DOES PRICE REACT TO FIXED PRICE TENDER OFFER SHARE BUYBACK ANNOUNCEMENT?

HANITA KADIR SHAHAR
NUR ADIANA HIAU ABDULLAH
Faculty of Finance and Banking
Universiti Utara Malaysia

ABSTRACT

This paper investigates stock market reactions to share buyback announcements, specifically with the fixed price tender offer mechanism. An event study methodology was used to examine stock price reaction of 30 observations involving 21 listed companies surrounding the announcement dates. Two models, namely market adjusted return (MAR) and the single index market models (SIMM) were utilised to compute abnormal returns. Eventhough most literature in the western market found positive abnormal returns, this study reveals that investors gain zero abnormal returns out of these announcements. The post announcement result shows a zero abnormal return which implies that the Malaysian stock market is semi-strongly efficient due to this announcement. Finally, evidence also shows that none of the implications forwarded in the theories could be supported in this study.

ABSTRAK

Artikel ini mengkaji reaksi pasaran saham terhadap pengumuman pembelian balik saham secara spesifiknya menggunakan mekanisma tawaran tender harga tetap. Metodologi kajian peristiwa digunakan untuk meneliti reaksi harga ke atas 30 pemerhatian yang melibatkan 21 syarikat pada sekitar tarikh pengumuman. Dua kaedah iaitu pulangan terlaras pasaran (MAR) dan model pasaran indeks tunggal (SIMM) digunakan untuk mengira pulangan luar biasa. Walaupun kebanyakan literatur di pasaran barat menemui pulangan luar biasa yang positif, kajian ini mendapati pelabur-pelabur memperoleh pulangan luar biasa sifar daripada pengumuman ini. Keputusan selepas pengumuman mendapati pulangan luar biasa sifar memberi gambaran bahawa pasaran saham Malaysia adalah efisien separa kuat. Akhir sekali, bukti menunjukkan bahawa tiada satu pun implikasi yang diketengahkan oleh teori dapat disokong dalam kajian ini.

INTRODUCTION

Share buyback is an activity to reacquire a company's previously issued shares. In a common stocks buyback, the repurchasing companies distribute cash of its shareholders and in exchange acquire a fraction of its outstanding equity. In general, a cash buyback changes the composition of assets held by listed companies, revises the ownership proportion of each of its shareholders and distributes cash by means of a transaction that is taxed differently than an equivalent amount distributed as dividends. A repurchase can also signal information about the company's value to investors. An examination of a share buyback provides evidence that it has potential implications on several major issues in corporate finance including the differences in taxation of a firm's cash distribution on the valuation of share. In addition, the evidence also includes the effect of altering a firm's investment and/or financing decision æ the means by which new information is disseminated to investors and the conflict of interest between a company's shareholders and the owners of other securities may arise. Fixed price tender offer of share buyback announcement is selected to check whether the market reacts positively to this type of announcement in Malaysia. In this mechanism, announcing companies will specify a single purchase price, numbers of shares sought, and an expiration date. A market adjusted return and single index market models are adopted to examine market reactions. The effect would then enable us to check the efficiency of the Malaysian stock market.

The justification of the share buyback program have been extensively researched in the US and other developed markets. The most common reason stated in these studies is that share buyback is associated with stock undervaluation (Vermaelen, 1981). In Malaysia however, due to the relative newness, we are only aware of two studies by Lim and Obiyathullah (2002) and another study by Mohd and Chin (2001) who used the sample of companies which had announced and executed the stock buyback program through open market repurchase. By using this mechanism, the repurchasing is done through Bursa Malaysia. Our study however, concentrated on a fixed price tender offer mechanism. The reason why fixed price was chosen over other mechanisms is motivated by the research findings by Nohel and Tarhan (1998) who revealed that tender offer repurchase provides a better signal of undervaluation of stock prices by the management as compared to an open market share buyback. Unlike an open market repurchase, which carries uncertainties with respect to the magnitude and timing[2], tender offer commits itself to the distribution of cash over a short time span. Another tender offer of share buyback is known as the Dutch auction

tender offer. This mechanism specifies a range of prices within which the tendering shareholders can choose a minimum acceptable selling price. Each shareholder informs the offering companies of the shares he or she is willing to sell and his or her minimum acceptable price which is within the price range offered. This type of tender offer is also not selected in the sample of this study due to the argument made by Person (1990), who found that the signal in fixed price tender offer is stronger than the signal coming from a Dutch auction. In Malaysia, however, no Dutch auction tender offers were implemented during the sample period. Thus, our sample, focused on share repurchasing companies which had announced and executed the sales their shares within a day at a fixed price.

By examining the market reaction, this study would be able to investigate the efficiency of the Malaysian stock market. Specifically, two research questions were formulated by using the market adjusted return model (MAR) and the single index market model (SIMM): (1) "does the period of observation around the fixed priced trading share repurchase announcement indicate differences in abnormal returns?" and (2) "does the fixed price tender offer share buyback announcement agrees with the semi-strong efficiency form of the Malaysian stock market?"

THEORETICAL BACKGROUND AND EMPIRICAL EVIDENCE

Several theories have been discussed to explain market reactions to share buyback announcements. In the US, most studies documented a positive price reaction. Even Though several explanations have been put forth in the literature, only two hypotheses appear to be the most commonly cited. The relevant hypotheses are classified into information signaling and free cash flow.

Information signaling argues that a company's willingness to pay a premium to purchase its own shares sends a strong signal to less informed outside investors that the company's future prospects are improving. It states that the management undertakes repurchases to signal undervaluation of share prices. This hypothesis relies on the assumption that managers have better information on their companies and they distribute cash through buyback when they are optimistic about the prospects of the companies. Consequently, investors associate this as good news for investors. It argues that managers would normally buy back their own shares when they consider their company's stock as an attractive investment. Several studies have confirmed this

proposition such as those by Dann (1981), Vermaelen (1981) and Comment and Jerell (1991) who generally found that share buyback is associated with significantly positive abnormal returns. Normally, share buyback is preceded by poor performance (Comment & Jarell, 1991) and followed by good earnings and stock price performance (Vermaelen, 1981).

Another hypothesis that could explain the increase in a company's value after repurchase announcement is the free cash flow hypothesis. Free cash flow is the remaining cash flow after all positive net present value (NPV) projects which are undertaken. The free cash flow hypothesis argues that companies with excess cash and poor investment opportunities will face sizable agency cost if the excess money is not distributed to shareholders. Barring such distribution, managers have incentives to invest the excess cash in wasteful or negative NPV projects. Share buyback allows companies to distribute its excess free cash flow, thereby eliminating the incentive for wasteful investment. The implication then is share buyback would have a positive effect on shares of companies that have excess cash flow.

In this hypothesis, Jensen (1986) found that if companies suffer decreased market value from principal-agent problems, then a repurchase could increase the value. He predicted that stock prices would increase if there is an unexpected stock repurchase announcement, which would reduce the companies' free cash flow. On the contrary, stock price will decrease if an unexpected increase in demand for funds is announced by companies experiencing positive free cash flow. This hypothesis is in line with the finding reported by Stephen and Weisback (1998) in the late 90s. In their research, they found that US companies that had announced stock repurchases were more likely to buy back shares if they had high free cash flows and vice versa.

Several empirical studies had been out, carried especially in the developed markets to determine the stock market reaction to share buyback announcements. These studies were done in different settings and most of them concluded that the announcement gave a positive excess return to the shareholders.

Market reaction can be observed in a study that compares stocks that have dividends with those that have tender offer stock repurchase. Chhachhi and Davidson (1997), in their sample of US corporations between January 1978 and September 1989, found that there was a difference between the two. The findings revealed that even after

controlling for transaction size and frequency, the stock market reacted more positively to tender offer share repurchases than the specially designated dividends. They argued that this was because share buyback has lower capital gain tax rates and thus, make it more valuable than the specially designated dividend.

A study was done to examine the differences of two types of mechanisms which are fixed price tender offer and Dutch auction tender offer. An average positive excess return of 11% in the fixed price as compared to only 8% of excess return in the Dutch auction was found in the work by Comment and Jarrell (1991). The finding was that Dutch auction elicits lower positive stock returns than fixed price tender offer. They concluded that the results were consistent with the signaling hypothesis that Dutch auction is less effective as stock under valuation signals as compared to fixed price.

Another examination of market reaction was carried out to see the extent to which the announcement of share buyback programme affected the valuation of competing companies in the same industry (Erwin & Miller, 1998). On average, although companies announcing open market share buyback experience a significantly positive stock price reaction during the announcement, a negative stock price reaction is experienced by the portfolio of rival firms in the same industry. This suggests that perceived changes in competitive positions of repurchasing occur at the expense of rival firms and dominates any signals of favourable industry condition.

In the Malaysian context, there are two recent studies done in examining market reactions on share buyback announcement. A study by Lim and Obiyathulla (2002) examined listed companies that, announced repurchases over four years. Of the 131 observations of Main Board and Second Board companies, 43 companies followed through with the stock buyback and the other 88 companies only announced the program but they did not execute the buyback. The results showed that in the case of Main board companies, the announcement appears to have been more important than actual repurchase. For example for the t=0 to t+2 (0,+2) and t=0 to t+60 (0,+60) windows, the CAAR for the companies which only announce is 2.97% and 14.31%, whereas companies with actual repurchase is 2.29%, and 9.03%. Respectively on the other hand, for the second board, the repurchase action has a much greater impact than just the announcement. The 15, 30 and 60 day post event windows all have significantly higher price reactions (42.31%) when compared to the situation on when only an announcement is made, which is 31.33%.

Another study by Mohd and Chin (2001) used the signaling argument in explaining the Malaysian stock price reactions. They examined 34 listed companies in the main board to avoid small firm bias in their study. This is because they claimed that most of the companies on the second board have smaller market capitalisation. Their result shows a positive market response shortly after the repurchase announcement (CAAR of 1.53% one day after the announcement). They segregated the sample into companies that only announced and those that followed through the repurchase programme. Companies that did not follow through with the repurchase programme would see its CAAR diminish soon after the announcement. After the CAAR gain of 1.23% was recorded, it suddenly dropped to a negative value. Its magnitude was also smaller than the announcing companies that actually followed through with the repurchase programme. The CAAR continued to rise until the fourth day after the announcement, and diminished on day seven to day eight before it started to pick up again after day nine. However, the gains made one day after the announcement were temporary and relatively small. On the other hand, companies that followed through with the repurchase programme earned larger and positive CAAR after the announcement. The CAAR measured for the event windows of t=-2 to +2 (-2,2), t=0 to+1(0,1), and t=0 to t+2 (0,2) periods were 6.48%, 3.75%, and 4.65% respectively and the corresponding t-statistics for all of these event windows were statistically significant. This implies that the stock market reacts only to companies that they believe will follow through with the repurchase programme.

METHOD

A total population of 568 share buyback announcements through the fixed price trading mechanism were made over the period January 1999 to July 2002. This population was identified from the share buyback catalogue published by Bursa Malaysia and the reconfirmation of the exact date of announcements were done by referring to the Bursa Malaysia website and the Bursa Malaysia Daily Diary to ensure a clean announcement was used. The total population of 568 was then reduced when several criteria were used to ensure robustness, such as: (1) volume bought back of RM 50,000 and more and (2) clean announcement for day t=-1 to day t=+1. In order to avoid the multiple announcements effect, only the first announcement was selected from the companies that announced more than one fixed price tender offer share buyback. This had reduced the sample to 33 observations. However, three observations had been removed from the list due to the fact that the announcements were made by financial or banking institutions.

The sample was selected from seven Bursa Malaysia sector classifications, which are plantations, consumer products, industrial products, trading/services, technologies, constructions, and infrastructure projects. The largest observations came from industrial products and trading/services with 23.4% for each sector. This was followed by consumer products that comprised 16.7% of the total observations.

Most of the observations were listed on the Main Board of the Bursa Malaysia except for two counters that were listed on the Second Board. This would mean that 93.3 % of the sample was selected from the Main Board and 6.6% from the Second Board. The two observations listed on the Second Board have smaller market capitalisation as compared to the rest of the observations.

An analysis of market capitalisation is shown in Table 1. During the period of 1999 to 2002, the sample exhibited an average company size of RM1,632,757,517.30. This figure was then used to segregate the observation samples into two groups, where one group included observations having a market capitalisation lower than average (as indicated by an asterisk) and the other group consisted of observations that were having above average market capitalisation. It was found that 19 observations form the first group, while 11 observations belong to the second group. In other words, 63.3% of the samples were stocks with below average size and 36.6% were those classified as having above average size. The smallest market capitalisation security is Hunza Consolidation, which happened to be a Second Board company (RM 57,165,360), while the largest market capitalisation was owned by Berjaya Sports Toto (RM 3,737,375,342).

Table 1
List of Observations with Their Respective Market Capitalisation

No. of obs.	Name of companies	Date announced	Market Capitalisation (RM)
1	KLKepong	14/1/02	3,776,335,478.00
2	Asia File Corporation	14/1/02	* 220,044,660.00
3	Choo Bee Metal	25/8/99	* 99,437,000.00
4	**Hunza Consolidation**	21/9/99	* **57,165,360.00**
5	Mulpha International	7/8/01	* 488,044,350.00
6	DNP Holdings	11/9/01	* 236,000,349.00
7	AIC Corp Berhad	11/7/01	* 307,207,557.00
8	**Paragon' Union**	11/4/01	* **69,650,000.00**
9	Oriental Holdings	29/9/00	1,677,434,573.00
10	Hong Leong Industries	27/9/00	1,998,373,960.00

11	YTL Power	13/9/00	7,232,182,515.00
12		31/7/01	6,431,151,890.00
13	Jaya Tiasa Holding	11/7/00	1,963,573,068.00
14		31/1/02	*590,484,563.00
15	Berjaya Sports Toto	27/1/00	3,737,375,342.00
16		25/3/02	2,936,367,106.00
17	IOI corporation	9/10/01	2,162,110,876.00
18	IOI Properties	1/3/00	*551,409,092.00
19	Nanyang Press Holding	3/5/02	* 331,317,378.00
20		10/4/01	* 305,960,350.00
21	OYL Industries	3/11/99	* 1,285,231,678.00
22		2/5/01	1,705,222,827.00
23	Hume Industries	2/10/00	* 297,338,196.00
24		30/9/99	* 255,215,285.00
25	Chemical Co Of Malaysia Bhd	4/7/01	* 701,845,397.00
26		3/8/99	* 445,323,455.00
27	Malaysian Pacific Industry	22/6/99	* 1,089,996,024.00
28		11/8/00	5,135,558,190.00
29	Hap Seng Consoli.	14/4/99	* 1,432,118,000.00
30		3/4/01	* 1,463,251,000.00

* Market capitalisation lower than average (RM1,632,757,577.30)

Estimation of abnormal returns

This study focuses on a standard event study methodology that involves the estimation of abnormal returns surrounding the event date. Two benchmarks were used to examine the effect of share buyback announcement. They are the market adjusted return (MAR) and the single index market model (SIMM).

Market adjusted return (MAR)

MAR is a simpler method where it assumes that a model of equilibrium expected returns exists where alpha (a) is equal to zero and the average systematic risk is equal to one. This implies that there is no estimation of systematic risk or a is required. This model had been regularly used by previous researchers, namely Dennis and McConell (1986) and Nur-Adiana (1999). The computation of the MAR is based on the following procedures:

The return of a company's share for a particular time t, is derived by taking the difference of the share price from day t and t-1 as in the following formula:

$$R_{i,t} = \frac{P_{i,t} - P_{i,t-1}}{P_{i,t-1}} \tag{1}$$

where $R_{i,t}$ is the daily stock return, $P_{i,t}$ is the stock price at day t, and $P_{i,t-1}$ is the stock price at day t-1. The stock returns are calculated from day –60 to day +60. Similarly, the market return is calculated in the same manner.

$$R_{m,t} = \frac{C_{i,t} - C_{i,t-1}}{C_{i,t-1}} \tag{2}$$

where $R_{m,t}$ is the market return on day t, C_{it} is the Bursa Malaysia composite index on day t and C_{it-1} is the composite index on day t-1.

After obtaining the paired values for the stock return and market return for each event day, the daily abnormal return for each day t is calculated as:

$$AR_{i,t} = R_{i,t} - R_{m,t} \tag{3}$$

The next step is to compute the daily cross sectional average abnormal returns (AAR_t) for a specific day, t. This is done by summing all the daily abnormal returns for the event day t and dividing the figure with the number of observations.

$$AAR_t = \sum_{i=1}^{N} AR_{i,t} / N_t, \tag{4}$$

where N_t is the number of observations on event day t

The next step, is to sum the cross sectional average of abnormal returns.

$$CAAR_t = \sum_{k=t-T}^{t} AAR_t \tag{5}$$

where T is the number of event days prior to day t

To test the null hypothesis that the daily average abnormal returns on event day t are equal to zero, a t-statistic is calculated. This test will determine whether the individual stock returns are statistically different from zero given their distribution about the average. The test is also to indicate whether there is a significant change in stock prices due to the share buyback announcement. The t-test for AAR is shown in the equation:

$$T_{test} \text{ for } AAR = \frac{AAR_t}{[S_t/(N_t)^{0.5}]}$$

$$\text{where } S_t = \sqrt{\frac{\sum\limits_{i=1}^{N}(AR_{i,\,t} - AAR_t)^2}{N_t - 1}} \qquad \text{where i=1,2,3…N,} \qquad (6)$$

After *CAAR* is determined for each observed period, a t-statistic is calculated to test whether the null hypothesis that the *CAAR* over a period of *T* days is equal to zero. This test is implemented to check on the actual occurrence of information release.

$$T_{test} \text{ for } CAAR = \frac{\left[(CAAR_T)/T\right]^2}{\left[S_t/(T)^{0.5}\right]}$$

$$\text{where } S_t = \sqrt{\frac{\sum\limits_{i=1}^{N}[(AAR_T - (CAAR_T)/T)]^2}{T - 1}} \quad \text{where t=1,2,3…T} \quad (7)$$

Single Index Market Model (SIMM)

SIMM is known as the traditional market model and is considered to be the most popular benchmark. SIMM expected returns for security *i* at time *t* is calculated as follows:

$$E(R_{i,\,t}) = E(\alpha_i) + E(\beta_i)R_{m,\,t} + \epsilon_{i,\,t} \qquad (8)$$

where $E(\alpha_i)$ is an expected return of security *i* when the expected return of the market ($E(R_{m,t})$) is zero, $E(\beta_i)R_{m,\,t}$ is the systematic component assumed to have a linear relationship between a company's security returns and market returns, α and β are estimated using ordinary least squares (OLS), and $\epsilon_{i,\,t}$ indicates the unsystematic risk component or error term (also known as the residual), which incorporates the impact of *a* company specific event announcement (assuming that the information signal and returns of the market are independent). Measurement of abnormal returns is introduced if $\epsilon_{i,\,t}$ is brought to the left of the equation:

$$AR_{i,\,t} = \epsilon_{i,\,t} = R_{i,\,t} - E(\alpha_i) - E(\beta_i)R_{m,\,t} \qquad (9)$$

It is essential to note that some of the observations are thinly traded and this will consequently result in biased estimates of systematic

risk. Therefore, this study used *a* refined estimation of Beta (β) following Dimson (1979) to solve for their thin trading problem. Following Ariff and Finn (1989) in their study of market efficiency in the Malaysian capital market, an adjustment of two lags and one lead of weekly stock return data for 52 weeks (or 260 trading days) prior to 60 days before the announcement is used in deriving the α and β parameters. The use of weekly prices would hopefully reduce the impact of the trading problem. Prices of each Friday are taken. The β is computed as follows:

$$\beta_t^{DM} = \Sigma \, \beta_{j+k}^{-} \tag{10}$$

where $+m$ and $-m$ indicate lead and lag respectively.

The value of m is selected using information about the degree of thinness of the security and/or the index. The β estimates (β_{j+k}^{-}) are obtained from the multiple OLS regression of individual stock returns against the lag, and lead market returns using 52 weekly data prior to the event period. The contemporaneous or matched β is obtained by regressing the stock returns against market returns from week 0 to week +52. Next, the slope coefficients are summed together. Once the β value is derived, an α can be obtained as shown in the following equation:

$$\alpha = (1 + \text{Intercept})^{1/5} - 1, \tag{11}$$

where 5 indicates five trading days in a week

The next step will be to multiply the value of the β with the market return for each event period (-60 to +60). Lastly, the computation of the daily abnormal returns is carried out. Further steps will be to calculate the expected returns, average abnormal returns, and cumulative average abnormal returns such as in the MAR and SIMM model.

In a case when a stock is suspended on a certain event day, the abnormal return on that particular day becomes zero. Thus, the daily return for an individual stock is treated as an average daily return during the suspended period, which is computed as follows:

$$R_{i,s} = [(P_{i,a} - P_{i,a-1})/P_{i,a}]/t_{i,s} \tag{12}$$

Where $R_{i,s}$ is the average daily return of stock i during the suspended period, $P_{i,a-1}$ is stock i's adjusted price on the last trading day before the suspended period, $P_{i,a}$ is stock i's adjusted price the first trading

day after the suspended period, and $t_{i,s}$ is the number of days during the suspended period of stock i plus the first trading day after the suspended period.

As applies in the MAR approach, the daily abnormal return on each event day t of all in the sample is summed and divided by the number of observations to provide *AAR* for each event day during the event period. This figure is then aggregated across time from the first day of the selected event window (-60 day) until the last day (+60). To check on the significance of the finding, a t-test is executed on the *AAR* for each event day and *CAAR* over a period of *T* days. The results derived from MAR and SIMM are used to verify the following hypotheses:

H_O: Share buyback announcement provide zero abnormal returns
H_A: Share buyback announcement provide positive abnormal re*turns*

DISCUSSION

Market Price Reaction

The test results were based on a one-tail statistic at a significance level of alpha 0.05 and 0.01. Table 2 illustrates AAR and their respective t-test and also CAAR of the market adjusted return model. From this table, it can be inferred that AAR does not show an obvious trend or pattern. CAAR records a negative 2.33% at t = +60. On the announcement day t =0, CAAR shows a return of –1.14% with a t-value of -0.0509. It suddenly increases on the next day to 0.73%. This is followed by a drop to –0.16% at day t=+2. However, on day t = +4 there is a sudden hike in the AAR where the figure shows + 1.43% with a t-value of 0.0744. The lowest AAR (-2.52%) is found on day t=+53. Surprisingly, none of the stocks in the sample showed a significant return in its AAR when a t-test was executed. From day t=-60 to t=+60, the t-statistics showed a low figure. This result suggests that there has not been a significant market reaction to the fixed price tender offer of share buyback announcement.

When further analysis was made by observing the CAAR trend, MAR shows a consistent result with the AAR. It indicates that there is a negative trend of CAAR before the

Table 2

Daily Average Abnormal Returns surrounding share buyback
announcement for 30 observations (1999-2002)
using MAR approach.
Suspended period are treated as having zero abnormal return

Day	AAR	AARt-test	CAAR	Day	AAR	AARt-test	CAAR
-60	0.0039	0.0349	0.0039	0	-0.0114	-0.0509	-0.0169
-59	0.0051	0.0322	0.0089	1	0.0073	0.0469	-0.0095
-58	-0.0023	-0.0149	0.0066	2	-0.0016	-0.0100	-0.0111
-57	0.0011	0.0064	0.0077	3	0.0109	0.0565	-0.0002
-56	0.0077	0.0518	0.0154	4	0.0143	0.0744	0.0141
-55	-0.0044	-0.0247	0.0110	5	-0.0051	-0.0309	0.0090
-54	-0.0064	-0.0415	0.0046	6	-0.0060	-0.0336	0.0030
-53	0.0068	0.0433	0.0114	7	-0.0027	-0.0187	0.0003
-52	-0.0024	-0.0200	0.0090	8	-0.0048	-0.0230	-0.0045
-51	0.0048	0.0328	0.0138	9	0.0013	0.0088	-0.0032
-50	0.0071	0.0415	0.0210	10	-0.0047	-0.0258	-0.0079
-49	-0.0049	-0.0207	0.0161	11	0.0003	0.0026	-0.0076
-48	0.0014	0.0070	0.0175	12	0.0027	0.0219	-0.0049
-47	-0.0095	-0.0428	0.0080	13	-0.0070	-0.0370	-0.0119
-46	0.0006	0.0035	0.0086	14	-0.0010	-0.0067	-0.0129
-45	-0.0056	-0.0333	0.0030	15	-0.0046	-0.0337	-0.0175
-44	0.0036	0.0254	0.0066	16	0.0082	0.0551	-0.0093
-43	-0.0056	-0.0637	0.0009	17	-0.0020	-0.0182	-0.0114
-42	0.0092	0.0506	0.0101	18	0.0003	0.0026	-0.0110
-41	0.0015	0.0103	0.0115	19	-0.0083	-0.0585	-0.0193
-40	-0.0012	-0.0093	0.0104	20	0.0072	0.0414	-0.0121
-39	0.0014	0.0090	0.0118	21	-0.0087	-0.0611	-0.0208
-38	-0.0017	-0.0098	0.0101	22	0.0006	0.0047	-0.0201
-37	-0.0091	-0.0591	0.0010	23	-0.0003	-0.0033	-0.0205
-36	-0.0042	-0.0191	-0.0032	24	-0.0001	-0.0006	-0.0205
-35	0.0036	0.0188	0.0003	25	0.0064	0.0405	-0.0142
-34	-0.0025	-0.0146	-0.0022	26	-0.0054	-0.0439	-0.0195
-33	-0.0006	-0.0060	-0.0028	27	-0.0034	-0.0231	-0.0230
-32	0.0054	0.0411	0.0026	28	0.0018	0.0158	-0.0212
-31	0.0000	-0.0003	0.0026	29	-0.0028	-0.0155	-0.0240
-30	-0.0054	-0.0414	-0.0028	30	0.0020	0.0116	-0.0220
-29	0.0073	0.0527	0.0045	31	0.0015	0.0089	-0.0205
-28	-0.0066	-0.0508	-0.0021	32	0.0016	0.0081	-0.0189
-27	0.0010	0.0074	-0.0011	33	-0.0002	-0.0015	-0.0191
-26	-0.0037	-0.0235	-0.0047	34	0.0007	0.0047	-0.0185
-25	0.0009	0.0063	-0.0039	35	-0.0096	-0.0360	-0.0281
-24	-0.0031	-0.0197	-0.0069	36	0.0124	0.0483	-0.0157
-23	0.0041	0.0299	-0.0029	37	-0.0090	-0.0419	-0.0247
-22	-0.0121	-0.0910	-0.0150	38	0.0006	0.0052	-0.0241
-21	0.0048	0.0349	-0.0102	39	0.0070	0.0528	-0.0171

-20	0.0035	0.0231	-0.0067	40	0.0015	0.0115	-0.0156
-19	-0.0002	-0.0018	-0.0070	41	-0.0010	-0.0070	-0.0166
-18	0.0001	0.0004	-0.0069	42	-0.0031	-0.0150	-0.0197
-17	-0.0037	-0.0230	-0.0106	43	0.0022	0.0174	-0.0175
-16	-0.0017	-0.0122	-0.0122	44	-0.0095	-0.0726	-0.0270
-15	0.0041	0.0329	-0.0081	45	0.0077	0.0499	-0.0193
-14	0.0013	0.0075	-0.0068	46	-0.0041	-0.0331	-0.0234
-13	0.0011	0.0098	-0.0057	47	0.0004	0.0041	-0.0230
-12	-0.0064	-0.0406	-0.0121	48	0.0045	0.0298	-0.0185
-11	-0.0063	-0.0302	-0.0184	49	0.0049	0.0442	-0.0136
-10	0.0053	0.0355	-0.0131	50	-0.0031	-0.0161	-0.0167
-9	0.0024	0.0156	-0.0106	51	-0.0041	-0.0244	-0.0208
-8	0.0093	0.0855	-0.0014	52	0.0031	0.0224	-0.0177
-7	0.0026	0.0179	0.0012	53	-0.0252	-0.0523	-0.0429
-6	0.0011	0.0087	0.0023	54	0.0124	0.0563	-0.0304
-5	-0.0002	-0.0015	0.0020	55	0.0028	0.0155	-0.0276
-4	-0.0065	-0.0474	-0.0044	56	-0.0019	-0.0145	-0.0295
-3	-0.0027	-0.0153	-0.0071	57	-0.0041	-0.0303	-0.0337
-2	-0.0006	-0.0038	-0.0077	58	0.0083	0.0381	-0.0253

announcement day. The CAAR at day t=-60 begins with a positive value of 0.39% until it reaches -0.322% at day -36. A negative trend of CAAR continues on until day t=+60. In between those days, the CAAR provides a positive figure as at day t=-7, -6,-5, and +4 to +7. Figure 1 plots the CAAR for the sample companies that enabled the examination of the stock price movement of the repurchasing companies' stock over the entire event period (-60 to +60).

From this figure, it is observed that there is a downward trend before the share buyback announcement. After the announcement, CAAR begins to increase slowly before it reaches its peak at 1.41% on the fourth day. However, it declines soon after that. A sharp decline can be observed at day t=+53 with a CAAR of -4.29%. When a t-statistic is run to check on the cumulative average abnormal return (CAAR) surrounding the fixed price share buyback announcement in different event windows, the results are not statistically significant (refer to Table 3).
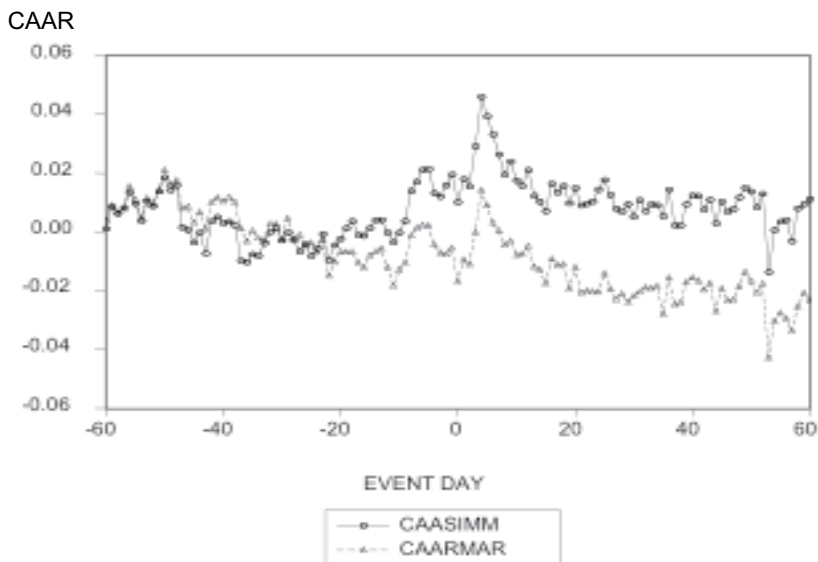
CAAR

Figure 1
CAAR for Market Adjusted Model (MAR) and
Single Index Market Model (SIMM)

Table 3
CAAR in Different Event Windows Employed in MAR

INTERVAL	CAAR	T-TEST
Days t=-60 to -1	-0.5508%	-0.025
Days t= -60 to+60	-2.329%	-0.367
Days t= -40 to+40	-2.7123%	-0.567
Days t= -1 to 30	-0.9149%	-0.489
Days t= 0 to +1	-0.4020%	-0.215
Days t= 0 to +30	-1.6458%	-0.498
Days t = 0 to +60	-1.7783%	-0.383
Days t= + 1 to +53	-2.5987%	-0.548
Days t=+4 to +60	-4.265%	-0.589

Table 4 shows the SIMM daily average abnormal return (AAR) and
cumulative average abnormal returns (CAAR) as well as their
respective t-tests. Similar to the MAR model, there exists a mixture
of positive and negative average abnormal returns throughout the
event window. No specific patterns could be identified before the
announcement. Overall, the AAR records the lowest percentage of −
2.6% at day t=+53 to the highest percentage of 1.685% at day t=+4.

Table 4
Daily Average Abnormal Returns surrounding share buyback announcement for 30 observations (1999- 2002) using SIMM and Dimson's adjustment of thintrading

Day	AAR	AARt-test	CAAR	Day	AAR	AARt-test	CAAR
-60	0.0012	0.0089	0.0012	0	-0.0093	-0.0499	0.0102
-59	0.0074	0.0441	0.0085	1	0.0078	0.0570	0.0180
-58	-0.0022	-0.0144	0.0063	2	-0.0026	-0.0158	0.0154
-57	0.0020	0.0106	0.0082	3	0.0137	0.0699	0.0292
-56	0.0054	0.0362	0.0136	4	0.0168	0.0599	0.0460
-55	-0.0040	-0.0213	0.0096	5	-0.0067	-0.0284	0.0394
-54	-0.0058	-0.0406	0.0038	6	-0.0062	-0.0309	0.0332
-53	0.0068	0.0402	0.0106	7	-0.0068	-0.0428	0.0264
-52	-0.0018	-0.0152	0.0088	8	-0.0069	-0.0243	0.0195
-51	0.0051	0.0291	0.0139	9	0.0045	0.0144	0.0240
-50	0.0047	0.0283	0.0186	10	-0.0065	-0.0274	0.0175
-49	-0.0044	-0.0191	0.0142	11	-0.0019	-0.0122	0.0157
-48	0.0018	0.0083	0.0159	12	0.0055	0.0365	0.0211
-47	-0.0143	-0.0655	0.0016	13	-0.0088	-0.0429	0.0124
-46	-0.0008	-0.0049	0.0008	14	-0.0020	-0.0123	0.0103
-45	-0.0043	-0.0244	-0.0035	15	-0.0032	-0.0194	0.0071
-44	0.0034	0.0232	-0.0001	16	0.0093	0.0611	0.0165
-43	-0.0072	-0.0820	-0.0073	17	-0.0031	-0.0248	0.0134
-42	0.0110	0.0539	0.0036	18	0.0022	0.0179	0.0156
-41	0.0015	0.0103	0.0051	19	-0.0059	-0.0385	0.0098
-40	-0.0020	-0.0141	0.0031	20	0.0052	0.0269	0.0150
-39	0.0004	0.0026	0.0035	21	-0.0060	-0.0424	0.0090
-38	-0.0013	-0.0072	0.0022	22	0.0008	0.0061	0.0097
-37	-0.0120	-0.0735	-0.0097	23	0.0007	0.0062	0.0105
-36	-0.0006	-0.0026	-0.0103	24	0.0040	0.0369	0.0145
-35	0.0026	0.0135	-0.0077	25	0.0033	0.0204	0.0178
-34	-0.0005	-0.0025	-0.0082	26	-0.0052	-0.0414	0.0126
-33	0.0043	0.0347	-0.0038	27	-0.0046	-0.0280	0.0080
-32	0.0038	0.0264	0.0000	28	-0.0010	-0.0075	0.0069
-31	0.0012	0.0087	0.0012	29	0.0025	0.0121	0.0095
-30	-0.0040	-0.0295	-0.0028	30	-0.0043	-0.0252	0.0052
-29	0.0027	0.0188	-0.0001	31	0.0056	0.0360	0.0108
-28	-0.0027	-0.0187	-0.0028	32	-0.0037	-0.0180	0.0071
-27	-0.0039	-0.0251	-0.0066	33	0.0023	0.0164	0.0094
-26	0.0025	0.0146	-0.0041	34	-0.0003	-0.0018	0.0091
-25	-0.0041	-0.0269	-0.0082	35	-0.0038	-0.0143	0.0054
-24	0.0027	0.0260	-0.0055	36	0.0090	0.0361	0.0144
-23	0.0048	0.0316	-0.0007	37	-0.0121	-0.0570	0.0023
-22	-0.0088	-0.0637	-0.0095	38	-0.0001	-0.0007	0.0022
-21	0.0051	0.0344	-0.0044	39	0.0072	0.0569	0.0094
-20	0.0022	0.0140	-0.0023	40	0.0030	0.0209	0.0124

-19	0.0035	0.0217	0.0012	41	-0.0002	-0.0018	0.0122
-18	0.0025	0.0146	0.0037	42	-0.0045	-0.0204	0.0077
-17	-0.0048	-0.0356	-0.0011	43	0.0033	0.0251	0.0110
-16	-0.0002	-0.0016	-0.0013	44	-0.0080	-0.0608	0.0030
-15	0.0027	0.0211	0.0014	45	0.0074	0.0460	0.0103
-14	0.0027	0.0152	0.0041	46	-0.0034	-0.0260	0.0069
-13	0.0000	0.0002	0.0041	47	0.0010	0.0091	0.0079
-12	-0.0043	-0.0274	-0.0002	48	0.0039	0.0273	0.0118
-11	-0.0033	-0.0139	-0.0035	49	0.0033	0.0296	0.0151
-10	0.0033	0.0228	-0.0002	50	-0.0014	-0.0076	0.0137
-9	0.0039	0.0256	0.0037	51	-0.0053	-0.0335	0.0085
-8	0.0103	0.1010	0.0140	52	0.0045	0.0310	0.0130
-7	0.0031	0.0204	0.0170	53	-0.0266	-0.0550	-0.0136
-6	0.0042	0.0279	0.0212	54	0.0143	0.0639	0.0006
-5	0.0003	0.0012	0.0215	55	0.0028	0.0161	0.0035
-4	-0.0083	-0.0458	0.0132	56	0.0006	0.0043	0.0041
-3	-0.0011	-0.0059	0.0121	57	-0.0072	-0.0421	-0.0032
-2	0.0038	0.0220	0.0159	58	0.0112	0.0506	0.0081
-1	0.0036	0.0183	0.0195	59	0.0015	0.0079	0.0095
				60	0.0017	0.0101	0.0112

On the announcement day, AAR shows a negative figure of -0.93% with an insignificant t-value of –0.0499, while CAAR shows a figure close to zero at 1.02%, and again it is found to be statistically insignificant. An inconsistent trend of negative and positive abnormal returns continues on after the announcement day. This is consistent to what was found on the CAAR. At day t=-60, the CAAR begins with a positive value of 0.12% and slowly increases until it reaches 1.02% on the announcement day 0. From table 4, it is also observed that there is a dominant positive trend of CAAR after the announcement date with the exception of day +53 and +57. However, when a test of CAAR on a specified event period is executed, a similar result is found. None of the event period from this model was found to be significantly different from zero. This implies that there have not been significant market reactions to the share buyback announcement even when a SIMM model was used to analyse such announcements.

Discussion on post announcement period implies that the Malaysian stock market is consistent with the semi-strong form efficient market hypothesis since there exists zero abnormal returns due to the share buyback announcement. By referring to the pattern of CAAR, we can see that CAAR increases from –1.69% and +1.02% at day t=0 for the MAR and SIMM approach respectively, to +1.41% and +4.61% an t=+4. The increase in values is nonetheless insignificant with a t-value of –0.589 and –0.3459 for the respective MAR and SIMM model.

Table 5
CAAR in Different Event Window Employed in SIMM

INTERVAL	CAAR	T-TEST
Days t=-60 to -1	1.953%	0.501
Days t= -60 to+60	1.124%	0.169
Days t= -40 to+40	0.729%	0.148
Days t= -1 to+0	-0.570%	-0.439
Days t= 0 to +1	-0.0154%	-0.090
Days t= 0 to +30	-0.0144%	-0.394
Days t = 0 to +60	-0.0828%	-0.150
Days t=1 to +53	-2.3838%	-0.473
Days t=4 to +60	-1.7928%	-0.346

At day t =+53, CAAR reaches its lowest return of - 4.29% (MAR approach) and -1.36% (SIMM approach). When a t-statistic is computed over the 53 day interval after the buyback announcement, it was still found that both the MAR and SIMM models presented insignificant values of –0.548 and –0.473 respectively (refer to Table 3 and Table 5).

In short, two models have been used to compute abnormal returns. The first model (MAR) assumes that the systematic risk is equal to one and the second model (SIMM) requires the estimation of beta (b). However, both models failed to prove that there exist positive abnormal returns from this announcement.

MARKET REACTION WITH CORPORATE FINANCE THEORIES' IMPLICATIONS

Two main corporate financial theories are highlighted to explain market reactions on share buyback announcement. They are compared to the finding of this study. As discussed above, the results show that zero abnormal return exists. This infers that the Malaysian stock market is semi-strongly efficient because no market participant is able to make economic profits out of the announcement. During the event period of t=–60 to t=+60, MAR records a negative CAAR value of –2.3291%, but since the t-value shows a low figure, the return is not significant. In contrast, a positive but insignificant CAAR value of 1.1247% (t-value = 0.0101) is found from the SIMM approach. The results found from these approaches are then considered in light of the signaling theory and free cash flow theory.

The signaling theory hypothesised that a company's decision to buy back its own shares might send signals to investors that the company is expanding. Thus, in general, investors are willing to pay a premium to purchase the company's shares. This theory expects a positive price reaction should be observed due to this announcement. However, it may not be applicable in this study, as zero abnormal returns are found from the result for both the MAR and SIMM models where all event windows show insignificant abnormal returns/losses. This could probably imply that market participants pay less attention to such an announcement as it might not add value to their wealth.

Another theory that could explain the market reaction of a share buy back announcement is free cash flow. In this theory, two different expectations of a price effect have been discussed. As theorised by Jensen (1986), managers would use the free cash flow to support the buyback programme and the possibility to mismanage the cash flow will not exist. Likewise, higher free cash flow might lead to the mismanagement of free cash flow. Thus, it is expected that rational investors should react positively in the market. Similarly, if a company has high level of free cash flows and it does not repurchase its own stock, a negative price reaction is expected. The results in this study again show that it is inconsistent with the implication stated in this theory as zero abnormal return is found from the result for both the MAR and SIMM models where all event windows show insignificant abnormal returns/losses.

CONCLUSION

Zero abnormal returns are observed during the event period for a sample of 30 share buyback announcements. The contradicting results of this study with the previous local research are perhaps due to the types of mechanisms in buying back shares and also larger market capitalisation of the sample which could possibly contribute to the insignificant results. The finding is consistent with the hypothesis that security returns adjust rapidly to reflect new information. The existence of zero abnormal returns for both the MAR and SIMM models provide evidence that the Malaysian stock market is semi-strongly efficient. Furthermore, none of the corporate financial theories could predict the sign of the share buyback announcement thus they could not be supported.

END NOTES

[1]   Buyback and repurchase are used interchangeably. In most of the literature in the developed market, the term "repurchase" is widely used. However, in Malaysia, the literature available use the word "buyback" to represent a similar activity.

[2]   In an open market repurchase, companies may discontinue its repurchasing plan and they may take months or years to complete the programme. Hence, it is not suitable to be used in this study.

REFERENCES

Ariff, M., & Finn, F. J. (1989). Announcement effect and market efficiency: An empirical application to the Singapore equity market. *Asia Pacific Journal of Management, 6*(2), 243-265.

Chhachhi, S., & Davidson, W. (1997). A comparison of market reaction to specially designated dividends and tender offer stock repurchase. *Financial Management, 26*, 89- 96

Comment, R., & Jarell, G. (1991). The relative signaling power of Dutch Auction and Fixed Price Self Tender Offers and Open Market Share repurchases. *Journal Of Finance, XV1* (4).

Dann, L. Y. (1981). Common stock repurchases: An Analysis of returns to Bondholders and Shareholders. *Journal of Financial Economics,* 113-138.

Dennis & McConnell, (1986). Additional evidence on equity ownership and Corporate Value. *Journal of Financial Economics, 27, 595- 612.*

Dimson, E. (1979). Risk measurement when shares are subject to infrequent trading. *Journal of Financial Economics, 7*, 197-226.

Erwin, G., & Miller M. (1998). The intra industry effects of Open Market Share Repurchases: Contagion or Competitive. *The Journal of Financial Research, XX1* (4), 389-406.

Jensen, M. (1986). Agency cost of Free Cash Flow, Corporate Finance and The Take-overs. *American Economic Review, 76,* 323-329.

Lim, E. H.,s & Obiyathulla, I. B. (2002). Price reaction to stock repurchases: Evidence from the Bursa Malaysia. *Capital Market Review,* 10(1), 139-177.

Mohd, J., & Chin, Y. F. (2001).The effect of share buyback announcement in the Kuala Lumpur Stock Exchange paper presented at the Malaysian Finance Association 3rd. Annual Symposium, Kuala Lumpur.

Nohel, T., & Tarhan, V. (1998). Share repurchases and firm performance: New evidence on the agency costs of free cash flow. *Journal of*

Financial Economics, 4, 187-222

Nur-Adiana, H. A. (1999). An empirical investigation of the effect of Rights Issue announcements on share returns and the determinants of abnormal returns on the Bursa Malaysia. Unpublished doctoral dissertation, Aston University.

Person, J. C. (1990). Dutch auction repurchases: Coping with uncertainty about shareholder response to tender offers. Working paper. University of Chicago.

Stephen, C. P., & Weisbach, M. S. (1998). Actual share acquisition in Open Market repurchase program. *The Journal of Finance*, 313 – 333.

Vermaelen, T. (1981). Common stock repurchase and market signaling. *Journal of Financial Economics,* 9,149-183.