***
Event-characteristics							
Announcement	+	-0.221166	-0.182302	-0.041228	-0.056712	0.000827	-0.069726
Target groups	-	1.471465***	-0.238750	0.012684	-0.041544	0.000280	0.025143
R^2		0.475191	0.582399	0.456868	0.259917	0.280717	0.435727
F-value		86.62177***	7.210540***	4.349048***	1.815780***	2.013642***	3.992390***
Durbin-Watson		1.178232	1.514217	1.383540	1.651807	1.513619	1.353487
Firm		83	83	83	83	83	83
Data point		581	581	581	581	581	581

Hausman Test		79.4618***	45.7269***	21.1451***	11.1144*	4.9341	21.0462***

The reported results employ a fixed effect model. The dependent variables are return on assets (ROA), return on equity (ROE) Tobin's-Q (TQ) and industry-adjusted for ROA, ROE and Tobin's-Q. Both dependent variables are measured three years after stock option plans were established. Grant size is equal to the number of stock option grants at the time of announcement (EGM date), divided by the number of outstanding shares at the closest fiscal year. Leverage is equal to the firm's total debt divided by the total assets. Firm size is measured by the log of total assets value. Growth opportunity is calculated based on market to book ratio (M/B ratio) is calculated the company's market capitalization divided with the company's total book value. Announcement is a dummy variable, which is equal 1 for first-time adoption and 0 otherwise. Target group is a dummy variable, which is equal to 1, if the stock options are provided to employees, 0 otherwise. *,** and *** illustrate significance levels at the 90, 95 and 99%, respectively. P-value in parenthesis.

4.6 Summary and implication of prior findings

The main objective of this essay was to examine whether stock option plan announcements release good news for the capital market and how long-term firm performance influences the adoption of stock option plans. Using a standard event study methodology, in the short-term, the findings reveal a negative share price before an announcement, following a positive effect, is consistent with the conclusions of prior studies. However, it is found that such announcements do not carry any surprise to the market. The results indicate that in the short-term, the weak share price before the event days confirm the claim that early information releases before official announcements can be ruled out. Moreover, the results of positive and negative market reactions might be associated with opportunistic managerial behaviour such as using stock option plans to increase their personal wealth. This is accomplished by selectively delaying bad news and releasing good news in order to lessen official announcements of share prices while increasing share prices later on. Furthermore, the insignificant effect in returns at the event day may be due to beneficial groups of stock options being all for internal staffs. Therefore, the market anticipates that news of stock option plans do not carry good news to generate market impact. However, it provides a signal to shareholders that they will mostly lose in the form of dilution effects (Obiyatulla et al., 2009). In addition, the somewhat slow progress on share price increases after the announcement day may be because Malaysian investors lack knowledge about the beneficial effects of stock option plans, particularly for aligning interests and reducing agency problems. The second explanation for this result reveals that establishing stock option plans at first-time announcements does not lead to higher share returns, and similar results are generated for beneficial groups (i.e., executive levels). The third explanation for why stock option plan announcements do not reveal any information value to the stock Malaysian stock market may be that stock option plan propositions provide less positive signalling impact to the market. Moreover, there is a loss in returns for the beneficial groups, which could be explained as a large fraction of stock options being an immediate cost to shareholders. For the long-term effect, stock option plans do not entirely lead to improvements over firm value in Malaysia, as the results indicate no significant effects on long-term firm performance. In fact, based on the study's results, stock option grant's size does not lead to good share performance.

These findings may however spur debate about the role stock option plans play in enhancing firm performance and as mentioned earlier, in the few years that stock options have been in use in Malaysia, stock option plans gained popularity, but at the same time manipulation in accounting measures and stock prices such as creative accounting and earnings management, led the public to question the practicality in adopting stock option plans at least for reducing agency problems.

ESSAY 3

5.0: THE EFFECT OF EXECUTIVE STOCK OPTION PLANS ON MANAGERIAL TURNOVER.

5.1 Introduction

The issue of corporate structures and the potential agency problems it generates has given rise to a stream of research on a variety of ownership issues. The prior literature on corporate structure, particularly the work of La Porta, De-Silanes and Shleifer (1999) and Claessens, Djankov and Lang (2000) observed that most public companies are heavily dominated and controlled by family ownerships, a scenario that has shaped the structure of Malaysian firms. As a result, there is a high incidence of major shareholders who actively participate in management decision making that may lead to agency problems. In this example, when greater ownership concentration among top executives, this lead to more of the conflict are between majority and minority shareholder, rather than seen a conflict between principal and agent as emphasized in most developed markets (Zahiruddin and Fauziah, 2012). This would significantly appear when the shareholders use their position in the boards and gain the benefits through power and ability to make decision. By the same token, there is also the temptation for manager to pursue their own interests instead of the interests of the firm, one which ultimately places pressure on shareholders to act by controlling the actions of executives. In the context of this issue, the reason for the dominance of family owned Malaysian firms is largely due to firms being dependent on the legal system to monitor the behaviour of executives which is not sufficient to counter extreme cases and unlawful acts committed by top management, which then make the legal system seem less effective. On the similar issue, as pointed by Cheung, Rau and Stouraitis (2006) which emphasise that if the large shareholder is dominated by a family member, there has a greater incentive for agency problem as the major shareholders are fully governed through legal right as shareholder and mandate them as firm's management. In addition, Rachpadit et al. (2012) argue that the trust between family members could partially eliminate the

problem between shareholders and managers. Under this condition, most notably, family-controlled firms are in sharp contrast to firms that are managed in developed countries by independent executives in which the granting of stock options is the mechanism that enables executives to become part owner of firms' in order to align the interest of owner and management and thereby share the common objective of maximising firm value. Therefore, granting stock option for executive levels in family-dominated firms have become a corner-stone in addressing the issue of agency problem, particularly when in previous literature is well documented that Malaysia is plagued by a high ownership concentration (Claessens, Djankov and Lang, 2000; Haniffa and Hudaib, 2006). In fact, there is high occurrence of major shareholders are also being members of the board of directors.

Stock option plans might also be used to retain management talent as noted by Kole (1997) and Oyer and Schaefer (2005), who report evidence indicating that management retention is a significant reason behind the issuing of stock option plans. The use of share options is more apparent in highly competitive labour market in which employee turnover can be very costly in terms of termination, hiring, and training which, in consequence, results in a loss in productivity. Brenner et al. (2000) suggest that underwater (i.e., options far out-of-the money) stock options will increase the probability of turnover because firms usually choose to reprice the stock option, even though research evidence report that this practice is normally done by under-performing firms. However, since firms usually tie executive pay to performance shareholders are more likely to accept stock options if executive employees in turn increase their earnings by adding value to them. Thus I would expect the relationship between the use of stock option plans and firm value to be positive. A few studies such as Warner et al. (1988), Weisbach (1988) and Dennis et al. (1997) report that poor corporate performance usually result in increase turnover, which suggests that the relationship between the use of stock options and firm value is negative.

In the context of Malaysia, the use of stock option grants is highly concentrated at the non-executive employee level. Thus, I would expect the sensitivity of

compensation pay to performance to be quite low. Since executives have control over firm specific factors, if they are unsatisfied with the benefits they receive the likelihood is that they may leave voluntarily. The reason behind this is due to the notion that intrinsic dissatisfaction has a strong influence on the intention to leave the job. Rachpradit, Tang and Khang (2012) point out that executive turnover is also influenced by how management lead the firm, which suggests that management attributes such as board structure and ownership does play a role in determining turnover. Claessens, Djankov and Lang (2000) also note that the characteristics of Malaysian firms are influenced by family-controlled firm which imply that family participation on board of directors leads to widespread agency problem in the firm. This observation is consistent with economic theories which contend that family-controlled firms have a tendency to generate conflicts between principal (i.e., shareholders) and agents (i.e., management). Thus the use of stock option plans is seen as one of the solutions to counter such problems.

Up to now very little detailed evidence on the effectiveness of stock option plans has been provided using data on Malaysian firms. The few studies that exist put emphasis on the incentive effects of executive pay in retaining and motivating management efforts towards enhancing firm value. For example, Obiyatulla et al. (2009) notes that such incentives would not only enhance the value of the firm but also shareholders' wealth, though the high incidence of allocated stock options to employees have resulted in limited positive effects on firm performance. A possible reason for this may be due to the extent of capabilities to influence firm specific factors which are less direct for non-executive employees. Therefore stock options held by top executives might engender advantages as they may bear more influence on firm specific factors, since they are directly involved in putting in place a firm's program on executive compensation. Core and Guay (2001) claims that a large fraction of stock option plans for specific target group tend to make the cost effects on firm performance more obvious while also making the turnover price more costly. However, without the intense scrutiny of shareholders, increasing the size of packages may provide less of an impetus for managers to enhance firm value.

Research examining executive compensation remain a key issue in the field of corporate governance, especially since stock option grant size at executive levels are known to be obtained under questionable conditions, which suggests a failure of executive compensation pay to motivate good practices in corporate governance. Therefore, by examining the relationship between firm performance, stock option plans and executive turnover in Malaysian listed firms will enable us to discern whether the effects of executive stock option plans have a mitigating effect on unplanned managerial turnovers. The study also explores the effects of moderating factors such as corporate governance characteristics and ownership structure on executive turnover. Thus the consequences of executive turnover as considered in this study are focused specifically on firm performance and the likelihood that top executives would depart when nearing retirement age.

The rest of the essay is organized as follows. Section 5.2 provides a brief review of the literature relating to top executive turnover, firm performance, ownership and corporate governance. Section 5.3 present an econometric methodology and also discusses the data used in the empirical analysis while section 5.4 presents analyses the empirical results. Finally, Section 5.5 summarises and discusses the implications of prior findings.

5.2 Previous Literature and Hypotheses Development for Executive Turnover Study

5.2.1 Executive turnover and corporate performance

Firm performance is often used to reflect the firm incentive for adopting stock option plans, as one of alternative ways to reduce executive turnover. In regard to this issue, several studies report the relation between executive turnover and firm performance is a negative. In this example, Warner et.al (1988) reports an inverse relationship between ineffective managers and share returns. Other work in similar area of studies by Kang and Shivdani (1995) investigate the role of corporate governance mechanisms during the event of executive turnover among the Japanese corporations and report the likelihood of non-routine turnover is to be related to industry-adjusted returns on assets, excess stock returns, and negative operating

income. It is also found that the observed sensitivity for non-routine turnover among executives increases when the major shareholder is the main bank. However, industry performance was found to have no impact on non-routine managerial turnover in Japanese corporations.

It is generally acknowledged in many studies that stock option plans are costly for shareholders in terms of dilution effect. Therefore, a key issue here is whether the incentive effects of stock option plans can be justified on the basis of firm specific performance. In this respect, studies include Mehran and Yermack (1999) using data from 452 U.S. companies report a negative association between stock option plans and the probability of executive turnover. However, Fee and Hadlock (2003) in their study of the associated effects of stock option plans have on firm performance and managerial turnover note that the negative association is a clear indication that turnover was not entirely affected by equity-compensation plans. Also Coughlan and Schmidt (1988) and Leonhardt (2000) using data from a number of U.S. firms report a consistent results indicating a relationship between turnover and firm performance and though it is also noted that stock option holders are likely to leave firm when the plan becomes less effective as stock option values become worthless. Similarly with Maury (2006) finds that firm performance and top executive turnover in Finish companies are very sensitive to firm conditions and that the likelihood of a top executive departures increase following firm specific losses, however past performance has no impact on CEO turnover. In later study, the literature suggests that the generated loss relating to stock option value impose a loss for the option holders in two ways. The first way is when the excess market price is over the exercise price at the time the holder leaves the job and second, the probability that the share price will increase (Balsam and Miharjo, 2007).

While, Huson, Malatesta and Parrino (2004) indicate that poor performing executives should be punished for their failure to maximise efforts and exercising their core duty. They note that forced turnover could lead executives improve firm performance through increasing managerial efforts and the news is welcomed by investors. However, this particular finding remains unresolved due to the

replacement of executives by boards which may also a signal the need for improving management. Thus, based on the above arguments, it is hypothesized that:

H_1 : Executive turnover is likely to increase following poor firm performance.

5.2.2 Executive turnover and ownership structure

The decision of executive turnover, particularly firm to remove ineffective top management would seem to depend on the type of ownership structure as one which agency theory posits a conflict of interests could be aligned through the separation of power and ownership. In this regard, the use of stock option plans may be one solution to the imperfection of cash incentive pay because by increasing executive ownership and inviting them to be part of the firm minor shareholders is likely decrease the potential conflict with major shareholders. Although the nature of shareholdings of Malaysian listed firms are largely controlled by domestic shareholders such as state-controlled (Gibson, 2003), the family and political members also tend to be actively involved in business operation and serving on the firm boards. To determine the effects of ownership structure, several studies provide contrasting views about the agreement of involvement family members and non-family members in the management of the firm. In the example of Danish firms, Lausten (2002) reports that family-based firms are likely to reduce the number of executive turnover, while Volpin (2002) using data for Italian firms report similar results. Thus I would expect the effects of family-based firms on likelihood of top executive turnover to be negative due to strong family-management ties. There has another view, as seen from non-family controlled firms, note that the effects of top management turnover are weaker which thus indicating a low sensitivity to corporate performance (Tsai et. al (2006). This is clearly indicates that the non-family-dominated business appears less effective for monitoring the turnover rate during low firm performance.

With regards to similar issue on managerial turnover, Denis et.al (1997) posit a lower incidence of executive turnover, especially when outside directors play roles in monitoring manager due to the high stakes of executive employees which then

makes the effect to be less sensitive to firm performance. In particular, they note that the controlling effects are significantly observed when top management have stakes more than 25 per cent. Therefore, managerial decision to leave the firms might be controlled by the cost forgone of equity and cash-compensation pay. Thus, if family ownership has inverse effects on turnover it is likely that granting stock options to family members will not only increase their stakes in the firm, but also the news of the award may not be favourably received by existing shareholders, particularly if the boards plan to appoint outside candidates to lead the CEO position. For example, Suchard et. al (2001) examine the relationship between the monitoring of CEO's by inside and outside directors and CEO turnover among Australian firms and find that non-executive directors are more likely to monitor the management. This is observed that CEO turnover in Australian firms is associated with past performance rather than to current firm performance as found in the U.S. studies. The behaviour of shareholders in solving corporate governance issues generates different results between Australian and U.S. firms.

The similar area of research by Shen and Canella (2002) using a longitudinal study to determine the impact of CEO dismissal on firm performance, and the impact on performance followed by inside successor selection. They report that CEO dismissal has a negative effect on firm performance and a positive effect if it is inside succession. The results support the preposition that increasing managerial ownerships through equity pay for management in the firm has a significant impact on CEO dismissal due to inside succession, instead of the dismissal impact of outside succession. Also, Iqbal and French (2007) examine the managerial ownership of 260 firms in financial difficulty and find that the less voting rights executives have, the more likely they are to be dismissed rather than their higher-owning counterparts. It is noted that retained executives tend to increase their shareholding prior to removal which suggest that such strategy could be an indication to acquire shares during financial distress to avoid being removed. On this issue, Lu et al. (2007) notes that high shareholding executives might exercise greater control by entrenching or shielding themselves from dismissal in a poor performing firm. Notably, the inverse effect between firm performance and executive turnover could be reduced if stock option plans are properly designed, which would see a firm

incurring turnover cost on the employees' departure (Balsam et al. ,2007), since the cost of leaving defers in a few years following the grant date. And as Balsam and Miharjo (2007) notes, the lower turnover rates within firms are usually observed during the vested period. Therefore, I would expect that high stakes in the firm by executive, particularly in family-owned firm to be less affected by executive turnover when stock option plans are granted. Thus, it is hypothesized that:

H_2 : Executive turnover is likely lower in the firm with high stakes of managerial ownership in family-dominated firm.

5.2.3 Executive turnover and corporate governance

Since the main function of boards is to act as agents of shareholders, both parties thus play a crucial role in the practice of good corporate governances, particularly in the monitoring of managerial activities. The role of a board includes decision making, to ensure the portrayal of a healthy corporate performance image, though a negative performance might at times be detrimental to the corporate governance structure. In particular, the negative reputation of a board may lead them to be removed which suggest a direct relationship between corporate governance attributes, firm value and turnover. Using Malaysia data, Haniffa and Cooke (2002) report that corporate governance has a positive effect on firm performance, while Black et al. (2002) note that better governed firms might have more efficiency in their operations, and Haniffa and Hudaid (2006) note that good corporate governance has value-enhancing effects on firm. When linking the corporate governance structures and executive turnover, studies by Gibson (2003) and Defond and Hung (2004) are associated to firm performance. They find that the corporate governance of a firm works well following poor firm performance if the managements respond quickly. In other words, when corporate performance declines, the board would react by replacing inefficient top managers suggesting that corporate governance does have a crucial role in determining top executive turnover. Studies in this area also note that several board's characteristics such as the board structure, board size and board composition are likely to influence the probability of executive turnover. In this example, Haniffa and Hudaid (2006) note that board characteristics include

smaller boards, more independent boards and clear separation role between CEO and chairman.

5.2.3.1 Executive turnover and board size

The linking of managerial turnover to board size features prominently as key determinant in several studies. This has been argued that effective board size might have an effect on enhancing managerial control, reducing cost, and thereby increase firm value. In this example, Lipton and Lorsch (1992) note that a smaller board might affect the capacity for monitoring managements, while Haleblian and Finkelstein (1993) point out that larger board are more likely to increase their capabilities and resources in order to solve firm problems. The conflicting views on the effectiveness of board of directors' size have presented an argument that smaller boards have become more successful than larger boards, particularly in decision making for directors' replacement or termination. Scholars suggests various of board size to affect its roles on monitoring, controlling and decision making as Jensen (1993) notes that eight persons or less create more effective board. While, a study by Shivdasani and Yermack (1999) claim that eleven is a more appropriate size for a firm's board of directors. However, Beiner et al. (2004) and Coles et al. (2005) point out that the number of board members might vary according to the size of the firms'. In Malaysia, it is to be noted that the average size of a board of directors is seven to eight as represented by executive and non-executive directors. This is according to Malaysian legal practices in the Listing of Bursa Malaysia; the firm board of directors should be represented by at least two persons or one-third of the independent directors (Paragraph 15 (2), 2002). This clearly emphasised that base on evidence the size of board has a significant impact in decision making involve executive matters. Though this issue of whether size of board of directors should be formed in small and larger size has been well researched. However no clear conclusion is reached. For example, there is a claim by Khurana (1998) indicates that smaller board has limited sources of information regarding potential successor, thus the effect on changing top executives should be less. In the latter respect, Borkhovich et al. (2006) argue that a board size might influence executive replacement decisions with larger boards are more likely to find it easier to choose a successor. They also note that since smaller boards are more efficient in terms of

executive replacement decisions, they are likely to change executives as corporate performance declines. Therefore, it may be that when selecting candidates for board composition, that firms prefer to choose outsider and generate the main feature of a two-tier board of executive directors and independent directors in order to balance board size and to be able to work cooperatively. Due to limited number of literature that discusses executive turnover and board size except in the area of changing executive as response of poor performance, thus the effect of executive turnover in relation to board size is an inverse relation and so the hypothesis is

H_3 : Executive turnover is to be high when firms have a smaller board of directors.

5.2.3.2 Executive turnover and board composition

Earlier studies have put much emphasis on the presence of outside directors in enhancing the board's effectiveness in internal monitoring. In fact the corporate governance literature argues that outside directors can be useful as they offer independent expertise and judgment. Nevertheless, the risk appears to be greater when board members have a substantial stake in the firm. Thus to encourage a high level of board independence, it is recommended that at least one-third of board members should be external directors that have no relationship with the major shareholders or hold any position in the firm. However, aside from appointing independent directors to achieve the intended objectives for monitoring the top executive levels, the important question is how outside director influence the board's decision. Another a key function of board composition is internal control, hence the presence of outside directors on boards provide a clear division of executive roles to serve on behalf of shareholders. Renneboog (2000), for example, notes that the appointment of outside directors is to represent the major shareholders by exercising their fiduciary duty to monitor firm performance. Weisbach (1988) reports a strong association of turnover-performance effect in firms with outsider-dominated boards, which suggests that independent board members respond quickly to terminate underperforming executives. It is also noted that top executive turnover is likely to occur when firm's experience poor corporate performance and the board reacts by enforcing the departure of top executives.

The evidence on the existence of an external director on the board of directors could be one of the solutions to the removal of poor performing top management. And, in turn, these managers would be expected to be penalised by the firm for poor firm performance. This also indicates that outsider-dominated boards have better monitoring for management. In respect to this, Klein (2002) finds that board independence is inversely related to an earnings management, suggesting that outsider-dominated boards play an effective role in monitoring corporate performance. In contrast, Bhagat and Black (2002) find that an increasing number of independent directors on boards do not necessarily lead to better performing firms. However, Hsu-Huei et al. (2008) using firm level data on Taiwan firms finds that independent director have a positive effect on firm value. Thus, the following hypothesis is suggested:

H_4 : Executive turnover to be lower when the board is less independent on outsider-dominated board.

5.2.3.3 Executive turnover and board leadership structure

There is also an extensive literature on board leadership structure which posits the effect of CEO duality and corporate performance in two opposing ways. First, Anderson and Anthony (1996) report that CEO duality has a positive effect on improving operating performance, while Deochow et al. (1996) find that CEO duality result in earnings manipulation activity. Similarly, Moscu (2013) using stewardship theory finds that CEO duality improves firm performance. However, Dahya et al. (2009) find that the title of separation in companies U.K. between CEO and Chairman does not lead to high performance and this thus forms the second argument which, as a result, leads to management turnover. As empirical evidence indicates that the poor corporate performance increase management turnover which emphasis in a study by Goyal and Park (2002). They document a negative association between the executive turnover and firm performance declines when CEO and chairman are granted to the same person. This study conclusions support the preposition that less monitoring efforts by a dual board structures, particularly when making decision to dismiss the underperforming management. In later study,

Maury (2006) notes that Finish firms have a supervisory board and a board of directors and report evidence that CEO turnover is likely higher follows low stock price performance. However, it is found that when the role of CEO and chairman are combined that there are no difference with effects between two-tier and a single-tier board structure. A study by Hou and Chuang (2008) finds that executive turnover is sensitivite to firm performance appears to be attributable to CEO duality. In this case, it also supports Jensen's (1993) findings which suggest that a failure of the firm to exercise firm internal control has much to do with CEO duality which affects performance and lead to high turnover. However, a clear division role between both positions that have formal power makes it easier for boards to dismiss inefficient managers. In all, the empirical evidence indicates that no separation in the roles between both positions suggests that firms have weaker monitoring board's that make no effort to remove inefficient top executives. We should also mention that the code of corporate governance state that the separate role of CEO and chairman might ensure the intended objectives of balancing power between the two positions. This suggests that firms can avoid conflicts of interest and domination by a single person on the board. Thus, the hypothesis is:

H_5 : Executive turnover is likely increases when there is a separation role between the CEO and chairman of the board during poor corporate performance.

5.2.3.4 Executive turnover and board members age

Demographic factors such as the age of individual board members have an important role in estimating the probability of turnover which is why age is commonly used to distinguish between forced and routine turnover. The test effect of age on turnover is commonly divided between young and old. For example, in examining turnover-firm performance effects, Coughlan and Schmidt (1985) use the compulsory retirement age of 64 to split the sample between younger and older CEOs. Other studies use different retirement age such as the age limit of 65 (Weisbach,1988), 55 (Barro and Barro,1990) and 60 (Rachpradit, Tang and Khang,2012) to categorise younger and older CEOs. While, Lausten (2002) and Goyal and Park (2002) also apply a similar method to estimate the probability of turnover through the age of CEOs. In particular, Goyal and Park (2002) and Rachpradit, Tang and Khang (2012) report a

positive relationship between the age of board members and turnover, while Coughlan and Schmidt (1985) report that although younger CEOs have a negative and significant impact on stock price performance, the coefficient of CEOs turnover above retirement age is positive. Barro and Barro (1990) estimate the turnover of CEOs and report a strong effect on turnover decisions. They also find that the probability of turnover is lower in younger CEOs and that this increases when nearing mandatory retirement age. In a recent study by Rachpradit, Tang and Khang (2012) report both a positive and weak relationship for all CEOs turnover. However, further tests for a sub-sample of younger and older CEOs revealed that younger CEO was more likely to be replaced following poor firm performance. In contrast, when it comes to older CEOs, Lausten (2002) notes that turnover following the retirement age is not solely related to poor performance since benefits are a result of previous achievements. Empirical evidence also shows that the risk of turnover is higher when a younger person holds the position than an executive who is nearing retirement. Based on the above findings, the following hypothesis is developed:

H_6 : Firms with older executives will be more likely increase the turnover.

5.2.4 Executive turnover and firm-specific characteristics

Several studies report evidence which indicate that firm characteristics can influence the likelihood of executive turnover. One of the firm attributes is firm size which is commonly measured by total assets or market capitalisation. Cosh and Hughes (1997) find that there is a negative relationship between turnover and large firm, which leads us to believe that large firms are less likely to terminate top managements. Also, Rhim, Peluchette and Song (2006) find that large firms are expected to enjoy good corporate performance since they benefit from having more stable income. The expected result also indicates that executive turnover is not welcome when firms are having healthy corporate condition that will disturb work pattern (Boeker, 1992). Therefore, large size firms are less likely to change their executives compared to small firms in which the turnover process would be lower. The hypothesis is:

H_7 : Firms with larger size will less likely to dismiss their top executives.

5.2.5 Executive turnover and levels of managerial payments

Numerous academic studies that justify high compensation pay usually focus attention on aligning the interests of managers and shareholders. The consensus is that since top managements are an important human resource factor and an attractive pay package has the ability to attract and retain managerial talents, particularly at CEO level. It has been argued however that the level of payments for executives should influence their decisions to remain with their firms. For example, Mehran and Yermack (1997) indicate that alternative strategy designed to change the mix level of payments could help to retain the executive. They also argue that using solely cash pay and bonus for executive appraisals is a subjective decision made by the firm because in real labour markets not all firms are able to compete for talent using cash based compensation, particularly smaller firms. In addition, the literature emphasis argument for incentive effects of using cash pay to reduce executive turnover is straightforward. This particularly occurs for firms without financial distress. Instances of low cash payments are facing in firms to shut down or firms with severe liquidity constraints, the turnover is likely high (Earle and Sabirianova, 2002). Urged by the cash constraint as the crucial of retaining high-skilled personnel and in firms where human capital are competitive, the firm seeks and designs compensation structures that allow to defer the current payment using future profits. This is consistent with those that are broadly in agreement with this view suggested that firms should use equity payments as a retention mechanism (Anderson, Banker and Ravindran, 2000). Accordingly, the use of stock options is considered as one way in which the firm can extends an intention to leave the firm for several years after grant date which is normally between three to five years. Following this reason, it may be concluded that turnover among executives would be lower during the vesting period (when stock options cannot be exercised). This shows that the retention effect lead them to stay with the current employer is limited [Balsam and Miharjo (2007)]. Consequently, the argument on the optimal combination of cash and equity payments to keep talent employees has received attention. In this respect, a study by Gonzales and Gurtoviy, (2008) find that renegotiating initial contract for amount of cash firm might offer and a corresponding share of equity pay (i.e. stock option) plays a crucial roles for preventing executives from leaving.

This is very clear that the relation between market wages and equity payments is not new since the main structure of stock options is link the share price to performance (Oyer, 2004). Moreover, by tying to firm value, it helps firm to devise compensation schemes that retain executives facing uncertainty in market wages and where turnover costs are relatively high. However, if firm performance declines, the compensated value for executives is likely to reduce whilst turnover increases. This has lead Hassenhuttl and Harrison (2002) to argue that high compensation for the purpose of retaining loyal executives (i.e. CEOs) is questionable, particularly for signalling that they are outstanding. Their findings indicate that stock options are negatively related to CEOs turnover in large firms. Similarly, Fee and Hadlock (2003) find that equity payments play an insignificant role in the retention of CEOs.

As response to conclusion by Denis, Denis and Sarin (1997) which indicate a large amount of share ownership does play a role in determining executive turnover. In this respect, the literature further suggests that the implementation of stock option plans at managerial levels will not only increase their share ownership but also the level of effects on turnover-performance is twofold. The first effect is that executives with low ownership interest may leave their position if the firm records poor performance and the new replacement is expected to enhance firm value. Hochberg and Lindsey (2010) examine the relationship between stock option plans and operating performance and found a positive relationship, while Blasi et al. (2010) note that employees who receive stock options are less likely to find a new job, which suggests that stock options leads to lower voluntary turnover. Nonetheless, a section the literature suggests that the effect of reduction in turnover is temporary until the stock options vesting period, which would seem to imply that stock option plays a role in delaying, rather than in preventing turnover (Serdar et al., 2011). The second resulting effect is that where the executive has significant ownership through stock options, they might shield their position from poor corporate performance. This particular effect is consistent with a study conducted by Finkelstein (1992), which found that substantial stockholding is a source of managerial power. Therefore, a significant ownership stake is likely to reduce the CEOs removal by the board and is one of the ways through which a large amount of stock option grants can be exercised. The following hypothesis is:

H_8 : Higher compensation pay in the form of stock options to increase managerial ownership and thus lead to lower turnover.

For better understanding, details of all hypotheses to be tested are summarised as follows:

		Coefficient Sign	Expected Sign
Executive Turnover and Corporate Performance			
Warner et.al (1988)	Executive turnover and corporate performance to be negative	Negative	
Kang and Shivdani (1995)	The role of corporate governance mechanisms during the turnover of top executive in Japanese corporations the likelihood of non-routine turnover (forced turnover) to be related to industry-adjusted returns on assets, excess stock returns, and negative operating income	Negative	
Mehran and Yermack (1999)	Negative association between stock option plans and the probability of executive turnover,	Negative	
Fee and Hadlock (2003)	The effect of stock option plans on firm performance and managerial turnover note that the negative association	Negative	
Gibson (2003) Defond and Hung (2004)	The managements respond quickly when corporate performance declines by replacing inefficient top managers	Negative	
Goyal and Park (2002)	poor corporate performance increase management turnover	Negative	
Huson, Malatesta and Parrino (2004)	Poor performing executives should be punished for their failure	Negative	
Maury (2006)	Top executive departures increase following firm specific losses and prior performance has no impact on CEO turnover.	Negative	
Balsam and Miharjo (2007	Negative share price increase turnover decrease	Negative	
H_1 : Executive turnover is likely to increase following poor firm performance.			Negative
Executive Turnover and Ownership Structure			
Denis et.al (1997)	Lower incidence of executive turnover when high stakes of executive employees which then makes the effect to be less sensitive to firm performance.	Negative	
Lausten (2002)	Family-based firms are likely to reduce the number of executive turnover	Negative	

Volpin (2002)	Less executive turnover in Italian family-dominated companies	Negative	
Shen and Canella (2002)	Increasing managerial ownerships through equity pay for management in the firm has a significant impact on CEO dismissal due to inside succession, instead of the dismissal impact of outside succession.	Negative	
Tsai et. al (2006	Non-family-dominated business appears less effective for monitoring the turnover rate during low firm performance.	Negative	
Iqbal and French (2007)	Less voting rights executives have, the more likely they are to be dismissed rather than their higher-owning counterparts.	Negative	
Lu et al. (2007)	High shareholding executives might exercise greater control by entrenching or shielding themselves from dismissal in a poor performing firm.	Negative	
H_2 : Executive turnover is likely lower in the firm with high stakes of managerial ownership in family-dominated firm.			Negative
Executive Turnover and corporate governance structures			
	Board size		
Lipton and Lorsch (1992)	A smaller board might affect the capacity for monitoring managements	Negative	
Haleblian and Finkelstein (1993)	Larger board are more likely to increase their capabilities and resources in order to solve firm problems of inefficient manager.	Negative	
Khurana (1998)	Smaller board has limited sources of information regarding potential successor, thus the effect on changing top executives should be less.	Positive	
Borkhovich et al. (2006)	Board size might influence executive replacement decisions with larger boards are more likely to find it easier to choose a successor.	Negative	
H_3 Executive turnover is to be high when firms have a smaller board of directors.			Negative
	Board Composition		
Weisbach (1988)	Independent board members respond quickly to terminate underperforming executives.	Positive	
Renneboog (2000),	Note that the appointment of outside directors is to represent the major shareholders by exercising their fiduciary duty to monitor firm performance.	Positive	
Bhagat and Black (2002)	Increasing number of independent directors on boards do not necessarily lead to better performing firms	Positive/Negative	
Klein (2002)	Board independence play an effective role in monitoring corporate performance.	Positive	
Hsu-Huei et al. (2008)	Independent director have a positive effect on firm value.	Positive	

H_4 : Executive turnover to be lower when the board is more independent on outsider-dominated board.			Negative
	Leadership structure		
Anderson and Anthony (1996)	CEO duality has a positive effect on improving operating performance,	Positive	
Deochow et al. (1996)	CEO duality result in earnings manipulation activity	Positive	
Maury (2006)	Finish firms have a supervisory board and a board of directors and report evidence that CEO turnover is likely higher follows low stock price performance. role of CEO and chairman are combined that there are no difference with effects between two-tier and a single-tier board	Positive/Negative	
Hou and Chuang (2008)	Executive turnover is sensitive to firm performance appears to be attributable to CEO duality as they fail to conduct internal control	Negative	
Dahya et al. (2009)	Title of separation in companies UK between CEO and Chairman does not lead to high performance	Positive/Negative	
Moscu (2013)	CEO duality improves firm performance.	Positive	
H_5 : Executive turnover is likely increases when there is a separation role between the CEO and chairman of the board during poor corporate performance.			Negative
	Executive turnover and board members age		
Coughlan and Schmidt (1985)	Older CEOs have a significant impact on performance and the coefficient of CEOs turnover above retirement age is positive.	Positive	
Barro and Barro (1990)	Probability of turnover is lower in younger CEOs and that this increases when nearing mandatory retirement age.	Positive	
Goyal and Park (2002) and	Positive relationship between the age of board members and turnover	Positive	
Lausten (2002)	Turnover following the retirement age is not solely related to poor performance since benefits are a result of previous achievements.	Positive	
Rachpradit, Tang and Khang (2012)	Positive relationship between the age of board members and turnover	Positive	
H_6 : Firms with older executives will be more likely increase the turnover.			Positive
	Executive turnover and firm size		
Boeker (1992)	Executive turnover is not welcome when firms are having healthy corporate condition that will disturb work patterns	Negative	
Cosh and Hughes (1997)	Large firms are less likely to terminate top managements.	Negative	
Rhim, Peluchette and Song	Firms are expected to enjoy good corporate performance since they benefit from having more	Negative	

(2006)	stable income. The expected result also indicates that executive turnover is not welcome		
H_7 : Firms with larger size will less likely to dismiss their top executives.			Negative
	Executive turnover Level of managerial pays		
Adams,1965	An attractive pay package in the industry that crucial for human resource factor has the ability to attract and retain managerial talents	Positive	
Finkelstein (1992),	A substantial stockholding is a source of managerial power.	Positive	
Mehran and Yermack (1997)	A strategy designed to change the mix level of pays could help to retain the executive. However, using solely cash pay and bonus for executive appraisals is a subjective decision made by the firm because in real labour markets not all firms are able to compete for talent using cash based compensation, particularly smaller firms.	Negative /Positive	
Anderson, Banker and Ravindran, (2000).	Firms should use equity pays as a retention mechanism	Positive	
Hassenhuttl and Harrison (2002)	High compensation for the purpose of signalling that loyal executives (i.e. CEOs) are outstanding , the finding indicate that stock options are negatively related to turnover in larger firms.	Negative	
Fee and Hadlock (2003)	Stock options play an insignificant role in the retention of CEOs	Negative	
Balsam and Miharjo (2007	Stock options produce retentive effect that lead executives to stay with the current employer, but limited	Negative	
Gonzales and Gurtoviy, (2008)	Renegotiating initial contract for amount of cash firm might offer and a corresponding share of equity pay (i.e. stock option) determine executive turnover.	Positive	
Blasi et al. (2010)	Received more stock options are less likely to find a new job that leads to lower voluntary turnover.	Positive	
Hochberg and Lindsey (2010)	The relationship between stock option plans and operating performance and found a positive relationship	Positive	
Serdar et al. , 2011	Stock option plays a role in delaying, rather than in preventing turnover	Negative	
H_8 : Higher compensation pay in the form of stock options to increase managerial ownership and thus lead to lower turnover.			Negative

5.3 Econometric Methodology and Data

The main interest of this study is to examine the consequences of stock option plan on executive turnover. This relationship is examined using the following regression model:

Exec_turn= f (perf, ownership,governance,size, stock option_cash) (1)

Variables Explanation for top executive turnover

Dependent variable

Following the study of Maury (2006) in which executive turnover is based on types of turnover whereby the dependent variable if the top management is replaced in a given year for reasons of forced turnover.

Control variables

The independent variables in the estimated model employ four proxies to determine the probability of executive turnover. The variables include firm performance, ownership structure, board attributes, firm size and level of payments (stock options and cash). Corporate performance is a crucial factor and likely to influence decisions to remove inefficient executive employees, particularly due to poor corporate performance. While, other controlling factors such as ownership structure, board attributes, firm size and level of managerial pay might have an effect on turnover-performance sensitivity.

Furthermore, former studies indicate a negative association between performance and probability of top management turnover. Following this agreement firm performance measures using accounting and market measures are employed in this study. However, using the market measures may underestimate the effects on turnover, particularly when top executives serve the purpose of controlling shareholders (Weisbach, 1988)]. This also indicates that market-based measures may not be the best indicator, but are nonetheless appropriates to explain management

efforts. According to Shen and Conella (2002), poorly performing firms suggest that managements are visible in not maximising their wealth. Given the drawbacks associated with market measures, the estimated model uses the accounting measure of Return on Assets (ROA) to proxy firm performance by following Goyal and Park (2002) in which ROA is estimated by the ratio of earnings before interests and tax to book value of total assets.

In addition, a further test is conducted to validate whether the probability of executives leaving the firms are as a result of firms extreme poor performance. Thus, creating a dummy variable equal to 1 if the firm has negative operating income in both preceding and year turnover is used to capture the effect. Using a single form of accounting measure is not, however, sufficient to validate the results of the turnover-performance sensitivity. Other studies in this area employ market-based indicators to examine the relationship between unadjusted and market-adjusted return to executive turnover. Unadjusted return is calculated using the firm's stock returns in one year adjusted by the expected returns on FTSE Kuala Lumpur over the same period. Analysis of firm performance takes into account each year under the top executive's watch. This approach ensures that the overall performance of the firms in the study is considered for determining turnover (Shen and Canella, 2002).

Another control variable is included to test the effect of ownership structure on executive turnover. The variables added in each model are managerial ownership and a dummy for family control. A number of studies in this area discuss methods to determine family-controlled firms including La Porta, De-Silanes and Shleifer (1999) and Anderson and Reeb (2003) which suggest that the family gains power by exercising voting rights when it has at least 20 percent support and this value is sufficient in making decisions, while Anderson and Reeb (2003) associate the founding family firm if it is run by the family member, hence, a family-owned firm is identified based on family ties on the board. Similarly to approach carried out by Maury (2006) uses the surname to find family founding firm. A dummy variable is added in each model equated to 1 if the family member occupies the board and 0 otherwise. This produces new evidence if the top management has stakes in the firm

through stock options. Furthermore, adding variables for managerial ownership and family control generate an advantage to determine whether the family-owned business has collectively voted to remove their family members who have served as an executive employee due to inefficiency or underperformance. In respect to this, Denis et Al. (1997) report that managerial equity structure affects the probability of turnover negatively which suggest that stock option plans could serve as an agent to increase insider ownership, even though it is less sensitive to firm performance. In reality, firm performance is widely used as a proxy in compensation payments. Thus a dummy variable of I is used for top executives who have stakes in the firm and 0 otherwise.

The next focus is to examine the role of corporate governance on executive turnover which is represented by board attributes. Using this variable might capture the potential determinants that have an impact on the probability of executive turnover. The components include board size, leadership structure and board compositions which are used to investigate their link with executive turnover, which is crucial for emphasising aspects of corporate governance. The variables are as follows:

a) Board size is the variable to represent the number of board members and when the board size increases, it shows that monitoring capacities could be enhanced (Yermack ,1996).
b) CEO duality is a dummy equal to 1 if the chairman of the board and the CEO is performed by the same individual. Splitting the roles between the Chairman and the CEO generate advantages for reducing agency problems and improved independence in decision making, thereby enhanced corporate value.
c) Board independence is measured by a ratio of outside directors on board. As mentioned earlier, the presence of outside directors might reduce the conflict of interests between shareholders and managements through its monitoring function on the management activities. According to Morck, Shleifer and Vishny (1989), monitoring non-executive directors might evade the executive directors' control over their manipulative actions, particularly by increasing their compensation pay.

d) For directors' characteristics, age is observed as a significant impact on executive turnover which is determined as at the end of the accounting period in which they are being replaced by the firm (Goyal and Park, 2002). Retirement age is used to proxy between older and younger director which is controlled by a dummy variable with 1 if the executive director is age 70 or older in turnover year.

Other control variables likely to have an impact on executive turnover are firm size and level of compensation payments. Firm size is measured as the natural log of market capitalisation for the turnover year. The study also investigates the link between turnover-performance with stock option plans; the key independent variable for level of pay is stock option grant received and held by top management in relation to cash pay. Thus, the indicator used to represent stock option compensation is used which according to Mehran and Yermack (1997) is defined as a ratio of stock option grants for executive director divided by cash payments. The total of cash pay includes salary, bonus and other types of cash payments. Further investigation whether there is an association between stock option holdings and executive turnover as an incentive to remain in their position in the firm I create an inventory of stock options granted by collecting data on unexercised stock options that had never been vested prior to the year of turnover events. The variable was expressed as the percentage of firm shares.

The Data

The initial sample of this study consists of Malaysian listed firms which offer stock option plans from 2000 to 2010. Since the purpose of the study is to examine executive turnover, the sample limits observation to stock option plans that are targeted at executive levels as in Fee and Hadlock (2003). From the original sample 177 listed firms with established stock option plans, I omitted firms with missing data. These firms were chosen as a clean sample in which the firm's operate across various business sectors. The sample selection derived from the above criteria is as follows:

Clean sample (2002-2010)	
Initial dataset	177
Less:	
MESDAQ companies	0
Delisting	1
Financial Institutions	0
Missing Data	3
Merger and Acquisitions	0
Full dataset for executive turnover	173

Data regarding stock option plans were collected annually from multiple sources such as company annual report, the Malaysia Bourse website under company announcement section and Investor Digest magazine, while accounting data were extracted from Bloomberg and the information for corporate governance and ownership structure are obtained from annual reports. The data used identifies all high level management for each firm included in the sample.

The study focuses on executive turnover during the interval year of 2000 and 2010, but due to the availability of date preceding 2001, I used 2002 as the base starting year for data collection. Moreover, 2002 may be considered as the year that the Malaysian economy began to recover from the Asian financial crisis and the introduction of the Malaysian Code of Corporate Governance (MCCG), while 2005 is the effective year when Malaysian firms were subjected to the new Financial Reporting Standards (FRSs) that have an impact on accounting ratio calculation (Rokiah Ishak, 2011). The length of the period covered in this study is sufficient to

determine managerial turnover through comparing the names of top management over the sample period. With regard to the dependent variable for top executive turnover, I identified a number of top executive replacements and reasons of turnover as suggested by Weisbach (1988) and Denis and Denis (1995).

I follow a similar approach to Parrino (1997) who examine the number of managerial turnover based on news reports from local newspaper and through the bourse website. Accordingly, a director's age is chosen as the cutting off point for compulsory retirement to distinguish between forced and routine dismissal. Directors can be appointed if they are within the age of 18 to 70 because according to legal requirements this age range is considered "full age" as stated in Section 129 (1), of the Company's Act 1965 (CA 1965). The cut off point for the official age of Malaysian director retirement is 70. Although, there has been an additional clause which allows director above 70 years old to be re-appointed as a board member by a resolution passed through a three-fourths majority of all those entitled to vote at a general meeting (Section 129 (6), CA 1965). The study analysis of executive turnover process could be enhanced by identifying whether individual directors left their position at the age of 70 as routine (retirement) or replaced by board members is treated as forced turnover. This method is consistent with Goyal and Park (2002) who emphasised that there is a significant association between director age and turnover.

The initial summary statistics indicate that 10.27 per cent of executive turnover events occur during the sampling period. This frequency is slightly similar to Coughlan and Schmidt (1985) and Mehran and Yermack (1997) who report 12.7 per cent and 10.8 per cent respectively. The percentage value provides a clear description of the sample including business sector and stock option target groups. However, there are some cases, where several firms combine the plan group allocation, thus it is not possible to determine exactly the target groups due to undisclosed information. For these cases, the categories were treated as broad-based stock options in order to avoid further reduction in sample size.

5.4 Empirical results

This section presents the results of this study which examine the effects of executive turnover-performance on Malaysian listed firms. In specific, the main study analyses the extent to which executive turnover is likely influenced by firm performance, ownership structure, board characteristics, firm characteristics and total compensation. The findings are organised into three sections. The first section discusses the descriptive statistics of sample and followed with a multivariate analysis and discussion of the findings in the second section. The last section provides a summary of the results.

The sample for executive turnover includes all the listed firms in the Main and Ace market of Bursa Malaysia with employee stock option plans between 2000 and 2010. Over the period studied, there are 173 listed firms which implement stock option plans. The main feature of the sample constitutes executive turnover which has been classified into two categories between forced turnover (unplanned turnover) and routine turnover (planned turnover). The sample selection explains the characteristics of the firms according to the industry types and turnover year as presented in Table 12.

Table 12: Sample characteristics

	Forced turnover (%)	Routine turnover (%)	Total (%)
Panel A: Board of exchange			
Main market	79.59	15.70	95.29
Ace market	4.34	0.37	4.71
Panel B: Business Sector			
Construction	7.66	1.57	9.20
Consumer Product	10.34	2.12	12.47
Industrial Product	25.02	4.89	29.92
IPC	0.92	0.09	1.02
Plantation	4.43	0.74	5.17
Properties	7.48	1.29	8.77
Technology	7.94	1.94	9.88
Trading-Services	20.13	3.42	23.55
Panel C: By year			
2002	1.85	0.18	2.03
2003	10.34	1.75	12.10
2004	12.19	1.11	13.30
2005	11.17	1.39	12.56
2006	10.06	2.12	12.19
2007	10.34	1.85	12.19
2008	9.70	3.23	12.93
2009	9.33	2.22	11.54
2010	8.96	2.22	11.17
Panel D:Performance			
High performance	64.08	12.83	76.92
Low performance	19.85	3.23	23.08
Panel E: By size			
Below average (< RM790 million)	44.32	7.85	52.17
Above average (>RM790 million)	39.52	7.85	47.65

Forced turnover refers to unplanned termination and routine turnover is a planned turnover- includes early retirement or achieved compulsory retirement age.

Panel A, B and C illustrate the selection of sample firms according to the listing, business sector and turnover year events. The data displayed in Table 12 suggests that the majority of listed firms are from main market in which the event of executive turnover is largely from industry and trading services. When executive turnover is split across the year, the highest event of turnover is in 2004 and 2008, while the lowest is 2002. In addition, more than 75 per cent of executive turnover have positive performance which suggest that firms enjoy healthy performance. In terms of firm size, as measured by market capitalisation, it has been reported that approximately 52 per cent of the listed firms is below the average of RM790 millions.

A detailed statistical summary of controlling variables used in the study concerning executive turnover is displayed in Table 13 and 14. On average, the top executive turnover is 0.84 with no difference to mean value between family founding and non-family founding firms. Further examination of descriptive statistics for performance indicating that accounting measures show the mean value is positive under the full sample. However, when using the market indicators, the results for the full sample revealed a negative mean value for all samples which suggest that top executive turnover is likely to be higher suggesting that removal top managements convey bad news to the market, even though the firm removes inefficient managers. In addition, to validate the former agreement with previous studies about poor corporate performance leads to high turnover, the variable for negative operating income is analysed. Hence, the positive mean value for firms with negative performance confirmed study conclusions that top managements would leave the firm due to poor corporate performance as one of the possible reasons.

At a glance, ownership and board characteristics emphasise that there has been a similar frequency in means value between full sample and sub-sample groups. As for ownership structure, the findings indicate that 59 per cent of the sample firms are controlled by non-family members, despite prior studies indicating that Malaysia firms are heavily dominated by family-founding business (La Porta, De-Silanes and Shleifer, 1999; and Claessens, Djankov and Lang, 2000). The means value of

ownership in all types of firms are similar, but the family-founding firms enjoy more healthy corporate performance, while their counterparts report negatively to mean ROA. In addition, for board attributes, on average, board size contains eight members and citing a minimum number of independent directors as three, which indicate that size is equal to one-third of normal board size in Malaysia. This finding is slightly lower than the recommended size of nine to eleven (Lipton and Lorsch, 1992; and Jensen, 1993; and Rachpradit, Tang and Khang, 2012). As mentioned earlier, there has been no significant difference in board size for all firm types; perhaps one of the reasons is the nomination process for board members, which is strictly subject to legal requirements. Lipton and Lorsch (1992) suggest that keeping up a small board size would increase firm efficiency, while Faleye (2003) argues that large board size might affect the board's monitoring ability to perform its function. It is noticeable that the mean of CEO duality in founding family firms is relatively higher than their counterparts with an equal percentage of independent directors in the firm.

Demographic characteristics, such as director age is commonly used to determine turnover events. The results show that on average, Malaysian directors leave their job approximately at the age of 54, which implies that executive replacements in Malaysian firms are far below normal retirement age. As indicated earlier, an individual who is above 70 is not eligible to be appointed as the company's director in public or subsidiary company. With regard to executive turnover age between family-founding and non-family founding firm, the result shows that there is no significant difference in turnover age as the mean value are 53.77 and 54.19, respectively. This finding is consistent with studies conducted in the U.S. which indicate the mandatory retirement age for American CEOs to be 55 years old (Coughlan and Schmidt, 1985; and Goyal and Park, 2002). In relation to firm-characteristics, an examination of the mean value of the firm size is about RM790.49 million. The finding for sub-sample groups indicates the mean value of firm size in family control is relatively higher as opposed to non-family firms. This suggests that family-owned business may be classified as a matured firm due to the long history of Malaysian firms being heavily dominated by family founding business.

With regard to the total pay structures, other than salary, stock options make up the second biggest component of remuneration in awarding incentive to executives. Similar evidence is observed among the sub-sample groups. Perhaps, the stock option plan is appropriate for retaining top executive for at least three to five years until the vesting period ends. According to Kang (2002), there is a provision in the company's articles of association that indicate that shareholders are allowed to review all directors' performance every year and there is a possibility that at least one executive may retire in every three years. An additional test were conducted on all variables, since the main purpose of the study is to examine whether there is a difference in mean value between family-controlled and non-family controlled firms. Abidin (2006) suggests that the main criteria for selecting the matched firms are commonly based on listing market, industry and market capitalisation. Thus if one matched criteria was not fully achieved, then the selection criteria were relaxed. In this case, the match for firm size between family and non-family controlled would be acceptable if it falls within the range of 30 per cent upper and lower limits. All matching results are presented in Table 13 which shows that firm size in the family-based firm is larger than its counterparts. However, the mean result indicate no significant difference between firm types. The difference in mean value is observed for unadjusted returns, board size, board independent and salary in which all variables are significant at 5 and 10 per cent level.

Correlation analysis

Since the dependent variable is a forced turnover and routine turnover, a set of predictors for the regression model is used to examine its impacts. In regression model, the common problem is the high correlation between independent variables. Therefore, a diagnostic test has been performed. Following Brook (2008), the presence of multicollinearity would be detected in a way of testing for a matrix of correlations. For this purpose, the detailed results of the correlation analysis are presented in Table 14 to illustrate the relationship between variables based on Pearson and Spearman rho correlation. The Pearson correlation is widely used for analysing the relationship between continuous variable and Spearman-rho to dichotomous variable. In fact, there is a difference between results using Pearson and Spearman-rho, thus the findings are reported based on both correlation analyses.

The strength of the relationship between variables are determined according to the guidelines of Cohen (1988) and Pallant (2007) who suggest the relationship is small if the correlation is between 0.10 and 0.29, medium if it is between 0.30 and 0.49 and large for correlation above 0.5.

Table 14a provides the results of the correlation between independent variables which indicate that cash pay and firm size have a strong relationship among them, while the positive relationship of 0.569 between bonus and firm size reveal that larger firms offer more cash compensation while a strong correlation is found between bonus and salary. As expected, larger firms have good performance and more stable growth of income. Therefore, such firms are capable of providing attractive compensation pay for their employees. The multicollinearity was suspected among these variables. However, there is strong significance for family-ties business, board characteristics and performance measures as well as between firm size and board attributes.

In evaluating stock option plans, the result indicates a negative relation with stock option plans and unadjusted returns and a positive relation with stock option plans and cash pay. The result thus suggests that family-tied firms which commonly participate in business operation are less likely to generate healthy performance, which is consistent with Rokiah Ishak (2011) who found that firms with high domination by institutional investors or by blockholders, the performance has to be a positive relation. In addition, based on guideline by Cohen (1988) and Pallant (2007), there is also a medium and small correlation for other explanatory variables such as in Pearson correlation analysis, the market performance measures, board characteristics, firm size and salary are considered as having medium and significant correlation. Whereas in Spearman-rho correlation test, the explanatory variables produces a small correlation between ownership, loss in operating income (LOSS) and CEO duality specify that family-controlled firm has an effective board, less likely to generate good performance, although it is supported with a clear separation roles between CEO and chairman. With regard to the assumptions underpinning logistic regression models, Pallant (2007) point out that the presence of

multicollinearity problems could be detected if the variance inflation factors (VIF) are more than 5, while other researchers use 10. As a result, a form of the auxiliary regression model is run for all variables to calculate their VIFs. Table 14b indicate that there are no multicollinearity problems since the VIF is less than 5.

Table 13 : Descriptive statistics for All Variables

	Full sample (n=173)					Family (n=102)	Non-family (n=71)	Paired t-test	
	Mean	Median	Maximum	Minimum	Std. Dev.	Mean	Mean	t-stat	p-value
Turnover	0.84	1.000	1.00	0.00	0.37	0.94	0.94	0.28	0.78
ROA(Return on assets)	0.76	3.24	63.31	-354.70	22.38	0.67	-1.27	1.14	0.26
Unadjusted returns	-0.004	0.03	2.16	-4.61	0.96	-0.15	-0.01***	-2.17	0.03
Market-adjusted returns	-0.07	-0.06	2.72	-6.77	0.75	-0.13	-0.07	-1.17	0.24
Loss	0.26	0.00	1.00	0.00	0.44	0.23	0.27	-1.49	0.14
Ownership	0.03	0.00	4.88	0.00	0.22	0.03	0.03	-0.09	0.93
Board size	8.18	8	17	3	2.30	8.38	8.10*	1.85	0.06
Board Independence	0.41	0.40	0.83	0.11	0.11	0.40	0.42**	-2.06	0.04
CEO Duality	0.75	1.00	1.00	0.00	0.43	0.74	0.72	0.68	0.49
Age	53.78	54	89	23	10.68	53.77	54.19	-0.56	0.57
Firm Size (Millions)	790.49	163.09	45,727.25	0.00	2,832.06	797.83	739.27	0.32	0.75
Stock options (unit)	1,117,457	0.00	36,521,650	0.00	3,822,105	1,575,198	1,301,772	1.09	0.28

Salary (RM)	1,839,191	955,638	68,851,000	43,776	4,365,570	2,193,576	1,638,679*	1.86	0.06
Bonus (RM)	710,105	203,000	41,469,000	2,000	2,582,184	747,768.10	827,462.20	0.07	0.95

*** Significant at 1 per cent level; ** Significant at 5 per cent level; *Significant at 10 per cent level

Table 14a : Correlation matrix (n=173)

Pearson Correlation

	ROA	UNADJUSTED	MARKET-RETURN	FAMILT-TIES	OWNERSHIP	BOARD	IND	AGE	FIRM SIZE	ESO	SALARY	BONUS
ROA	1.00											
UNADJUSTED	-0.03	1.00										
MARKET -RETURN	0.004	0.36***	1.00									
FAMILY-TIES	-0.12**	-0.11**	0.03	1.00								
OWNERSHIP	0.07	-0.03	-0.03	-0.03	1.00							
BOARD	0.26***	-0.07	-0.02	-0.01	-0.03	1.00						
IND	-0.25***	0.01	-0.11**	-0.09*	-0.08	-0.34***	1.00					
AGE	0.12**	0.10**	0.01	-0.02	0.09*	-0.04	0.02	1.00				
FIRM SIZE	-0.05	0.38***	0.02	-0.06	-0.08	-0.15***	0.06	0.11**	1.00			
ESO (LOG)	0.01	-0.12**	0.02	0.08	-0.02	0.01	0.04	0.04	-0.04	1.00		
SALARY	0.01	0.10*	-0.08	0.09*	0.002	-0.21***	0.05	0.07	0.46***	0.03	1.00	
BONUS	-0.04	0.28***	-0.10*	0.03	-0.02	-0.18***	0.10	0.15***	0.57***	-0.07	0.66***	1.00

Spearman-rho

	FAMILY-TIES	LOSS	CEO DUALITY
FAMILY-TIES	1.00		
LOSS	-0.07**	1.00	
CEO DUALITY	-0.001	-0.12***	1.00

*** Significant at 1 per cent level; ** Significant at 5 per cent level

*Significant at 10 per cent level

Table 14b: Collinearity Statistics - Variance Inflation Factors (VIFs).

Variables	Variance Inflation Factors (VIFs
ROA	1.75
Unadjusted return	2.07
Market return	1.70
Loss in operating income	1.34
Ownership	1.04
Board size	1.37
Board independence	1.40
Firm size	2.02
Stock options	1.04
Salary	1.92
Bonus	2.42

Regression model results

The present study concerns itself with examining the effects of top executive turnover on firm performance. The empirical research on the impact of firm specific factors on turnover is based on the regression model previously stated as follows:

Exec_turn= f (perf, ownership,governance,size, stock option_cash) (2)

Where P is the dependent variable for executive turnover and the independent variables are represented by performance, ownership, board characteristics and total of compensations. The regression model of equation is used to test all hypotheses previously outlined to assess the effect of executive turnover on firm performance. in this study also testing performance interactions require both accounting and market performance measures. Furthermore, since the precise reason for the replacement executive replacements is not entirely disclosed during announcement releases, the study distinguish between forced turnover and routine turnover.

The present study is informed by the work of Weisbach (1988) who excluded executive turnover around the retirement age from his sample selection. Malaysia directors are required to retire when the reach the age of 70 years old, but there is high incidence of early retirement cases which is below the compulsory age. Within the sample, there are 174 cases of directors that have been replaced due to retirement and there are 47 cases above 70 years old. This means that more than 70 percent is of directors are classified as early retirement. Rachpradit, Tang and Khang (2012) indicate that excluding executive turnover below retirement age denotes that we excluded the forced turnover data. Therefore, for better determination, this study reclassifies the true reason of each executive turnover whether it should be treated as a part of forced turnover or treated as routine turnover. For both types of turnover groups, we run separate regression models to examine the turnover–performance effects. This allows us to avoid the problem of estimation effects.

Each of the regression models include the main control variables earlier mentioned including ownership structure, corporate governance and compensation pay structures. In each of the regression models, we also make use of a dummy variable to account for the event of executive turnover which is set equal to one if top managements are replaced during the sample period. Table 15, 16, 17, 18, 19 and 20 present the results for the different models used in the study. First Table 15 report the results for top executive turnover and firm performance, Table 16, Panel A and B, regression estimates for executive turnover in all ages, Table 17, Panel A, the regression estimates for split sample by board size and Panel B board size and executive turnover performance sensitivity, Table 18 presents regression to estimate of split sample by board independence, Table 19 presents regression estimates of split sample by firm size, and Table 20 estimates of sample by levels of pay in form of stock options.

For the base model, model 1, the results of which are reported in Table 15, includes performance measures of return on assets (ROA), unadjusted returns and market-adjusted returns and firms with loss operating income (LOSS) for different sample groups. The first sample group includes all turnover events, while the second group excludes top executive retirements around the age of 70, while the third group covers the case of retirement at the age of 69,70 and 71 years old. The overall results for all ages presented indicate that poor corporate performance leads to high turnover. This finding is in the line with prior findings, as the study finds a negative relationship between turnover and firm performance. However, such effect is more sensitive to current performance as three out of four performance measures are all significant at both the 5 and 10 per cent level. It is evident from the results that the market-adjusted return is positively related to firm performance but insignificant across the sample groups, which suggests a weak effect in determining executive turnover. The coefficient value for ROA and unadjusted return in the full sample is negatively associated with corporate performance which indicates a inverse relationship is supportive of the assumption that firm experiencing low performance leads to turnover among executive increases significantly. The analysis of turnover effects of prior performance, the result finds insignificant relationship and the finding is a slight contrast to the conclusion drawn from studies by Suchard et al. (2001) and

Tsai et al. (2006) which indicate that lagged performance plays a crucial role in CEO turnover. Moreover, poor performing firm replaces top executive based on previous performance, instead of current year performance (Boeker and Goodstein,1993)]. The results also indicate that estimating the turnover effects for current firm performance using accounting and market-based measures are logically more valid than the preceding year's performance. The study finds both the ROA and unadjusted returns to be significant for all executives turnover age and forced turnover groups which suggest that accounting measures are better than market based return measures which, as noted by Gibson (2003), has flaws due to the inefficiency of emerging capital markets such as Malaysia.

Table 15: Regression estimates for executive turnover and performance in all turnover events and sub-sample groups (Forced turnover and Routine turnover)

	Model 1		Sub-sample 1		Sub-sample 2	
	All top executive turnover		Non-retirement age executive directors		Only retirement age executive directors	
	Current year *(t)*	Preceding year *(t-1)*	Current year *(t)*	Preceding year *(t-1)*	Current year *(t)*	Preceding year *(t-1)*
ROA_t	-0.017**	-0.001	-0.015**	0.0017	-0.076	-0.071
	(0.0253)	(0.89)	(0.05)	(0.81)	(0.11)	(0.22)
Intercept	1.697	1.655	1.823	1.781	0.244	0.322
	(0.00)	(0.00)	(0.00)	(0.00)	(0.45)	(0.37)
Number of Observations	1083	1083	1029	1029	55	55
Number of turnovers	909	909	881	881	28	28
R^2	0.008	0.00002	0.0067	0.00010	0.076	0.0213
Unadjusted return	-0.214**	-0.120	-0.169*	-0.072	-0.367	-0.559
	(0.017)	(0.145)	(0.08)	(0.416)	(0.23)	(0.13)

Intercept	1.664 (0.00)	1.667 (0.00)	1.788 (0.00)	1.791 (0.00)	0.149 (0.61)	0.215 (0.47)
Number of Observations	1081	1083	1027	1029	55	55
Number of turnovers	907	909	879	881	28	28
R^2	0.006	0.002	0.0038	0.000794	0.005	0.0317
Market-adjusted return	0.170 (0.101)	0.005 (0.82)	0.187* (0.09)	0.024 (0.62)	0.195 (0,67)	-0.393 (0.30)
Intercept	1.669 (0.00)	1.653 (0.00)	1.803 (0.00)	1.784 (0.00)	0.027 (0.92)	0.164 (0.58)
Number of Observations	1081	1083	1027	1029	55	55
Number of turnovers	907	909	879	881	28	28
R^2	0.003	0.000008	0.0033	0.000260	0.0023	0.0142
Loss in operating income	0.365* (0.07)	0.045 (0.81)	0.395* (0.07)	0.053 (0.79)	0.34 (0.59)	-0.539 (0.45)

Intercept	1.567 (0.00)	1.642 (0.00)	1.693 (0.00	1.771 (0.00)	-0.05 (0.87)	0.134 (0.66)
Number of Observations	1083	1083	1029	1029	55	55
Number of turnovers	909	909	881	881	28	28
R^2	0.004	0.000057	0.004	0.000078	0.0023	0.007670

Return on assets (ROA) is calculated by dividing a company's annual earnings by its total assets and ROA is displayed as a percentage. Unadjusted return is the firm share price actual returns in one year and market-adjusted return is actual stock returns less the expected returns on FTSE Kuala Lumpur over the same period. LOSS is a dummy variable that is equal to 1 if the firm has negative operating income. Exclude executive turnover at the age of 69,70 and 71 years old and include executive turnover only at the age of 69,70 and 71 years old. *** and * indicate the level of significance at the 1%, 5% and 10%, respectively.

The results for turnover-performance effects based on the sub-sample groups find that forced turnover strongly influence executive replacement decisions which impacts current firm performance. The statistics also suggests that routine turnover weakly impacts previous and current firm performance. The coefficient value shown in Table 15 indicates improvement in firm performance in the current year for all executive turnover ages and excluding the retirement age group between turnover and ROA, which are -0.017 and -0.015, respectively, in addition to both turnover and unadjusted return which were respectively -0.214 to -0.169. The results also show some significance at the 5 percent level indicating that executive turnover is sensitive to firm performance. In a similar way, the relationship between turnover and market performance measures is found to be significant at the 10 percent level. The results for the sub-sample of force turnover are consistent with results obtained by Rachpadit et al. (2012) but differs slight for the results obtained for routine turnover groups. The presence of replacement cases in routine turnover above the retirement age may be attributed to the legal framework which allows directors to be reappointed after retirement through a resolution of three-fourths majority of shareholders at a general meeting.

The results also point to the effects of turnover-performance generating negative operating income (LOSS) both in the current and previous year and across the sub-sample groups. It is noticed that there is a positive association between current and preceding year performance which is significant at the 10 percent level for all executive turnover and sub-sample excluding turnover for the retirement age. For the sub-sample, which also includes the retirement age, the statistics indicate an insignificant relationship for turnover and performance. These results also establish that estimating turnover-performance effects in a single model is not appropriate. For this reason I extended the estimated model to incorporate a number of control variables that are likely to influence director replacement decisions. These as earlier mentioned include managerial ownership, family control, board attributes, firm size and compensation pay structures. Thus the turnover-performance effects in each model are substituted with accounting and market measures, respectively. The results of the estimations are displayed in Table 16, Panel A, for top executive turnover of all ages for the preceding year, while Panel B display the results for the

impact of executive turnover on the current year. The results in Panel A reveal the executive turnover coefficients for current performance to be insignificant for both ROA while the unadjusted return indicate a negative association. The result are in line with results obtained using single models which imply weak evidence for the hypothesis that executive turnover are more likely to be higher when corporate performance is low. In this case, it may be that current performance is not as important a factor in determining executive turnover. Further, substituting firm specific performance measures into the models do not improve the results, since all variables, except ROA, are insignificant. The coefficients relating to ROA are positive and significant at the 5 percent level, indicating that good firm performance for the year preceding executive turnover has no impact on the decision of director with respect to future replacements, as show in Panel B. These findings are supportive of the findings of Warner et al. (1988), Denis and Denis (1995), Denis et al. (1997), Lausten (2002) and Rachpradit, Tang and Khang (2012), which all report an inverse relationship between corporate performance and executive turnover.

Table 16: Regression estimates for executive turnover in all ages

Variables	Model 1	Model 2	Model 3	Model 4
Panel A:Current Year Turnover				
Intercept	6.39*** (0.01)	5.09* (0.06)	6.11** (0.02)	6.33** (0.012)
ROA	-0.01 (0.27)			
Unadjusted Return		-0.17 (0.24)		
Market-adjusted Return			0.09 (0.57)	
Loss in Operating Income				0.13(0.65)
Managerial Ownership	0.47 (0.68)	0.31 (0.78)	0.49(0.66)	0.48 (0.67)
Family	0.24 (0.34)	0.24(0.32)	0.26(0.29)	0.24 (0.32)
Dummy if age >71	-1.98*** (0.00)	-1.98*** (0.00)	-2.01***(0.00)	-1.99*** (0.00)
Board size	-0.31(0.49)	-0.39 (0.40)	-0.36(0.43)	-0.36 (0.44)

Board independence	-0.86 (0.42)	-0.71(0.50)	-0.73 (0.49)	-0.88 (0.41)
CEO duality	-0.74** (0.02)	-0.79***(0.01)	-0.77**(0.012)	-0.75** (0.014)
Firm size	-0.14(0.27)	-0.07(0.62)	-0.12 (0.35)	-0.13 (0.29)
Stock-based compensation	0.01 (0.86)	0.02(0.77)	0.002 (0.97)	0.01 (0.87)
Cash-based compensation	-0.05 (0.55)	-0.05(0.56)	-0.04 (0.59)	-0.05 (0.56)
Number of observations	618	616	616	618
Number of turnover	508	506	506	508
-2 Log likelihood	264.51	264.19	264.75	265.18
Model p-value	0.00	0.00	0.00	0.00
McFadden R^2	0.086	0.086	0.084	0.08
Panel B: Preceding Year Turnover				
Intercept	6.46*** (0.01)	6.26*** (0.01)	6.08*** (0.01)	5.99*** (0.01)

ROA	0.03 ** (0.02)			
Unadjusted Return		0.18 (0.23)		
Market-adjusted Return			0.09 (0.59)	
Loss in Operating Income				-0.12 (0.74)
Managerial Ownership	0.41 (0.69)	0.52(0.62)	0.48 (0.65)	0.43 (0.68)
Family	0.19 (0.50)	0.36 (0.23)	0.31 (0.29)	0.27 (0.34)
Dummy if age >71	-2.02*** (0.00)	-1.92*** (0.00)	-1.90*** (0.00)	-1.91*** (0.00)
Board size	0.01 (0.89)	-0.01 (0.83)	-0.02 (0.82)	-0.02 (0.82)
Board independence	0.17 (0.90)	0.03 (0.98)	0.06 (0.96)	0.07 (0.96)
CEO duality	-0.49 (0.18)	-0.46 (0.21)	-0.45 (0.21)	-0.46 (0.21)
Firm size	-0.16 (0.12)	-0.14 (0.15)	-0.15 (0.13)	-0.15 (0.14)
Stock-based compensation	0.03 (0.72)	0.04 (0.53)	0.04 (0.56)	0.04 (0.60)

Cash-based compensation	-0.13 (0.14)	-0.14 (0.15)	-0.12 (0.23)	-0.10 (0.26)
Number of observations	393	393	393	393
Number of turnover	325	325	325	325
-2 Log likelihood	165.12	166.94	167.52	167.61
Model p-value	0.00	0.00	0.00	0.00
McFadden R^2	0.088	0.078	0.075	0.074

Return on assets (ROA) is calculated by dividing a company's annual earnings by its total assets and displayed as a percentage. Unadjusted return is the firm share price actual returns in one year and market-adjusted return is actual stock returns less the expected returns on FTSE Kuala Lumpur over the same period. LOSS is a dummy variable that is equal to 1 if the firm has negative performance. Managerial Ownership is a proportion of shares owned by directors and family-ties are a dummy variable for family-controlled firm. Age refers to director age which represented by a dummy variable for executive turnover more than 71 years old. Board size is the number of directors. Board independence is the proportion of outside directors on the boards. CEO duality is a dummy variable which is equal to one when the CEO and Chairman are the same person, zero otherwise. Firm size is the natural logarithm of the firm's market capitalisation. Stock-based compensation is the natural logarithm of the stock options received by directors during the year of turnover events. Cash-based compensation is the natural logarithm of cash payments received by directors. ***, ** and * indicate the level of significance at the 1%, 5% and 10%, respectively.

It is also clear that when a dummy variable is used to account for negative corporate performance that the results reveal a tendency for the top management level to be replaced due to unhealthy firm conditions, since the coefficient is positively related to current year but negatively related to poorer firm performance. However, the results remain insignificant and this implies that the relationship between turnover and the two performance variables used in the study are weak. The results here do not confirm the conclusions of Lausten (2002) who notes that when the pre-tax profit is negative, the turnover rate significantly increases. Clearly, the conclusions of Malaysian data indicate that executive turnover is less sensitive to current as well as prior firm performance.

Executive turnover and ownership structure

We now proceed to examine the relationship between managerial ownership and family-ties and turnover-performance. The study assumes that the percentage owned by top executives and controlled by family members may be inversely related to turnover. In Table 16, it may be seen that the presence of managerial ownership is likely to increase turnover when there is no difference between current and prior firm performance. Specifically, the positive relationship does not support previous assumptions which indicate that turnover is less likely to occur when top executives are also the firm's shareholders. These results are broadly in line with the findings of Pergola (2005) who report a negative interaction between the percentage owned by directors and turnover. This also implies that managerial ownership is not a factor determining the likelihood of top executive turnover. Moreover, owning a fixed percentage of a firm's shares does not necessarily mean they are able to protect their controlling power in the firm. We accept that this might be due to the nature of Malaysian corporate environment which is highly concentrated on family-ownership structure which does not welcome turnover. This is not in line with our prior expectations that owing to family-ties family controlled firms are less likely to replace top executives. In fact, the changes of executive position in family-controlled firms are more inclined towards voluntary process among family members. Maury (2006) for example notes that commitment and loyalty to family member leads to

low turnover in family-based firms. Therefore, to examine the effect of family-ties, I substituted a dummy variable into the regression model for family ownership set equal to one if the firm is family controlled and zero otherwise to account for the sensitivity of turnover-performance to this variable. The results of the model reported in Table 16 are not consistent with the hypothesized relationship between turnover and current performance since the dummy variable coefficient relating family ownership to prior performance is positive and have the same magnitude as the accounting and market-based measures, which indicate that executive turnover is less sensitive if the firm is family-controlled while the likelihood of top executive turnover is found to be higher.

To validate the result of turnover-performance sensitivity, I make the assumption that turnover is weak when the firm has strong family-ties and therefore a strong influence over the board. In this case, I test for the interaction between the dummy variable for negative performance and ownership structure. The results reveal a positive relationship and all the statistics point towards similar results when using accounting and market-based measures for both the current and preceding year turnover. The results provide weak evidence of low probability of turnover for top executive's serving in family-owned firms. These results for Malaysian firms are not in line with previous findings which may be because the firms in our sample with strong family-ties are less effective when it comes to removing inefficient executives, particularly when they are also a board member or directors. In other words, family-based firms support the management entrenchment hypothesis. According to the findings of Tsai et al. (2006), family-controlled firm apply an effective monitoring, and thus are more accountable for firm performance. Surprisingly, on account of our empirical results, weak evidence is found to support the hypothesis which is largely contributed by the method of defining family-based firms. Tsai et al. (2006) for example define family-owned firms as having the founder or family members as board members, while Rachpradit, Tang and Khang (2012) uses voting rights to determine ownership structure .

Board attributes: Age and executive turnover

As earlier mentioned board characteristics may have an impact on executive turnover. A likely factor in this regard will be the age of director's which I would expect to play a significant role in determining executive turnover. On this issue, the empirical evidence is mixed on the precise relation between directors' age and the removal of executives. Some of these studies report that directors remain in their position even though they have reached retirement age [Weisbach (1988), Barro and Barro (1990), Lausten (2002) and Rachpradit, Tang and Khang (2012)]. In the study by Rachpradit, Tang and Khang (2012) split the incidence of executive turnover based on age in which the turnover exceeding retirement age is likely to be lower. To capture this effect, I use a dummy variable in the model to indicate when the retirement age is exceeded. The results for the coefficient in all models shows a negative relationship with executive turnover which although significant at the 1 percent level does indicate that older directors are less likely to be replaced by their younger counterparts, which suggests that age has a significant influence on turnover. This result is inconsistent with results obtained by Lausten (2002) who finds that age close to retirement does not capture the effect of turnover. However, the results indicating a negative interaction between age and turnover are consistent with Borokovich et al. (2006).

With regard to the sensitivity of turnover-performance with retirement age, the coefficient relating to current and preceding year performance are significant at the same magnitude, which suggest that age has a direct relationship with executive turnover and firm performance. A possible explanation for why older directors remain in position after retirement age may be attributed to their expertise which remains appreciated inside the firm. For this reason there is less likelihood for the level of turnover among older top executives to be associated with firm performance. This result is consistent with previous Malaysian legal practices which allow directors to remain in their position beyond 70 to be reappointed.

Board size and executive turnover

With respect to board size and executive turnover, there are three variables commonly used in most empirical studies to examine the relationship between board attributes and executive turnover. These include board size, board composition and board leadership structure. The results reported in Table 16 for each model indicate little evidence that board attributes influence the level of executive turnover. As a result, I performed further tests to determine whether larger boards are more likely to replace executives than smaller boards and found that turnover increases with board size. To affirm this result, previous studies use board size as a variable. Lipton and Lorsch (1992) and Jensen (1993) indicate that the average board size is 10, while Shivdasani and Yermack (1999) recommended 11 persons and Vafeas (1999) 12 persons. A few Malaysian studies indicate that the mean size is between 7 and 8 members, numbers which correspond to smaller board size when compared to the size of boards in developed countries (Abdul Rahman and Mohamed Ali, 2006; Hafiza Aishah and Susela, 2009; and Wan Nordin , 2009). Therefore, a preference to split points for smaller board size is about 8 members or less and larger board is 9 and over.

A crucial part of our investigation is to estimate the influence of board size on turnover-performance sensitivity. The results are reported in Table 16 which indicates that executive turnover is negatively and weakly related to board size, which is consistent with Faleye (2003) who notes that if the size of boards is less sensitive to turnover-performance the observed sign should be significantly negative for top executive replacement decisions. The findings indicate lower executive turnover in firms with larger board size and that in these firms the board is less effective in performing its monitoring functions. The reported inverse interaction between variables suggests that turnover is higher when poor performance is open to further scrutiny. Thus I carried out additional tests using two approaches as recommended by prior studies in this field. The first test carried out follows the method used by Rachpradit, Tang and Khang (2012) which requires splitting the sample on the basis of board size. The second test I performed follows Yermack (1996) and includes a new interaction variable on performance measures and larger board size. The results from each of these tests are reported in Table 17, Panel A,

which report the first results based on the current and preceding year data. For the current year turnover, the statistics show that executive turnover is significantly positive to market-adjusted return, while the results relating to top executive turnover to preceding year performance show ROA and negative operating income to be significant at the 10 percent level. Other measures of performance are all insignificant.

The results related to current and past performance with occurrence of executive turnover and performance indicate that larger boards remain significant and negatively associated to turnover. This result suggests that an increase in board size is less likely to executive replacement and termination. This is in the line with Jensen's (1993) observation which emphasise that oversized board might reduce its monitoring functions. However, using Malaysia firms data reported in Panel A indicate that larger boards are an important factor for determining the likelihood of turnover. As a result, I carried out further tests to determine the interaction between the performance measures and I also substituted a dummy variable into the model to account for firms with larger size boards. Our previous expectation is that larger board is sensitive to firm performance and therefore the variable should be negative and significant. This will provide new evidence on the high efficiency of board size as Table 17, Panel B reports.

Table 17: Panel A - Regression estimates of sample split by board size

Variables	Model 1 *Turnover=f{ROA,,own family,age,large_board,ind, duality,size,ESO,cash}*	Model 2 *Turnover=f{unadj_return,,own family,age,large_board,ind, duality,size,ESO,cash}*	Model 3 *Turnover=f{market_return,,own family,age,large_board,ind, duality,size,ESO,cash}*	Model 4 *Turnover=f{loss,,own family,age,large_board,ind, duality,size,ESO,cash}*
Intercept $_t$	12.35**	9.02*	10.57**	11.94**
Intercept $_{t-1}$	12.12**	10.70**	10.72**	11.01**
ROA$_t$	-0.02			
ROA$_{t-1}$	0.04*			
Unadjusted Return$_t$		-0.28		
Unadjusted Return$_{t-1}$		0.09		
Market-adjusted Return$_t$			0.60**	
Market-adjusted Return$_{t-1}$			-0.004	

Loss in Operating Income,				0.12
Loss in Operating Income$_{t-1}$				1.87*
Managerial Ownership,	2.53	2.13	2.81	2.50
Managerial Ownership$_{t-1}$	1.75	1.63	1.60	1.66
Family-ties,	-0.28	-0.21	-0.27	-0.27
Family-ties$_{t-1}$	0.33	0.53	0.50	0.56
Dummy if age >71,	-2.24***	-2.24***	-2.49***	-2.24***
Dummy if age >71$_{t-1}$	-2.84***	-2.63***	-2.58***	-2.37***

Large board$_t$	-2.87**	-2.76**	-2.57*	-2.82**
Large board$_{t-1}$	-0.28**	-0.29**	-0.27**	-0.25**
Board_ind$_t$	3.97*	4.57**	4.75	4.26*
Board_ ind $_{t-1}$	6.70*	6.33*	6.27*	6.73*
CEO duality$_t$	-0.54	-0.58	-0.63	-0.58
CEO duality$_{t-1}$	-3.26**	-0.31**	-3.07**	-3.07**
Firm size$_t$	-0.24	-0.09	-0.18	-0.23
Firm size$_{t-1}$	-0.33*	0.07*	-0.33*	-0.41**
Stock options$_t$	-0.14	-0.133	-0.18*	-0.13
Stock options$_{t-1}$	0.03	0.07	0.06	0.04
Cash-based$_t$	0.12	0.12	0.15	0.12

Cash-based $_{t-1}$	-0.05	-0.01	0.01	0.07
Number of observations $_{t}$	254	253	253	254
Number of observations $_{t-1}$	195	195	195	195
Number of turnover $_{t}$	215	214	214	215
Number of turnover $_{t-1}$	169	169	169	169
-2 Log likelihood $_{t}$	95.56	94.90	93.13	95.75
-2 Log likelihood $_{t-1}$	60.80	62.35	62.42	60.25
Model p-value $_{t}$	0.003	0.002	0.001	0.003
Model p-value $_{t-1}$	0.00	0.00	0.00	0.00
R^2 $_{t}$	0.123	0.127	0.144	0.121

R^2_{t-1}	0.206	0.186	0.185	0.213

Return on assets (ROA) is calculated by dividing a company's annual earnings by its total assets and displayed as a percentage. Unadjusted return is the firm share price actual returns in one year and market-adjusted return is actual stock returns less the expected returns on FTSE Kuala Lumpur over the same period. LOSS is a dummy variable that is equal to 1 if the firm has negative performance. Managerial Ownership is a proportion of shares owned by directors and family-ties is a dummy variable for family-controlled firm. Age refers to director age which represented by a dummy variable for executive turnover more than 71 years old. Larger board is a dummy variable which equal to 1 if board members more than 9, zero otherwise. Board independence is the proportion of outside directors on the boards. CEO duality is a dummy variable which is equal to one when the CEO and Chairman are the same person, zero otherwise. Firm size is the natural logarithm of the firm's market capitalization. Stock-based compensation is the natural logarithm of the stock options received by directors during the year of turnover events. Cash-based compensation is the natural logarithm of cash payments received by directors. *t* is current year turnover and *t-1* is preceding turnover year. ***, ** and * indicate the level of significance at the 1%, 5% and 10%, respectively.

For the current year turnover, Panel B reveal that the interaction between larger boards and market-adjusted return is positive and significant at the 10 per cent level which implies that larger boards are less effective on firm performance when making decision on top executive replacements. Contrasting result emerge when the estimated regression model use prior firm performance in which new interaction between larger boards and negative performance generate positive coefficients which is significant at the 5 per cent level. This result suggests that firms with large boards are likely to remove ineffective executives of poor performing firm, while other interactions produce less evidence to suggest that larger boards are more effective than smaller board. This result is consistent with Yermack (1996) and Rachpradit, Tang and Khang (2012) which indicate that smaller boards may enhance the ability of boards. In all the reported results could suggest no difference between smaller and larger boards in their decision to dismiss a director of a poorly performing firm. A plausible explanation for this result may be attributed to enhanced corporate governance practices which helped the boards of small or larger firms to remove ineffective directors before they create problems for the firm and for their lack of response to performance issues to affect the profitability of firms negatively (Faleye, 2003). Clearly, the positive coefficient of market-adjusted returns and large boards may be considered favourable news to the market (Faleye, 2003). This is consistent with Huson, Malatesta and Parrino (2004) who report corporate improvements following turnover announcements. The combined results also suggest that smaller boards increase board functions, despite the effect that larger boards have in enhancing shareholders' wealth.

Table 17: Panel B - Regression estimates for board size and sensitivity of executive turnover to firm performance

Variables	Model 1 *Turnover=f{ROA,,own,family,age,large_board*ROA, ,ind, duality,size,ESO,cash}*	Model 2 *Turnover=f{Unadj_return,,own,family,age,large_board*Unadj ,ind, duality,size,ESO,cash}*	Model 3 *Turnover=f{Market_return,,own,family,age,large_board*market ,ind, duality,size,ESO,cash}*	Model 4 *Turnover=f{loss,,own,family,age,large_board*loss,ind, duality,size,ESO,cash}*
Intercept $_t$	6.38***	5.06**	6.19**	6.57***
Intercept $_{t-1}$	6.47***	6.23***	6.06***	7.03***
ROA $_t$	-0.01			
ROA $_{t-1}$	0.02			
Unadjusted Return $_t$		-0.16		
Unadjusted Return $_{t-1}$		0.36		
Market-adjusted Return $_t$			-0.15	
Market-adjusted Return $_{t-1}$			0.16	
Loss in Operating				0.01

Income $_t$				
Loss in Operating Income $_{t-1}$				-0.84**
Managerial Ownership $_t$	0.47	0.31	0.49	0.5[illegible]
Managerial Ownership $_{t-1}$	0.41	0.50	0.48	0.44
Family-ties $_t$	0.24	0.24	0.22	0.23
Family-ties $_{t-1}$	0.19	0.37	0.31	0.29
Dummy if age >71 $_t$	-1.98***	-1.98***	-2.06***	-2.00***
Dummy if age >71 $_{t-1}$	-2.01***	-1.92***	-1.91***	-1.87***
Board size $_t$	-0.33	-0.38	-0.35	-0.47
Board size $_{t-1}$	0.002	-0.0004	-0.009	-0.059
Large board*performance	0.004	-0.02	0.52*	0.37
Large board*perform	0.01	-0.27	-0.10	2.59**

ance				
Board independence $_t$	-0.83	-0.72	-0.71	-0.83
Board independence $_{t-1}$	0.16	-0.01	0.05	0.18
CEO duality $_t$	-0.74**	-0.79***	-0.78***	-0.74**
CEO duality $_{t-1}$	-0.48	-0.47	-0.45	-0.50
Firm size $_t$	-0.14	-0.07	-0.11	-0.13
Firm size $_{t-1}$	-0.15	-0.16	-0.15	-0.17*
Stock options $_t$	0.01	0.02	0.002	0.01
Stock options $_{t-1}$	0.03	0.04	0.04	0.02
Cash-based compensation $_t$	-0.05	-0.05	-0.05	-0.05
Cash-based compensation $_{t-1}$	-0.13	-0.13	-0.11	-0.11
Number of observations $_t$	618	616	616	618
Number of	393	393	393	393

observations$_{t-1}$				
Number of turnover$_t$	508	506	506	508
Number of turnover$_{t-1}$	325	325	325	325
-2 Log likelihood$_t$	264.49	264.19	263.38	264.98
-2 Log likelihood$_{t-1}$	165.02	166.57	167.47	163.06
Model p-value$_t$	0.00	0.00	0.00	0.00
Model p-value$_{t-1}$	0.00	0.00	0.00	0.00
R^2_t	0.086	0.085	0.089	0.084
R^2_{t-1}	0.088	0.080	0.075	0.099

Return on assets (ROA) is calculated by dividing a company's annual earnings by its total assets and displayed as a percentage. Unadjusted return is the firm share price actual returns in one year and market-adjusted return is actual stock returns less the expected returns on FTSE Kuala Lumpur over the same period. LOSS is a dummy variable that is equal to 1 if the firm has negative performance. Managerial Ownership is a proportion of shares owned by directors and family-ties is a dummy variable for family-controlled firm. Age refers to director age which represented by a dummy variable for executive turnover more than 71 years old. Board size is the number of directors and larger board* performance is the interaction variable between larger board and performance. Board independence is the proportion of outside directors on the boards. CEO duality is a dummy variable which is equal to one when the CEO and Chairman are the same person, zero otherwise. Firm size is the natural logarithm of the firm's market capitalization. Stock-based compensation is the natural logarithm of the stock options received by directors during the year of turnover events. Cash-based compensation is the natural logarithm of cash payments received by directors. ***, ** and * indicate the level of significance at the 1%, 5% and 10%, respectively.

Board composition and executive turnover

The composition of boards is measured by the proportion of non-executive directors on boards. Our main assumption is that outside directors are more independent and thus I would expect board monitoring function to increase. Studies by Weisbach (1988) finds strong evidence of a relationship between board independence and turnover, while Borokhovich et al. (2006) report the influence outside directors have on firm performance on account of their ability to exercise their power to remove underperforming executive. These studies note that turnover is likely to increase when the number of outside directors occupying boards also increases. Thus, and in response to the results reported in Table 17, there has been a positive association between board composition to current year turnover and a negative association to the preceding year turnover. However, in model 4 which accounts for current year and preceding year, all the variables are insignificant and indicate that board composition is not an important factor to use in estimating the likelihood of turnover. Thus I re-examined the effect of board composition on executive turnover and assume that if turnover is more sensitive in firms with more independent directors that the relationship between these variables should be positive and significant.

Following a similar method by Rachpradit, Tang and Khang (2012), I divide the sample into two groups based on board independence level in which one-third or 33 per cent is chosen as a cut-off point. Specifically, a board with high independence has more than 33 per cent of outside directors on boards and a board with low independence is one with less than 33 percent, Table 18 shows the results which indicate that more than 80 percent of Malaysian firms satisfy the minimum legal requirement for having one third of outside directors on their boards. A close examination of the coefficient for board independence relating to previous year turnover is significant at the 5 percent level with ROA indicating a positive relationship. For the current year, the performance measures indicate less support for executive turnover. However, when the sample is split between board independence level from high and less board independence, the results indicate that high board independence has a negative influence on turnover for all models. This result is inconsistent with the findings of Rachpradit, Tang and Khang (2012) who suggest that firms composed of more than 33 per cent of outside directors are more likely to

remove inefficient directors following good firm performance. I should also mention that our results do not support the findings reported in the literature concerning the effectiveness of board monitoring [Triki and Ureche-Rangau (2012)]. Nevertheless, the results indicate a significant relationship in turnover-performance effects for less outside directors on boards which are in line with the findings of Rachpradit, Tang and Khang (2012), but inconsistent with the reported evidence for Thailand which has a similar corporate environment and family shareholdings to that of Malaysia. Thus there is less evidence on the preceding turnover year between board size and executive turnover though the reported empirical evidence suggests that firms of smaller size are more effective for monitoring purposes. The presence of outside directors on boards (one-third) indicates a high rate of top executive turnover which may not be entirely linked to the level of board independence.

Table 18 : Regression estimates of sample split by board independence

	High board independence				Low board independence			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Intercept $_t$	7.24***	5.93**	7.02***	7.16***	5.97**	4.73*	5.78**	5.90**
Intercept $_{t-1}$	6.56***	6.34	6.18***	6.12***	6.28***	6.03***	5.87**	5.78**
ROA $_t$	-0.01				-0.01			
ROA $_{t-1}$	0.03**				0.03**			
Unadjusted Return $_t$		-0.17				-0.17		
Unadjusted Return $_{t-1}$		0.18				0.18		
Market-adjusted Return $_t$			0.08				0.09	
Market-adjusted Return $_{t-1}$			0.09				0.09	
Loss $_t$				0.11				0.11
Loss $_{t-1}$				-0.18				-0.13
Managerial Ownership $_t$	0.47	0.30	0.48	0.48	0.45	0.29	0.47	0.47
Managerial Ownership $_{t-1}$	0.35	0.46	0.42	0.37	0.37	0.48	0.44	0.39
Family-ties $_t$	0.20	0.21	0.22	0.20	0.21	0.22	0.23	0.21
Family-ties $_{t-1}$	0.13	0.28	0.24	0.20	0.18	0.33	0.29	0.25
Dummy if age >71 $_t$	-1.99***	-1.98***	-2.02***	-2.00***	-1.98***	0.22***	-2.01***	-1.99***
Dummy if age >71 $_{t-1}$	-2.06***	-1.95	-1.94***	-1.95***	-2.04***	-1.93***	-1.92***	-1.93***
Board size $_t$	-0.39	-0.48	-0.45	-0.44	-0.24	-0.34	-0.31	-0.29
Board size $_{t-1}$	0.0001	-0.02	-0.02	-0.02	0.01	-0.01	-0.01	-0.02
Board independence $_t$	-0.82**	-0.79**	-0.78**	-0.81**	0.55	0.52	0.51	0.53
Board independence $_{t-1}$	-0.56	-0.58	-0.58	-0.59	0.25	0.28	0.28	0.28
CEO duality $_t$	-0.75**	-0.79**	-0.77**	-0.75**	-0.75**	-0.79***	-0.77**	-0.76**
CEO duality $_{t-1}$	-0.53	-0.49	-0.49	-0.49	-0.50	-0.47	-0.46	-0.47
Firm size $_t$	-0.15	-0.08	-0.13	-0.15	-0.15	-0.07	-0.13	-0.14
Firm size $_{t-1}$	-0.12	-0.11	-0.12	-0.11	-0.15	-0.13	-0.14	-0.14
Stock options $_t$	0.01	0.02	0.004	0.01	0.01	0.02	0.003	0.01
Stock options $_{t-1}$	0.02	0.04	0.04	0.03	0.02	0.04	0.04	0.04

Cash pays $_t$	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.05**	**-0.04**	**-0.04**	**-0.04**
Cash pay $_{t-1}$	-0.13	-0.14	-0.12	0.03	-0.13	-0.14	-0.11	-0.10
Number of observations $_t$	**618**	**616**	**616**	**618**	**618**	**616**	**616**	**618**
Number of observations $_{t-1}$	393	393	393	393	393	393	393	393
Number of turnover $_t$	**508**	**506**	**506**	**508**	**508**	**506**	**506**	**508**
Number of turnover $_{t-1}$	325	325	325	325	325	325	325	325
-2 Log likelihood $_t$	**261.39**	**261.22**	**261.88**	**262.14**	**263.54**	**263.26**	**263.86**	**264.28**
-2 Log likelihood $_{t-1}$	164.06	165.76	166.34	166.37	164.93	166.71	167.27	167.36
Model p-value $_t$	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
Model p-value $_{t-1}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R^2_t	**0.09**	**0.09**	**0.09**	**0.09**	**0.09**	**0.089**	**0.087**	**0.087**
R^2_{t-1}	0.09	0.08	0.08	0.08	0.09	0.079	0.076	0.076

Executive turnover and board leadership

There is some agreement among prior studies that have examined executive turnover and board leadership of the existence of a relationship. The effects however are more apparent when there is a clear division of roles between CEO and chairman which indicate that these variables influence executive turnover. The results from Table 16 reveal that by granting the power of CEO and Chairman to the same person results in a negative sign for current executive turnover and preceding turnover. The results indicate a strong negative coefficient at the 1 and 5 per cent level for the current turnover year, but are shown to be insignificant for the preceding turnover. This confirms our expectation for the existence of an inverse relationship between CEO duality and turnover. This result supports the findings of Goyal and Park (2002) and Maury (2006). I also rerun the models, but this time including firms with larger boards. The results are also reported in Table 17, panel A of Model 4. The coefficient for CEO duality indicates a negative relationship, though it is noticeable that the p-values are significant at the 5 percent level for the preceding turnover year. The results imply that large board are less likely to change top executives than firms who have separate roles. This result supports the findings of Yermack (1996) and Rachpradit, Tang and Khang (2012) who report evidence indicating that turnover is likely to be higher when firm performance is poor and the size of the board is smaller. As a result I carried out a further regression to investigate this argument. The results are reported in Table 17, Panel B, which shows that the coefficient for CEO duality remains negative for turnover which is significant at the 1 and 5 percent level for current year turnover and insignificant for the preceding turnover. It is evident also that executive turnover-performance sensitivity yields positive coefficients for the interaction between larger boards, while the dummy variable for negative performance yields inconsistent results to the earlier reported results.

Firm size and executive turnover

Other than ownership structures and board characteristics, there is also a possibility of the impact of firm size on top executive turnover as reported in the literature (Cosh and Hughes,1997; and Rhim, Peluchette and Song, 2006). These studies suggest that firm size and compensation pay structures might affect turnover. Thus I

examined these factors on turnover decisions. The results reported in Table 16 reveal that executive turnover is negatively associated with firm size and cash pay but is positively related to stock option plans. On account of our prior expectations that larger firms are less likely to experience high turnover due to expected good corporate performance and the benefits from more stable income. The results of Model 4, Table 16 suggests that firm size is not a significant factor in turnover, despite there been some empirical findings support for the hypothesis that size is an important determinant for determining turnover (Rhim, Peluchette and Song, 2006).

I also carried out additional tests to determine the relationship between turnover events and firm size based on firm listings. For example, firms listed on Bursa Malaysia in ACE market have fewer restrictions to listing requirements. The study by How, Jelic, Saadoumi and Verhoeven (2007) indicate that second board firms commonly face low trading volume compared firms listed on the Main Board, while Salsiah, Norman and Mohamat (2008) note that the different size of firms listed in both markets tend to have a more diversified business group operation. Therefore, the size of the main market firms is greater than the size of the ace market firms, as well as the level of diversifications.

Table 19: Regression estimates of sample split by firm size

	All firms				Large Firms			
	Model 1	Model 2	Model 3	Model 4	Model 1	Model 2	Model 3	Model 4
Intercept $_t$	6.39**	5.09*	6.11**	6.33**	6.12**	4.36	5.92**	6.06**
Intercept $_{t-1}$	6.69***	6.49***	6.33***	6.22***	7.32***	6.78***	6.67***	6.52***
ROA $_t$	-0.01				-0.01			
ROA $_{t-1}$	0.03**				0.04**			
Unadjusted Return $_t$		-0.17				-0.25*		
Unadjusted Return $_{t-1}$		0.16				0.16		
Market-adjusted Return $_t$			0.09				0.002	
Market-adjusted Return $_{t-1}$			0.08				0.11	
Loss $_t$				0.13				0.07
Loss $_{t-1}$				-0.07				-0.11
Managerial Ownership $_t$	0.47	0.31	0.49	0.48	0.65	0.38	0.03	0.66
Managerial Ownership $_{t-1}$	0.39	0.49	0.45	0.41	0.55	0.67	0.66	0.58
Family-ties $_t$	0.24	0.24	0.26	0.24	0.23	0.25	0.66	0.24
Family-ties $_{t-1}$	0.21	0.35	0.31	0.28	0.16	0.32	0.30	0.25
Dummy if age >71 $_t$	-1.98***	-1.98***	-2.01***	-1.99***	-1.93***	-1.92***	-1.95***	-1.94***
Dummy if age >71 $_{t-1}$	-1.91***	-1.81***	-1.80***	-1.81***	-1.93***	-1.79***	-1.79***	-1.81***
Board size $_t$	-0.31	-0.39	-0.36	-0.36	-0.33	-0.39	-0.39	-0.38
Board size $_{t-1}$	0.01	-0.01	-0.02	-0.01	0.01	-0.02	-0.02	-0.02
Board independence $_t$	-0.86	-0.71	-0.73	-0.88	-0.82	-0.65	-0.70	-0.81
Board independence $_{t-1}$	-0.17	-0.28	-0.25	-0.25	-0.08	-0.17	-0.15	-0.14
CEO duality $_t$	-0.74**	-0.79***	-0.77***	-0.75**	-0.81**	-0.87***	-0.84***	-0.83***
CEO duality $_{t-1}$	-0.50	-0.47	-0.47	-0.47	-0.55	-0.49	-0.49	-0.49
Size $_t$	-0.14	-0.07	-0.12	-0.13	-0.12	-0.03	-0.11	-0.12
Size $_{t-1}$	-0.18*	-0.17*	-0.18*	-0.17*	-0.22**	-0.19**	-0.20**	-0.20**

Stock options $_{t}$	0.01	0.02	0.002	0.01	0.01	0.02	0.01	0.01
Stock options $_{t-1}$	0.05	0.06	0.06	0.06	0.05	0.06	0.06	0.06
Cash pays $_{t}$	-0.05	-0.05	-0.04	-0.05	-0.04	-0.03	-0.04	-0.04
Cash pay $_{t-1}$	-0.12	-0.13	-0.11	-0.09	-0.12	-0.11	-0.10	-0.08
Number of observations $_{t}$	1073	1073	1073	1073	583	581	581	583
Number of observations $_{t-1}$	1058	1058	1058	1058	371	371	371	371
Number of turnover $_{t}$	618	616	616	618	477	475	475	477
Number of turnover $_{t-1}$	398	398	398	398	304	304	304	304
-2 Log likelihood $_{t}$	264.51	264.19	264.75	265.18	253.17	252.04	253.46	253.84
-2 Log likelihood $_{t-1}$	169.56	171.24	171.70	171.79	159.16	161.59	161.91	162.05
Model p-value $_{t}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Model p-value $_{t-1}$	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
R^2_{t}	0.09	0.09	0.08	0.08	0.08	0.09	0.08	0.08
R^2_{t-1}	0.08	0.07	0.07	0.07	0.09	0.08	0.08	0.08

It is clear from the results reported in Table 19 that there is no difference between the full sample and a sub-sample group of larger firms in which firm size has a negative association with executives' turnover. However, firm size display significant results to executive replacements in preceding year turnover but is insignificant with the current year. In the preceding year the turnover coefficient suggests a strong negative relationship with the main board which are less likely to change top executives than ACE market firms. The negative coefficient of large firms to turnover may be attributed to restrictions imposed by the law, particularly with regard to listing requirements. Thus this is likely to limit top executive replacements. Large firms are commonly involved in more than one business operation and this finding is in line with Salsiah et al. (2008) who find that a high level of business operation decreases the probability of executive turnover.

Level of compensation payments and executive turnover

The literature on compensation pay and executive turnover acknowledge that different forms of compensation pay may have different impacts on executive turnover. Initial results reported in Table 5 shows that executive pays provides weak support for executive turnover in both preceding and current year models. I also carried out further tests to determine the precise link between various components of compensations such as salary, bonus, and stock option grants on executive turnover. The study is enlightened by Hasenhuttl and Harrison (2002) who developed their argument between social comparison and equity theory to determine the effect of individual component of compensation with turnover. In cash payments such as salary and bonus, Hasenhuttl and Harrison (2002) estimate an inverse relationship with executive turnover. A similar effect was predicted between stock option plan and turnover, which suggests a direct link to future performance. With assumption that, firms experience low in executive turnover following stock option plans over some period of time, usually three to five years. On the basis of firm data, I carried out further tests by considering an individual component of executive compensation. Following a similar strategy to that outlined in Table 16, the individual turnover effect is examined with mix pay; salary and bonus and equity pay. All of these variables are included in a different set of model specifications. For equity pay is divided into two components: (i) a ratio of stock option grant for executive director

divided by the total of mix pay and (ii) the percentage of exercisable stock option held near the turnover year which is expressed as inventory of stock options. Both variables determine the effect of stock option on turnover and explore the possibility of whether top executives remain in their position with the firm. Table 20 reports the results which show the individual effects of mix pay, stock option grants and inventory of stock option in model 1 and 2. Model 3 includes all components of compensation in the same model. As indicated earlier, all components in compensation are subject to firm performance level, thus turnover and performance sensitivity for each level of pay are also reported.

Table 20: Regression estimates of sample by levels of pay

Variables	Model 1 Turnover=*f* {salary_bonus, ROA,Stock_return,own,family,age,,board_size,ind,,duality,size}	Model 2 Turnover=*f* {stock_option, inv_SO,ROA,Stock_return,own,family,age,,board_size,ind,,duality,size}	Model 3 Turnover=*f* {Salary_bonus, stock_option, inv_SO,ROA,Stock_return,own,family,age,,board_size,ind,,duality,size}	Model 4 Turnover=*f* {Salary_bonus,stock_option, inv_SO,LOSS,,Stock_return,own,family,age,,board_size,ind,,duality,size}
Intercept	5.74***	3.83*	4.90**	6.31***
Salary and bonus	-0.23**		-0.19*	-0.21**
Stock option compensation		0.03*	0.02	0.02
Inventory of stock option		3.18	3.36*	3.60*
ROA	-0.01*	-0.02**	-0.01*	
Stock Return	-0.19*	-0.20*	-0.20*	
Loss in Operating Income				0.30

Managerial ●wnership	-0 21	-0 22	-0.19	-0.12
Family ties	0 29	0 27	0 35*	0 41*
Age	-1 69***	-1 78***	-1 73***	-1 78***
Board size	-0 13	0 04	-0 03	-0 09
Board independence	-0 93	-0 99	-1 02	-1 24
CEO duality	-0.48**	-0.44*	-0.46*	-0.47*
Firm size	0.01	-0.08	0.01	-0.05
Observations	969	968	968	968
-2 Log likelihood	-398.54	-394.86	-393.11	395.95
Model p-value	0.00	0.00	0.00	0.00
R^2	0.075	0.079	0.083	0.077

It is evident from Table 20 that the results are consistent with the expected outcome that mix pay influences executive turnover, though it is the opposite for stock option plans. The results from Model 1, indicates that mix pay and turnover have a negative coefficient at the 5 per cent level which is in line with expectations, while the results from model 2 shows that the ratio of stock option to cash pay and inventory of stock option with executive turnover produce a positive correlation and this is slight contradict to earlier expectation of negative relationship, while the relative stock option grants to cash pay is shown only to have a significant effect on determining turnover. Finally, the results from model 3 which includes cash and stock option variables indicate that cash pay remains a negative relation. Nevertheless, the ratio of stock option to cash pay loses its significance, while the positive coefficient for inventory of stock option improves its significance level of 10 percent, though it is opposite to our prior expectations. This result indicates that executive replacements are likely to be higher when a firm has large value of unexercised stock options. Thus an inventory of stock option produces less incentive for promoting top executive retentions, which also suggests that granting stock options fail to curb voluntary executive departure and, moreover, that the executive is willing to lose its benefits over unexercised value. As replicated in the findings of prior studies, executive turnover is more likely to occur when firm performance decreases. Our results based on accounting and market-based measures are all negative and significant at both the 5 and 10 percent level. This result produces strong evidence, as expected, that stock option grants would decrease turnover, which is in line with Mehran and Yermack (1997) who find that stable firms are less likely to terminate their CEOs, as opposed to unstable firms. Further validation for this result is conducted in which further tests for negative performance based on model 4. The results from model 4 indicate only weak support that firms with negative performance have a positive association with executive turnover, while other controlling variables are shown to have more influence on executive turnover as expected.

From the above results, clearly executives who are exceed the retirement age are less likely to be replaced, even when the firm encounters an unstable business

environment or during poor corporate performance. This result reflects on older executives as they show that they have the advantage over younger executives due to their past experiences. Similarly, the relation between CEO duality and executive turnover, as evidenced by earlier studies, indicate that CEO duality has a weak monitoring board function, as such the turnover is even less likely in poorly performing firms as Goyal and Park (2002) and Hou and Chuang (2008) suggests. The finding are moderately in line with Rachpradit, Tang and Khang (2012) who report that appointing the CEO as a chairman of the same board leads him to be more accountable for firm performance. However, the lack of significance in model specification between stock option and executive turnover does lead us to question the effects of incentive plans on retaining executive. This question also relates to the study's findings from model 3 and 4, which suggests that previously awarded stock options increase the likelihood of executive turnover which is opposite to our prior expectations that stock options might defer the turnover for several years in the future in order to gain benefits from it. However the result emphasizes that a top executive is willing to risk losing those benefits. In fact, the stock option creates an opportunity for executives to increase their ownership as highlighted by Hasenhuttl and Harrison (2002) who found that substantial share ownership produces a strong incentive to stay loyal to the company. However, using stock option value excessively damages a firm's reputation which may impact on unsolved issues surrounding equity pay to justify the benefit of retaining and reducing turnover. Apart from that, the positive link between stock options and turnover might be due to several reasons. For instance, after several years the corporate governance scandals associated with overpaid compensation to cronies resulted in much public criticism. In respect to this, an earlier study by Bebchuk and Fried (2003) and Bebchuk and Grienstein (2005) posited that CEOs produce less incentive for doing job monitoring functions, even though their payments have been increased. But apart from that, most of the executive turnover cases are internally initiated. According to Kaplan and Minton (2008), increasing blockholding among shareholders and shorter tenures among CEOs (usually appraisal in every year) lead to a positive relation between stock options and turnover.

5.5 Summary and implications of prior findings

This essay examined the role of executive stock option on reducing executive turnover within the spirit of agency theory. Emphasis is placed on the stock option plays role for retaining and motivating of executive employee. The study's main interests has been to determine how well stock option reduces executive turnover, and responding to the related question, this study identifies the factors influencing turnover in Malaysian firms including performance, corporate governance and firm characteristics. Based on examination for accounting and market performance measures, the result shows that poor firm performance lead to high executive turnover. Hence, this study could not find evidence that accounting based measures is better than market–based performance measures to evaluate executive turnover.

In examining executive replacement decision according to turnover types such as routine and forced turnover, the findings indicate that current firm performance influence the decision for executive to being dismissed. In relation to other factors that are likely to bear influence on executive turnover, the findings suggest that the presence of managerial ownership do not leads to high turnover. This is in line with conclusions reached by Pergola (2005) who note that high family ownership concentration in ownership structure means that turnovers are not welcome. The reason behind this conclusion may be that firms with strong family ties are reluctant to remove inefficient managers. Also, when the family member is also a member of the board of directors, they may wish to protect themselves from being removed. In other words, family founding firm supports the management entrenchment hypothesis. Moreover, older directors are less likely to be replaced by their younger counterparts indicating that age has a significant influence on turnover. This because older directors have more experience and their expertise remains highly valued.

The results also suggest that corporate governance influence turnover, particularly for board attributes. At glance, the result indicates that board attributes is not a significant factor in determining turnover. However, board size shows a significant result to turnover while larger board are found to be less inclined to replace executives due to their unwillingness to perform their monitoring functions. This

suggests that higher turnover in firms with larger board size results in poor corporate performance. However, the result for board independent is not significant for executive turnover and indicates that board duality is less involved with turnover. Among the reason is the position of CEO and Chairman for job security and the need to continue the family status quo [Rokiah Ishak (2011)]. Therefore they will retain family member as their successor.

For firm characteristics, firm size produces little evidence to executive turnover, while only firm listing in main board is found to have an effect on executive turnover as opposed to ACE market. This suggests that firms subject to restriction laws are less likely to replace executives or that high level of business operation associated with larger firms is likely decrease the turnover. The crucial part of this chapter to seek the answer regarding the incentive effect of stock option plans have to reduce turnover, an initial result of using different form of executive compensation is examined, the result indicates that mix pay influence turnover. In contrast to finding generated for positive relation between stock option plan and executive turnover and this emphasise that stock option plans apply in Malaysia firms fail to prevent executive departure. Examination on large value of unexercised stock option indicates fewer incentives towards the promotion of retention among executives and thus existing option be unsuccessful to prevent voluntary executive departure. Along with the line of prior studies, stock option grants increase as poor firm performance, however if the plan is properly designed, it has an ability to reduce executive turnover. Regarding the result for executive turnover is more likely to be terminated when the executive age is far approaching retirement, this show that junior executives less advantage, particularly when the firm experiences unhealthy business environment. This suggests that stock option plans lead to temporary effect for lowering turnover during the vesting period for younger executives than older counterparts. This study also holds that high rate of junior executive leaving the firm might contribute for other reasons such as attractive offer from other firm.

ESSAY 4

6.0: THE EFFECT OF EXECUTIVE STOCK OPTION ON TAXATION

6.1 Introduction

The increasing use of stock option plans across firms of various size and industry sectors has generated considerable interest among scholars interested in investigating the various effects of these plans on corporate behaviour which highlighted in several studies (see Yermack, 1995; Aboody, 1996; Baker, 1999; Murphy, 1999; Core and Guay, 1999; and Core and Wayne, 2001). These studies have also shown the growing popularity for firms to offer compensation value for equity pay for their executives as compared to cash pay (Hall and Liebman, 2000). This is consistent with Gritsch and Snyder (2007) who find that two-thirds of CEOs received some form of stock option plans during this study period. In addressing the tax effect on executive compensation, former studies provide two predictions. One line of prediction is about executive compensation which could help to minimise the tax liability (Hite and Long, 1982). Whereas, the second prediction is based on the agency theory that executive compensation might be used for the purpose of the psychological contract between managers and shareholders in order to maximize firm value. However, Smith and Watt (1982) argue that compensation plans could not explain the tax incentive except for the incentive effect within the spirit of agency theory.

Concerning the tax influence on stock option plans, a study by Hall and Liebman (2000) find that the marginal tax rate plays an important role in determining stock option plan in which, rising on corporate tax rates are expected to increase the tax deduction from stock option relative to the immediate tax deduction provided by cash compensation. As a consequence, using stock option should be less costly for firms with low marginal tax rates. In similar area of study analyses the impact of tax

policy on compensation payments, such as Golsbee (2000) examines the responsiveness of taxable income to the changes in marginal corporate tax rate for short-term and long term effects. He finds that changes in tax rates have a short-term effects and the effect is more apparent during the stock option exercises. However, for long term effect, increasing used of stock option is a temporary shift in compensation payments. Recent study by Gritsh and Snyder (2007) examine the response of tax changes to the probability of CEO to being paid with stock option plan and the result is consistent with former study's conclusion. The result shows that rising in marginal corporate tax rate influences the CEOs to receive stock options. Apart from the influence of using a stock option plan, increasing the marginal corporate tax rate can be used to design higher tax for personal income in order to reduce income differences among taxpayer groups [Yong (2012)]. Nevertheless, by increasing the tax rates across income brackets produce a negative effect for the incentive to lessen the income inequalities among the taxpayers. Therefore, the tax system is usually designed in the middle of the objective to reduce the taxed income among taxpayers and raise government revenues, which can be used to support programs for tapering income differences.

Building on the evidence of these studies, the objective of this essay is to examine how the current taxation policy affects the compensation pay received by executives in a form of stock options. In specific, the study analysis and discussion identify the degree of response when corporate and personal marginal tax rates are imposed on stock option grants in relation to cash pay. In addition, most of studies in this area use executive data in developed countries, perhaps they have good data on compensation pay. Therefore, examining data for Malaysian executive is worth for estimating levels of tax liability. This essay is organised by describing Malaysia's income tax structure and the existing tax treatments of each component of executive compensation. In particular, it discusses Malaysia's taxation rules which underpin stock option plans. In a further analysis, I examine how changes in the progressivity of personal income taxation could be used to explain tax benefits using stock options. Yong (2012), for example, highlights the main distortion generated by a progressive tax rate in each additional band of income earned which could cause the earner to be taxed at a higher rate. However, the incentive effect is less likely to be

lower when progressive tax rates are heavily imposed on higher income taxpayers, which poses challenges for firms, since they will need to design the compensation pay in such a way that it is seen to maximise the incentive for it to be workable while at the same time maintaining some measure of progressivity to narrow income inequalities among executives.

I begin in section 6.2 with an overview of the trends in the use of stock options in Malaysia's income tax policy. Section 6.3 considers trends in Malaysian executive compensation pay. Then in Section 6.4 I outline the empirical research method, the data and analysis of the generated results. Section 6.5 provides concludes and discusses the implications of the results.

6.2 Trends in the use of stock options and Malaysia income tax policy

In Malaysia, the growing use of stock options which also saw a rising trend in the use of stock options for executives increased by 62 per cent and with a mean value for 2010 of MYR50 thousands as shown in Table 21. Table 21 also shows that the cash pay decreased by 54 per cent which suggest that salaries and bonuses continue to be the most important rewards for compensating executives. From this result, it also indicates that stock option plans for executives (managements) increased which in turn gives rise to questions as to the reasons behind the motivation for firm using stock option. Moreover, this also emphasis the question on tax benefits that stock option plans have since the value of stock option as share of total cash pay declined nearly half and within the study period, the marginal corporate tax rate reported a decreasing value by almost 2 percent. This initial result also provides a debate that Malaysia stock option programs produce less incentive for tax standpoints, as contrast other forms of executive payments.

Table 21: Summary of the mean and standard deviations of cash payments and stock option values from 2003 to 2010.

	Cash		Stock option		Marginal Corporate Tax rate
	(MYRI,000)				
Year	Mean	SD	Mean	SD	Percentage
2003	1069.25	716.65	19.25	15.20	28
2004	2091.95	1330.84	16.5	20.51	28
2005	3551.35	4156.87	83.5	33.23	28
2006	2190.06	748.65	6.00	5.66	28
2007	1049.17	324.32	69.5	3.53	28
2008	3293.31	3191.45	3.6	2.26	28
2009	1616.91	620.90	57.13	31.29	27
2010	496.63	362.92	50	55.15	26

In response to earlier result, that is better for examining the tax benefit at the executive level under the Malaysia tax policy. According to Malaysia Inland Revenue Board (MIRB), Malaysia taxation is based on territorial status, which firmly indicates that only income derived or accrued from Malaysia, tax resident is liable to pay tax. In this instance, for firm establishes and operates in taxable, while for personal income taxation rules, the tax liability is charged status based on the his physical presence in Malaysia. In specific, Sections 7(1) of the Income Tax Act (ITA) of 1967 detail four ways in which an individual executive may qualify as a tax resident during the income assessment year. These are as follows:

a) Section 7 (1) (a), Income Tax Act (ITA) 1967 indicates the individual must be in Malaysia for at least 182 days.
b) Section 7 (1) (b), ITA 1967 emphasis for the second condition for an individual to be a resident if he stays in Malaysia less than 182 days during the assessment year and the period must link to other periods of 182 days.
c) Section 7 (1) (c), ITA 1967 states the third condition may qualify the individual to be a resident is he stays in Malaysia for a total of 90 days, then the MIRB will examine three out of four preceding year assessment, whether the individual was a resident or in Malaysia for at least 90 days in total.

d) Section 7 (1) (d) is the last condition in which the individual will be a resident for the assessment year if he has been a Malaysian resident in three years before and the following year. This indicates that the executive could be a resident in Malaysia if he fulfils one of the four conditions.

Along with the direct benefits that result from being a tax resident, for firm and individuals executive will be taxed on the taxable income after deducting non-tax deductions and tax rebates. Thus the firm as well executive may enjoy the final tax liability based on a graduated tax rate that rises from 0 to 26 per cent with the effect from the year of assessment, 2010, as shown in Appendix 1. This is in line with Yong (2012) who points out that the personal tax rate of Malaysia is structured on the basis of imposing increasing marginal tax rates for higher income brackets.

Other than stock option plans, Malaysia executives also provided with other types of cash compensation that is subject to personal income tax as stated in the Malaysian Income Tax Act as follows:

a) Salaries

Salary is the de facto fixed payment that might be part of contractual pay. The amount of salary received does not usually vary explicitly with performance. This means that salary is not a performance-based pay for employees and as such it would qualify for taxation under employment income in Section 4 (b), ITA 1967. From the tax standpoint, expenses paid as a salary allows for a tax deduction in the year they are paid.

b) **Bonuses**

Bonus compensation is usually based on how well individuals, group, or corporation contribute to firm performance (Balsam , 2012), and as with the treatment of salary it will be taxed in the year received for individual taxpayers. For firms that offer bonuses to their employees, Malaysia income taxation rules allow such firms to claim a deduction equivalent to no more than two months from total pay in the employer's taxable year.

c) Deferred compensation and pensions

Deferred taxation relate to income earned in one period, which allows payment to be made to executives to be received at a future date, the deferred date. For tax purposes, pension contributions are one of the deferred pay provided by firms (employer) that are taxable under the Section 4 (e), ITA. Under this section, it extends the income types of annuities and other periodical payments. For example, the pension individuals receive for reaching the age of 55, at the compulsory retirement age, or for health reasons are all exempted from tax. In the case of executive who receives more than one pension, only the highest pension is exempted from tax, while other pensions must be reported. Annuities are the sum of money received in accordance with an investment of money which entitles the participant to receive a series of annual payments during limited period. A periodical payments refer to recurring payments received at fixed times.

d) Others cash incentive plan compensation

All categories of income received but not included in the prior headings are classified as all other compensations, and in a similar way to salaries and bonuses, other cash payments such as allowance and gratuity will be subject to personal income tax in the year received. Similar tax treatment for items such as benefits in kinds provided by a firm that is not in cash form is also taxable under personal income tax. From tax standpoint, the income reported as taxable under the personal income to the executive and deductible by the company.

e) Stock option grants

Stock options allows employee to own firm shares at a fixed price and specified period of time. Among the taxable income, stock option grants offer special features for tax benefit. Among others, it is typically untaxed at the time the grant is made. Therefore, stock options are usually granted to executives with the restrictions of expiry with the passage of time. It is common for the taxable income for stock options to be extended for three to four year after the grant date. Thus, the tax effect of stock option plans appears when the holder exercises his or her options. The amount that is taxable is between market price at the exercised tax date and the actual price paid for the shares. However, since the exercise price is sensitive to the underlying performance of the share price, stock options can be extremely valuable

when the share price increases substantially and can also be worthless if the share price declines. With regard to the cost of stock option grants such as the cost associated with maintaining stock options. Under the Malaysian taxation rules, are not allowed for deduction which means that less tax incentives are provided by law to reduce a firm's tax liability.

When comparing with the tax rate imposed on US stock option plans, Section 13 (1) (a), ITA 1967 clearly identifies the taxable income from stock options and cash pay, which are treated differently. Unlike in the U.S where taxation rules give executives the freedom to choose a different tax rate, in Malaysia any profits received from exercising stock options is taxable at the rate of personal income tax. This is inconsistent with Hall and Liebman (2000) who found that salary and stock option have different means for executive compensation. Thus in the U.S. stock options have a much strongest tax benefits in relation to cash pay, particularly when executives sell the stock. Clearly, any gains from selling the stock option plan will be taxed at the capital gains tax rate which tends to be much lower than ordinary personal income taxes. In this example, salary and bonus were taxable under the personal income tax rate at the time of pay out. However, for the stock option grants, the holder will be taxed at the time of exercise, hence he enjoys tax benefits until he exercises his right of the stock options which is usually for the next three to five years after the granting date. This implies that executive may gain the tax benefit in short-live.

Where Malaysia is concerned, its taxation rules for the past seven years find 2006 to be a significant point for a change in how the tax value of stock options is calculated. This means that any gains received from exercising a stock option will be treated as part of gross income from sources of employment. The taxable value is calculated on the difference between the market value of shares at the grant date and the exercise price. Before this amendment, the tax treatment of stock options appeared when the stock option is exercised. However the taxable value should be related back to the year when the stock option grants were awarded. Commencing with the assessment year of 2006 onwards, the tax ruling for determining the tax value of stock options

differs slightly from the method used in previous assessments. Under Section 25 (1) (A) ITA 1967, the taxable value of stock option grants is calculated as the difference between the market price at an exercised date (or exercisable date) and the price paid for the shares. And as with the old tax treatment, there is no capital gains tax applied for equity (stock option) sold except on gains from the disposal of shares in the parent company incorporated in Malaysia. In terms of the cost incurred for arrangement, the compensatory stock option allows for tax deductions to be made, though this is restricted to the offshore parent company which satisfies the characteristic of "wholly and exclusively" for producing the business income[36]. The allowable cost is extended to expenditure used to maintain the stock option plans or reimburse to the parent company. For the purpose of income tax, when stock options are sold, the gain value is not taken into account which means there is no capital gain tax applied to the disposal of stock option in Malaysia. Details of personal tax implications for benefit received from stock option exercises are as follows:

Resident status	Taxable at		
	Grant date	Vesting date	Exercise date
Before assessment year 2006			
Resident	Yes	No	No
Non-resident	Yes	No	No
After assessment year 2006			
Resident	No	No	Yes
Non-resident	No	No	Yes

[36] Section 33 (1) of the Income Tax Act 1967.

Table 22 shows the components of executive compensation with their tax effects to executive and the firm.

Table 22 : Components of the compensation package subjected to Malaysia Taxation Rules

Compensation component	Executive		Firm	
	Tax status	Taxation Rules	Tax status	Taxation Rules
Salary	Taxable	Section 4(b),Income Tax Act 1967	Deductible	Section 33(1), Income Tax Act 1967
Bonus	Taxable	Section 4(b),Income Tax Act 1967	Deductible,	Section 33(1), Income Tax Act 1967
Stock option	Taxable	Section 4(b),Income Tax Act 1967	Not deductible	Section 39(1)(m), Income Tax Act 1967
Deferred compensation	Taxable	Section 4(e),Income Tax Act 1967	Deductible	Section 33(1), Income Tax Act 1967
Other compensations	Taxable	Section 4(f) Income Tax Act 1967	Deductible	Section 33(1), Income Tax Act 1967

6.3 Trends in Malaysian executive compensation pay

The purpose of this section is to document how executive compensation pay has changed in Malaysian firms as well as discuss and analyse executive compensation received over the period 2003 to 2010. Table 23 shows that other than cash pay, stock option grants have played a crucial role in the development of executive compensation in Malaysian firms. I should also stress that stock option plans are not new to Malaysian firms who have been making use of stock options since 1990. Moreover, firms with sizeable profits are more likely to adopt stock option plans (Ariff, Mohamad and Nassir, 1998). However, following the Asian financial crisis of 1997, the development of executive compensation has not been allowed, and although the impact of the crisis was not as deep as in other large countries in terms

of size, its effect was felt in all components of executive compensation. A detail result is shown in table 23.

Table 23: Number of executive compensation pay for 2003 and 2010

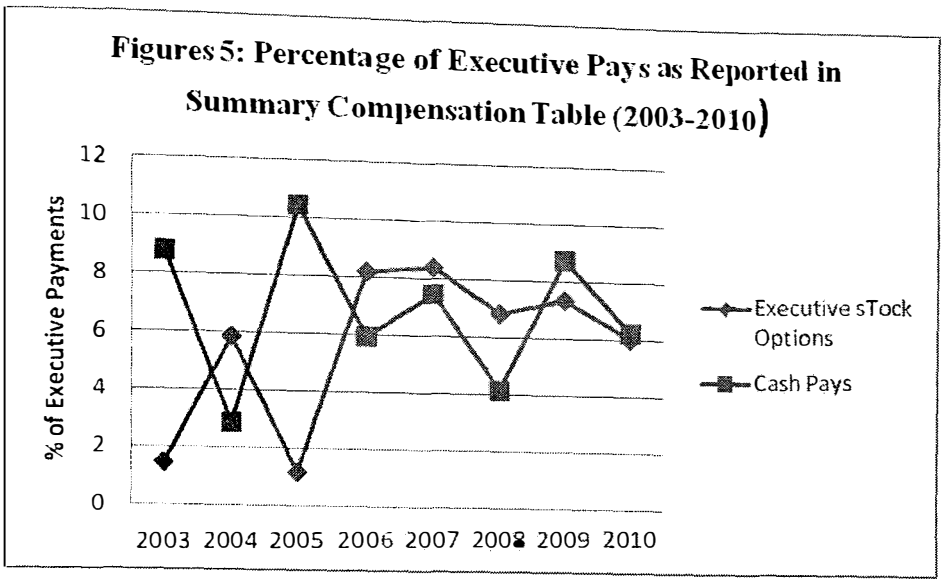
Year	Stock option grants (MYR '000)	Cash payments (MYR '000)	Total of compensation (MYR '000)	Number of Executives	Copmensation received per person (MYR'000)
2003	18,920.73	114,739.75	133,660.48	517	259.00
2004	76,428.78	37,915.28	114,344.06	665	172.00
2005	15,254.01	136,169.17	151,423.18	532	285.00
2006	107,116.72	77,877.76	184,994.47	571	324.00
2007	109,958.63	97,625.25	207,583.88	643	323.00
2008	89,195.74	54,314.65	143,510.39	676	212.00
2009	95,877.82	114,435.13	210,313.00	663	317.00
2010	78,470.42	81,796.45	160,266.90	634	253.00

Data for stock option grants and cash payments (salary and bonuses) are extracted from annual reports under Directors Reports. While number of executives are based on the name disclosed in the statement of corporate governance. Cross-checking has been conducted to firm website to estimate the number of top executives.

Table 23 details aggregates for the amount of compensation received for the initial sample of Malaysian public listed firms with stock option plans. Over the period 2003 to 2010 the value of stock option grants increased from MYR18, 920 in 2002 to MYR78, 470.42 in 2010. The increase in the value of stock option grants is primarily as a result of the better share price performance, however, a sharp drop in stock prices in 2005 resulting from firms providing fewer equity plans to their employees (Balsam, 2012). Moreover, the role stock option plans is perhaps more appropriate for firms to use for retaining executives talent and for motivating them to work harder, particularly in certain industry were the level of competition in wages markets are high. Turning to the next column, it can be seen that the aggregate total of cash compensation pay increased from 114,739.75 in 2003 to MYR160,299.90 million in 2010 and this largely contributed by cash compensation which also

suggests that the size of cash payments relative to stock option underline that cash pay is still significant for compensating purposes. In total, there are 4901executives included in this analysis for which the total of compensation awarded to the lowest group was made of 517 executives and the highest group has 676 executives. As the literature provides evidence which indicates that despite a large increase in stock option plans, the cash pay remains important in executive compensation pay. However, the tax treatment for both components pay is slightly different. Therefore examining the tax effect of individual executive who has been sponsored with stock options is crucial. Following a similar approach carried out by Balsam (2012) who includes in his sample for all executives, even though numerous studies limit their sample only to CEOs. In addition, executives are normally paid less than the CEOs, which results in the percentage of using stock option plans to decrease.

While, the variation in the size of Malaysia executive stock option plans, the general pattern of executive stock option plan indicates that 2007 had the highest grants value which decreased from 2008 onwards. Perhaps, this may be attributed to the slow recovery progress from the economic downturn brought on by the financial crisis, in addition to firms being more likely to increase their use of stock options during periods of good market performance. When compared to cash payments, the percentage of executive stock option grants is somewhat consistent with a trend of providing equity pay which suggests that cash components and stock options are equal significant for compensating Malaysian executives. This is similar with recent patterns in the allocation of large stock options to non-executive employees which indicate that executive employees are no longer the predominant holders of stock options in the Malaysian firms.



6.4 Empirical research: method, data and analysis

To estimate the tax incentive on stock option plan, stock option is regressed on the marginal corporate tax rate while controlling for other factors. In particular, this study identifies the impact of changes in marginal tax rates on stock option grants in relation to cash pay received by executives. As indicated in past study such as Gritsch and Snyder (2007) employ both logit and tobit model to determine tax savings, in which two tax rates, personal and capital gain tax were entered the equation. There is some studies employ ordinary regression model to capture the effect and since the dependent variable is not binary in nature and also given non-presence of censored data, the logit and tobit regression model could not be employed in this study. As a result, I use an ordinary regression model which is more appropriate to examine the degree of impact stock option has on total compensation. From the tax standpoint, stock options are likely to has a positive relation during periods of good corporate performance, and therefore the tax saving is likely to increase. Thus, stock options may be used as a means of producing tax preferential for executives and the firm, and seemingly a clear relationship should exist between tax incentives and stock option plans. For this purpose we employ the following model:

$$XSO = \beta_0 + \beta_1 MTR + \beta_2 ROA + \beta_3 NI + \beta_4 SIZE + \varepsilon \quad (1)$$

Where XSO represents stock option compensation for executive in a given year, MTR is the marginal corporate tax rate, ROA is return on assets, NI is a net income, SIZE is firm size which is measured by total assets. β a constant and parameters to be estimated and ε an error term.

6.4.1 Data and variables

Although most of good data on executive pay from developed market, but a study of executives in Malaysia is worthwhile as using new data and this able to tackle a number of longstanding issue related stock option plans. The data in the study are based on executive stock option grants of companies listed on Malaysia Bourse during the period 2002 to 2010. These data are ideal for our study of executive stock option and the tax effects. The data used here comprises information on a company from the year it first announced its executive stock option grants. The marginal corporate tax rate is obtained from Malaysia Inland Revenue Service. The dependent variable is value of stock option as a share of total executive compensations. The data sets have four control variables which is likely to have an impact on executive stock option.. These are firm performance, firm size, return on assets and net income. From the standpoint of firm performance, Snyder (2001) note that stock option have a positive relation during periods of good firm performance and at the same time it may be negatively associated when the firm is not performing very well. Firm size is measured by total assets since larger firms usually experience excesses in cash flow which, in turn, create an incentive to use cash components rather than stock options. Gritsch and Snyder (2007) predict similar incentive effects for smaller firms facing problems with cash flows. Thus stock options may be used a means of maintaining the cash level of these firms. If stock option plans produces tax preferential treatment for executives as well as the firm, the relationship between tax incentives and stock option plan is straightforward. Thus we conduct further test to determine whether changes to tax policy (increase or decrease tax rates) is significantly increase executive pay, particularly in the form of stock option. It is noteworthy to mention

that under Malaysia taxation rules there is no capital gains tax imposed for capital revenue and for this reason the study use the marginal tax rate only.

6.4.2 Descriptive statistics

In this section, we provide some evidence on the amount of stock options exercised including the realized gains from options exercise. As earlier note, the year of taxability for executive stock option differs slightly from the grant year. Therefore, the amount reported in the grant year differs from the year of exercised. The amounts shown in Tables 21 and 23 are based on grant date value and amounts summarized in summary compensation table of annual reports while the amounts reported in Table 24 are based on the value of stock options at the time the stock options are exercised on an exercise date when profits are determined. It is evident, on the basis of the aggregate amounts, that the data for executive stock option plan exercised is higher in 2002 and 2007. This is also noticeable that the aggregate amount for tax treatments on gains of executive stock option exercised is quite high for both years.

Looking at the value of the grant size value in Table 24 and the exercise of stock options by executives suggests that the behaviour in stock option plans are not uniform, which is consistent with Huddart and Lang (1996) who note that the exercise behaviour in stock option plans are not consistent. In this example, some of the executives make decision to exercise early of their stock option in order to increase their own personal wealth while some of them are as a result of liquidity needs. Studies by Huddart (1994) and Carpenter (1998) find that the exercise pattern is more apparent when holders perceive the expected benefit is greater than cost. This suggests that executive employees usually become more risk taker and hence their tendency to exercise early would be greater. Regarding tax effect and exercise behaviour, in related study, these authors find that changes in tax levels play a crucial role in determining exercise behaviour, so that executives would favour immediate exercise before the rate of tax increases. As a result, the executive would capture a large proportion in value of stock options and the benefit will be taxed at a low rate (Huddart, 1998).

Table 24: Amounts reported for executive stock options exercised and estimated profits in the 2003-2010 (MYR '000)

Year	Aggregate of stock option exercised (MYR '000)	Aggregate of profit in stock option exercised (MYR '000)
2003	10,765.08	44,72
2004	53,471.61	120.65
2005	95.,225.59	374.85
2006	38,184.69	38,221
2007	90,794.50	321.10
2008	67,110.88	68,381
2009	50.,706.70	226.60
2010	26,212.36	351.24

I also examine the impact personal taxation has in influencing the composition of stock option plans in the compensation pay structure. In this context, I assume that each executive will be taxed on income received from various employment activities, thus Section 4(b), ITA is applied in the study. All incomes listing in Section 13(1) (a) and (f), ITA is included as executive's taxable income. For the granting firm, Section 33(1) emphasizes the types of deductibility for compensation expenses incurred for employees which is restricted to salary, bonus, and other cash payments. As earlier mentioned, stock option grants were not allowed for tax deductions as stated in Section 39, ITA which suggest that it is not favorable for granting firms under Malaysia taxation rules. Thus estimating the impact personal income tax has in influencing the composition of executive pay, particularly for stock option is a crucial.

At this point in the present discussion, an example comparing the amounts reported in the proxy statement summary compensation table and executive's tax calculations will be used to generate information value. For this purpose I consider executive compensation of Malaysian firms by referring to information in statement summary of compensation table extracted from various annual reports. The received total compensation value is presented in Table 25. All components such as salary, bonus, stock grants, and other compensation are decomposed into taxable income for individual executive taxpayer. However, due to the lack of information disclosed for individual executive, calculating the chargeable income and tax liability is based on the assumption that: (i) the executive taxpayer is a tax resident in Malaysia, (ii) who chooses a joint assessment in which the taxpayer's wife is not working. This means the tax payer is entitled to tax relief which amounts to MYR19, 000.

Table 25 reports the total income associated with executive compensation pay for cash and non-cash based. On an aggregate basis, it can be seen that the taxable components increased from MYR 16.81 million in 2000 to more than MYR 78.85 million in 2010, which indicates that much of the increase value came from higher incomes with cash-based pay. This finding is consistent with earlier results which indicate that cash compensation remains an important method for compensating

Malaysian executives. However, when the data for executive stock option plans were analysed, the highest gains occurred in 2002 and declined in 2010 suggesting that changes in the income tax rate had some influence on equity-based payments. Surprisingly, the data suggests that high personal income tax rate resulted in increase gains from stock options exercise, even though the income tax rate decreased by 1 and 2 per cent in 2009 and 2010 as the gain from stock option reduced substantially. This suggests that stock options are sensitive to personal tax rate changes, which is inconsistent with Hall and Liebman (2000) who find that stock options plan are unresponsive to changes in ordinary income tax rate. A similar pattern is also observed for stock options exercise.

Table 25: Decomposition of compensation into taxable income and tax liability amounts (MYR '000)

Year	Number of executives selected based data disclosed in annual reports	Salaries and Bonuses	Executive Stock option – exercise value	Total taxable amount to executives	Tax reliefs	Chargeable income per each executive	Marginal personal tax rate	Tax liability of each executive
2003	517	133,660,480	44,717.2	133,705,197.2	9,823,000	123,882,197.2	28%	67,092.87
2004	665	114,344,060	120,648.40	114,464,708.4	12,635,000	101829708.4	28%	42,875.66
2005	532	288,710,180	374,846.59	289,085,026.6	10,108,000	278,977,026.6	28%	146,830.01
2006	571	184,994,470	382,21.73	185,032,691.73	10,849,000	174,183,691.73	28%	85,414.06
2007	643	207,583,880	321,100	207,904,980	12,217,000	195,687,980	28%	85,214.05
2008	676	143,510,390	68,381	143,578,771	12,844,000	130,734,771	28%	54,150.49
2009	663	210,213,000	226,600	210,539,600	12,597,000	197,942,600	27%	83,595.66
2010	634	160,266,900	351,240	160,618,140	12,046,000	148572140	26%	65,615.45

6.4.3 Main results

A: Estimating the tax preferential treatment for executive stock option

Insofar as stock option grants do not provide favourable tax advantages for individual executive in Malaysia. Similar effects might be observed for granting firms, even though taxation rules allow for certain expenses incurred to employee compensation to be deductible. Under Malaysia's taxation rules, expense incurred for employee compensation is allowed for deductions if it satisfies requirements in Section 33 (1) and Section 39 (1) of the Income Tax Act of 1967. Both sections of the Act relate to allowable and non-allowable expenses and it would be treated as ordinary business expenditure if it incurs for generating business income. In fact, there is no tax difference for treatment between larger and smaller firms as a similar corporate tax rate applies for firm incorporated in Malaysia. Recently, the marginal tax rates decreased by 1 and 2 per cent; thus it is essential to determine the tax preferential treatment for individual executive as well the granting firm.

B: Estimating tax preferential treatment for individual executive

According to Yong (2012), tax savings are more favourable to high income taxpayers, which is to say that high income earner are likely to incur an increase in tax deduction than their counterparts. However, this goes against the principle of tax progressivity, which can be illustrated by the use of a scenario for two individual executive director's (A and B) with identical incomes over a period of time, and assuming both pay different amounts of tax over a 10 year period. In this case executive A is assumed to has a stable income for total salary bonus and stock option after deductions and personal relief amounting to MYR100,000 per year, while executive B has fluctuating income as shown in Table 26.

Table 26: Estimating tax saving between stable income and fluctuating income case

Year	Executive A (Stable Income)			Executive A (Fluctuate Income)		
	Taxable income for stable grants for cash and stock options	Marginal personal income tax bracket rate	Tax liability	Taxable income for satble cash pay and fluctuate sponsor for stock options	Marginal personal income tax bracket rate	Tax liability
2002	100,000	27%	14.475	80000	24%	9,675
2003	100,000	27%	14.475	90000	24%	12,075
2004	100,000	27%	14.475	10000	24%	14,475
2005	100,000	27%	14.475	105000	27%	15,825
2006	100,000	27%	14.475	110,000	27%	17,175
2007	100,000	27%	14.475	120,000	27%	19,875
2008	100,000	27%	14.475	125,000	27%	21,225
2009	100,000	24%	14,325	130,000	28%	22,725
2010	100,000	24%	14,325	140,000	26%	24,725
	1,100,000		158,925	1,100,000		165,325

The result shows that executive A has an identical taxable income of MYR100,000 each year, which fall into the income bracket of MYR70,000-100,000. Therefore, the total income liability is MYR158, 925.Turning to the next column for executive B who has variable taxable incomes, it is evident that the total tax liability is slightly higher by MYR6400. Moreover, executive B falls within the high income tax brackets as the marginal personal rates of tax increases. In this example, B pays a high tax value in 2005 and 2009. And although the marginal personal tax rate decreases by 2 per cent in 2010, executive B still pays more in taxes compared to executive A. This scenario is linking to a factor of inflation would more than likely push the taxpayer to pay more tax, particularly among the lower income taxpayer group and known as "bracket creep (Yong, 2012). The "bracket creep", where inflation pushes income into the higher tax brackets as the result is an increase in the personal income tax rate but no increase in true income power. In response to this a conclusion by Hall and Rabushka (1983) propose using a single tax rate if it is above the income threshold with some exemptions provided to the lower income taxpayer group. This is consistent with Yong (2012), using single tax rate could achieve the desired outcomes of a progressive tax system which would also help to encourage executives disclose their true income.

As the most individual executive is likely to report taxable income that understate their income, Malaysian employer sponsors a wide array of taxed perquisite (under Malaysia taxation rules stock option is a kind of perquisites) to executive without taking the inflation effect. This is crucially to examine whether inflation plays a significant role in determining tax benefits for stock option have. As such, the effect of inflation on tax is twofold, first it results in a shift of the income tax bracket and second, it will increase the tax liability. To encourage the fairness between high and low income earner, using similar information of taxable income in Table 26, between executive A and executive B who receive stock option plan gives the following result. In the table illustrated the taxable income for executive A shifts to one income tax bracket because inflation shifts the marginal personal income tax rate by 2 per cent, However, no changes are reported for executive B, which suggests that the rising the marginal personal tax rate is could be used to design higher tax for personal income by 1.33 percent. When compared to the result for executive B, it is

noticeable that inflation did not result in a shift in the income tax bracket, but instead it increased the tax liability by 0.79 per cent. This is clear indication for firms to sponsor stock option plan need to consider this factor when establish equity payments.

Table 27 : Illustrations for calculation of personal tax liability

	Executive A	Executive B
Taxation computation before inflation		
Chargeable income 2010 (MYR)	100,000	140,000
Marginal personal tax rate (%)	24	26
Tax payable (MYR)	14,325	24,725
Average personal tax rate (%)	14.33	17.66
Taxation computation after inflation (1.70%)		
Chargeable income (MYR)	101,700	142,380
Marginal personal tax rate (%)	26	26
Tax payable (MYR)	14,767	25,344
Average personal tax rate (%)	14.52	17.80
Average personal tax rose (%)	1.33	0.79

C: Estimating tax preferential treatment for firms sponsor executive stock options

As mentioned earlier expense-related stock option is normally deductible in most countries however, under Malaysian taxation rules,the tax treatment is not allowed for deduction in arriving the chargeable income. Thus, I examine whether the potential of preferential tax treatment for ordinary income tax received by the firm generates advantage to tax policy. The result from the regression model of Equation (1) earlier discussed is presented in Table 28.

Table 28 : Regression estimates of sample by stock option value

Variables	Coefficient
$X\ SO = \beta_0 + \beta_1\ MTR + \beta_2 ROA + \beta_3\ NI + \beta_4\ SIZE + \varepsilon$	
Intercept	-1.624 (0.7913)
Marginal corporate tax rate	0.042 (0.851)
Return on assets	-0.004 (0.523)
Net income	-0.002 (0.566)
Firm size	-0.0002 (0.1089)
McFadden R^2	0.019
Observations	214

SO represents stock option compensation provided for executive levels is equal to 1 in a given year, 0 otherwise. MTR is the marginal corporate tax rate, ROA is return on assets, NI is a net income, SIZE is firm size which is measured by total assets, ***,** and * indicate statistically significant at 1%,5% and 10% level

At first, I estimate if the preferential tax treatment of marginal corporate tax rate affects the executive to receive stock option. A result from the model estimation is presented in Table 28. Examination on marginal corporate tax rate indicates that the effect is not in the expected direction, although the coefficient is insignificant and this suggests that a decrease in the marginal corporate tax rate is likely to increase the stock option value. Compared to the former results, this effect is more or less in line with Hall and Liebman (2000) and Gritsch and Snyder (2007). With regard to

the controlling variables, neither variables are found to determine stock option grants and in particular , the result cannot implies that firm size (larger or small firms) with problems of cash flow are likely to compensate their executive with stock option plan. This study could not present evidence that equity pay might be one for maintaining the higher cash position. This result is contrast with Sanders (2001) and Gritsch and Snyder (2007) who report that cash-constrained firms are likely to use stock options. Further analysis, also indicates that the firm performance represented by ROA and net income less influenced the executive stock option plans. On this basis of the tests results, it was also suggest that firm performance does not meaningful depend on stock options as the coefficients value for ROA and net profits are all insignificant,. This suggests firm performance does not lead stock option grants in order to gain preferential tax treatment. Moreover, in the marginal tax rate has incorporated tax benefits of exercise gains and includes the expected benefit from new stock option grants. Therefore, the tax advantage for stock option has been taken into account in the marginal corporate tax rate.

6.5 Conclusions remarks

Although there is an argument in tax studies that tax effect for stock option plan is different with cash plan, the main finding of this study produces evidence which suggest that increasing compensation value for stock option by many executives did not replace cash payments. Therefore, salaries and bonuses are still significant component to executive compensation in Malaysia. Unlike cash compensation pays, when the stock option is met the specific criteria of Internal Revenue Code, the gain may be taxed at the time exercise which usually three to five after grant date. Therefore, they might extend the tax liability, however the taxpayer usually losses for gaining tax advantages when they fail to plan and adjust the report income. Similarly, the result from this essay could not find evidence to suggest that tax changes lead to increase in the use of stock option at executive levels except for the tax effect of stock option plans as a result of a rise in the personal marginal tax rate. This indicates that an increase in the corporate tax rates did not produce any tax preferential from stock options relative to the immediate tax deduction provided by cash compensation. The imposition of similar tax rate for stock option and cash pay

is generally driven beyond the psychological contract between executive and firm. Moreover, the incentive effect that stock option plans have for increasing employee efforts and job satisfactions are not enough for legal concerns to support tax claims [Dillavou (1945)]. In addition, applying stock option plans indicate that firm perceived tax advantage would be captured through equity plans though the tax advantage in stock option plans is reliant on government tax policies. Under Malaysian taxation rules there are no tax benefits to be gained by granting firms. As such, the taxation rules provide restriction for expense related stock option and is not allowed tax deduction. Thus, this does not indicate that the use of stock options should be less costly for firms.

For individual executive, increasing the marginal personal tax rate leads to higher personal income tax liability which suggest that gains from stock option exercised will be imposed with higher tax. This is consistent with the study's result which indicates that high tax rate is likely to increase with gains from exercised. However, when the marginal tax rates decrease by 1 and 2 per cent in year 2009 and 2010, the stock options decrease substantially. This shows that stock option is sensitive to tax changes and when compared with the findings of Hall and Liebman (2000), stock options plan is found to be unresponsive to the changes in ordinary income tax rate. In addition, Huddart (1998) found that changes in tax rate might affect exercise behaviour, such that managers would prefer to exercise immediately before the tax rate increases. Thus managers would capture a large proportion in the value of stock options while the benefit will be taxed at low rates.

I also mentioned that stock option grants could be recognized until it is being exercised, so that taxpayer enjoys tax advantages usually for the next three to five years after the grant date. Granting firms could therefore use stock option plans as a tax shelter and gain the maximum benefits in tax. In other word, the stock option produces a unique non-debt tax shield. However, the current scenario in Malaysia firms is as such that they ignore this effect which may cause them to overstate the tax advantage and this leads to incorrect conclusions about the firm's status as being underleveraged. Apart from that, the literature indicates that stock options have tax

preferential as non-debt tax shields as a way of reducing debt financing. Nevertheless, since no deductions are allowed for stock option plans, Malaysia firm's are less sensitive about the advantages of stock options and whether this would serve as non-debt tax shield resulting in less debt financing and thereby reducing corporate tax payment.

Apart from that, former studies emphasis that stock option grants influence firm debt policy is associated with the capability of size to the effect of marginal corporate tax rates. Since the Malaysian stock option plans have long lives, usually ten years, this should be clear that today's stock option grants could produce two tax implications. The first effect is that stock option produces a huge deduction in the future and the second is no deduction at all which depends on the share price performance. However, Malaysia tax policy ignores all these implications.

For an efficient tax planning, executives have to estimate an amount of future stock option deductions based on the expected marginal tax rates. In fact, the personal marginal tax rate has incorporated tax benefits of exercise gains and includes the expected benefit from new stock option grants. Therefore, the relationship between stock option and marginal tax rate is a positive relation. Although, all evidence on tax implications are emphasized in the prior literature, under Malaysia taxation rules the individual taxpayer seemingly received slight tax benefits. Perhaps, the expenses-related to stock option plan is not allowed for deduction for calculating taxable income. But there is evidence which suggest that the tax benefit for stock option grants have dissimilar effect for personal taxation to cash pay. In some countries have imposed different tax rates for cash and equity pay, but the imposition of single tax rate for all types of compensation including gains arising from stock option grants make the different tax rate not particularly relevant for Malaysian equity pay. Moreover, the capital gain tax is also not relevant for the design of compensation contract in for Malaysian firms, while stock option plan have no tax advantage relatively to salary and bonus. Therefore, the tax effects for Malaysian stock option leads to ambiguous result.

7.0 CONCLUSIONS

7.1 Summary of the main findings

This section summarizes the key findings of four essays on executive stock option plans. In Essay 1, the legal structures governing executive stock option plan in Malaysia is examined. The results through the assessment of the relevant legal sources, the study documents some evidence of the legal frameworks find that the Malaysian law has modelled on the Anglo-Saxon system. Furthermore, Essay 1 provides evidence that the law as it is currently adopted in Malaysia is slightly similar with the law operated in most of developed markets. To date, however, the law reforms carried out are not enough to revamp certain provisions. As consequences, some parts of the law enforced are not strongly applied in Malaysia. The study also emphasises the following reasons which contribute to this issue as the existing legal system is unable to provide clear guidance although the main laws underpinning executive stock option plans like company and securities law have reformed comprehensively.

In the Essay 2 examined whether granting of executive stock option improves corporate performance by investigating Malaysia equity market reactions to plan announcements. The essay presents consistent evidence with former findings in prior and subsequent stock option announcements. However, such announcements do not reveal information value affirms the information leaks before an official announcement. Further finding indicates the top executive's behaviour for more selectively information releases in order to rule out the gains in short-terms. For long-term effect, the study finding fails to document evidence that stock option grants at executive levels improve firm value. This provides a scope for Malaysian regulatory bodies, practitioners and academicians to debate on the value-enhancing effect of executive stock option plans have. The finding also confirms that Malaysia stock option plans produce an early signal for existing shareholders that they will lose their ownership in the form of dilution effects.

In Essay 3 investigates the incentive of Malaysian executive stock option plans for reducing top management turnover. Our main interest has been to determine how well the Malaysian stock option plans reduce executive turnover and responding to the related question, this study identified the effect through firm-level factors. Following past literature, the influencing factors on executive turnover include firm performance, corporate governance characteristics, firm characteristics and level of pay. The result in Essay 3 documents a support that unhealthy stock option granting firm's increases turnover at executive levels using accounting and market performance measures. The study, however fails to document evidence that accounting measures are better than market–based performance measures for evaluating executive turnover. Further test shows that Malaysian executive replacements were either routine or forced, of which the result show that current firm performance among stock option granting firms have a significant impact on this decision. Other factors, the presence of family ownership shows that Malaysia executive turnover are not welcome and that strong family ties in stock option granting firms do not result in the removal of inefficient managers. Thus when family members are also a member of the board of directors, they protect themselves from being removed which supports the management entrenchment hypothesis. In addition, the result finds that older executive directors are less likely to be replaced than their younger counterparts, which suggests that their experience and expertise remains valuable. For corporate governance attributes, the board independence and CEO and chairman duality were found to be less involved with decision of executive turnover and the reason why the position of CEO and Chairman is maintained in Malaysian firms is for job security and for maintaining the family status quo. For firm size, the result produces less support for interaction to executive turnover and only firm listing on the main board has certain effect to executive turnover. This finding is in the line with prediction that firms subject to high level of business operation is usually represented by larger firm who are expected to decrease the turnover rate. The results also indicate that mix pay between equity and cash pay influence turnover. While, high value of unexercised executive stock option plans is found to provide less of incentive for promoting retention. This implies that firms fail to curb executive departures since executives are willing to lose stock option benefits over unexercised value.

In essay 4 investigates the tax and executive stock option plans. The analysis shows strong evidence that increasing stock option grants value do not necessarily mean that the role of cash payments has been replaced. Indeed, salaries and bonuses are still significant for Malaysia firms and executives. Enjoying the tax benefits, however, the taxpayer group usually did not gain the tax advantage immediately like cash payments. The empirical test further provides a support that change in marginal corporate tax rates did not produce tax deduction from stock option relative to immediate tax deduction provided by cash pay. The result suggests that Malaysian stock option plans do not produce tax benefits to firm which is inconsistent with data shows slight increase in trend of using stock option by 60 percent in 2010. Among the potential explanation is that stock option grants by Malaysia firms were found to be generally driven by a spirit of psychological contract between employees and firm. For individual executive, this essay documents an evidence that changes in tax policy influences personal income tax which suggests that stock option is sensitive to tax changes in ordinary income tax rate. In comparison with current practices emphasised in the finance literature, executive stock option plans offer the maximum tax benefit in the form of tax shelter or in other words, executive stock option plans have a unique non-debt tax shield. With the recent law practice in Malaysia making the firm ignores this kind of tax advantages and lead to wrongly estimate the tax liability. This result is clear that Malaysia firms overlook the tax preferential treatment for stock option plan as non-debt tax shields. And this has caused Malaysian firms to be less sensitive toward the benefits of stock option to yield less debt financing, thereby reducing corporate tax payment. The extent of executive stock option grants controls the firm's debt policy; however rely on the capability of the stock options grant size to influence marginal corporate tax rates. Moreover, the finding supports that an efficient tax planning, taxpayer (i.e firm) must estimate an amount of future stock option deductions based on the expected marginal corporate tax rates. But also that the marginal corporate tax rate has readily incorporated tax benefits of exercise gains and included are the expected benefit from new stock option grants. Therefore, the relationship between stock option and marginal corporate tax rate is a positive relation.

7.2 Implications of the study

The purpose of this section is to highlight limitations of the study and in doing so to offer some suggestions for future research arising from the literature, particularly with respect to emerging markets such as Malaysia. The Essay 1 has found that law reform in Malaysia's legal structure is not sufficient to ensure strong practices by the firm. Therefore, the Malaysian government should put in place a strong legal system by taking an immediate response to enforce new initiative. This could solve problems of amending provisions from being superseded. For example, so far, the Companies Act 1965 has passed a series of amendments and the establishment of the committee such as the Malaysian Corporate Law Reform Committee (CLCR) has modernised the laws in order to capture current needs.

The Essay 2 emphasises that stock option grants might contribute to manipulation in accounting measures as well as stock prices in order to increase executive personal wealth is likely to be a cause of public concerns. Therefore, this makes up the relevant groups and so a minority watchdog group should be called upon to monitor any decisions related to the adoption of stock options and executive's remuneration. The relevant authority such as Bursa Malaysia and Malaysia Securities of Commission (SC) should also seek a mechanism that would provide external parties to monitor and check on executive's remuneration especially in firms with high concentrated shareholdings. This includes the rule pertaining to stock option plans which should be revised to reflect the concern brought up by this study.

For the Essay 3, executive turnover is a crucial event to firm because it has some impact on firm performance; therefore, the main reason of turnover should be included in disclosure. Due to lack of rules which required firm disclose for reason of top executive turnover, making it difficult for investors and stakeholders to estimate the effect, particularly on corporate value. Therefore, the regulators such as Bursa Malaysia should enforce mandatory disclosure concerning executive replacements, which should not only be limited to CEO or Chairman. The information disclosure should be timely in order facilitate the market response appropriately to any executive change announcements.

For the Essay 4, personal tax is a one of the main source of government revenue, therefore Malaysian Ministry of Finance through Inland Revenue Boards (MIRB) uses the marginal tax rate (corporate or personal) to design the tax system that might reduce the taxed income among taxpayer groups and find the alternative source of government revenues. The alternative source of income can able used to support programs for tapering income differences. For business taxpayers, as an instance, the equity compensation-related expenditure should be allowed for tax deduction to ensure that firm might enjoy full benefits from stock option plans have in most developed market like US and similar tax saving treatment for individual taxpayer groups who granted with stock options.

In conclusion, the study has achieved its objective to understand the incentive effect behind executive stock option plans for Malaysian corporate scenario. In this study, it is found that stock option is granted as a means of increasing firm performance, reduce executive turnover and enjoy tax benefits. However, the study finds less evidence to suppo t the relationship of executive stock option, firm performance and tax saving. This view arises based on a prior review of the literature but using the Malaysia corporate scenario, the effect does not materialize. Therefore, the test result questions the efficiency of Malaysia executive stock option plans.

7.3 Limitations of the study

This study has a number of limitations that affect the interpretation of the empirical results such as:

1. This study used a new dataset to examine the equity pay of executive. Unlike to most studies in developed market, data is more conveniently available. Therefore, relying on single source of publicly available information such as annual repo ts contribute to less accuracy in empirical result as applied in similar studies. Therefore, using mixed approach such as interviews with stock option granting

firms, managers and employees might increase the accuracy of the interpretations of the main findings.

2. For tax data consists of tax paid by individual as well firm are not allow for public access. The tax forms are confidential and until recently, the Malaysian government is not disclosed the identity and the total bill of all taxpayer groups. Therefore, I do not completely recognize the exact amount and a direct measure of the firm payments for executive. Relying on secondary data to estimate the incentive effect from tax standpoints affect accuracy for study conclusions.

3. This study's observation period excludes the years when Malaysia experienced the economic crisis (such as the Asian Financial Crisis period 1997). Including the hurdle time might improve the result associated with the effect during poor economic conditions.

7.4 Conclusions

To conclude, this thesis contributes new evidence on four various issues in equity payments for executive employees. The contribution not only enlarged the existing literature, but it also produces input for policy maker such as Malaysian Ministry of Finance (MOF) and related authority bodies like Bursa Malaysia, Securities of Commissions Malaysia (SC) and Registrar of Companies (ROC). The thesis finding also provides information for other stakeholders such as investors. From the findings, this emphasises that all stakeholders should not overlook the role of executive stock option plans, in fact the stock option plan is essential for promoting interests alignment mechanism and corporate governance practices as the unique Malaysian corporate setting indicates a potential for conflicting interest between agents and principals as well as between majority and minority shareholders. Therefore, the authority bodies such as Bursa Malaysia should play a role in encouraging the use of stock option plans, particularly in family founding firms in order to mitigate such problems. This is consistent with the existing literature which presents conclusive evidence that stock option plan is an ideal approach to align the interest of executives and shareholders. Accordingly, it reduces agency cost and other organizational problems and would generate better financial performances or

alternatively, executive stock option plan could serve the purpose for which it was intended to be used by the firm.

References

Abdelaziz, E.M., Amine,L., & Lanour, C. (2011). Stock Options and the Performance of CAC40 listed companies. *International Journal of Economics and Finance, 3*(1), 218-228.

Abdul Rahman,R.,& MohamedAli,F.H. (2006) .Board, audit committee,culture and earnings management:Malaysian evidence. *Managerial Auditing Journal, 21*(7),783–804.

Abidin,S. (2006). Audit market concentration and auditor choice in the UK. Unpublished doctoral thesis,University of Stirling,United Kingdom

Aboody,D. (1996). Market Valuation of Employee Stock Options. *Journal of Accounting and Economics, 22*, 357-391.

Aboody, D. , & Kasznik,R. (2000). CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures. *Journal of Accounting and Economics, 29*, 73-100.

Adams, J. S. (1965). Inequity in social exchange. in L. Berkowitz (Ed.), *Advances in experimental social psychology 2,* 267-299. New York: Academic Press.

Aier,J.K. , & Moore,J.A. (2008). The Impact of Tax Status on the Relation between Employee Stock Options and Debt. *Journal of American Taxation Association, 30*(1), 55-75.

Amromin, G., & Liang, N. (2003). Hedging Employee Stock Options, Corporate Taxes, and Debt. *National Tax Journal, 56*(3), 513-533.

Anderson, C. A. , & Anthony, R. N. (1986). *The new corporate directors: Insights for board members and executives.* New York: Wiley Publication.

Anderson, M.C. (1999). Employee stock options: exercise decisions by top executives. *Managerial Finance 25* (10), 50 – 60.

Anderson,M.C., Banker,R.D., & Ravindran,S. (2000). Executive Compensation in the Information Technology Industry. *Management Science 46* (4),530-547.

Anderson,R.C., & Reeb,D.M. (2003). Founding-Family Ownership and Firm Performance: Evidence from the S&P 500.*The Journal of Finance 58*(3),1301-1327.

Ariff,M., Shamsher,M., & Nasir,A.M. (1998). Stock Pricing in Malaysia: Corporate Financial and Investment Management. Universiti Putra Malaysia Press:Serdang

Baker, T.A. (1999), Options reporting and the political costs of CEO pay, *Journal of Accounting, Auditing and Finance,* 125-145.

Balsam,S., Gifford,R., & Kim, S. (2007). The effect of stock option grants on voluntary employee turnover. *Review of Accounting and Finance, 6* (1). 5-14.

Balsam,S., & Miharjo,S. (2007). The Effect of Equity Compensation on Voluntary Executive Turnover. *Journal of Accounting and Economics, 43*,95-119.

Balsam,S. (2012). *Taxes and Executive Compensation* (Briefing Paper 344). Washington D.C. : Economic Policy Institute.

Barro, J.R., & Barro, R.J. (1990). Pay, Performance, and Turnover of Bank CEOs. *Journal of Labor Economic, 8* (4), 448-481.

Bebchuk, L., & Fried,J. (2003). Executive Compensation as an Agency Problem, *Journal of Economic Perspectives, 17*, 71-92.

Bebchuk, L., & Grinstein,Y. (2005), The Growth of Executive Pay, *Oxford Review of Economic Policy, 21*(2), 283-303.

Beiner, S., Drobetz,W., Schmid,F. & Zimmermann, H. (2004). Is board size an independent corporate governance mechanism? *Kyklos, 57*, 327–356.

Bettis, J.C., Bizjak,J.M., & Lemmon,M.L. (2005). Exercise Behaviour, Valuation and the Incentive Effects of Employee Stock Options. *Journal of Financial Economics 76*(2). 445-470.

Bhagat,S., & Black, B.S. (2001). The Non-Correlation between Board Independence and Long-Term Firm Performance. *Journal of Corporation Law,27*,231-274.

Black, F., & Scholes, M. (1973). The pricing of options and corporate liabilities. *Journal of Political Economy, 81*, 637-659.

Black, B.S., Jang,H., & Kim,W. (2002). *Does Corporate Governance Affect Firm value? Evidence from Korea* (Working Paper No.237). Standford Law School.

Blasi, J., Freeman,R., Mackin,C., & Keuse,D. (2010). *Creating a bigger pie? The effects of employee ownership, profit sharing and stock options on workplace performance,Shared Capitalism at work: employee ownership,Profit and Gain Sharing and Broad-Based Stock Options.* Doughlas Kruse,Richard Freeman and Joseph Blasi (Ed.). Chicago: University of Chicago Press.

Boeker,W., and Goodstein,J. (1993). Performance and Successor Choice : The Moderating Effects of Governance and Ownership. *The Academy of Management Journal, 36*(1), 172-186.

Borokhovich, K.A., Brunarski, K.R., Donahue, M.S., & Harman,Y.S. (2006). The Importance of Board Quality in the Event of a CEO Death. *The Financial Review, 41*,307-337.

Boyd, T., Brown, P., & Szimayer, A. (2007). What determines early exercise of employee stock options in Australia?. *Accounting and Finance, 47*(2), 165-185.

Brenner, M.,Sundaram, R. & Yermack. K. (2000). Altering the terms of executive stock options. *Journal of Financial Economics, 5*(1). 103-128.

Brickley, J., Bhagat, S. & Lease, R. (1985). The impact of long-range managerial compensation plans on shareholder wealth. *Journal of Accounting and Economics*, 115-129,

Brook,C. (2008). *Introductory Econometrics for Finance* (2nd Edn). Cambridge:UK

Brown, S., & Warner, J. (1985). Using Daily Stock Returns: The Case of Event Studies. *Journal of Financial Economics,14*,3-31.

Bulan, L.P., Sanyal, P., & Yan, Z. (2010). A Few Bad Apples: An Analysis of CEO Performance Pay and Firm Productivity. *Journal of Economics and Business, 62*, 273-306.

Bushman, R. M., & Indjejikian, R. J. (1993). Accounting income, stock price, and managerial compensation. *Journal of Accounting and Economics, 16*(1-3), 3-23.

Carpenter, J.N. (1998). The Exercise and Valuation of Executive Stock Option. *Journal of Financial Economics, 48*, 127-158.

Carr, P., & Linetsky,V. (2000). The valuation of Executive Stock Opytions in an Intensity-Based Framework. *European Finance Review, 4*. 211-230.

Chauvin, K., & C. Shenoy. (2001). Stock Price Decreases Prior to Executive Stock Option Grants. *Journal of Corporate Finance, 7*, 53-76.

Cheung, Y.L., Rau, P.R. & Stouraitis, A. (2006). Tunnelling, propping and expropriation : evidence from connected party transactions in Hong Kong. *Journal of Financial Economics 82*,343-386.

Chourou, L., Abaoub, E., & Saadi, S. (2008). The economic determinants of CEO stock option compensation. *Journal of Multinational Financial Management, 18*(1), 61-77.

Claessens, S., Djankov,S., & Lang, L.H.P. (2000). The Separation of Ownership and Control in East Asian Corporations. Journal of Financial Economics, 58,81-112.

Cohen, J.W. (1988). *Statistical power analysis for the behavioral sciences* (2nd edn). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cohen, R. B., Hall B. J., and Viceira,L. M. (2000), *Do Executive Stock Options Encourage Risk- Taking?* (Working Paper). Harvard Business School.

Coles, J.L., Daniel,N.D., & Naveen, L. (2005). *Boards: Does one size fit all?* (Working paper). Arizona State University.

Conyon, M.J., & Leech, D. (1994). Top pay, company performance and Corporate Governance. *Oxford Bulletin of Economics and Statistics, 56* (3), 229-247.

Conrad, J. (1989), The price effect of option introduction, *Journal of Finance, 44*, 487-498.

Corrado, C.J. (1989). A nonparametric test for abnormal security-price performance in event studies. *Journal of Financial Economic, 23* (2), 385–395.

Core, J., Holthausen, R., & Larker, D. (1999). Corporate governance, chief executive officer compensation and firm performance. *Journal of Financial Economics, 51*, 371-406.

Core J.E., & Guay W.R. (2001). Stock option plans for non-executive employees, *Journal of Financial Economics, 61* (2). 253-287.

Cosh,A., & Hudges,A. (1997). Executive remuneration, executive dismissal and institutional shareholdings. *International Journal of Industrial Organization, 15*, 469-492.

Coughlan,A., & Schmidt, R. (1985). Executive compensation, management turnover and firm performance. *Journal of Accounting and Economics, 7* (1-3),43-66.

Cowan, A.R. (1992). Non-parametric event study tests. *Review of Quantitative Finance and Accouning, 2,* 343-358.

Cox,J.C., Ross,S.A. & Rubinsten,M. (1979). Option Pricing: A Simplified Approach. *Journal of Financial Economics, 7*, 229-263.

Cresson,J.E. (2007). Stock market reactions to first-time employee stock ownership plan adoption. *Academy of Accounting and Financial Studies Journal, 11*(2).

Dahya,J., Garcia,L.G., & Bommel,J.V. (2009) .One Man Two Hats-What's All the Commotion. *The Financial Review, 44*(2),179-212.

Dechow, P.M., Sloan,R.G., & Sweeney, A.P. (1996). Causes and Consequences of Earnings Manipulation: An Analysis of Firms Subject to Enforcement Actions by the SEC. *Contemporary Accounting Research, 13,* 1-36.

Defond,M.L., & Hung,M. (2004). Investor Protection and Corporate Governance: Evidence From Worldwide CEO Turnover. *Journal of Accounting Research, 42*(2), 269-312.

DeFusco. R., Johnson, R., & Zorn, T. J. (1990). The effect of executive stock option plans on stockholders and bondholders. *Journal of Finance, 45*(2), 617-627.

Denis,D.J., & Denis, D.K. (1995). Performance Changes Following Top Management Dismissals. *Journal of Finance, 50*(4), 1029-1057.

Denis, D.J., Denis,D.K., & Sarin,A. (1997). Ownership Structure and top executive turnover. *Journal of Financial Economics, 45*, 193-221.

DeTemple, J., & D. Jorion (1990), Option listing and stock returns, *Journal of Banking and Finance, 14*, 781-802.

Dillavou, E. R. (1945). Employee Stock Options. *Accounting Review, 20* (3), 320.

Ding,D.K., & Sun, Q. (2001), Causes and Effect of Stock Option Plans: Evidences from Singapore,*Pacific-Basin Finance Journal, 9*,563-599.

Duffhues,P., Kabir,R., Mertens, G., & Roosenboom, P. (2003). Employee Stock Option Grants and Firm Performance in the Netherlands. *Bedrijsskunde, 75*, 667-678.

Duffhues P., & Kabir,R. (2008). Is the Pay-performance Relationship always Positive?: Evidence from the Netherlands. *Journal of Multinational Financial Management, 1*,45-60.

Earle, J. & Sabirianova P., K. (2002). How Late to Pay? Understanding Wage Arrears in Russia. *Journal of Labor Economics 20*(3), 661-707

Espen,G.H., & Nassim, N.T.(2009). Why We Have Never Used the Black-Scholes-Merton Option Pricing Formula [Electronic version]. SSRNeLibrary.

Faleye, O. (2003). Are Large Boards Poor Monitors? Evidence from CEO Turnover retrieval in SSRN: http://ssrn.com/abstract=498285, *EFMA 2004 Basel Meetings Paper*.

Fee,C.E., & Hadlock, C.J. (2003). Raids,Rewards and Reputations in the market for managerial talent. *Review of Financial Studies, 16*(4),1315-1357.

Fich, E., & Shivdasani, A. J. (2005). The Impact of Stock-Option Compensation for Outside Directors on Firm Value. *Journal of Business, 78* (6), 2229-2254.

Finkelstein, S. (1992). Power in Top Management Teams:Dimensions, Measurement and Validation. *The Academy of Management Journal, 35*(3), 503-538.

Finnerty, J.D. (2005). Exact of Formula For Pricing Bonds and Options Interest Rtae Diffusions Contain Jumps. *Journal of Financial Research, 28* (3). 319-341.

Fishman, J. (2003, July 11), Microsoft stock options decision has Connecticut companies rethinking policy. *Knight Ridder Tribune Business News.*

Freeman, S. F. (2007). Effects of ESOP Adoption and Employee Ownership: Thirty years of Research and Experience (Working Paper #07-01). Organizational Dynamics Programs: University of Pennsylvania.

Gaver, J., and Gaver, K. (1993). Additional evidence on the association between the investment opportunity set and corporate financing, dividend, and compensation policies. *Journal of Accounting and economics, 16*, 125–160.

Gelderblom,O., & Jonker. J. (2003). *Amsterdam as the cradle of modern futures and options trading 1550-1650* (Nieuwe Working Paper 2010).

Gerety, M., Hoi, C. K., & Robin, A. (2001). Do Shareholders Benefit from the Adoption of Incentive Pay for Directors?. *Financial Management, 30*, 45–61.

Gibson, M.S. (2003). Is corporate governance ineffective in emerging market?. *Journal of Financial and Quantitative Analysis, 38,* 231-250.

Golsbee,A. (2000). What Happens When You Tax the Rich? Evidence from Executive Compensation. *The Journal of Political Economy, 108*(2), 352-378.

Gonzales,L.G. & Gutroviy, R. (2008). How Much to Pay in Cash? Employee Retention via Stock Options. Working papers series on Strategic Interaction. Available at : http://www.econbiz.de/Record/how-much-to-pay-in-cash-employee-retention-via-stock-options-gurtoviy-ruslan/10005765181

Goyal.V.K., & Park,C.W. (2002). Board leadership structure and CEO turnover. *Journal of Corporate Finance, 8*,49-66.

Graham,J.R., & Rogers,D.A. (2002). Do Firms Hedge in Response to Tax Incentive?.*The Journal of Finance, LVII*(2).815-839.

Graham, J. R., Lang, M. H., & Shackelford, D. A. (2004). Employee stock options, corporate taxes, and debt policy. *Journal of Finance, 59*, 1585-1618.

Gritsch,M., & Snyder,T. (2007). Taxing Options:Do Ceos Respond to Favourable Tax Treatment of Stock Options?. *Eastern Economics Journal, 33*(3), 343-357.

Hafiza Aishah, H. & Susela D. (2009). Board Characteristics, ownership structure and earnings quality : Malaysian evidence. *Research in Accounting in Emerging Economies 8*, 97 – 123.

Hall,R.E., & Rabuskha,A. (1983). *Low Tax Simple Tax*. New York: McGraw-Hill.

Hall, B. J. (1998). *The pay to performance incentives of executive stock options* (Working paper No. w6674). National Bureau of Economic Research.

Hall, B.J., & Liebman, J.B. (1998). Are CEOs really paid like bureaucrats. *Quarterly Journal of Economics, 113*, 653-691.

Hall, B., & Liebman, J. (2000). The taxation of executive compensation retrieval from http://www.nber.org/chapters/c10845. *Tax Policy and the Economy, 14*,1-44.

Hall, B. (2000). What You Need to Know About Stock Options. *Harvard Business Review* March-April 2000.

Hall, B.J., & Murphy,K.J. (2002). Stock Options for Undiversified Executives. *Journal of Accounting and Economics, 33.*

Hall, B.J., & Murphy, K.J. (2003). The Trouble with Stock Options. *Journal of Economic Perspectives, 17*(3). 49-70.

Haleblian,J., & Finkelstein, S. (1993). Top Management Team Size, CEO Dominance, and Firm Performance: The Moderating Roles of Environmental Turbulence and Discretion. *The Academy of Management Journal, 36* (4), 844-863.

Hanlon, M., & Shevlin, T. (2002). Accounting for Tax Benefits of Employee Stock Options and Implications for Research. *Accounting Horizons, 16*(1), 1-16.

Hanlon,M., Rajgopal,S., & Shevlin,T.J.(2003). Are executive stock options associated with future earnings?. *Journal of Accounting and Economics, 36* (1-3), 3-43.

Haniffa, R.M., & Cooke, T.E. (2002). Culture corporate governance and disclosure in Malaysian corporations. *Abacus, 38*,317-349.

Haniffa, R.M., & Hudaib, M. (2006). Corporate Governance Structure and Performance of Malaysian Listed Companies. *Journal of Business Finance and Accounting, 33* (7-8), 1034-1062.

Harrel, F.E. (2001). *Regression Model Strategies: With Application to Linear Models, Logistic Regression and Survival Analysis*. USA: Springer.

Hasenhuttl M., & Harrison J. R, (2002). *Exit or Loyalty: The Effects of Compensation on CEO Turnover* (Working Paper). University of Texas, Dallas.

Hassan, H., & Hoshino, Y.(2007). The performance Impacts of stock options in Japan, *Japanese Journal of Administrative Science, 20*, 27-41.

Heath, C., Huddart,S., & Lang, M. (1999). Psychological Factors and Stock Option Exercise. *The Quarterly Journal of Economics,* 114 (2), 601-627.

Hillegeist, S. A., & Penalva, F. (2004). *Stock Option incentives and firm performance* (Working Paper No 535). IESE Business School, University of Navarra.

Hite, G.L., & Long, M.S. (1982). Taxes and Executive Stock Options. *Journal of Accounting and Economics, 4*(1), 3-14.

Hochberg,Y., &d Linsey,L. (2010). Incentive, Targeting nd Firm Performance: An Analysis of Non-executive stock options: An Analysis of non-executive stock options. *Review of Financial studies, 23*,4148-4186.

Hou, O., & Chuang, S. (2007). CEO turnover, board chairman turnover, the key determinants: Empirical study on Taiwan listed company. *The Business Review*, *7*(2), 129.

How, J., Jelic, R., Saadouni, B., & Verhoeven, P.(2007) . Share Allocations and Performance of KLSE Second Board IPOs. *Pacific-Basin Finance Journal, 15*(3), 292-314.

Hsu-Huei,H., Paochung,H. , Haider,A.K., & Yun-Lin,Y. (2008). Does the Appointment of an Outside Director Increase Firm Value? Evidence from Taiwan. *Journal Emerging Markets Finance and Trade , 44*(3), 66-80

Huddart, S. (1994). Employee Stock Options. *Journal of Accounting and Economics*, 207-231.

Huddart, S., & Lang, M. (1996). Employee stock option exercises an empirical analysis. *Journal of Accounting and Economics, 21*(1), 5-43.

Huddart,S. (1998),Tax Planning and the Exercise of Employee Stock Option. *SSRN eLibrary*

Huson,M.R., Parrino,R., & Starks, L.T. (2001). Internal monitoring mechanisms and CEO turnover: a long term perspective. *The Journal of Finance, 56*(6). 2265-2297.

Huson, M. R., Malatesta,P. H., & Parrino, R. (2004). Managerial succession and firm performance. *Journal of Financial Economic, 74*, 237-275.

Hutchinson, M. (2003). An Analysis of the Association between Firm Risk, Executive Share Options and Accounting Performance: Some Australian Evidence. *Review of Accounting and Finance, 2* (3), 48 – 71.

Jensen,M.C., & Meckling,W.H. (1976). Theory of the Firm:Managerial Behaviour, Agency Costs and Ownership Structure. *Journal of Financial Economics, 3*(4), 305-360.

Jensen, M.C. 1993. The modern industrial revolution, exit and the failure of internal control mechanisms. *Journal of Finance 48*, 831–880.

Jennergren,I.P., & Naslund, B. (1993). A Comment on Valuation of Executive Stock Option Options and the FASB Proposal. *Accounting Review 68,* 178-183.

Kahle, K. M., & Shastri, K. (2005). Firm performance, capital structure, and the tax benefits of employee stock options. *Journal of Financial and Quantitative Analysis, 40*(1), 135-160.

Kang, J. K., & Shivdani,A. (1996). Does the Japanese governance system enhance shareholder wealth? Evidence from the stock price effects of top management turnover. *The Review of Financial Studies, 9,* 1061-1095.

Kang, J.K.(2002). Handbook on company secretarial practice in Malaysia (3rd Edition). Kuala Lumpur : LexisNexis Business Solutions.

Kaplan, S.N. (1994). Top Executive Rewards and Firm Performance: A Comparison of Japan and the United States. *Journal of Political Economy,102* (3), 510-546.

Kaplan S.N. & Minton, B.A. (2008). *How has CEO Turnover Changed? Increasingly Performance Sensitive Boards and Increasingly Uneasy CEOs* (NBER Working Papers 12465). National Bureau of Economic Research.

Kato, H.K., Lemmon, M., Luo,M., & Schallheim, J. (2005). An Empirical Examination of the Costs and Benefits of Executive Stock Options: Evidence from Japan. *Journal of Financial Economics, 78*(2), 435-461.

Katustak, (2004).The Impact of Personal Income Taxation on Executive Compensation retrieval in at http://ssrn.com/abstract=649851. *Proceedings from the 98th Annual Conference of the National Tax Association.*

Katustak,P. (2009). Taxes and Executive Compensation: Evidence From the 1990s. *CESifo Economics Studies 55* (304), 542-568.

Kedia S., & Mozumdar,A. (2002). Performance Impact of Employee Stock Options retrieval in http://ssrn.com/abstract=384188. *AFA 2003 Washington D.C. Meetings*

Klein,A. (2002). Audit Committee, Board of Director Characteristics and Earning Management. *Journal of Accounting and Economics, 33* (3), 375-400.

Kim, N. J. (1990). Do long-term incentive plans matter? *Business Forum, 15*(2), 15.

Kole,S. (1997). The complexity of compensation contracts. *Journal of Financial Economics, 43*(1). 79-104.

Kulatilaka, N., & Marcus, J. (1994): "Valuing Employee Stock Options. *Financial Analyst Journal, 50*(6), 46-56.

Lambert, R., Larcker,D., & Verrecchia, R. (1991). Portfolio Considerations in Valuing Executive Compensation. *Journal of Accounting Researc, 29*, 129-149.

Landsman, W., Lang, M., & Yeh, S. (2007). Governance and the Split of Options between Executive and Non-executive Employees. *Journal of Accounting Auditing and Finance, 22* (2), 109-138.

Langmann,C. (2007). Stock Market Reaction and Stock Option Plans: Evidence from Germany.*SBR (59)*, 85-106.

La Porta,R., De-Silanes,F.l., & Shleifer,A. (1999).Corporate ownership around the world. *Journal of Finance LIV (2),* 471-517.

Larker,D.F. (1983), The association between performance plan adoption and corporate capital investment. *Journal of Accounting and Economics, 5*, 3-30.

Lausten, M. (2002). CEO turnover, firm performance and corporate governance : Empirical evidence on Danish firms. *International Journal of Industrial Organization, 20*, 319-414.

Lehman, E.L.(1975). *Nonparametrics: Statistical Methods Based On Ranks.* Holden-Day: San Francisco.

Leonhardt, D. (April 19, 2000). Technology share downturn diminishing stock options. *The New York Times,* p.C1.

Lie, E. (2005). On the Timing of CEO Stock Option Awards. *Management Science 51* (5), 802-812.

Lipton, M., & Lorsch, J.W. (1992).A modest proposal for improved corporate governance, *Business Lawyer 48*, 59–77.

Lu,W., Reising,J., & Stohs,M.H. (2007).Managerial Turnover and ESOP Performance. *Quarterly Journal of Business & Economics, 46* (1), 3-19.

Ikaheimo,S., Kjellman,A., Holmberg,J., & Jussila,S. (2004)Employee Stock Option Plan and Stock Market reaction: Evidence from Finland. *The European Journal of Finance,10*:2,105-122.

Iqbal,Z., & French, D.W. (2007). Executive share ownership, trading behavior, and corporate control: Evidence from top management turnover during financial. *Journal of Economics and Business,59*(4), 298-312.

Ittner, C.D., Lambert, R.A., & Larcker, D. F. (2003). The structure and performance consequences of equity grants to employees of new economy firms. *Journal of Accounting and Economics, 3,*. 89–127.

Matsuura, Y. (2003). The Market Reaction to Stock Option Plan Introduction in Japan retrieval in http://journals.hil.unb.ca/index.php/JCIM/article/view/441/733. *Journal Of Comparative International Management, 6*(1).

Maury,B. (2006). Corporate performance. corporate governance and top executive turnover in Finland. *European Financial Management, 12*, 221-248.

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

Mehran, H. and Yermack, D. (1997). *Compensation and Top Management Turnover* (Working Paper Series 1998). Department of Finance, New York University.

Merton, H. M.,& Scholes,M.S. (1982). Dividends and Taxes : Some Empirical Evidence. *Journal of Political Economy, University of Chicago Press 90*(6), 1118-1141.

Meulbroek, L. K, (2001). The efficiency of equity-linked compensation: Understanding the full cost of awarding executive stock options. *Financial Management, 30*(2), 5-30.

Miller,M.H., & Scholes, M.S. (1982). Dividends and Taxes : Some Empirical Evidence. *The Journal of Political Economy,90* (6), 1118-1141.

Mori, J. (1997). Japan Gives Green Light to Employee Share Options. *16 International Finance Law Review*, 45-46.

Morck, R., Shleifer, A. & Vishny, R.W. (1989). Alternative mechanisms for corporate control. *The American Economic Review, 79* (4), 842-52.

Moscu,R.G. (2013). Does CEO Duality Really Affect Corporate Performance?. *International Journal of Academic Research in Economics and Management Science, 2*(1), 156-166.

Murphy, K. (1999). *Executive compensation*. Handbook of Labor Economics (3rd Edn). North Holand.

Murphy, K.J., & Hall,B.J. (2000).Optimal Exercise Prices for Executive Stock Options. *American Economic Review, American Economic Association 90*(2), 209-214.

Nagaoka, S. (2005). Determinants of the Introduction of Stock Options by Japanese Firms: Analysis from the Incentive and Selection Perspectives. *Journal of Business, 78* (6), 2289-2315.

Obiyathulla, I. B., Sharifah Raihan S,M. Z., Mohd Eskandar S.M.R. and Azhar M. 2009. Granting Employee Stock Options (ESOs), Market Reaction and Firm Performance. *Asian Academy of Management Journal of Accounting and Finance,5*(1), 117–138.

Oyer, P. (2004). Why Do Firms Use Incentives That Have No Incentive Effects?. *The Journal of Finance, 59*(4), 1619-1649.

Oyer, P., & Schaefer, S. (2005). Why do some firms give stock options to all employees?: An empirical examination of alternative theories. *Journal of Financial Economics, 76*(1). 99-133.

Ozkan, N. (2009). CEO Compensation and Firm Performance: An Empirical Investigation of UK Panel Data. *European Financial Management, 17*,260-285

Pallant, J. (2011). *SPSS Survival Manual: A Step by step guide to data analysis using SPSS*. McGraw-Hill International: NSW, Australia.

Pandher,G.S. (2003). Valuation of Stock Option Grants under Multiple Severance Risks. *Journal of Derivatives 11*(2).25-37.

Parrino, R. (1997). CEO turnover and outside succession, a cross-sectional analysis. *Journal of Financial Economics,46,* 165-97.

Pascoe, J. (2008). Corporate Law Reform and Some 'Rule of Law of Law Issues in Malaysia. *Hong Kong Law Journal 38*, 769.

Pergola, T. (2005). Management entrenchment: Can it negate the effectiveness of recently legislated governance reform? *The Journal of American Academy of Business, 2*, 177-183.

Pierce, J.L., Rubenfeld, S.A. & Morgan, S. (1991). Employee ownership: a conceptual model of process and effects. *Academy of Management Review*, 16 (1), 121-44.

Rachpradit,P., Tang, J.C.S., & Khang, D. B. (2012). CEO turnover and firm performance: evidence from Thailand. *Corporate Governance, 12*(2), 164-178.

Rajgopal, S., & Shevlin, T. (2002). Empirical Evidence on the Relation between Stock Option Compensation and Risk Taking. *Journal of Accounting and Economics, 33(*2), 145-171.

Renneboog, L. (2000). Ownership, managerial control and the governance of companies listed on the Brussels stock exchange. *Journal of Banking and Finance, 24*, 1959--1995

Rhim,J.C., Peluchette,J.V., & Song,L. (2006). Stock Market Reactions and Firm Performance surrounding CEO succession: Antecedents of Succession and Successor Origin. *Mid-American Journal of Business, 21*,21-30.

Rokiah Ishak, (2011). Corporate Performance, CEO Power and CEO Turnover: Evidence From Malaysian Public Listed Companies, Presented in *2nd International Conference on Business and Economics Research (2nd ICBER)*, March 2011.

Rubinstein, M. (1995). On the Accounting Valuation of Employee Stock Options. *Journal of Derivatives, 3*(1), 8-24.

Salsiah, M.A., Norman,M.S., & Mohamat,S.H.(2008). Ownership Structure and Earnings Management in Malaysian Listed Companies: The Size Effect. *Asian Journal of Business and Accounting 1*(2), 89-116

Samsa, M.K. & Scheidt,K.S. (2003). *International Employee Equity Plans: Participation Beyond Border*. The Hague:.Kluwer Law International.

Sanders, W. G. (2001). Behavioral responses of CEO's to stock ownership and stock option pay. *Academy of Management Journal, 44*, 477-492.

Sanders, W.M.G., & Hambrick. D.C. (2007).. Swinging for the Fences: The Effects of CEO Stock Options on Company Risk Taking and Performance. *Academy of Management Journal 50*,1055-1078.

Sautner, Z., & Weber, M. (2005). *Corporate Governance and the Design of Stock Option Programs*. AFA 2007 and EFA 2006 Paper.

Sharma,K. (2006). Understanding Employee Stock Options. *Global Business Review. 7* (1), 77-93.

Selvarajan, T. T. , Ramamoorthy, N. , Flood , P. C. & Rowley, P. (2006). Employee Stock Option Plans and Employee Attitudes: A Test of Extrinsic versus Intrinsic Models. *International Journal of Sociology and Social Policy, 26*(5/6), 245-254

Serdar,I. Parker,O. Wesep,V., & Dickersin,E. (2011). The Option to Quit: The Effect of Employee Stock Options on Turnover. Retrieved in SSRN: http://ssrn.com/abstract=1787169

Sesil, J.C., Kroumova, M.K., Blasi, J.R., & Kruse, D. L. (2002). Broad-based Employee Stock Options in U.S New Economy Firms. *British Journal of Industrial Relations, 40*(2). 273-294.

Sheehan,K. (2009). The Regulatory Framework for Executive Remuneration in Australia. *Sydney Law Review, 31*, 273-308.

Shen, W., & Canella, A. A. (2002). Power Dynamics within Top Management and Their Impacts on CEO Dismissal Followed by Inside Succession. *The Academy of Management Journal 45*(6), 1195-1206.

Shivdasani,A., & Yermack, D. (1999). CEO involvement in the selection of new board members: An empirical analysis. *Journal of Finance,54*, 1829-1853.

Sigler,K.J. (2009). A brief overview of executive stock options in reducing the agency problem of excessive risk aversion. *Management Research News, 32*(8), 762-766.

Smith,G.S., & Swan, P.L. (2008), The Road to Riches: CEO Incentives and Firm Performance. Retrieved at SSRN: http://ssrn.com/abstract=1089968

Smith, C.W., & Watts, R.L. (1982). Incentive and tax effects of U.S. executive compensation plans. *Australian Journal of Management 7*, 139-157.

Suchard, J., Singh,M., & Barr, R. (2001). The Market Effects of CEO Turnover in Australian Firms. *Pacific-Basin Finance Journal, 9*(1), 1-27.

Tehranian, H.,& Waegelein, J. (1985). Market reaction to short-term executive compensation plan adoption. *Journal of Accounting and Economics,7*, 131-144.

Thompson, P. (2003). Expensing share options on the horizon. *Akauntan Nasional*, 26-28.

Triki, T., & Ureche-Rangau, L. (2012). Stock Options and Firm Performance: New Evidence from the French Market. *Journal of International Financial Management and Accounting, 23* (2), 154–185.

Tsai, W., Hung, J., Kuo, Y.,& Kuo, L. (2006). CEO Tenure in Taiwanese Family and Nonfamily Firms: An agency Theory Perspective. *Family Business Review*,11-28.

Tzioumis, K. (2008). Why do firms adopt CEO stock options?: Evidence from the United States. *Journal of Economic Behaviour and Organization, 68*,100-111.

Uchida, K. (2006). Determinants of Stock Option Use by Japanese Companies. *Review of Financial Economics, 15*(3), 251-269.

Volpin,P.F. (2002). Governance with Poor Investor Protection: Evidence from Top Executive in Italy. *Journal of Financial Economics, 64*(1).61-90.

Wang,Y., & Ma,J. (2008). A Review of Theoretical and Empirical Research on Warrant Pricing. *Published in Natural Computation, ICNC 08 Fourth International Conference* , 18-20 October 2008, Jinan, China.

Wan Hussain W.N. (2009). The impact of family-firm structure and board composition on corporate transparency: evidence based on segment disclosures in Malaysia. *The International Journal of Accountin, 44* (4),313-333.

Warner, J., Watts, R., & Wruck, K. (1988). Stock prices and top management changes. *Journal of Financial Economics 20* (1-2), 461-492.

Weisbach, M.S. (1988). Outside directors and CEO turnover. *Journal of Financial Economics 20*,431-460.

Williamson, J.A., &Klener, B.H. (2004). The Use of Options in Compensation Packages. *Management Research News, 27* (4/5), 23-31.

Yeo, G. H. H., Chen, S. S., Ho, K. W., & Lee, C. (1999). Effects of executive share option plans on shareholder wealth and firm performance: The Singapore evidence. *Financial Review, 34*(2), 1-20.

Yermack, D. (1995), Do corporation award CEO stock options effectively, Journal *of Financial Economic*, *39*, 237-269.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 20*, 185-213.

Yermack, D. (1997). Good Timing: CEO Stock Option Awards and Company News Announcements. *The Journal of Finance*, *52* (2), 449-476.

Yong,K.C. (2012). The Progressivity of the Malaysian Personal Income Tax System. *Kajian Malaysia,30*(2), 27-43.

Zahiruddin,G. & Fauziah,M.T. (2012). Effective Interest Alignment Mechanism or Tool to Expropriate : A Review of Malaysian ESOS Adoption, Malaysian Management Journal 16, 59-74.

Zhang,G. (2006). Market valuation and employee stock options. *Management Science, 52*(9), 1377–1393.

APPENDICES

APPENDIX I-EXAMPLE OF DISCLOSURE FOR CHANGE IN BOARD MEMBERS

ACOUSTECH BERHAD

Date of change	31/03/2002
Type of change	Retirement Boardroom
Designation	Director
Directorate	Executive
Name	Huang Huai-Son
Age	56
Nationality	Taiwanese
Qualifications	Dip. in Business Management
Working experience and occupation	Marketing Director of Formosa Prosonic Technics Sdn Bhd, a 100% owned subsidiary of the Company
Directorship of public companies (if any)	Nil
Family relationship with any director and/or major shareholder of the listed issuer	Nil
Details of any interest in the securities of the listed issuer or its subsidiaries	5,026,366 shares in Acoustech Berhad

Remarks :
Mr Huang Huai-Son was appointed to the Board on 3 September 2001. The Company was listed on 27 November 2001 and up until the financial year end on 31 March 2002 one board meeting was held, where Mr Huang was unable to attend. Under the Company's Articles of Association Mr Huang is deemed to have vacated office on 31 March 2002.

APPENDIX 2 -EXAMPLE OF TURNOVER TYPES (FORCED TURNOVER)

ACOUSTECH BERHAD

Date of change	01/12/2003
Type of change	Resignation
Designation	Executive Director
Directorate	Executive
Name	Ropli Bin Ishak
Age	40
Nationality	Malaysian
Qualifications	Bachelor Degree in Electrical Engineering
Working experience and occupation	Executive Director
Directorship of public companies (if any)	Nil
Family relationship with any director and/or major shareholder of the listed issuer	Nil
Details of any interest in the securities of the listed issuer or its subsidiaries	8,293,569 shares in Acoustech Berhad*

Remarks :
Out of the total number of shares beneficially owned, 7,100,000 are pledged to Bank Rakyat Malaysia Berhad

APPENDIX 3 -MALAYSIA TAXATION RATES

Assessment Year 2008 and subsequent years

Chargeable Income	Calculations (RM)	Rate %	Tax(RM)
0-2500	On the First 2,500	0	0
2,501-5,000	Next 2,500	1	25
5,001-10,000	On the First 5,000 Next 5,000	3	25 150
10,001-20,000	On the First 10,000 Next 10,000	3	175 300
20,001-35,000	On the First 20,000 Next 15,000	7	475 1,050
35,001-50,000	On the first 35,000 Next 15,000	13	1,525 1,950
50,001-70,000	On the First 50,000 Next 20,000	19	3,475 3,800
70,001-100,000	On the First 70,000 Next 30,000	24	7,275 7,200
100,001-150,000	On the First 100,000 Next 50,000	27	14,475 13,500
150,001-250,000	On the First 150,000 Next 100,000	27	27,975 27,000
Exceeding 250,000	On the First 250,000 Next RM	28	54,975 .....

Assessment Year 2009

Chargeable Income	Calculations (RM)	Rate %	Tax(RM)
0-2500	On the First 2,500	0	0
2,501-5,000	Next 2,500	1	25
5,001-10,000	On the First 5,000 Next 5,000	3	25 150
10,001-20,000	On the First 10,000 Next 10,000	3	175 300
20,001-35,000	On the First 20,000 Next 15,000	7	475 1,050
35,001-50,000	On the First 35,000 Next 15,000	12	1,525 1,800
50,001-70,000	On the First 50,000 Next 20,000	19	3,325 3,800
70,001-100,000	On the First 70,000 Next 30,000	24	7,125 7,200
100,001-150,000	On the First 100,000 Next 50,000	27	14,325 13,500
150,001-250,000	On the First 150,000 Next 100,000	27	27,825 27,000
Exceeding 250,000	On the First 250,000 Next RM	27	54,825 .....

Assessment Year 2010, 2011 & 2012

Chargeable Income	Calculations (RM)	Rate %	Tax(RM)
0-2500	On the First 2,500	0	0
2,501-5,000	Next 2,500	1	25
5,001-10,000	On the First 5,000 Next 5.000	3	25 150
10,001-20,000	On the First 10,000 Next 10,000	3	175 300
20,001-35,000	On the First 20,000 Next 15,000	7	475 1,050
35,001-50,000	On the First 35,000 Next 15,000	12	1,525 1,800
50,001-70,000	On the First 50,000 Next 20,000	19	3,325 3,800
70,001-100,000	On the First 70,000 Next 30,000	24	7,125 7,200
Exceeding 100,000	On the First 100,000 Next RM	26	14,325 .....

Assessment Year 2013 & 2014

Chargeable Income	Calculations (RM)	Rate %	Tax(RM)
0-2500	On the First 2,500	0	0
2,501-5,000	Next 2,500	0	0
5,001-10,000	On the First 5,000 Next 5.000	2	0 100
10,001-20,000	On the First 10,000 Next 10,000	2	100 200
20,001-35,000	On the First 20,000 Next 15,000	6	300 900
35,001-50,000	On the First 35,000 Next 15,000	11	1,200 1,650
50,001-70,000	On the First 50,000 Next 20,000	19	2,850 3,800
70,001-100,000	On the First 70,000 Next 30,000	24	6,650 7,200
Exceeding 100,000	On the First 100,000 Next RM	26	13,850 .....