THE EFFECTS ON EARNINGS FROM ANNOUNCEMENT OF OPEN MARKET CORPORATE SHARE BUYBACK: AN EMPIRICAL STUDY ON MALAYSIAN STOCK MARKET

by

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ABSTRAK

This study was prompted by the dramatic increase in the corporate finance activity of shares buyback in the open-market in Malaysia. The study examined three earnings metrics of Bursa Malaysia listed firms before and after buyback announcement to investigate differences in those earnings metrics among firms that targeted a large proportion of shares to be repurchased and firms that targeted a smaller repurchase. The study examined 70 companies involve in buyback announcements from 2002 through 2006 that expected to complete the buyback with internal funds. The average buyback target of the sample was 6.89%, consistent with 7% average observed in a landmark study by Stephens and Weisbach (1998). For this study, the three earnings metrics that were measured are cash flow per share (CFPSP), earnings per share (EPSP) and dividend payout (DPOP). The percentage change in value of these three metrics before and after buyback announcement were recorded. Base on this investigation of the 70 companies, it was found that firms that announced their share buyback program do exhibit significant changes in their earnings metrics before and after the announcement. In addition, the findings suggested that a larger buyback target had more of an effect on firm’s post-announcement earnings than a smaller buyback target.
CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter introduces the research by providing the background to the topic and describing the motivation of research, research problem, research questions and research objectives. In this chapter is made on some general information about the announcement of share buyback and its impact towards the firm’s earnings in which this research will be discussed on. It also explains the importance of research and the expected contributions it will make.

1.2 Background of the Study

Are listed companies in Malaysia making good use of the share buyback mechanism? And if so, are investors and corporate Malaysia benefiting from share buybacks? These are interesting and important questions to investors and those who manage them. Share Buyback return cash back to the shareholders and reduce the potential misuse of funds by management, increasing firm value. The economic crisis in East Asia in 1997 and 1998 profoundly affected Malaysia, after real GDP had grown by 8.7% per annum from 1990 to 1996, it declined by 7.4% in 1998, before recovering to
achieve growth of 5.6% in 1999. The equity market crashed, declining by 52% during 1997 leading to a major fall in funds raised through equity issues during 1998. Similarly, most companies suffered a decline in profitability overall, the total earnings after tax of listed non-financial companies declined by RM3 billion and RM14 billion in 1997 and 1998, respectively (Ahmad, Campbell and Goodacre, 2009, Mohd Saleh and Ahmed, 2005). This period of economic stress created a major challenge for managers and advisers seeking to maintain investor’s confidence in companies. One of the efforts initiated to address the market meltdown is share buyback. (Ramakrishnan, Ravindran and Ganesan, 2007).

In Malaysia, the practice of share buyback is considered quite a new phenomenon as it was first allowed in the Kuala Lumpur Stock Exchange (KLSE) [currently known as Bursa Malaysia] when the Malaysian capital market was depressed after the Asian financial crisis in 1997 (Ramakrishnan, Ravindran and Ganesan, 2007). To shore up the share prices, the Securities Commission, the regulatory body, relaxed earlier restrictions on companies to buyback their own shares and began formulating laws and procedures to facilitate and regulate companies to buy back their own shares. It was a long established thinking before the Asian financial crisis that repurchasing the companies own shares will erode the asset backing of lenders and creditors and increase the risk borne by them (Aslam, 2001). Yet when the Asian financial crisis took place in 1997 and when the stock market hit rock bottom, capital market leaders were compelled to come out with radical ways and means to inject confidence and rejuvenate the market (Ramakrishnan et.al, 2007). The depressed capital market in Malaysia due to the Asian financial crisis, and the foreign exchange control measures introduced by Malaysian government to combat the outflow of speculative funds,
further dampened the Kuala Lumpur Stock Exchange (KLSE). To redeem from this
depression in late 1997, companies listed in KLSE were allowed to buyback their
undervalued shares (Ramakrishnan et.al, 2007).

1.2.1 Share Buyback and Earnings

In attempt to explain whether share buyback announcement has an impact on earnings,
many authors debated the theoretical concepts of share buyback, yet a distinctive
conceptual and theoretical identity has not been established. In today’s dynamic
financial environment, corporations must be able to generate good earnings not only
by utilizing their internal capabilities but also correctly analyze and understand the
value-added activities such as share buyback mechanism. Therefore, earnings do
indicate the extent to which a company has engaged in such value-added activity. In
fact, the theoretical value of a company’s share is the present value of its future
earnings, meaning that increase earnings represent an increase in corporate value.
Studying share buyback and its announcement is important as the announcement may
give some indication about firms future earnings. According to Vermaelen (1981),
future annual earnings were generally positive following a share buyback made
through a tender offer. A later study by Dann et al. (1991) observed positive stock
reactions with tender offer repurchases that were positively correlated with positive
earnings changes during the 2 year period following an announcement. The literature
was extended with Bartov (1991) empirical study examining changes to earnings
with open-market buybacks. The study hypothesized that the information or signal
conveyed by the open-market announcement may relate to the firm’s expectation for
increased earnings. A study by Hertzel and Jain (1991) investigated the content of earnings information conveyed by buyback announcements as well as the perceived riskiness of future earnings. Their findings offered evidence that announcements conveyed favorable information about earnings in the short-term but not in the long-term.

1.2.2 Share Buyback Practice and Regulation in Malaysia

According to Nor Azimah (1998), a regulatory framework for share buybacks in Malaysia was put into operation on 1st September 1997. By virtue of the enactment of section 67A of the Malaysian Companies Act, a public listed company if authorized by its shareholders can apply to purchase its shares through the Bursa Malaysia. The amendment to section 67A allows only public listed companies [which are solvent and in good faith companies and in the interests of the company] with prior approval from shareholders repurchase their own shares not exceeding 10% of issued share capital. The funds for these buybacks must be from distributable profits.

According to Rachagan, Pascoe and Joshi (2005), any share buyback program however small it may be shall require the approval of shareholders. Normally companies will send circulars proposing renewal of authority for the purchase of its own shares of up to ten per cent of its issued and paid up share capital listed on bursa Malaysia. In the circular the company also provides past track record and its current position on share buyback. This approval is valid for one year after which firms need shareholders’ approval to continue. The circular seeking approval from shareholders
spells out the rational for share buyback, potential advantages and disadvantages of the proposed share buyback and the effects of the buyback (Rachagan, Pascoe and Joshi, 2005).
1.2.3 Motivation of Research

Motivation of this study trigger when the source of funds to buyback shares must be from retained profits as stipulated in the Bursa Malaysia Guidelines in respects of buyback of own shares by listed companies (previously known as KLSE Guidelines). When a company announces a share buyback, it’s time to take a closer look at what’s behind the action in utilizing the retained profits. The impact from that action should be obvious. When the firms buyback their own shares through their internal funds, that will have an impact on its future earnings.

This study is also prompted by the dramatic increase in the corporate finance activity of buyback shares in the open-market as shown in Table 1.1. It depicts the phenomenal growth in Malaysian company’s announcement of buyback of their own shares. The move towards company to buyback its own shares are gaining momentum in Malaysia

Table 1.1: Companies Announcement of Share Buyback in Malaysia 1999 - 2009

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<tr>
<th>Year</th>
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<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tr>
<td>TOTAL</td>
<td>12</td>
<td>14</td>
<td>29</td>
<td>31</td>
<td>53</td>
<td>56</td>
<td>104</td>
<td>84</td>
<td>154</td>
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Source: Compiled from Bursa Malaysia website ([www.klse.com.my](http://www.klse.com.my))

Based on Table 1.1, companies listed in Bursa Malaysia have embraced repurchases on a large scale from 2003 onwards and there is a surge in announcement of buyback. As a result of buying back their shares the company future earnings are now split among fewer shares. This causes subsequent years earnings per share (EPS) to
increase. Many investors make the fundamental mistake of comparing stocks by their EPS. However, this may prove pointless. Investors commit investment errors if they use earnings as a basis for evaluation of stocks. The announcement of buyback may be management signals to the market that earnings prospects are good in future. This brings to the core investigation of this study, that is; how the announcement of share buyback has an effect on earnings. An understanding of the announcement share buyback in Malaysia will enable listed companies in Malaysia to have a clearer focus on their earnings pattern.
1.3 Research Problem

In this study, the main focus is to look at whether announcement of share buyback has an impact on earnings. Public listed companies in Malaysia can buyback outstanding shares by utilizing internal fund from retained earnings. It is important to note that since the buyback has the implication of affordability when firms announce plans to complete the buyback with internal funds. Listed firms in Malaysia may face with the problem of confirming the activity of open-market buybacks of their own common stocks had an observable difference in earnings following such an announcement, and if that difference were related to the proportion of shares to be repurchased. Previous literatures on share buyback focus on the fields of buyback functions and share performance, but rarely on the effect on firm’s earnings. The issue of share buyback (or share repurchase) is more relevant, and more important, than ever. But the management faces the following question: “Does share buyback create positive earnings?” The goal of this study is to strictly identify and persuade this critical issue.

There are situation where managers may manipulate earnings before buyback to mislead investors and depress stock prices in the case of share buyback. Why does this happen? Firms can then buyback shares at artificially low value, because investors fail to understand that the managers are understating earnings and when earnings shore up unknowingly, the companies will earn abnormally positive returns. Management uses open market share buybacks to signal better prospects (Miller and Rock, 1985, Vermaelen, 1984). These studies suggest that buybacks can be used as a costly signal about future cash flows when markets are incomplete. As demonstrated by these studies, the buyback decision can reveal information about future earnings.
and profitability to the market. Vermaelen (1984) and Dann, Masulis, and Mayers (1991) document a significant increase in earnings per share in the years following fixed-price repurchases. Bartov (1991) in his findings reports that analysts do change upward their earnings forecasts around open market share buyback announcements relative to control companies and those earnings are higher during the announcement year. On the contrary, using larger sample, Grullon and Michaely (2004) find evidence that analysts revise their earnings expectations downward after the announcement of a share repurchase program. Their findings regarding repurchasing firms’ financial performance also corroborated with Jagannathan and Stephens (2003), who examine open-market share, repurchase announcements between 1991-1995 and find that earnings fall in the years after these events. Zhang (2002) indicate that announced buyback percentage target is positively related to abnormal return at the announcement. Despite the obvious popularity of share buyback among corporate managers, contradicting findings from previous studies about the impact of buyback on earnings warrant a study on this topic. In addition to that, not much information is known about the impact of corporate share-repurchase announcement on earnings in Malaysia. The above mentioned studies have been carried out in overseas market. It is therefore interesting to investigate the phenomenon in the Malaysian capital market.
1.4 Research Questions

This research will attempt to answer the following questions:

1. Do firms that announce a buyback of their own shares in the open market display a pre and post announcement change in earnings?
2. Is there a relationship between the percent of shares targeted for buyback and the earnings of the firm?
3. Do firms that announce a larger buyback tend to have a greater change in post announcement earnings than firms that announce a smaller proportion of shares to be repurchased?

1.5 Research Objectives

The research will be undertaken to fulfill the followings objectives;

1. To investigate whether firms that announced open market buybacks of their own common stocks had an observable difference in earnings.
2. To examine on relationship between the percent of shares targeted for buyback and the earnings of the firm.
3. To examine whether firms that announce a larger repurchase tend to have a greater change in post announcement earnings than firms that announce a smaller proportion of shares to be repurchased
1.6 Significance of the study (Theoretical and Practical Contribution)

Since there are limited studies in Malaysia on share buybacks and their effect on earnings, this study contributes to extend the literature. To the best of the author’s knowledge, this study represents among the first study to address the issue of earnings changes due to share buyback announcement. Even if the idea is proven otherwise, this study still represent as one of the pioneering efforts to investigate the effects on earnings due to share buyback announcement. Market players are always on the lookout for new information regarding companies listed on the Bursa Malaysia. It is vital for them to be the first or among the first to buy or sell shares reacting to any specific announcement or news especially when it comes to share buyback announcement pertaining to the profitability or earnings of the listed companies. Eventually this study can be used as another tool for company’s management to decide on share buyback activity after knowing that possible enhancement of earnings or financial performance. Moreover the implication of going through the decision on size of buyback will further improve earnings therefore most likely this study will be the first to clear their doubts and making effective decision makings along the way. As for investors i.e. retail players to use in their analysis of the Malaysian stock market means that any difference observe on earnings due to share buyback announcement impact kind of positive signal. Given the growth in share buybacks by the number of companies announcing a buyback after the Asian financial crisis 1997, the study expected to extend the literature for market players and corporate Malaysia. Moreover, the dramatic difference in announcement when compare to actual buyback transaction encourage a close review of the topic and further leads better understanding for market players. On a more theoretical level the behavior of the
share market surrounding the announcement of share repurchase also can give an indication of the efficiency of the Bursa Malaysia by looking at signaling hypothesis and information asymmetric hypothesis to further support the market efficiency.

This study will help to provide an understanding whether firms in Malaysia that announce open market buybacks of their own common stocks had an effect on earnings following such an announcement, and if that difference were significantly related to the proportion of shares to be repurchased. If future earnings of the firm were to become negatively affected by the buyback, then the firm’s ability to make other distributions could become negatively impacted. Hopefully this effort will spark further interest among researchers, fund managers and retail investors to start looking into the investment behavioral and contribute to the body of investment knowledge.
1.7  Organization of Remaining Chapters

This study is organized into six chapters. Chapter Two presents the literature review of share buybacks, beginning with a historical overview of 35 years of literature and concluding with a summary of relevant theories and studies from 1980 to the present. Chapter Three introduces the hypotheses development. Chapter Four outlines the methodology utilized for this research. Chapter Five provides a brief discussion on the results and data analysis and Chapter Six discusses on the findings and ends up with conclusion.
CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter will discuss about share buybacks such as its background, types of share buyback and the reasons behind the move. It will then review previous studies on the effects on earnings due to announcement of share buyback by firms and to establish the extent of empirical studies that have already been carried out. On top of that this chapter reviews the relevant theories of share buyback. It will address the growth and trends for share buyback. This chapter ends up with a summary of the literatures.

2.2 Background of Share Buyback

The existing share buyback literature is based predominantly on evidence gathered from the United States (U.S). Even though share buyback in Malaysian stock exchange were allowed and authorized from 1997, no extensive empirical studies on share buybacks have been done so far. There was a study on stated motivations for share buybacks in Malaysia by Zainudin and Regupathi (2003) based on the experience of 40 listed companies in 2000.
A share buyback program, also referred to as a stock buyback plan, is defined as the intention by a firm to buy some amount of its own outstanding common stock in the open-market and from unknown holders of the stock, with the purchase at market prices over a period of time that may be months or years (Stephens and Weisbach, 1998). Many business publications and academic journals have discussed the 10-fold growth of share buyback announcements since 1980 in both the number of announcements and the total dollar value of all repurchase programs (Sanders & Carpenter, 2003), along with the generally favorable market reaction from such announcements (Dann, 1981; Vermaelen, 1984; Asquith & Mullins, 1986; Davidson & Garrison, 1989; Comment & Jarrel, 1991; Stephens & Weisbach, 1998; Westphal & Zajac, 2001; Ramakrishnan et al., 2007). Numerous studies have noted that the execution and completion of repurchase plans, as well as any changes to such plans, are generally not announced, although disclosure is required in financial statements prepared by the firms. Malaysian Accounting Standard Board (MASB) made a technical release one called share buyback-accounting and disclosure in April 1999 providing accounting treatment and disclosure guidelines to record share buyback transactions in financial statements. Hence, much of the literature studies repurchase announcement, rather than actual repurchase transactions. This study treat the announcement as a proxy for an actual repurchase, along with any effect the buyback may have on post announcement earnings.

The ways in which share buyback programs are established and operated vary among jurisdictions, reflecting different corporate and tax laws, listing and market rules, anti-manipulation regulations and accounting principles (Lamba & Ramsay, 2000; Grullon & Ikenberry, 2000; Stephens & Weisbach, 1998). According to Jaganathan, Stephens

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and Weisbach (2000), corporate finance theory dictates that managers’ (agents) decisions should lead to value maximization for the firm’s shareholders (principals). When firm has excess cash flow, managers have to choose among several alternatives to deploy the cash to add value to the firm. In the absence of profitable investment or debt reduction, they have to choose the best method to payout the excess cash flow to shareholders to avoid agency conflict. The principal mechanism used by firms’ payout methods to shareholders includes share buybacks and dividends. Share buybacks are now a familiar feature of the corporate finance landscape.

2.2.1 Types of Share Buyback

According to Lamba and Ramsay (2000), the four common methods of a share buyback program are:

1. **Open-market purchases.** In this method, the most widely used by far, companies simply purchase their own shares in the open market like any other investor. Although open market purchases have legal restrictions, this method offers the greatest degree of flexibility. On the other hand, open-market purchases convey the weakest signal of management conviction, particularly when made solely to offset dilution from options.

2. **Dutch auction.** In a Dutch auction, management defines the number of shares it intends to buy, an expiration date, and a price range within
which it is willing to buy (generally a premium to the market). Shareholders may tender their shares at any price within the range. Starting at the bottom of the range, the company sums the cumulative number of shares necessary to satisfy the program. All interested shareholders at or below the stipulated price receive the clearing price for their share. Dutch auctions generally send strong signals, and management can execute them relatively efficiently.

3. **Fixed-price tender offers.** With this method, management offers to repurchase a set number of shares at a fixed price through an expiration date. The price is often a significant premium to the market, and companies generally tender for a sizable percentage of the shares outstanding. Shareholders may or may not elect to tender their shares. Fixed-price tenders, especially debt-financed ones, tend to be powerful, positive signals to the market. Research by Dann (1981) indicates tender offer buybacks; execute using a fixed price tender offer. This offer indicates in advance a single buying price, the quantity of shares sought, and the timeliness of the offer, with public information reveal. The offer run under conditional upon receiving tender offer of a certain number of shares, and it may permit withdrawal of tendered shares prior to the offer's expiry date. Shareholders will conclude whether or not to participate, and if so, the number of shares to quote to the firm at the designated price.
4. *Privately negotiated purchases.* In this case, the company strikes a deal with a single shareholder. In the 1980s, some companies purchased positions from investors or companies threatening a takeover. However, such greenmail transactions represent less than 10 percent of privately negotiated

The most common methods firms used to buyback their own share is open market buyback programs. An open market repurchase is more flexible than a tender offer and often takes place over several years. Buyback plan may take over several years and the amounts repurchased are generally smaller (Jagannathan et al, 1999). Open-market share buybacks are increasingly common, yet they are not easily measured. The studies by Jagannathan et al (2000) and Stephens and Weisbach (1998) examined the magnitude of share buybacks. Share buybacks on the open-market have increased in both number and magnitude, garnering attention from academic research and industry publications; however, they can be difficult to measure empirically (Jagannathan et al., 2000). Reasons have included the divergent practices by firms regarding intentions that are announced publicly versus the quiet actions of repurchasing or changing intentions. Furthermore as open-market buyback plans are generally announced and the announcement usually states the amount and duration of the planned buybacks. The last two decades have witnessed a dramatic increase in the use of open market buybacks, and by 1998 the total value of share buybacks (led by open market buybacks) exceeded that of dividends (Grullon and Michaely, 2002).
2.2.2 Reason for Share Buyback

Why do firms repurchase share? According to Ditmar (2000) and Dixon, Palmer, Stradling and Woodhead (2008) the five most common motives of a share buyback program are:

1. To increase share price is often a strategy that management adopts when it believes the company's share is undervalued by market analysts.
2. To rationalize the company's capital structure. In this case, a share buyback program allows the company to sustain a higher debt-equity ratio.
3. To replace cash dividend payouts for share buyback. Since capital gains may be taxed at lower rates than dividend income, a share buyback program offers long-term share holders some major tax advantages.
4. To offset earnings dilution. Share buybacks can enhance a company's growth in earnings per share, or conversely, it can prevent an EPS decrease that may be caused by exercises of stock option grants.
5. To make use excess cash flow. Share buybacks can be attractive alternative investments for any cash flow left over once the company has met its capital investment needs.

Generally this study extends literature another reason why firms practice buyback is to signal earnings increase or decrease or change due to post announcement.
2.3 Theories of Share Buyback

2.3.1 The Signaling Theory

One of the most relevant theories of share buyback is the signaling theory. A number of US studies model the target buyback proportion as a signal of the insiders’ private information regarding the firm’s future earnings (Vermaelen, 1981; Comment and Jarrell, 1991; Ikenberry et al., 1995; McNally, 1999). The literature revealed that the content of the information conveyed in the signaling hypothesis is management’s belief that the firm’s stock is undervalued, a concept that support the asymmetrical information theory, as well as the agency theory (Comment & Jarrell, 1991). Also, it has been well documented in the literature that the stock market reacts positively to a firm’s announcement of an open-market share repurchase (Dann, 1981; Vermaelen, 1981; Lakonishok & Vermaelen, 1990; Comment & Jarrell, 1991; Ikenberry et al., 1995; Stephens & Weisbach, 1998). The signaling hypothesis argues that a firm’s willingness to pay for its own shares sends a strong signal to outside investors that the firm’s future prospects are improving, conveyed by the superior information of managers over outside investors.

The signaling hypothesis has emerged as the most empirically tested hypothesis in the literature concerning open-market share repurchases, with widely documented support for the positive signaling effect associated with share buyback announcements (Dann et al., 1991; Comment & Jarrell, 1991; Ikenberry et al., 1995; Stephens & Weisbach, 1998; Westphal & Zajac, 2001). Other studies have examined repurchases that are
completed and have uncovered determinants for completing a stock buyback (Bens, Nagar, Skinner & Wong, 2003; Wansley, Lane & Sarkar, 1989; Jensen, 1986). The generally positive investor reaction to an announced buyback has suggested support for the signaling hypothesis in the findings. If a firm’s intention in announcing a share buyback has been to signal to outsiders of the firm that the company’s prospects were improving, then, the signal suggested a tangible improvement in financial operating performance following the announcement (Nohel and Tarhan, 1998). In contrast, if the intention of the firm was to distribute free cash flow, rather than invest in less worthy projects, then the firm may or may not have exhibited improved financial performance following the announcement. The signaling theory suggests that signaling implies an improvement in financial performance, yet improved performance does not necessarily imply signaling (Nohel and Tarhan, 1998). There has been general consensus in academic and industry forums that a generally positive stock market reaction surrounds the announcement of a share repurchase. Nevertheless, across the literature, there has been general support for the signaling hypotheses a motivation for a firm to announce a share repurchase (Comment & Jarrell, 1991; Ikenberry et al., 1995).

2.3.2 The Asymmetrical Information Theory

The literature included several studies that described the most commonly cited reason for a repurchase was management’s belief that the firm’s stock was undervalued, suggesting support for the asymmetrical information hypothesis. The hypothesis predicted that managers would time their repurchase announcements for when
management had information others lacked that suggested the stock was undervalued. The literature included several studies that observed repurchase announcements typically followed periods of low stock prices (Dann, 1981; Dann et al., 1991; Stephens & Weisbach, 1998; Jagannathan et al., 2000). This suggested additional support for the asymmetrical information theory.

Ofer and Thakor (1987) presented signaling models where the degree of asymmetric information available to a firm’s management determined the method of cash payout to the owners, noting that firms currently utilized five primary methods of cash distributions. The five principle distribution were cash dividends, special dividends, open-market stock repurchase, repurchase tender offers and targeted or negotiated share repurchases. Each of these methods of cash distribution has been studied in the literature during the past 25 years, although earlier studies did not emphasize the different types of distributions. When management of a firm made an announcement to repurchase its own shares following a period of low stock prices, the asymmetrical information theory hypothesized that information in the announcement was a valuable signal to less well-informed investors in the marketplace. Making an announcement to repurchase shares has been argued as a signal that the firm is undervalued, while there may in fact be other reasons for a repurchase, such as an adjustment to capital structure, takeover defense, a temporary excess cash distribution to owners, a substitution for cash dividends and wealth expropriation from bondholders (Ikenberry et al., 1995). The literature revealed that the signaling theory has led to several different models that consider the choice between different methods by which firms distribute cash to the firms’ owners, thereby signaling information about the firm based on the method of distribution chosen by management.
More recent studies, however, have proposed factors that determine the method of distribution. As described by Asquith et.al (1986) and Stephens et.al (1998), and the literature examined the asymmetrical information theory in several empirical studies. Information asymmetry exists when only one party to a transaction possesses relevant information that the other party does not possess. The theory suggests that the information contained in the announcement of a stock buyback is management’s declaration of something valuable that is unknown to investors. If management of the firm believed the stock to be undervalued, the company may choose to buyback a portion of its shares based on this belief, which others may not know. In contrast, the studies suggested that there may be other information motivating a share buyback.

Additional investigations of the asymmetrical information theory were conducted by Barth and Kasznik (1999), who hypothesized that firms with more intangible assets were likely to repurchase shares, along with having more positive returns following the announcement to buyback shares. Their study acknowledged that intangible assets were generally unrecognized as accounting assets in a firm’s financial statement, although such assets were substantial importance for generating economic value. The study predicted that firms with more intangible assets were more likely to repurchase shares on the open market. These predictions were tested using logit estimation on a sample of firms making their first repurchase between of 1990 and 1994. The sample was compared with firms that did not announce any type of repurchase. Several proxies were utilized for intangible assets, general information asymmetry and idle cash with constructed variables as the explanatory variables. The findings of Barth and Kasznik (1999) suggested that intangible asset variables were significantly and positively related to share repurchases; idle cash produced similarly positive results.
In contrast, however, the generally asymmetrical information was significantly negatively related to share repurchases. The findings lent support to both the signaling theory and the asymmetrical information theory, while also demonstrating that free cash flow and undervaluation cannot be definitively distinguished as explanations for the findings concerning intangible assets.

### 2.3.3 The Free Cash Flow Theory

When a firm announces a payout of cash flows in the form of a dividend distribution or a share repurchase, there has generally been a positive market reaction (Comment and Jarrell, 1991). Moreover, firms with excess cash and limited or poor investment opportunities can face significant agency costs if the excess cash has not been distributed to stockholders (Jensen, 1986). Stock buybacks allow a firm to distribute the excess cash and anticipate a favorable market response, while avoiding wasteful or poor investment projects or empire building (Sanders & Carpenter, 2003; Noel and Tarhan, 1998; Vefeas & Joy, 1995; Jensen, 1986). The free cash flow hypothesis suggested that share repurchases forced a firm to reduce the level of free cash flows that might be invested in wealth reducing projects if funds were not invested in the repurchase of shares. The studies investigating free cash flow as a determinant of share repurchases were inconclusive, however; this was partly due to the difficulty of removing the impact of the signaling theory and the inherent flexibility of a firm to complete the repurchase at its discretion (Choi, 1997). To address these limitations, Choi, (1997) used a sample of repurchases that were not open-market buybacks, such as greenmail repurchases, as these were not likely to communicate positive
information that could be reflected in the stock price. This attempt by Choi, (1997) to isolate and remove the empirical implications from the signaling hypothesis led to his suggestion that share repurchases appeared to convey positive news in that the free cash flow was reduced by the repurchase, thereby lowering management’s incentive to invest in value-decreasing projects that could include empire building a prerequisite for other wasteful investments (Nohel and Tarhan, 1998).

There was not a general consensus in the literature about the precise definition of the free cash flow hypothesis. The general interpretation of the free cash flow hypothesis was that the actual amount of cash on hand could pose a problem, as well as investments that could be converted into cash (Nohel and Tarhan, 1998). Studies examining the free cash flow hypothesis as an explanation for investor reaction to a stock repurchase or as a determinant for a repurchase, tended to focus on firms that announced tender offer repurchases, not open-market repurchases. The primary reason for examining tender offers when investigating the free cash flow hypothesis was the uncertainty that is inherent with open-market repurchases, both by timing and magnitude. In contrast, a tender offer can minimize that uncertainty because the firm commits itself to distributing cash for shares over a short and clearly defined time-span. The free cash flow hypothesis was examined, along with the signaling hypothesis, by Lang and Litzenberger (1989) in their study of firms paying dividends. They argued that the market reacts more to unique financial features of cash flow than to the information contained in a signaling action, such as dividend payout. Their results were challenged, however, by Howe, He and Kao (1992) and Denis et al.(1994) but Lang and Litzenberger found support in research by Perfect, Peterson and Peterson (1995). Despite the studies examining the free cash flow hypothesis,
there did not appear to be a general consensus in the literature about the precise definition of the free cash flow hypothesis.

2.4 Relationships of Earnings and Share Buyback

Studies from the 1980s and early 1990s examined the relationship between generally positive stock price reactions to open-market share buyback announcements and firm’s subsequent earnings. Vermaelen (1981) found that future annual earnings were generally positive following a share buyback made through a tender offer. A later study by Dann et al. (1991) observed positive stock reactions with tender offer repurchases that were positively correlated with positive earnings changes during the 2 year period following an announcement.

The literature was extended with Bartov (1991) empirical study to examine changes to earnings with open-market buybacks. As dynamics differ considerably for cash distribution by timing and magnitude for open-market purchases, tender offer repurchases and dividend distributions. The study hypothesized that the information or signal conveyed by the open-market announcement may relate to the firm’s expectation for increased earnings, or the content of the signal may concern the riskiness of the firm’s earnings. Bartov (1991) findings show that open-market buyback appeared to convey information about both the level of earnings and risk to the firm’s earning following the announcement. His study covered a 9 year period from 1978 through 1986, consisting of 185 announcements from 160 firms, many of them large firms with the average percentage of share to be repurchased increasing
from 3.94% in 1978 to 6.35% in 1986. His finding demonstrated that buyback announcement conveyed earnings information. In addition, Bartov (1991) observed that there is a decline in the firms’ stock risk when risk was measured by each firm’s beta in the days around the announcement. The repurchasing firms in his sample demonstrated a statistically significant decline in stock betas around the announcement date when compared with a control group of non-repurchasing firms.

A study by Hertzel and Jain (1991) investigated the content of earnings information conveyed by buyback announcements as well as the perceived riskiness of future earnings. Their findings offered evidence that announcements conveyed favorable information about earnings in the short-term but not in the long-term. They observed that stock price reactions were not positively correlated with long-term earnings forecast. Furthermore, their findings showed that equity betas declined after the repurchase announcement, suggesting a decrease in the underlying riskiness of the earnings generated by the firm’s assets. In contrast to Bartov’s (1991) empirical study involving open-market repurchase announcements, Hertzel and Jain (1991) studied a sample of repurchase announcements involving tender offers. The time period for the empirical study had some overlap with Bartov (1991) study, as Hertzel and Jain’s (1991) sample was from 1970 through 1984, consisting of 127 tender offer announcements.

The findings of Hertzel and Jain (1991) showed that the mean percentage change one year ahead of forecasts of EPS from analysts was 7.1% which was significant at the 1% level, and mean percentage change in the long-term forecasts (an average of three to five years) was 12.2% which was significant at the 5% level. These results were
consistent with the signaling hypothesis which argues that repurchase announcements conveyed favorable information about the level of future earnings. Additional support came from their examination of return on equity for firms in the sample. The mean forecasts of return of equity increased from 12.3% before the announcement to 13.5% post announcement were significant at the 1% level; however, support was not found with the long-term forecasts of return on equity (an average of three to five years). Their findings suggested that signaling theory, in tandem with the asymmetric information model, should be further explored to observe the different types of information conveyed by management’s announcement of a stock repurchase, along with the effects of different types of information.

A study by Jagannathan et al. (2000) investigated the determinants of stock repurchase and extends the literature on earnings information conveyed with a repurchase announcement. The study described the literature’s most commonly documented motive for a firm to repurchase its own shares on the open-market as asymmetrical information, while suggesting there may be variation in the content of the information. The study examined the effect of cash flow permanence on stock repurchases and tested the prediction that repurchases were more likely to expect permanent future cash flows. Suggesting that operating cash flows tend to be more permanent than non-operating cash flows, their study predicted that repurchases were more likely to be related to non-operating cash flows, while a positive relation was expected between operating income and dividends. Their findings documented systematic differences between the dividend increasing firms and repurchasing firms, describing the dividend increasing firms as generally large with higher operating or more permanent, and cash flows before an increase in the dividend
payout. In contrast, firms that announced a repurchase showed higher non-operating or less permanent, cash flows than the dividend increasing firms suggesting support for the asymmetrical information hypothesis. Moreover, the standard deviation of operating income for the repurchasing firms was about twice as large as operating income for the dividend increasing firms, suggesting support for their hypothesis that repurchasing firms have more uncertain cash flows. This finding suggested support for both the asymmetrical information theory and the signaling theory.

The study also described the most commonly cited information conveyed in a buyback as management’s belief that the firm’s stock was undervalued (Dann, 1981; Vermaelen, 1981; Comment & Jarrell, 1991; Stephens & Weisbach, 1998). Jagannathan et al. (2000) investigated this by predicting that a firm announcing a buyback would have a lower return on its stock prior to the announcement of a change in the dividend payout. Their findings supported this by documenting that the average stock return was -1.1% for firms announcing a repurchase program without an increase in dividends in the year before the announcement and the median was -0.8%. In contrast, the average return was 25.9% for firms announcing a dividend increase, but not a repurchase program and the median was 20.7%. Observed differences were significant at the 1% level. Overall the study suggested that repurchasing firms were significantly different from dividend increasing firms, repurchasing firms were more likely to have uncertain future cash flows and firms tended to increase the use of repurchase following poor stock market returns.

Overall, the literature revealed that numerous studies found evidence that both a share buyback and a dividend payment conveyed positive information about the value of the
firm, along with positive stock price reactions that reflected information signaling and support for the signaling theory (Guay and Harford, 2000). Additional research examined the cash flow of a firm to investigate the hypothesis that stock buybacks reflected a more transient cash flow position for the firm, while dividend payments reflected a more permanent cash flow level. Research by Guay and Harford (2000) found that, on average, dividend increases tended to occur with more permanent cash flow changes. The study by Guay and Harford (2000) posited that dividend increases were intended to be permanent, while share repurchases were one time only transactions, although they may also have been part of planned, continuous program. Guay and Harford (2000) cited the seminal study by Stephens and Weisbach (1998) that observed not all announced buybacks were completed, however, the majority of announcements were completed over a 3 year period following the announcement date.

2.4.1 Basic EPS and Diluted EPS

Wiseman (1990) presented a current value method for EPS dilution calculation. The basic EPS is adjusted by the changes in the fair values of warrant holders’ claims on a firm’s net assets. The clean surplus characteristic of this adjustment provides the link between EPS and the value of common shares for a firm with a capital structure including warrants.

Casson and McKenzie (2007) proposed a benchmark model to calculate the basic EPS and the diluted EPS in the theory of contingent claims. In their model, the basic EPS
is defined as the changes in a firm’s net asset over a reporting period, and the diluted EPS as the change in the value of the claims of each common share on the firm’s net asset. Simulations are used to compare the benchmark with the diluted EPS under the treasury stock method, imputed earnings method, option-diluted method, and holding loss/gain method. They concluded that the treasury stock method performs worst among the four approaches, while the imputed earnings approach provides a reasonable approximation to the benchmark.

Marquardt and Wiedman (2005) contribute to the literature on diluted EPS. Previous study by Huson, Scott, and Wier (2001) and Core, Guay, and Kothari (2002) show that investors take dilution of EPS into account when setting stock prices. According to Marquardt et.al (2005) suggest that managers also view diluted EPS as an important financial performance measure. More specifically, to show that denominator effects in EPS are deserving of managerial attention and influence convertible bond transactions. These findings complement those of Bens, Nagar, Skinner, and Wong (2002), who find that denominator effects on EPS influence managers’ decisions to undertake share buybacks. In most cases, the diluted earnings-per-share figure is far more accurate estimation of the total earnings per share and receive special attention when valuing a company.

2.4.2 Share Buyback and Earnings per Share (EPS)

A study by Bens et.al. (2003) investigated whether share buybacks were affected by a firm’s desire to manage earnings. The requirement of publicly owned firms to report
basic EPS and diluted EPS to be in compliance with federal regulations and generally accepted accounting principle (GAAP) contributed to firms paying close attention to earnings when measured as basic earnings per share (EPS), as well as diluted EPS. Several studies observed that diluted EPS was more highly associated with stock prices than basic EPS, suggesting that diluted EPS had more credibility with investors as a measure of financial performance (Jennings, Battalio and Hatch, 1997). Since firms have flexibility on when to buyback shares and the expected effect of a buyback is to increase diluted EPS, the study by Bens et al., 2003, focused on whether firm’s buyback shares to manage diluted EPS with the dilutive effect of Employee Share Option (ESO) plans. Their findings came from a sample of S&P 500 Industrial firms from 1996 through 1999. They observed that stock buyback decisions, when announced, are affected by managers’ intentions to manage diluted EPS and that firms increased their buyback when earnings, measured as diluted EPS, fell short of the level required to maintain the previous growth rate of diluted EPS.

Earnings management by corporate executives appeared to be rewarded by investors according to several studies that observed investors seemed to reward firms that reported steady growth in earnings and consistently met the earnings forecasts of analysts. These firms were observed to avoid an earnings disappointment in the study by Bens et al. (2003). The researchers offered an explanation for this observation that cited a large body of literature explaining trends in corporate compensation that tied executive pay to stock price and earnings, with earnings often measured as diluted EPS and stock prices are often linked with earnings measurements. The effect of buybacks on diluted EPS was a mathematical relationship between the firm’s P/E ratio and the opportunity costs to execute the buyback. The buyback of common
shares in the open-market caused a decrease in diluted EPS when the firm’s price-to-earnings (P/E) ratio exceeded the inverse of its opportunity cost of funds. Their study observed that firms with high P/E ratios were less likely to announce a buyback; and they observed, managers of high P/E firms were more responsive to potential ESO dilution when making buyback decisions, suggesting that financial consequences of a small earnings disappointment was greater for firms with high P/E.

### 2.4.3 Share Buyback and Cash Flow

The literature presented several studies that suggested the signal conveyed by the repurchase concerns the risky or permanence of cash flows. The generally positive stock market reaction could imply enhanced confidence by investors about improved future cash flows and for this reason the free cash flow theory was examined in several studies. Nohel and Tarhan (1998) investigated financial performance measured as the ratio of cash flow to the market value of the assets that generated the cash flow for a 1-year period after the announcement. Their sample consisted of 242 tender offers between 1978 and 1991, with their findings showing improvement in the performance of repurchasing firms although stark differences emerged among low-growth and high-growth firms. Nohel and Tarhan (1998) observed that short-term improved financial performance came entirely from low-growth firms, suggesting an efficient use of the firm’s existing assets, rather than improved financial performance coming from new investment opportunities. In contrast, the financial performance of high-growth firms appeared unrelated to announcement returns in the short-term, although their long-term returns on the stock were correlated with financial
performance. The latter suggests that any changes in financial performance, improvement or decline were not anticipated at the announcement date of the repurchase and these findings suggested that the stock markets were efficient.

2.4.4 Share Buyback and Dividend

Dividends remained the dominant method of distribution by dollar volume, particularly among large firms, such as the Fortune 500 (Jagannathan et al., 2000). The literature revealed that at least since Lintner (1956) described his dividend model; dividends have historically been characterized by relatively steady growth and a more permanent distribution than a share or repurchase distribution. Lintner (1956) argued that firm pays dividends out of long term, more permanent and sustainable earnings. In the past 20 years, in US since 1985, dividends have declined, although they remain the dominant form of distribution, as presented by Jagannathan et al. (2000). Their research indicated that in 1996 dividends accounted for 65% of all payouts, while in 1985 this method represented 69%. Moreover, in 1985 dividends paid by industrial firms listed in the Compustat database totaled 450% of the dollar value of all announced share repurchase programs, but in 1996 the dollar value of dividends declined to 125% of the value of all announced repurchases. Clearly, the literature documented that share buybacks have not completely replaced dividends by dollar volume, even though the growth in repurchases has surpassed that of dividends.
2.5 Announced and Actual Buyback

An announcement often details the total number of shares to be repurchased, the percentage of shares targeted for buyback, the total dollar amount anticipated to buyback all shares targeted, the reason for the buyback, and occasionally, details on the source of funds to complete the repurchase (Stephens and Weisbach, 1998). Announcing a share buyback is basically costless to a firm and there is little evidence in the literature of a firm repurchasing its own share without making an announcement of such intentions (Stephens and Weisbach, 1998). An announcement, however, does not obligate a firm to repurchase any shares. Stephens and Weisbach (1998) discussed the practice among firms to generally not make any announcements concerning changes to a repurchase plan.

A seminal study by Stephens and Weisbach (1998) examined 450 open-market share repurchase programs announced between 1981 and 1990, leading to the observation that within 3 years following the announcement date, the majority of firms acted on the announcement as declared. Specifically, 30% of firms in their study repurchased more than twice the targeted quantity. More importantly, on average, firms acquire 74% to 82% of the announced target within 3 years of the announcement date. In contrast, 10% of the firms repurchased less than 5% of the targeted number of shares including a significant number of firms that did not acquire any shares at all. Nevertheless, the majority of announcements are completed within 3 years of the announcement date. In addition, their study showed that open-market repurchase announcements represented close to 90% of the dollar value of all announced
repurchase programs. Based on their study the timeliness of 3 years and attribute such as the buyback target will be used for this study.

2.6 Percentage Target of Share Buyback

Comment and Jarrell (1991) found that higher announced percentage targets are associated with higher abnormal announcement period returns, suggesting that the repurchase target indicates the quality of management information. According to Zhang (2002), a study done in Japan stock market indicates that the abnormal return at the announcement is positively related to announce repurchase percentage target.
2.7 Summary

The existing literature suggests some underlying theories that could explain share buybacks. These are the theories of signaling, asymmetrical information and cash flow. The literature also suggests that open-market share buybacks may be affected by more than one theory, and at the same time, since different firms may buyback shares for entirely different reasons. Thus some firms may announce a repurchase as signal of expected future financial performance while other firms may announce a repurchase as a method to distribute cash. The signaling theory is the core theory for this study and it is analyzed within the context of the asymmetrical information model and the cash flow theory. The generally positive investor reaction to a repurchase announcement suggests support for the signaling hypothesis, in addition to communicating unique financial characteristics of the firm that suggest support for the asymmetrical information model.
CHAPTER THREE

HYPOTHESES DEVELOPMENT

3.1 Introduction

This chapter outlines the relationships under study and develops the hypotheses by drawing from theoretical and empirical studies reviewed in Chapter Two. Figure 3.1 depicts the relationship examined. The study will examine three earnings metrics of Malaysian firms before and after buyback announcements to investigate differences in those earnings metric among firms that targeted a large proportion of shares to be repurchased and firms that targeted a smaller repurchase. This chapter describes on the research framework, the development of hypotheses generated by the literature review especially from the dominant underlying theories. The development of hypotheses will further facilitate analysis and isolate the effects on earnings following a buyback announcement. The study investigated firms that made announcements for share repurchases on the open-market to compare firms that announced plans to repurchase a small proportion of outstanding shares with firms that announce plans to repurchase a large proportion of outstanding shares.
3.2 Research Framework

Based on the review of the past studies in Chapter Two, this study has identified three metrics to represent earnings - *Cash Flow per Share, Earnings per Share and Dividend Payout*.

3.2.1 Earnings per share (EPS)

Several studies observed that diluted EPS was more highly associated with stock prices than basic EPS, suggesting that diluted EPS had more credibility with investors as a measure of financial performance (Jennings, Battalio and Hatch, 1997). Since firms have flexibility on when to buyback shares and the expected effect of a buyback is to increase diluted EPS, the study by Bens et al., 2003, focused on whether firm’s buyback shares to manage diluted EPS with the dilutive effect of Employee Share Option (ESO) plans. The researchers offered an explanation for this observation that cited a large body of literature explaining trends in corporate compensation that tied executive pay to stock price and earnings, with earnings often measured as diluted EPS and stock prices are often linked with earnings measurements. According to Marquardt et.al (2005) suggests that managers also view diluted EPS as an important financial performance measure. More specifically, to show that denominator effects in EPS are deserving of managerial attention and influence convertible bond transactions. These findings complement those of Bens, Nagar, Skinner, and Wong (2002), who find that denominator effects on EPS influence managers’ decisions to undertake share buybacks.
3.2.2 Cash flow per share (CFPS)

Nohel and Tarhan (1998) investigated financial performance measured as the ratio of cash flow to the market value of the assets that generated the cash flow for a 1-year period after the announcement. Their sample consisted of 242 tender offers between 1978 and 1991, with their findings showing improvement in the performance of repurchasing firms although stark differences emerged among low-growth and high-growth firms. Nohel and Tarhan (1998) observed that short-term improved financial performance came entirely from low-growth firms, suggesting an efficient use of the firm’s existing assets, rather than improved financial performance coming from new investment opportunities. In contrast, the financial performance of high-growth firms appeared unrelated to announcement returns in the short-term, although their long-term returns on the stock were correlated with financial performance. Share buyback increase firm value since potential cash payouts signal managerial confidence about future financial performance (Nohel and Tarhan, 1998).

3.2.3 Dividend payout (DPO)

Jagannathan et al. (2000) on their findings documented systematic differences between the dividend increasing firms and repurchasing firms, describing the dividend increasing firms as generally large with higher operating or more permanent, and cash flows before an increase in the dividend payout. In contrast, firms that announced a repurchase showed higher non-operating or less permanent, cash flows than the dividend increasing firms suggesting support for the asymmetrical information
hypothesis. Moreover, the standard deviation of operating income for the repurchasing firms was about twice as large as operating income for the dividend increasing firms, suggesting support for their hypothesis that repurchasing firms have more uncertain cash flows. This finding suggested support for both the asymmetrical information theory and the signaling theory. Jagannathan et al. (2000) investigated this by predicting that a firm announcing a buyback would have a lower return on its stock prior to the announcement of a change in the dividend payout. According to Fama and French (2001) noted on cash dividend payout ratio observe that buybacks were increased at an increasing rate by larger, profitable firms that were, in turn decreasing the use of cash dividend payments.

As for this study attempts to compare the change in earnings, these metrics are converted into percentage change as below:

- Percentage change in cash flow per share from the prior period. (CFPSP)
- Percentage change in earnings per share from the prior period. (EPSP)
- Percentage change in dividend payout from the prior period. (DPOP)

### 3.2.4 Share Buyback target

Comment and Jarrel (1991) test signaling and find that the announcement returns are positively related to the proportion sought in the repurchase. Beside that McNally (1999) examines a more rigorous signaling model and finds that returns are positively related to the quantity of shares targeted. Therefore the study predicts that a larger proportion of shares to be repurchased would have a more significant impact on post-
announcement earnings than a smaller proportion of shares to be repurchased. The study will refer to the proportion of shares to be repurchased as the “target” for the buyback. A review of the literature indicated support for the generally positive effect on the stock price following an announcement, regardless of the proportion of shares to be repurchased (Dann, 1981; Vermaelen, 1981, 1984; Asquith & Mullins, 1986; Davidson & Garrison, 1989; Dann et al., 1991; Comment & Jarrell, 1991; Ikenberry et al., 1995; Stephens & Weisbach, 1998; Westpal & Zajac, 2001). Moreover, the literature indicated tremendous, 10-fold growth in stock buybacks in the past 20 or more years when measured by number of firms making announcements as well as the dollar volume of shares targeted to be repurchased (Sanders & Carpenter, 2003; Ikenberry et al., 1995). Also, the literature supported the assumption that most announcements were completed within 3 years of the announcement date (Stephens & Weisbach, 1998).
Figure 3.1: Framework Model for Buyback Target (Independent Variable) and Three Earnings Metric (Dependent Variables)

<table>
<thead>
<tr>
<th>Independent Variable (IV)</th>
<th>Dependent Variable (DV)</th>
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<td>Buyback Target</td>
<td>CFPSP</td>
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<td></td>
<td>EPSP</td>
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<td>(smaller versus larger)</td>
<td>DPOP</td>
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</tbody>
</table>

Diagrammatically, the relationship between share buyback and earnings can be shown in Figure 3.1 as above. The earnings metric of each firm were examined for a period of six fiscal year ends, with 3 years occurring in the pre-announcement period, and 3 years occurring in the post-announcement period.
3.3 Hypothesis Development.

This study basically to test whether the announcement of share buyback has an impact on earnings. The first hypothesis for this study and as seen from earlier studies done in overseas is to look at whether a firm’s announcement to buyback its stock on the open-market affect the firm’s earnings when changes to earnings are measured by CFPSP (percentage change in cash flow per share from the prior fiscal year), EPSP (percentage change in earnings per share from the prior fiscal year), and DPOP (percentage change in dividend payout from the prior fiscal year). Thus, based on the explanation relating to the three earnings metric CFPSP, EPSP and DPOP it is hypothesized that there are changes in earnings between pre and post announcement of share buyback. This hypothesis will be in line with the findings of Vermaelen (1981) found that future annual earnings were generally positive following a share buyback made through a tender offer. A later study by Dann et al. (1991) observed positive stock reactions with tender offer repurchases that were positively correlated with positive earnings changes during the 2 year period following an announcement.

Hertzel and Jain (1991) showed that the mean percentage change one year ahead of forecasts of EPS from analysts was 7.1% which was significant at the 1% level, and mean percentage change in the long-term forecasts (an average of three to five years) was 12.2% which was significant at the 5% level. Consistent with the Signaling Theory and Asymmetrical Information Theory which were described earlier in the literature review section of this study by observing that repurchase announcements conveyed favorable information about the level of future earnings. Previous empirical studies observed that buyback decisions were affected by growth,
free cash flow, market-to-book ratio, size and performance driven payout policy (Bens et al., 2003; Jagannathan et al., 2000). The expectation for a difference in pre- and post announcement values was based on the sample constraint that each announcement contained a firm’s declaration to fund the buyback solely with internal funds and without external borrowings, in addition to the literature showing that majority of buyback announcement are substantially completed within three years of announcement date (Stephens and Weisbach, 1998).

The testable hypothesis base on theories and literature review and to serve research question one is stated below.

**Hypothesis 1**

\[ H_1: \text{There is a significant difference between pre and post- announcement earnings when earnings are measured by CFPSP, EPSP and DPOP.} \]

The second hypothesis is to see whether there is a relationship between the percentage of shares targeted for buyback and the firm’s post announcement earnings. This hypothesis will be in line with the findings of Bartov (1991) show that open-market buyback appeared to convey information about both the level of earnings and risk to the firm’s earning following the announcement. His study covered firms with the average percentage of share to be repurchased increasing from 3.94% in 1978 to 6.35% in 1986. Beside that Zhang (2002) indicate that announced buyback percentage target is positively related to abnormal return at the announcement.
Consistent with the Cash Flow Theory which describes management’s expectation for permanent versus temporary cash flow, and the effect of those expectations on a firm’s decision to undertake a share buyback with temporary cash flows and to pay a cash dividend with permanent cash flows. This theory, combined with the study’s decision to treat announcement as a proxy for an actual buyback using the firm’s internal cash, could suggest an increase in earnings and cash flow that exert pressure on dividend payout to maintain a firm’s dividend payments. May also get support from two additional theories: The Asymmetrical Information Theory and The Signaling Theory. These two theories generally address management’s belief that the stock is undervalued rather than management’s communication of permanent versus temporary cash flow, and the two theories may explain the correlation between a firm’s buyback target and changes to its earnings metrics. These two theories suggest that there is generally a positive investor reaction to an announced buyback. The signaling hypothesis argues that a firm’s willingness to pay for its own shares sends a strong signal to outside investors that the firm’s future prospects are improving, conveyed by the superior information of managers over outside investors. In other words, the signaling theory suggests that an announcement implies an improvement in financial performance.

The testable hypothesis base on theory and literature review and to serve research question two is stated below.

**Hypothesis 2**

$H_2$: There is a relationship between the percentage of shares to be repurchased and the earnings of a firm post-announcement when earnings are measured by CFPSP, EPSP and DPOP.
The third hypothesis is to look at whether firms that announce a large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased. This hypothesis will be in line with the findings of Comment and Jarrell (1991) found that higher announced percentage targets are associated with higher abnormal announcement period returns, suggesting that the repurchase target indicates the quality of management information. Beside that target buyback proportion as a signal of the insiders’ private information regarding the firm’s future earnings (Vermaelen, 1981; Comment and Jarrell, 1991; Ikenberry et al., 1995; McNally, 1999). Also supported by Stephens and Weisbach, (1998), an announcement often details the total number of shares to be repurchased, the percentage of shares targeted for buyback, the total dollar amount anticipated to buyback all shares targeted, the reason for the buyback, and occasionally, details on the source of funds to complete the repurchase. The literature revealed that the content of the information conveyed in the signaling hypothesis is management’s belief that the firm’s stock is undervalued, a concept that support the asymmetrical information theory.

The testable hypothesis base on theory and literature review and to serve research question three is stated below.

**Hypothesis 3**

H₃: Firms that announce large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased when earnings are measured by CFPSP, EPSP and DPOP.
3.4 Definition of Key Terms

3.4.1 Dividend payout ratio (DPO)

This term is the percentage of earnings that are expected to be paid as cash dividends on the outstanding common stock. Earnings are defined as income before extraordinary items and discontinued operations, less preferred dividends requirements (Anil and Kapoor, 2008).

3.4.2 Earnings per Share (Basic EPS & Diluted EPS)

Basic Earnings per share (Basic EPS) tells an investor how much of the company's profit belongs to each share of stock. Basic EPS is calculated simply as earnings available to common shareholders divided by outstanding common shares. This measure does not incorporate the effect of “potentially dilutive” securities such as warrants, convertible debt, and employee stock options (ESOs). Basic EPS only takes into account the number of shares outstanding at the time. Diluted earnings per share (Diluted EPS) takes the basic earnings per share figure one step further. Diluted EPS, on the other hand, estimates how many shares could theoretically exist after all stock options, warrants, preferred stock and or convertible bonds have been exercised. (Fernandez, 2002). The denominator of diluted EPS, on the other hand, uses the treasury stock method to account for the effects of potentially dilutive securities (Core et. al., 2002). Several studies find that diluted EPS is more highly associated with stock prices and earnings than basic EPS, suggesting that investors place more weight
on diluted EPS as a measure of financial performance (Core et. al., 2002; Jennings et. al., 1997). As for this study the diluted EPS information collected from audited financial report

3.4.3 Cash Flow per Share (CFPS)

Cash flow per share, this term is a measure of a firm’s financial strength and is frequently used by analysts in valuing a firm’s stock. Many of these financial experts believe that the amount of net cash a firm produces is a more important measure of its value than its reported earnings per share (EPS). It is calculated as operating cash flow minus dividends by the number of common outstanding (Hugo, 2006)

3.4.4 Buyback Targets

This term is defined as the number of common shares to be bought on the open-market expressed as a percentage of the total number of outstanding common shares of stock for the firm (Stephens and Weisbach, 1998).
CHAPTER FOUR

RESEARCH METHODOLOGY

4.1 Introduction

This chapter outlines the methodology adopted to carry out this study. It starts with the description of the type of research, variables and measurement. In addition, this chapter also describes information pertaining to the various sources of data used in the study, describing the population and sample. Then this chapter will describe the methodological approach in this study.

4.2 Type of Research

This study will adopt a deductive approach. With the Free Cash Flow Theory, Signaling Theory and The Asymmetrical Information Theory as the guiding theories, this study will deduce several hypotheses to be tested. The next steps in deductive approach will be an empirical testing of the hypotheses and examine the outcomes.
4.3 Research Design

This study entitled "The Effects on Earnings from Announcement of Open Market Malaysian Corporate Share Buyback" is a quantitative research that attempts to accumulate existing information and data regarding the governing impacts of Malaysia share buyback towards earnings. As far as concern for this study, the strategy that may help in obtaining the relevant data that will answer the research questions and objectives is through secondary data method is deemed to be sufficient. Furthermore, secondary data method deemed to answer all the research questions of this study and most common strategy in Finance and Accounting.

4.4 Variables and Measurement

4.4.1 Dependent Variables

There will be three dependent variables in this study. Each measure a certain financial characteristics of the firms in the study and each metric comprises information available for a period of 6 fiscal years for each firm in the study, with 3 fiscal years prior to repurchase announcement and 3 years post announcement. Each of the three dependent variables measures the percentage change in that variable on a per annum basis when compared with the prior year’s value. These three dependent variables are:
1. Percentage Change in *Cash Flow per Share* from the Prior Year (CFPSP)

This variable represents the percentage change in net operating cash flow per outstanding share where one fiscal year CFPS is compared with the prior fiscal year multiply by one hundred.

Percentage change in net operating cash flow per outstanding share, $\Delta$CFPSP

\[ \Delta \text{CFPSP} = \left( \frac{\text{CF}_t}{\text{St}_t} - \frac{\text{CF}_{t-1}}{\text{St}_{t-1}} \right) \times 100\% \]

Note:

$\text{CF}_t =$ Net Cashflow at time $t$

$\text{St}_t =$ Outstanding Share at time $t$

$t =$ current period

$t-1 =$ prior period

2. Percentage Change in *Earnings per Share* (EPSP)

This variable represents the percentage change in basic earnings per share. To get the percentage one fiscal year of EPS is compared with the prior fiscal year EPS
Percentage change in basic earnings per share, $\Delta$EPSP

$$\Delta\text{EPSP} = \frac{(\text{EPS}_t - \text{EPS}_{t-1}) \times 100\%}{\text{EPS}_{t-1}}$$

Note:

$\text{EPS}_t = \text{earnings per share at time } t$

$t = \text{current period}$

$t-1 = \text{prior period}$

3. Percentage Change in Dividend Payout from the Prior year (DPOP)

This variable represent the percentage change when one fiscal year was compared with the prior fiscal year in the total ‘ringgit’ amount of cash dividends declared for common shareholders (excluding the value of stock dividends), divided by the firm’s income before extraordinary items as adjusted for common stock equivalents, and then multiplied by 100 to convert to a percentage.

Percentage change in dividend payout, $\Delta$DPOP

$$\Delta\text{DPOP} = \frac{(\text{Div}.t/\text{Et} - \text{Div}.t-1/\text{Et}-1) \times 100\%}{\text{Div}.t-1/\text{Et}-1}$$

Note:

$\text{Div}.t=\text{dividend at time } t$

$\text{Et} = \text{net income}$

$t = \text{current period}$

$t-1 = \text{prior period}$
4.4.2 Independent Variables

The Independent Variable is the proportion of shares targeted for repurchase in the open-market as stated in the firm’s announcement, referred to as the “target” of the repurchase. A review of the literature indicated support for the generally positive effect on the stock price following an announcement, regardless of the proportion of shares to be repurchased (Dann, 1981; Vermaelen, 1981, 1984; Asquith & Mullins, 1986; Davidson & Garrison, 1989; Dann et al., 1991; Comment & Jarrell, 1991; Ikenberry et al., 1995; Stephens & Weisbach, 1998; Westpal & Zajac, 2001). Moreover, the literature indicated tremendous, 10-fold growth in stock buybacks in the past 20 or more years when measured by number of firms making announcements as well as the dollar volume of shares targeted to be repurchased (Sanders & Carpenter, 2003; Ikenberry et al., 1995). Also, the literature supported the assumption that most announcements were completed within 3 years of the announcement date (Stephens & Weisbach, 1998). This study hypothesize that a large proportion of shares to be repurchased would have more of an effect on earnings than a smaller proportion of shares.
4.5 Data Collection

The data collected for this study is secondary in nature. It comes from various sources namely:

(a) The Bursa Malaysia webpage

Bursa Malaysia provides all the announcements made by the companies quoted on the stock exchange. The data available from this website is only from October 1999 onwards (circulars issued by the companies to Bursa Malaysia). Therefore the data for share buyback announcements to be downloaded from the announcement pages of Bursa Malaysia webpage for the year 2002 to 2006. Reason of collecting data till 2006 as this study will examine data for 6 years, with 3 years of data occurring before the buyback announcement and 3 years of data gather after announcement, for each firm’s CFPSP, EPSP and DPOP as previously defined. Considering buyback companies using only those firms that report series of announcement of share buyback for one year only during the sample period.

(b) OSK Berhad

OSK Berhad is an independent stock broker and research analysis company. It provides yearly the full financial details of all the companies listed on the Bursa Malaysia.
(c) The Thomson Financial Data stream

An online database which contains market data (including prices, volumes), company information and macroeconomic data for many companies in the world including Malaysia. Information extracted pertaining to financial report serves as the secondary source beside Bursa Malaysia web page.

4.6 Population and Sample

The population considered for this study is all the companies listed on the Bursa Malaysia and have carried out share repurchase activities for five years from 2002 to 2006. Thus this study will depend on the official website of Bursa Malaysia as the population frame. The sample of this study consists of announcements made by listed companies on share repurchases that occurred during the 5-years period of 2002 through 2006. This study consider buyback companies using only those firms that report series of announcement of share buyback per year during the sample period. Using this selection method the study is able to identify 328 companies as population of this study and from here only 70 companies are considered as the sample. Each announcement contained a declaration (through circular issued by the company to Bursa Malaysia) by the firm that it intended to fund the repurchase with internal funds, conveying that earnings and cash flow would be sufficient without a need for external borrowings.
4.7 Statistical Analysis and Limitation

Collected data has been analyzed using the Statistical Package for Social Science (SPSS version 16). All the information obtained from the secondary data is then verified for completeness, coded and keyed into a computer data file. The statistical techniques or tests used to analyze the data are as follows:
Table 4.1: Statistical tool applied to fulfill the Research Objective

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Statistical Tools</th>
<th>Formula</th>
</tr>
</thead>
<tbody>
<tr>
<td>To investigate whether firms that announced open market buybacks of their own common stocks had an observable difference in earnings.</td>
<td>Paired t-Test (parametric)</td>
<td></td>
</tr>
<tr>
<td>To examine on relationship between the percent of shares targeted for buyback and the earnings of the firm.</td>
<td>Pearson’s coefficient of correlation R-Regression analysis</td>
<td>$Y = a + bX + e.$</td>
</tr>
<tr>
<td>To examine whether firms that announce a larger repurchase tend to have a greater change in post announcement earnings than firms that announce a smaller proportion of shares to be repurchased</td>
<td>Independent-Groups t-test</td>
<td></td>
</tr>
</tbody>
</table>
4.7.1 Application and Explanation of the statistical test used

Paired t-test
According to Sekaran (2003), a t-test is done to see if there are any significant differences in the means for same groups in the variable of interest means to examine the differences in the same group before and after a treatment. This statistical tool applied for this study to see if there are any difference in the means for same group (i.e EPS means pre-EPSP and post-EPSP) the changes of earnings before and after announcement of share buyback

Pearson product correlation
Describes the association between two continuous variables. To interpret the correlation, examine the coefficient and its associated significance value (Sekaran, 2003). This tool will help to see any association between buyback targets and post announcement earnings.

Regression analysis
To further investigate the relationship. This analysis would suggest possibility of high predictability in the relationship between the size of a firm’s buyback target and that firm’s post-announcement earnings. The observed F values will be examined at acceptable testing levels. (Sekaran, 2003). As for this study cross-sectional regression was use.
Three separate cross-sectional regression will take the following form:

\[ Y = a + bX + e \]

Where,

- \( Y \) is the dependent variable of CFPSP, EPSP and DPOP,
- \( X \) is the independent variable (buyback target),
- \( a \) is the constant term,
- \( b \) is the slope coefficient of the variable \( X \),
- \( e \) is the error term which has an expected mean value of zero.

**t-Test for Independent Samples** - To investigate the effect on changes to earnings from the proportion of shares targeted for buyback, the statistical tests on sample segments included the following t-test (independent group t-test). T-Test was applied with grouping that compared only two segments. As for this study refer to Table 4.4, the \( t \)-test can be used to test for a difference in test scores between a group of buyback targets based on sample study of 70 firms which falls into median of 4.63 with larger buyback having more than 4.63 and another group represent smaller buyback having smaller than 4.63. The equality of variances assumption can be verified with the \( F \) tests, or uses the more robust *Levene's test*. (Sekaran, 2003).
4.7.2  Mean and Median Percentage Share Buyback.

Table 4.2 presents the findings of Stephen and Weisbach (1998), which could be used for this study when comparing the mean and median of actual against targeted buyback.

Table 4.2: Percentage of Outstanding Shares Targeted for Repurchase in US

<table>
<thead>
<tr>
<th>Year of Announcements</th>
<th>Number of Announcements</th>
<th>Mean target % Announced</th>
<th>Median target % Announced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>23</td>
<td>6.00</td>
<td>2.81</td>
</tr>
<tr>
<td>1982</td>
<td>43</td>
<td>4.62</td>
<td>3.60</td>
</tr>
<tr>
<td>1983</td>
<td>15</td>
<td>5.34</td>
<td>4.48</td>
</tr>
<tr>
<td>1984</td>
<td>68</td>
<td>5.34</td>
<td>4.48</td>
</tr>
<tr>
<td>1985</td>
<td>46</td>
<td>6.48</td>
<td>4.68</td>
</tr>
<tr>
<td>1986</td>
<td>48</td>
<td>6.07</td>
<td>4.59</td>
</tr>
<tr>
<td>1987</td>
<td>43</td>
<td>9.11</td>
<td>7.02</td>
</tr>
<tr>
<td>1988</td>
<td>55</td>
<td>8.74</td>
<td>6.18</td>
</tr>
<tr>
<td>1989</td>
<td>53</td>
<td>8.98</td>
<td>7.71</td>
</tr>
<tr>
<td>1990</td>
<td>56</td>
<td>7.40</td>
<td>5.46</td>
</tr>
<tr>
<td>All Years</td>
<td>45</td>
<td><strong>7.00</strong></td>
<td><strong>5.00</strong></td>
</tr>
</tbody>
</table>

(average)

Table 4.3 summarizes the statistics of target shares sought as well as the terms of tender offers. The average and median value of the target shares sought as a percentage of total number of shares outstanding were 5.44% and 4.42%, respectively. The target buyback percentage in general was lower than that in the US study conducted by Stephen and Weisbach (1998).

Table 4.3 Summary statistics on target shares sought as a percentage of total shares outstanding,

<table>
<thead>
<tr>
<th>Description</th>
<th>Full sample (n = 72)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average (%)</td>
<td>6.44</td>
</tr>
<tr>
<td>S.D. (%)</td>
<td>6.53</td>
</tr>
<tr>
<td>Median (%)</td>
<td>4.42</td>
</tr>
<tr>
<td>Max (%)</td>
<td>51.65</td>
</tr>
<tr>
<td>Min (%)</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Source: Adopted from Zhang (2002)

Table 4.4: Grouping of the Sample for Multiple Comparisons of Target Buyback and Post-Announcement Metrics.

<table>
<thead>
<tr>
<th>Number of Sample Segments in the Grouping</th>
<th>Proportion of Shares targeted for Buyback by each Sample Segments in Grouping</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Segment 1 : Above Median of 4.63%</td>
</tr>
<tr>
<td></td>
<td>Segment 2 : Below Median of 4.63%</td>
</tr>
</tbody>
</table>
To investigate the effect on changes to earnings from the proportion of shares targeted for buyback, the statistical tests on sample segments included the following t-test (independent group t-test). T-Test was applied with grouping that compared only two segments. Based on the Stephens and Weisbach (1998), looking at the median at 5.0 as compare to this study the median is at 4.63. This will be the cross line marking to determine larger and smaller target buyback for this study as refer to Table 4.4.
4.8 Methodological approach

Similar to landmark study by Stephens and Weisbach (1998) for purpose of this empirical study, from the above mentioned sources to prepare data for analysis, this study will examined data for 6 years, with 3 years of data occurring before the buyback announcement and 3 years of data gather after announcement, for each firm’s CFPSP, EPSP and DPOP as previously defined. The data will be averaged for 3 year period of pre and post-announcement data. To examine whether firms that had their earnings patterns, did examine earnings over years of -3 to +3. To aggregate results across firms, earnings changes were expressed as a percentage of the fiscal year end prior to the announcement of share buyback The use of a three year average was consistent with the literature that observed the majority of open-market repurchases were completed within three years of the announcement date in the landmark study by Stephens and Weisbach (1998).

4.8.1 Adjustment to Confounding Variables

The choice of confounding variables is somewhat ad hoc because previous study and theories are insufficiently rich to identify other effects on earnings due to share buyback activity. Ceteris paribus assumption is realized when other factors for all of the independent variables other than the one under study percentage of buyback, so that the effect of a single independent variable on the three dependent variables CFPSP, EPSP and DPOP can be isolated based on figure 3.1. By holding all the other relevant factors constant such as stock price reaction and content of earnings
information, is able to focus on the unique effects of a given factor in a complex causal situation. To justify further the study is designed to minimize problems resulting from independents variables being highly correlated, by having only one independent variable. Another justification is that as far concern to share buyback, high consideration on percentage of share buyback as independent variable basically supported by previous studies (Comment and Jarrell 1991; Ikenberry et al., 1995; Stephens and Weisbach, 1998; Westphal and Zajac, 2001; Zhang 2002 and Deborah and Robert, 2009).
4.9 Summary

This chapter has described variables, the population and sample of this study and the source of data collection through secondary method. Then it elaborated on the statistical tool to be considered and the method to be used in the analysis of the impact of share buyback on Bursa Malaysia.
CHAPTER FIVE

RESULTS

5.1 Introduction.

This chapter presents the results of the investigation for all three research questions. The purpose of this study is to investigate if an announcement of share buyback has an impact on earnings of a firm. The types of analysis undertaken for this study were descriptive and inferential statistics. The body of the chapter represents the new knowledge in light of what was discovered from the data. First of all this chapter look at the overall share buyback activities carried out by Malaysian companies. Next section look on the proportion of shares targeted for buyback in the open-market had a statistically significant effect on three earnings metrics CFPSP, EPSP and DPOP.

5.2 Malaysia Share buyback Activity with Percentage Target

There are about 896 companies listed on the Malaysian stock as of 31 December 2006 and prior to September 1997, the only way the company is able to distribute their cash is by way of dividend. With the approval of the share buyback program by the KLSE (currently known as Bursa Malaysia) in September 1997, the company has another alternative to distribute their cash. The new alternative available however is not well
received as out of the total of 896 numbers of companies listed on the stock exchange, there seem to be only 383 companies willing to try out the new option period of 1999 to 2006 refer to Table 1.1. Again for this study examined from the year 2002 to 2006 consists of 328 companies involve in the share buyback activity and classified as population of this study Table 5.1 (refer to appendix I).

Table 5.1 : Companies Announcement of Share Buyback in Malaysia with percentage target by year

<table>
<thead>
<tr>
<th>Year of Announcements</th>
<th>Number of Announcements</th>
<th>Mean target % Announced</th>
<th>Median target % Announced</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002</td>
<td>31</td>
<td>6.85</td>
<td>2.26</td>
</tr>
<tr>
<td>2003</td>
<td>53</td>
<td>8.58</td>
<td>8.20</td>
</tr>
<tr>
<td>2004</td>
<td>56</td>
<td>5.91</td>
<td>1.85</td>
</tr>
<tr>
<td>2005</td>
<td>104</td>
<td>6.54</td>
<td>5.23</td>
</tr>
<tr>
<td>2006</td>
<td>84</td>
<td>6.90</td>
<td>4.96</td>
</tr>
</tbody>
</table>

Source : Adapted from www.bursa.com.

The sample in this study consisted of 70 companies involve in the series of announcements share buyback per year that occurred during the 5-year period of 2002 through 2006 consistent with Sekaran (2003) with sample sizes larger than 30 for most research. Each announcement contained a declaration by the firm that it intended to fund the buyback with internal funds, conveying that earnings and cash flow would be sufficient without a need for external borrowings.
5.3 Descriptive Statistics for the Sample

Table 5.2: Summary for the Sample of 70 Open-market Buyback Announcements, 2002 – 2006: Average Metrics for 3 Years Pre- and Post-announcement

<table>
<thead>
<tr>
<th>Financial Metrics for Target Buyback and Earnings</th>
<th>Mean of Metric</th>
<th>Minimum of Metric</th>
<th>Maximum of Metric</th>
<th>Mean of Metric</th>
<th>Standard Deviation of Metric</th>
</tr>
</thead>
<tbody>
<tr>
<td>Targeted Shares (%)</td>
<td>4.63</td>
<td>0.08</td>
<td>25.69</td>
<td>6.89</td>
<td>6.67</td>
</tr>
<tr>
<td>CFPSP Pre</td>
<td>-535.93</td>
<td>467.60</td>
<td>-111.70</td>
<td></td>
<td>194.78</td>
</tr>
<tr>
<td>CFPSP Post</td>
<td>-323.51</td>
<td>485.43</td>
<td>67.61</td>
<td></td>
<td>169.95</td>
</tr>
<tr>
<td>EPSP Pre</td>
<td>-344.30</td>
<td>75.00</td>
<td>-137.79</td>
<td></td>
<td>81.03</td>
</tr>
<tr>
<td>EPSP Post</td>
<td>-342.00</td>
<td>466.35</td>
<td>41.45</td>
<td></td>
<td>168.50</td>
</tr>
<tr>
<td>DPOP Pre</td>
<td>-346.16</td>
<td>206.45</td>
<td>-107.19</td>
<td></td>
<td>99.48</td>
</tr>
<tr>
<td>DPOP Post</td>
<td>-318.51</td>
<td>606.25</td>
<td>71.56</td>
<td></td>
<td>161.50</td>
</tr>
</tbody>
</table>

The first metric presented in Table 5.2 (refer to appendix 9) is “Targeted Shares,” which represents the study’s independent variable, the percentage or proportion of shares targeted for buyback in the open-market. This variable had a range of 0.08% to 25.69% for the sample of 70 announcements. In addition, the sample had a mean buyback target of 6.89% and a median of 4.63%. The literature revealed an average open-market buyback of 7%, and a median of approximately 5%, as reported by Stephens and Weisbach (1998).

The study had three dependent variables that measured change in certain financial characteristics of each firm, as described previously. The study expected the means for each of the three dependent variables would show a significant difference between...
the pre- and post-announcement values. The study conducted statistical tests to address these predictions. The study did not, however, predict the direction of changes in the means, and did not test for positive or negative changes in the financial metrics following a buyback’s announcement.

As shown in Table 5.2, the means of pre- and post-announcement values appear to be different and not close in value for the three earnings metrics of CFPSP, EPSP and DPOP. In addition, the average post-announcement value for each of these three metrics appears to be larger than the average pre-announcement value, which suggests a larger degree of change in earnings after a buyback announcement is made than before an announcement. This is not necessarily align to the study prediction, as the expectation was for larger buyback targets to have a larger effect on earnings than smaller buybacks, and that effect does not necessarily need to be larger than pre-announcement changes to these financial characteristics. Of note, however, the difference in pre- and post announcement means for CFPSP (179.31) appears to be slightly broader than the difference in means for EPSP (179.24) and DPOP (178.25). The study conducted statistical tests to investigate if the difference in means for each of the three dependent variables for earnings was statistically significant. The results of statistical tests for difference in means are described in a later section of this study, with findings presented in Tables 5.3.
5.4 An Investigation of Research Question 1

Research Question 1 asked the following: Does a firm’s announcement to buyback its stock on the open-market affect the firm’s post announcement earnings when changes to earnings are measured by CFPSP (percentage change in cash flow per share from the prior fiscal year), EPSP (percentage change in earnings per share from the prior fiscal year), and DPOP (percentage change in dividend payout from the prior fiscal year). The testable hypothesis resulting from Research Question One is stated below.

\[ H_1: \text{There is a significant difference between pre and post-announcement changes to earnings when earnings are measured by CFPSP, EPSP and DPOP.} \]

This study examined data for 6 years, with 3 years of data occurring before the buyback announcement and 3 years of data gathered after announcement, for each firm’s CFPSP, EPSP and DPOP as previously defined. For each of the earnings metrics, the data was analyzed by comparing pre-announcement values with post-announcement values for each of the three dependent variables were investigated using the t-test for paired differences.

*T-Test for Paired Differences.* According to Sekaran (2003), a t-test is done to see if there are any significant differences in the means for same groups in the variable of interest means to examine the differences in the same group before and after a treatment. As for this study examining pre-and post-announcement values using t-test paired. The paired differences tests comparing pre- and post-announcement values
are presented in Table 5.3 (refer to appendix 10, 11 & 12). The observed values in the last column of Table 5.3 revealed that any observed differences in the means were significant for all three earning metrics. Accordingly, there was a statistically significant difference between the changes to earnings of a firm for pre-announcement values compared with post-announcement values for these three earnings metrics.

As presented in Table 5.3, each of the values in the last column of the table is smaller than 0.05, indicating the difference in means for pre- and post-announcement values were significant for all the three dependent variables at acceptable testing levels for a 95% confidence level. Despite the breadth of results across three variables suggested there was support for from the results of t-test to accept hypotheses 1 that addressed Research Question 1. These findings support to expectation of the study.

Another reason for the finding of significant differences between pre- and post-announcement values could be that the results reflect the Signaling Theory and Asymmetrical Information Theory which were described earlier in the literature review section of this study. On the findings of Hertzel and Jain (1991) showed that the mean percentage change one year ahead of forecasts of EPS from analysts was 7.1% which was significant at the 1% level, and mean percentage change in the long-term forecasts (an average of three to five years) was 12.2% which was significant at the 5% level. These results were consistent with the signaling hypothesis by observing that repurchase announcements conveyed favorable information about the level of future earnings. The study expected earnings to change significantly after a
firm announced a share buyback, although the study did not predict the direction of a change. Previous empirical studies observed that buyback decisions were affected by growth, free cash flow, market-to-book ratio, size and performance driven payout policy (Bens et al., 2003; Jagannathan et al., 2000).

The announcement of a share repurchase program, with its well documented favourable market reaction, can satisfy both managers and shareholders in the short-term, while the actual completion of the repurchase can be exercised at management’s discretion to satisfy one or both groups of stakeholders (Sanders & Carpenter, 2003; Kracher & Johnson, 1997). Moreover, the study expected firms with larger buyback targets to show a larger change than firms announcing smaller buyback targets when comparing pre- and post-announcement values. The expectation for a difference in pre- and post announcement values was based on the sample constraint that each announcement contained a firm’s declaration to fund the buyback solely with internal funds and without external borrowings, in addition to the literature showing that majority of buyback announcement are substantially completed within three years of announcement date (Stephens and Weisbach, 1998).
Table 5.3: A Comparison of Metrics 3 Years Pre- with 3 years Post-Announcements.

Paired t-Test:

<table>
<thead>
<tr>
<th>Metrics</th>
<th>Mean</th>
<th>Std.deviation</th>
<th>Std.Error</th>
<th>T</th>
<th>df</th>
<th>**Sig.(2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>for Earnings Pre- and Post Announcement Averages**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFPSP</td>
<td>1.693E2</td>
<td>234.23</td>
<td>27.99</td>
<td>-6.04</td>
<td>69</td>
<td>.000**</td>
</tr>
<tr>
<td>EPSP</td>
<td>1.862E2</td>
<td>187.64</td>
<td>22.43</td>
<td>-8.30</td>
<td>69</td>
<td>.000**</td>
</tr>
<tr>
<td>DPOP</td>
<td>1.787E2</td>
<td>181.62</td>
<td>21.71</td>
<td>-8.24</td>
<td>69</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Note: ** All values are smaller than 0.05, indicating the differences between pre- and post announcement are significant at acceptable testing levels.

Table 5.2 presents the average means of pre and post announcement metrics; Table 5.3 presents the magnitude of the differences in means.
5.5 An Investigation of Research Question 2

Research Question 2 asked the following: Is there a relationship between the percentage of shares targeted for buyback and the firm’s post announcement earnings? Earnings still measured by CFPSP, EPSP and DPOP. To investigate research Question 2 and to further analyze the relationship between pre- and post-announcement values of certain financial characteristics, a correlation analysis was conducted.

H2: There is a relationship between the percentage of shares to be repurchased and the earnings of a firm post-announcement when earnings are measured by CFPSP, EPSP and DPOP.

Initially, this study began its investigation with t-tests that did reveal a significant difference between the values of pre- and post-announcement means for the three dependent variables: CFPSP, EPSP and DPOP. As for this section further analyze the data, the study conducted testing with correlation analysis. The statistical test for correlation generates Pearson’s product correlation coefficient (R). This test was utilized to measure whether or not the relationship between the percentage of shares targeted for buyback and the change in earnings of a firm were significantly different for post-announcement values at acceptable testing levels.

Table 5.4 (refer to appendix 13, 14 & 15) presents findings from the correlation tests that showed the percentage of shares targeted for buyback had a correlation with all three dependent variables CFPSP, EPSP and DPOP with three significant
relationships observed. Accordingly, a correlation did appear between the proportion of shares targeted for buyback and a change in the firm’s post-announcement earnings. These results do support the predictions of this study as the study expected a significant relationship to be observed between all three metrics for earnings. This findings consistent with the previous study by Bartov (1991) show that open-market buyback appeared to convey information about both the level of earnings and risk to the firm’s earning following the announcement. His study covered firms with the average percentage of share to be repurchased increasing from 3.94% in 1978 to 6.35% in 1986. Beside that Zhang (2002) indicate that announced buyback percentage target is positively related to abnormal return at the announcement.

The findings from correlation testing presented in Table 5.4 are consistent with the study’s predictions. Specifically, the study expected to observe a significant relationship between the independent variable and all three dependent variables. The consistent findings presented in Table 5.4 may suggest support for the Cash Flow Theory which describes management’s expectation for permanent versus temporary cash flow, and the effect of those expectations on a firm’s decision to undertake a share buyback with temporary cash flows and to pay a cash dividend with permanent cash flows. The Cash Flow Theory may offer some explanation for CFPSP, EPSP and DPOP as these earning variables to be significantly correlated with the buyback target. In addition, the findings of research question two revealed that CFPSP had as significantly positive relationship with the size of announcement refer to as the buyback target a proxy for completing the buyback with internal funds, as well as support the expectation of earnings and cash flow to be affected by buyback, a premise of this study. The literature document the reluctance by firms to change
dividend per share regardless of the change in earnings over the short-term, with these findings appearing in the literature dating back to Litner’s 1956 dividend model (Jagannathan et al., 2000). This theory, combined with the study’s decision to treat announcement as a proxy for an actual buyback using the firm’s internal cash, could suggest an increase in earnings and cash flow that exert pressure on dividend payout to maintain a firm’s dividend payments.

The findings of Table 5.4 may also offer support for two additional theories: The Asymmetrical Information Theory and The Signaling Theory. These two theories generally address management’s belief that the stock is undervalued rather than management’s communication of permanent versus temporary cash flow, and the two theories may explain the correlation between a firm’s buyback target and changes to its earnings metrics. These two theories suggest that there is generally a positive investor reaction to an announced buyback. The signaling hypothesis argues that a firm’s willingness to pay for its own shares sends a strong signal to outside investors that the firm’s future prospects are improving, conveyed by the superior information of managers over outside investors. In other words, the signaling theory suggests that an announcement implies an improvement in financial performance. Therefore the findings of correlation analysis appeared consistent which led the study to conclude that the relationship between percentage of shares targeted for buyback and the changes to earnings post announcement offered strong support for accepting hypothesis 2 that addressed Research Question 2.
Table 5.4: Pearson Correlation Tests: Proportion of Shares Targeted and 3 Years of Post Announcement Metrics.

<table>
<thead>
<tr>
<th>Financial Metrics for Earnings</th>
<th>N</th>
<th>R</th>
<th>*Sig. (2-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFPSP</td>
<td>70</td>
<td>.913</td>
<td>.000*</td>
</tr>
<tr>
<td>EPSP</td>
<td>70</td>
<td>.922</td>
<td>.000*</td>
</tr>
<tr>
<td>DPOP</td>
<td>70</td>
<td>.932</td>
<td>.000*</td>
</tr>
</tbody>
</table>

Note: *Correlation is significant at the 0.01 Level (2-tailed)
5.6 An Investigation of Research Question 3

Research Question 3 asked the following: Do firms that announce a large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased? This research question led to the following testable hypothesis:

\[ H_3: \] Firms that announce large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased when earnings are measured by CFPSP, EPSP and DPOP.

The study expected to observe a larger change in post-announcement earnings in a firm announcing a larger buyback than in a firm announcing a smaller proportion of shares to buyback. The study did not predict or investigate the direction of the change in post announcement values. To investigate the effect on post-announcement changes to earnings from the size of buyback, the sample of 70 announcements was analyzed by sample segments. The sample of announcements ranged from the smallest buyback target 0.08% to the largest buyback target of 25.69%. The sample segments were derived from a statistical process that divided the sample into segments. To conduct more thorough investigation, the study analyzed grouping of the data by dividing the sample into segments that reflected median of 4.63%. This grouping sorts the sample into two sample segments, with one segment consisting of buyback that targeted more than the sample median, and the other segment consisting of buyback that targeted less than the median refer to Table 4.4.
5.6.1 An Examination of Grouping – Above and Below the Median

To further investigate any differences in means for sample segments that compare a higher proportion of shares to be bought back with a smaller proportion of shares targeted for buyback, the study examined grouping. Grouping sorted the sample into two segments; with one segment consisting of announcement higher than the sample median, and other segment comprised of announcements below the median refer to Table 4.4. The median for the sample is a buyback target of 4.63%. Table 5.5 presents summary statistics for the two segments of Grouping.

Table 5.5: Summary Statistics of Post-Announcement Metrics for: Grouping – Above and Below the Median Buyback Target.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>Sample</th>
<th>N</th>
<th>Mean of the Segment</th>
<th>Std. Deviation of the Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes in Earnings.</td>
<td>Grouping.</td>
<td>(Median=4.63%)</td>
<td>Post-Announcement</td>
<td></td>
</tr>
<tr>
<td>CFPSP-Post</td>
<td>Below Median</td>
<td>35</td>
<td>1.92E2</td>
<td>111.19235</td>
</tr>
<tr>
<td></td>
<td>Above Median</td>
<td>35</td>
<td>-56.89</td>
<td>119.72780</td>
</tr>
<tr>
<td>EPSP-Post</td>
<td>Below Median</td>
<td>35</td>
<td>1.64E2</td>
<td>116.31595</td>
</tr>
<tr>
<td></td>
<td>Above Median</td>
<td>35</td>
<td>-81.31</td>
<td>114.30611</td>
</tr>
<tr>
<td>DPOP-Post</td>
<td>Below Median</td>
<td>35</td>
<td>1.89E2</td>
<td>116.36845</td>
</tr>
<tr>
<td></td>
<td>Above Median</td>
<td>35</td>
<td>-45.94</td>
<td>96.11</td>
</tr>
</tbody>
</table>
Table 5.6 (refer to appendix 16) presents findings that show there were significant
differences between the two segments for all the dependent variables CFPSP, EPSP
ad DPOP post-announcement, which is consistent with prediction of the study. The t-
test was performed for the difference in means between the two sample segments.
Given that Levene’s test has a probability greater than 0.05, can assume that the
population variances are relatively equal. Therefore, base can use the t-value for the
equal variance estimates to determine whether two segments differences exist for all
the dependent variables CFPSP, EPSP and DPOP post-announcement.

Table 5.6   Independent Samples t-test of Post Announcement Metrics for Equality
of means for; Grouping – Above and below the Median Buyback Target

<table>
<thead>
<tr>
<th>Dependent Variables:</th>
<th>Levene’s Test for Equality of Variances.</th>
<th>t</th>
<th>df</th>
<th>Mean</th>
<th>Std. Error</th>
<th><strong>Sig. (2-tailed)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Changes to Earnings . Post - Announcement</td>
<td>Sig.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CFPSP-Post</td>
<td>.403</td>
<td>9.016</td>
<td>68</td>
<td>249.02</td>
<td>27.62</td>
<td>.000**</td>
</tr>
<tr>
<td>EPSP-Post</td>
<td>.782</td>
<td>8.907</td>
<td>68</td>
<td>245.52</td>
<td>27.56</td>
<td>.000**</td>
</tr>
<tr>
<td>DPOP-Post</td>
<td>.376</td>
<td>8.880</td>
<td>68</td>
<td>234.99</td>
<td>26.46</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Note: **The mean difference in sample segments is significant at the 0.05 level

These findings suggested that a larger proportion of shares to be bought back had a
more pronounced effect on earnings than a smaller buyback target, with test
conducted at the significance level of 0.05. The results presented in Table 5.6 suggested that the sample segment with a larger percentage of shares to be bought back present a significant difference in post-announcement values than the segment with smaller buyback targets when analyzed for the dependent variables of CFPSP, EPSP and DPOP. These findings for Grouping suggested firms targeting a higher percentage of shares for buyback had a significant difference in CFPSP, EPSP and DPOP post-announcement than firms with a smaller buyback target. This result suggested that as the targeted proportion of shares increased, an increase was observed in the value for the change in Cash Flow per Share, Earnings per Share and Dividend per Share post-announcement.

The Cash Flow Theory may offer some explanation for CFPSP, EPSP and DPOP as these earning variables to be significantly correlated with the buyback target as investigated for research question 2. In addition, based on the findings of research question two revealed that CFPSP had as significantly positive relationship with the size of announcement refer to as the buyback target a proxy for completing the buyback with internal funds. This findings supported by the study of Stephens and Weisbach, (1998), an announcement often details the total number of shares to be repurchased, the percentage of shares targeted for buyback, the total dollar amount anticipated to buyback all shares targeted, the reason for the buyback, and occasionally, details on the source of funds to complete the repurchase. Also supported by Comment and Jarrell (1991) found that higher announced percentage targets are associated with higher abnormal announcement period returns, suggesting that the repurchase target indicates the quality of management information. Beside that target buyback proportion will act as a signal of the insiders’ private information
regarding the firm’s future earnings (Vermaelen, 1981; Comment and Jarrell, 1991; Ikenberry et al., 1995; McNally, 1999). The literature revealed that the content of the information conveyed in the signaling hypothesis is management’s belief that the firm’s stock is undervalued, a concept that support the asymmetrical information theory,

5.7 An Examination of the Data with Regression

The study investigated whether or not a large proportion of shares to be repurchased had a more significant effect on that firm’s earnings post-announcement than a smaller buyback target. This relationship was addressed to Research Question Two. To further investigate the relationship, regression analysis was applied to the 70 announcements in the sample. The results of regression analysis suggested there were high predictability in the relationship between the size of a firm’s buyback target and that firm’s post-announcement earnings. The result of high predictability appeared consistently across all three variables of CFPSP, EPSP and DPOP for sample of 70 announcements. The observed t values were significant at acceptable testing levels of 0.05. Despite the observation of high predictability, one observation was noteworthy for presenting the highest R square of the study at 85.0%, and at the more stringent testing level of 0.05. The variable represented by the highest level of predictability was EPSP refer to Table 5.7 (Appendix 17, 18 &19). The variables presenting the greatest number of significant results were the three earnings metric; CFPSP, EPSP and DPOP refer to Table 5.7 which was consistent with findings for Research Question 2. In summary, the findings from regression analysis suggested high
predictability for the relationship between the size of a buyback announcement and earnings measured by CFPSP, EPSP and DPOP post-announcement. Therefore the results of regression analysis were consistent to prediction of the study. These findings suggest strongly support the hypothesis of H2. The percentage of shares to be bought back does appear to be significant in explaining the change in post-announcement.

Table 5.7: Regression Analyses of Percentage Target Post Announcement Metrics for Three Dependent Variables.

<table>
<thead>
<tr>
<th>Dependent Variables</th>
<th>R square</th>
<th>t</th>
<th>Coefficient</th>
<th>** Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>CFPSP Post</td>
<td>0.833</td>
<td>18.39</td>
<td>23.23</td>
<td>.000**</td>
</tr>
<tr>
<td>EPSP Post</td>
<td>0.850</td>
<td>19.63</td>
<td>23.28</td>
<td>.000**</td>
</tr>
<tr>
<td>DPOP Post</td>
<td>0.845</td>
<td>19.22</td>
<td>23.27</td>
<td>.000**</td>
</tr>
</tbody>
</table>

Note: ** significant at 0.05 level
5.8 Summary of Analysis for All Research Questions

The table below presents a summary of the findings for this study, with references to key statistical tests and conclusion to accept or reject the hypothesis.

Table 5.8: Summary of Findings for all Hypotheses

<table>
<thead>
<tr>
<th>Hypothesis And Relationship Tested</th>
<th>Supported or Rejected</th>
<th>Key Tables And Statistical Tests</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H₁</strong>: There is a significant difference between pre and post-announcement changes to earnings when earnings are measured by CFPSP, EPSP and DPOP</td>
<td>Supported</td>
<td>TABLE 5.2 &amp; 5.3 Paired Samples t-Test</td>
</tr>
<tr>
<td><strong>H₂</strong>: There is a relationship between the percentage of shares to be repurchased and the earnings of a firm post-announcement when earnings are measured by CFPSP, EPSP and DPOP</td>
<td>Supported</td>
<td>TABLE 5.4 &amp; 5.7 Pearson Correlation Tests Regression Analysis</td>
</tr>
<tr>
<td><strong>H₃</strong>: Large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased when earnings are measured by CFPSP, EPSP and DPOP.</td>
<td>Supported</td>
<td>TABLE 5.5 &amp; 5.6 Independent-Group t-test</td>
</tr>
</tbody>
</table>
Based on Table 5.8, three hypotheses were tested accordingly. The first hypothesis, i.e., the breadth of results across three variables suggested there was support from the results of t-test to support hypotheses 1 that addressed Research Question 1. Accordingly, there was a statistically significant difference between the changes to earnings of a firm for pre-announcement values compared with post-announcement values for these three earnings metrics. As for the next hypothesis, the study conducted testing with correlation analysis. The statistical test for correlation generates Pearson’s product correlation coefficient (R). This test was utilized to measure whether or not the relationship between the percentage of shares targeted for buyback and the change in earnings of a firm were significantly different for post-announcement values at acceptable testing levels. Findings from the correlation tests that showed the percentage of shares targeted for buyback had a correlation with all three dependent variables CFPSP, EPSP and DPOP with three significant relationships observed. Do firms that announce a large percentage of shares to be repurchased tend to have a greater change in post-announcement earnings than firms that announce a smaller percentage of shares to be repurchased? This was the research question 3, Independent group t-test was applied and groupings form into 2 segments resulting a larger proportion of shares to be bought back had a more pronounced effect on earnings than a smaller buyback target, with test conducted at the significance level of 0.05. Most of the test conducted at 95% confident level and three hypotheses were supported at the significant (p < 0.05).
CHAPTER SIX

DISCUSSION AND CONCLUSION

6.1 Introduction

This chapter will look on recapitulation of the findings and further to that will discuss on the implication and limitation of the study.

6.2 Recapitulation of the Study Findings

There is evidence that the impact of share buyback announcement towards earnings before and after the announcement shown that substantial changes occurred for earnings. Whilst, there is a fairly strong association between the percentage of share buyback and three earnings metric. An important finding and therefore contribution is the significant of proportion of share buyback has an impact towards explaining the change in post announcement earnings. This study was conducted to look at whether share buyback announcement in Malaysia being carried out has an impact on earnings where earnings are measured by percentage change in cash flow (CFPSP), percentage change in earnings per share (EPSP) and percentage change in dividend. The study did look on difference between pre and post-announcement changes to earnings when
earnings are measured by percentage change in CFPSP, EPSP and DPOP timeframe the share buyback to three years as seen from the research done by Stephens and Weisbach (1998). Whether correlation exist or relationship between the percentage of shares to be repurchased and the earnings of a firm post-announcement. Finally the size of buyback has an impact towards explaining the change in post announcement earnings.

328 companies out of 896 companies listed on the Kuala Lumpur Stock Exchange (KLSE) since 1999 till 2006 practice share buyback grouped as population for this study. 70 companies were selected as samples for this study base on series of announcement for one year only means no repetition of announcement after this one year. The sample had a mean buyback target of 6.89% and a median of 4.63%. The means of pre- and post-announcement values appear to be different, and not close in value for the three earnings metrics of CFPSP, EPSP and DPOP. In addition, the average post-announcement value for each of these three metrics appears to be larger than the average pre-announcement value, which suggests a larger degree of change in earnings after a buyback announcement is made than before an announcement do support the first research objective to investigate whether firms that announced open market buybacks of their own common stocks had an observable difference in earnings. As for the research objective two, to examine on relationship between the percent of shares targeted for buyback and the earnings of the firm. The findings as such the proportion of shares targeted for buyback and a change in the firm’s post-announcement earnings has significant positive relationship means that any changes on earnings contributed from relationship of the proportion of buyback targets. This findings does not end here after looking at correlation, next objective to examine
whether firms that announce a larger buyback tend to have a greater change in post announcement earnings than firms that announce a smaller proportion of shares to be repurchased. As the targeted proportion of shares increased, an increase was observed in the value for the change in Cash Flow per Share, Earnings per Share and Dividend per Share post announcement.

6.3 Discussion

Motivation of this study was actually triggered by the dramatic increase in the corporate finance activity of buyback shares in the Malaysian open-market after the Asian Financial crisis 1997. It is important since the buyback has the implication of affordability when firms announce plans to complete the buyback with internal funds, suggesting that earnings are not expected to be negatively affected by the buyback activity, regardless of the proportion of shares targeted for buyback. In fact, the earnings were measured by Cash Flow per Share, Earnings per Share and Dividend per Share. Most results were consistent to prediction of this study. To address Research Question 1, the t-test pairing revealed there was a significant difference in pre- and post-announcement earnings at stringent of 95% confidence level for three earnings metric CFPSP, EPSP and DPOP and this has led to the support of hypothesis one.

As for Research Question 2, correlation test was conducted; findings reveal that all three earnings variables were significantly correlated with the size of a repurchase target. The test results most consistent with the expectations of this study that a
relationship appears to exist between the buyback target and certain financial characteristics thus led to support hypothesis 2. Also consistent with expectation of the study were findings that revealed post-announcement earnings differed more for a firm announcing a larger buyback target than for a firm announcing a smaller buyback target which address Research Question 3. Bolstering these findings were results from t-test independent group and regression analysis that reveal the highest of buyback targets in the sample presented the highest R square, and at the more stringent testing level of 0.05 (95% confident level) suggesting 85% predictability by the largest buyback in the sample representing one of earning metric EPSP, follow-up by DPOP (84.5%) and CFPSP (83.3%). There was one parameter use to test the hypothesis 3, first to look at the median means anything above median will consider as larger buyback target and below median consider as smaller buyback target. This tests was conducted using t-test and regression analysis, results of the findings shown high predictability towards the expectation of this study which led to support hypothesis 3.

6.4 Implication of the Study

Given the growth in share buybacks in Malaysia by the number of companies announcing buyback since 1999 and since there are limited studies in Malaysia on share buybacks and their effect on earnings, this study has extended new body of knowledge for numerous parties. Generally this study extends literature another reason why firms practice buyback is to signal earnings increase or change due to post announcement. Bursa Malaysia as regulators of financial markets, academicians, industry practitioners and investors could benefit the most from these findings. To the best of the researcher’s knowledge, this study represents among the first study to
address the issue of earnings changes due to share buyback announcement in Malaysia. This findings will help to provide an understanding whether firms in Malaysia that announce open market buybacks of their own common stocks had an effect on earnings following such an announcement, and if that difference were significantly related to the proportion of shares to be repurchased. If future earnings of the firm were to become negatively affected by the buyback, then the firm’s ability to make other distributions could become negatively impacted. Beside that the market players definitely looking forward to these findings as they could make effective decision base on new information regarding companies listed on the Bursa Malaysia. It is vital for them to be the first or among the first to buy or sell shares reacting to any specific announcement or news especially when it comes to share buyback announcement.

There are two aspects which can be looked at, firstly the impact from the perspectives of the company which involve in the buyback activity and secondly the investors. From the perspective of the company, the company itself can gauge in deciding to go on share buyback after realizing the potential positive earnings. Furthermore, such information from this studies looking at the size of buyback which gradually have an impact on financial performance. From the perspective of the investors, the investors can confidently invest in the company’s shares as they would expect the earnings of the company looks positive depends on the size of buyback announced by the company.
6.5 Limitations of the Study

This research has looked on few appropriate statistical tools in order to test the three hypotheses. Mean difference changes on pre and post announcement buyback using t-test paired, association and relationship between variables using Pearson product correlation and cross-sectional regression and lastly on t-test independent group to look on mean difference between group. However, as far as concern to panel data analysis would not be suitable as the data for this study base on 3 years average for all the three earnings metrics base on sample size of 70 firms as panel data analysis periodically observed over a defined time frame.

Some of the announcements of buyback compare to actual buyback shown irregularities as the actual date bought back stipulated is not realistic as such the study focus more on announcement.

This study is limited by the availability of statistic on the true impact of share buyback announcement from 1997 could not be fully captured as the circular announcement to KLSE could only be extracted from October 1999 onwards. Therefore the statistic for share buyback is not been captured since 1997. Thus the number of companies announced share buyback activities could be more than what have found.

The firms in the sample were examined only on three earnings metric namely CFPSP, EPSP and DPOP but were not analyzed for risk profiles and common stock return. Nor, was the sample analyzed for firms with a history repurchases versus those
announcing their first buyback. These constraints yielded a small sample of 70 announcements for the 5-year period of calendar years 2002 through 2006. Some of the companies announced share buyback been de-listed during the study period from years 2002 through 2006 this also had led to contribution for small sample size.

6.6 Future Research Recommendation

For future research to suggest that the study could be further looked at the aspect of actual impact of share buyback acquisition, as the company making share buyback announcement might not actually buy the shares. As far as concern for open-market buyback this is the discretion under the management of the company when to buyback the shares despite the announcement made. Additional recommendations would be to increase the sample size , possibly by including firms beyond one time announcement and to consider a market risk measurement for firms that my influence the size of a buyback. The sample could be adjusted by a market model that tests for similarity between risk and the proportion of shares to be bought back. Additionally, the sample could be adjusted for firms that announce multiple buybacks for this influence on the proportion of shares to be bought back. The dramatic growth in buyback announcements, combined with expanding financial markets, suggested that samples characteristics be investigated in future studies. It is recommended that future studies investigate more characteristics of the sample and consider exploring different measurements for earnings and cash flow to extend the literature on share buybacks. Beside that it is recommended to examine the impact on return / price using event study.
From the findings and discussions above it can be concluded that buyback announcement has an impact towards earnings. Beside, the size of announced buyback also has an effect on post-announcement earnings. Therefore this study implies that it is important since the buyback has the implication of affordability when firms announce plans to complete the buyback with internal funds, suggesting that earnings are not expected to be negatively affected by the buyback activity, regardless of the proportion of shares targeted for buyback. To provide an understanding whether firms in Malaysia that announced open market buybacks of their own common stocks had an effect on earnings following such an announcement, and if that difference were significantly related to the proportion of shares to be bought back means that the management has the liberty to decide base on the size of buyback to govern their financial towards better earnings. To have better earning management in a sense before deciding to go on buyback, the management of the company should look on utilizing internal fund effectively in term of surplus cash to buyback their own common stock. The involvement of the firms in the share buyback still below the anticipated (< 50%) as shown in Table 5.1 328 companies involve share buyback against 896 listed companies till 2006, this study will definitely ease the doubt of those yet to involve in the share buyback. It is anticipated the above figure could improve further. Any share buyback announcement in future by the firms most likely this perceived strong signal to investors that such activity definitely reflects strong financial position in future to come.
REFERENCES


Fernández, P (2002). Price Per Share, Market Capitalization, Earnings Per Share (EPS), Dividend Yield and PER of the Companies Included in the Euro Stoxx 50 *Valuation Methods and Shareholder Value Creation* Pages 70-72


Appendix 1

List of Companies Announcing Share Buyback by Year (2002 - 2006)

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_Cash Flow Per Share Percentage Change_

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Cash Flow Per Share Percentage Change

Post-Announcement 3 Years

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Post-Announcement 3 years

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## Appendix 8

**List of Companies measured by Three Earnings Metric Pre- & Post Announcement of Share Buyback (2002 - 2006)**

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Appendix 10

$t$-Test Paired – Pre- & Post- CFPSP

CRITERIA=CI(.9500)

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**Appendix 11**

**t-Test Paired – Pre & Post EPSP**

CRITERIA=CI(.9500)

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Appendix 12

t-Test Paired – Pre & Post DPOP

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<td>70</td>
<td>99.48050</td>
<td>11.89019</td>
</tr>
<tr>
<td>POSTDPOP</td>
<td>71.5603</td>
<td>70</td>
<td>161.50347</td>
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</table>

<table>
<thead>
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<th>N</th>
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<th>Sig.</th>
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<tr>
<td>Pair 3 PREDPOP &amp; POSTDPOP</td>
<td>70</td>
<td>.093</td>
<td>.443</td>
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<table>
<thead>
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<th>Paired Differences</th>
<th>95% Confidence Interval of the Difference</th>
<th>t</th>
<th>df</th>
<th>Sig. (2-tailed)</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Std. Deviation</td>
<td>Std. Error Mean</td>
<td>Lower</td>
<td>Upper</td>
</tr>
<tr>
<td>Pair 3 PREDPOP - POSTDPOP</td>
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<td>1.81615E2</td>
<td>2.17072</td>
<td>-2.22060E2</td>
<td>-1.35451E2</td>
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</table>
## Descriptive Statistics

<table>
<thead>
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<th></th>
<th>Mean</th>
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<th>N</th>
</tr>
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<tr>
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<td>169.95130</td>
<td>70</td>
</tr>
<tr>
<td>BUYBACK%</td>
<td>6.8913</td>
<td>6.67459</td>
<td>70</td>
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## Correlations

<table>
<thead>
<tr>
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<th>BUYBACK%</th>
</tr>
</thead>
<tbody>
<tr>
<td>POSTCFPSP</td>
<td>Pearson Correlation</td>
<td>.913**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>70</td>
</tr>
<tr>
<td>BUYBACK%</td>
<td>Pearson Correlation</td>
<td>.913**</td>
</tr>
<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
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<td>70</td>
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**. Correlation is significant at the 0.01 level (2-tailed).
## Descriptive Statistics

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<tbody>
<tr>
<td>BUYBACK%</td>
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<td>6.67459</td>
<td>70</td>
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<tr>
<td>POSTEPSP</td>
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## Correlations

<table>
<thead>
<tr>
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<th>POSTEPSP</th>
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<td>Pearson Correlation</td>
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<tr>
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<td>Sig. (2-tailed)</td>
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<tr>
<td></td>
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<tr>
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**. Correlation is significant at the 0.01 level (2-tailed).
Appendix 15

*Pearson Correlation* Buyback Target and Post-DPOP

### Descriptive Statistics

<table>
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<tr>
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<th>Mean</th>
<th>Std. Deviation</th>
<th>N</th>
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<tr>
<td>BUYBACK%</td>
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<td>6.67459</td>
<td>70</td>
</tr>
<tr>
<td>POSTDPOP</td>
<td>71.5603</td>
<td>161.50347</td>
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### Correlations

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<tr>
<td></td>
<td>Sig. (2-tailed)</td>
<td>.000</td>
</tr>
<tr>
<td></td>
<td>N</td>
<td>70</td>
</tr>
<tr>
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**. Correlation is significant at the 0.01 level (2-tailed).
### T-Test Independent Group For CFPSP, EPSP & DPOP - Parameter Median 4.63%

#### Group Statistics

<table>
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<tr>
<th></th>
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<th>Mean</th>
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<th>Std. Error Mean</th>
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<td>2</td>
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<td>119.72780</td>
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#### Independent Samples Test

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<th>t-test for Equality of Means</th>
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<td>Sig.</td>
<td>t</td>
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<tr>
<td></td>
<td>Equal variances not assumed</td>
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<tr>
<td></td>
<td>Equal variances not assumed</td>
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### Regression for CFPSP  70 Samples

#### Variables Entered/Removed

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<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
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<tbody>
<tr>
<td>1</td>
<td>BUYBACK%&lt;sup&gt;a&lt;/sup&gt;</td>
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</tbody>
</table>

- a. All requested variables entered.
- b. Dependent Variable: POSTCFPSP

#### Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
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<tr>
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- a. Predictors: (Constant), BUYBACK%

#### ANOVA<sup>b</sup>

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<thead>
<tr>
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<th>df</th>
<th>Mean Square</th>
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<th>Sig.</th>
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</thead>
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<tr>
<td></td>
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<td>4902.877</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
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- a. Predictors: (Constant), BUYBACK%
- b. Dependent Variable: POSTCFPSP

#### Coefficients<sup>a</sup>

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Std. Error</th>
<th>Beta</th>
<th>t</th>
<th>Sig.</th>
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<td>18.398</td>
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</table>

- a. Dependent Variable: POSTCFPSP

---

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Regression for EPSP 70 Samples

Variables Entered/Removed<sup>a</sup>

<table>
<thead>
<tr>
<th>Model</th>
<th>Variables Entered</th>
<th>Variables Removed</th>
<th>Method</th>
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<tr>
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a. All requested variables entered.
b. Dependent Variable: POSTEPSP

Model Summary

<table>
<thead>
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<th>Std. Error of the Estimate</th>
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a. Predictors: (Constant), BUYBACK%

ANOVA<sup>b</sup>

<table>
<thead>
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a. Predictors: (Constant), BUYBACK%
b. Dependent Variable: POSTEPSP

Coefficients<sup>c</sup>

<table>
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<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
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<th>Sig.</th>
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<td>Std. Error</td>
<td>Beta</td>
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a. Dependent Variable: POSTEPSP
Regression for DPOP 70 Samples

<table>
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<th>Model</th>
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<th>Variables Removed</th>
<th>Method</th>
</tr>
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a. All requested variables entered.
b. Dependent Variable: POSTDPOP

Model Summary

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<th>Std. Error of the Estimate</th>
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a. Predictors: (Constant), BUYBACK%

ANOVA\(^b\)

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<th>Sig.</th>
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a. Predictors: (Constant), BUYBACK%
b. Dependent Variable: POSTDPOP

Coefficients\(^a\)

<table>
<thead>
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a. Dependent Variable: POSTDPOP
Appendix 20

Publication
