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

AAMJAF, Vol. 8, No. 1, 91–123, 2012

DO MALAYSIAN FOCUS-INCREASING SPIN-OFF FIRMS UNDERPERFORM?

Nadisah Zakaria[1*] and Glen Christopher Arnold[2]

[1, 2] *Salford Business School, The University of Salford, Manchester, M54WT United Kingdom*

*Corresponding author: nadisahzakaria@yahoo.com

ABSTRACT

This paper investigates whether increased corporate focus surrounding a spin-off is associated with abnormal short-run and long-run share return performance from January 1980 to April 2011. By looking at the share return performance of both focus-increasing and non-focus-increasing parent firms, we find evidence against the claims of the focus-increasing hypothesis. Our results show that focus-increasing parent firms significantly underperformed when compared to their counterparts in the non-focus-increasing sub-sample during the few days surrounding the announcement date, even after adjusting for firm size. We also observe that spin-offs by the focus-increasing entities fail to demonstrate abnormal performance in the long-run period of three years.

Keywords: spin-offs, share returns performance, market efficiency, focus

INTRODUCTION

A crucial question about Malaysian corporate spin-offs is whether a firm's act of spinning off units outside the core business creates wealth for shareholders. This paper finds that there is no abnormal performance in either the short run or the long run.

It has been widely established in the U.S. (e.g., Bhagat, Shleifer, & Vishny, 1990; Shleifer & Vishny, 1991; Markides, 1992; Liebeskind & Opler, 1993; Comment & Jarell, 1995; Berger & Ofek, 1995; Denis, Denis, & Sarin, 1997) and in the U.K. (e.g., Haynes, Thompson, & Wright, 2000) that focusing on a core business through corporate divestment has been a commonplace strategy since the early 1980s. These studies plausibly argue that the disposition of assets outside the core business of a firm, or focus-increasing, is viewed by the market as value-increasing, whilst the disposition of the assets within the core business, or non-focus-increasing, is not. The decision to increase focus can be

implemented in several ways, but managers generally take this action either by selling unrelated assets to the third parties or by spinning off unrelated subsidiaries to the existing shareholders (Desai & Jain, 1999).

In the context of a spin-off, earlier studies in other countries suggest that focus-increasing spin-offs are associated with positive and larger announcement-period abnormal returns than non-focus-increasing spin-offs (e.g., Daley, Mehrotra, & Sivakumar, 1997; Desai & Jain, 1999; Veld & Veld-Merkuovela, 2001; Murray, 2008). However, evidence for the long-run share return performance of these spin-off firms is more mixed. Therefore, the present study fills a gap in the literature by exploring how Malaysian focus-increasing spin-offs and non-focus-increasing spin-offs perform in both the long run and the short run.

The paper makes several contributions. First, because there is no evidence for the influence of corporate focus in a spin-off in the Malaysia capital market, the present study adds to a growing body of international evidence about corporate spin-off decisions. Second, we employ two novel market indices: the Malaysia All-Shares Equal Weight Index (MAS-EWI) and the Malaysia All-Shares Value Weight Index (MAS-VWI)[1]. Both benchmarks are more comprehensive than any used in previous Malaysian event studies, which commonly adopt two popular market indices, namely, the FTSE Kuala Lumpur Composite Index (KLCI) and the FTSE Bursa Malaysia EMAS Index, which fail to represent the broader Malaysian market[2]. Third, we use Cumulative Abnormal Returns (CARs), Buy-and-Hold Abnormal Returns (BHARs) and the Market Model as the abnormal return metrics to calculate share return performance, whereas previous international studies used only one of these models in their analyses.

We define a corporate spin-off as occurring when the shares of a subsidiary are distributed on a pro-rata basis to the original shareholders of the parent firm. After the transaction, the subsidiary becomes an independent firm; therefore, the parent firm has no controlling relationship with it. The former parent shareholders, however, now own two different securities, the shares from the parent and the shares from the new spin-off firm.

Spin-off activity by Malaysian listed firms began in the late 1980s in tandem with the development of the capital market. It has gathered momentum with more corporate spin-offs during the bull-run period of 1993 to 1994 and in the years after the 1997 crisis. Out of 36 cases, 67% of the spin-off announcements occurred during the bear period from 1999 to 2006. In the booming economy before the 1997 crisis, some Malaysian businesses expanded and diversified extensively (Abu Bakar, 2001; Che Ahmad, Ishak, & Abdul

Manaf, 2003; Putih, 2005). Using 1995 data, Che Ahmad et al. (2003) find that 53% of the Malaysian firms in their sample were multi-segment firms involved in several industries. Although diversification has some economic and strategic value (Choo, 1999), over time these firms may have expanded beyond their means and capabilities. Some ventured into areas unrelated to their core businesses in which they had little or no expertise and experience (Choo, 1999; Putih, 2005). Indeed, within our sample, we observe a consumer product firm venturing into a heavy industry business; a finance firm owning a technology firm, and other businesses. Excessive leverage, lack of management expertise and ambitious involvement in unrelated businesses, along with deteriorating market conditions (the 1997 crisis), led to the failure of many such businesses, prompting them to divest (Putih, 2005). The two most common methods of refocusing were asset sell-offs and corporate spin-offs. Abu Bakar (2001) names diversification into unrelated areas in which firms have no expertise as one of the causes of the 1997 financial crisis.

Through a case-by-case review of financial press announcements and other documents (for example, a firm's annual report), we discovered that the spin-off event in Malaysia is claimed by most managers to be motivated by operating efficiency gains through increased corporate focus. Managers spin off their unrelated activities to concentrate on their core businesses and to eliminate negative synergies between the divested assets (spin-offs) and the remaining assets (parents). Evidence from other countries suggests that this action leads to better share performance (Daley, Mehrotra, & Sivakumar, 1997; Desai & Jain, 1999; Veld & Veld-Merkuovela, 2001; Murray, 2008).

Out of 36 Malaysian spin-off firms completed between January 1980 and April 2008, 19 are identified as focus-increasing and 17 are classified as non-focus-increasing. In a previous study examining 85 Malaysian firms, only some of which engaged in spin-offs, Yoon and Ariff (2007) find a significant positive cumulative average abnormal return (CAAR) of +22.7% in a two-day (day -1 to day 0) event window surrounding the announcement date during the period from 1986 to 2003. It is worth noting that their finding is far higher than the outperformance of spin-offs in the US, Europe and other Asian markets. Remarkably, for divested units, the study shows a 50% increase in value compared to the original shareholders from the date of listing up to day +50. Yoon and Ariff claim that their findings apparently seem to be consistent with the short-run abnormal performance of Malaysian Initial Public Offerings (IPO). Nonetheless, they fail to adequately explain the remarkable 50% increase in value. It is unfortunate that they do not study long-run share return performance of spin-off firms. It is also unfortunate that the return performance of focus-increasing spin-offs is not examined. Therefore, the present work represents the first comprehensive study of corporate spin-offs in the Malaysian capital market

in the short- and long-run periods in the context of the market benchmarks of the MAS-EWI and MAS-VWI.

Our study finds that;

1. before a size adjustment, focus-increasing parent firms significantly underperformed compared to their non-focus-increasing counterparts (as low as +6.88%) in the short-run period surrounding the spin-offs' announcement day (from day –20 through day +20).
2. before a size adjustment, the overall results for both focus-increasing and non-focus-increasing spin-off firms (either parents, spin-offs or combined firms) are mixed and inconclusive in the long-run period.
3. after a comprehensive size adjustment, our results confirm the underperformance of focus-increasing parent firms relative to their non-focus-increasing peers over the short-run.
4. after a comprehensive size adjustment in the three-year holding period, we fail to find abnormal performance for the focus-increasing parents, spin-offs and combined firms.
5. using a full sample of spin-off firms, we find spin-offs create value in the short-run even after an adjustment for size, but we do not find evidence of long-run market abnormal performance after allowing for size.

LITERATURE REVIEW

A spin-off effect has been shown in US and European studies (e.g., Hite & Owers, 1983; Schipper & Smith, 1983; Miles & Rosenfeld, 1983; Rosenfeld, 1984; Cusatis, Miles, & Woolridge, 1993; Desai & Jain, 1999; Krishnaswami & Subramaniam, 1999; Veld & Veld Mekuovela, 2004; Kirchmaier, 2003). The U.S. studies generally show that investors who purchase and then sell shares in the spin-off announcement window (short-run) and those who hold for three-year periods after the completion of spin-offs (long-run) gain high positive returns. In Europe, the evidence is more mixed, with three-year holding period studies (e.g., Veld & Veld Merkuovela, 2004; Kirchmaier, 2003) failing to find evidence that spin-offs create value.

Using 146 non-taxable[3] and voluntary U.S. spin-off firms from 1965 to 1988, Cusatis et al. (1993) investigate value creation through spin-offs by measuring the share return performance of parent, spin-off, and combined firms. They use the buy-and-hold investment strategy against the benchmark of equal-

weighted matched-firms portfolios (adjusted to the size and industry) and report significantly positive, abnormal returns for spin-offs, their parents and combined firms in the three-year holding period.

Similarly, Desai and Jain (1999) compute the buy-and-hold abnormal returns of 155 US firms using a matching firm methodology for the three-year holding periods. They show the results of combined, spin-off and parent firms separately for focus-increasing and non-focus-increasing sub-samples. Consistent with Cusatis et al. (1993), they find evidence of outperformance for both combined and spin-off firms relative to their equal-weighted matching firms in the three-year holding period after the completion of the spin-offs. The average buy-and-hold abnormal returns in the three-year holding period are positively significant, +19.82% and +32.31% for combined and spin-off firms, respectively. However, for parent firms, the result shows a positive but insignificant abnormal return of +15.18% in the three-year holding period. Desai and Jain also identify spin-offs by focus-increasing firms produce significantly larger abnormal returns than their non-focus-increasing counterparts by a considerable amount. In the three-day announcement period (day –1 through day +1), focus-increasing parent firms statistically outperformed non-focus-increasing parent firms, on average, +4.45% compared with +2.17%. Similarly, they observe the outperformance of focus-increasing parents and spin-off firms in the three-year holding period after the completion of the spin-off transaction. Evidence shows that focus-increasing parent firms statistically outperformed their peers in the non-focus-increasing sub-sample, on average, +25.37% compared with –10.51%. Likewise, the group of focus-increasing spin-off firms statistically outperformed the group of non focus-increasing spin-off firms, on average, +54.54% compared with –21.85%.

Veld and Veld-Merkuovela (2004) investigate the short- and long-run wealth effect of 156 spin-off announcements by European firms from January 1987 to September 2000. During these years, most spin-offs occurred in the United Kingdom (70), followed by Sweden (24), Germany (14) and Italy (11). The study indicates that for all countries, the cumulative average abnormal return (CAAR), is +2.62% over the event window from day –1 to day +1, which is significant at the 1% level. Using the equal-weighted matching-firm approach, the authors declare, after examining the share returns performance in the three-year holding period after the completion of spin-offs that parent, spin-off and combined firms insignificantly underperform their corresponding matching firms. Consistent with the finding in the U.S. by Desai and Jain (2004), in the three days surrounding the announcement date (day –1 through day +1), the group of focus-increasing parent firms significantly outperformed the group of non-focus-increasing parent firms, on average, +3.57% compared with +0.76%. In contrast, they fail to show evidence that focus-increasing spin-off firms outperformed their non-focus-increasing counterparts in the long-run period.

In a more recent study in the U.K. market, Murray (2008) partitions the 60 spin-off firms between the period 1992 and 2004 into focus-increasing (43 firms) and non-focus-increasing (17 firms) sub-samples based on the three-digit FTSE Actuaries Industry Classification System. Using a Market Model approach, the abnormal returns for both sub-samples are calculated over the three-day event window (from day –1 through day +1) and 251 trading days (day 0 through day +250) against the value-weighted market benchmark. Consistent with the US and European findings, he observes that parent firms in the focus-increasing sub-sample outperformed their counterparts in the non-focus-increasing sub-sample, on average, +2.6% compared with +0.4% in the three-day event window (from day -1 through day +1).

Inconsistent with the U.S. findings (e.g., Desai & Jain, 1999), they find that neither parents nor spin-offs in both focus-increasing and non-focus-increasing sub-samples offer a positive and significant abnormal return in the 250 trading days after the completion date of a spin-off, even after adjusting for size. For example, the focus-increasing parent firms earn a negative and insignificant abnormal return of –6.8%, while the non-focus-increasing parent firms earn a negative and significant abnormal return of –15.4%. Likewise, spin-off firms in the focus-increasing group earn a negative and insignificant abnormal return of -6.7%, and spin-off firms in the non-focus-increasing group record a negative and insignificant abnormal return of –7.5%.

SAMPLE SELECTION AND DATA

To ensure a comprehensive study, all parent and spun-off firms traded on the Bursa Malaysia from 1 January 1980 to 30 April 2008 are identified. This approach enables the present study to analyse one to three years' post-spin-off performances until April 2011. We identify 36 Malaysian parent firms conducting spin-offs.

Two event dates are specified for this analysis, the spin-off announcement date and the completion month of the spin-off. The announcement date is designated as the one in which the event is first mentioned in the financial press. The event month is defined as the month in which the new spin-off firm is listed and its shares begin trading on the Bursa Malaysia. The identities of both the parent and spin-off firms are obtained from the Investors Digest and Bursa Malaysia's website. These sources of announcements are then cross-checked with the relevant press and financial announcements, such as Nexis Business and News database, local English-language newspapers, the websites of individual firms and their annual reports. Combined firms are created by weighting the returns of the parent firms and of the spin-off firms by the market value of equity

of the completion month of spin-offs. Because a spin-off involves a pro rata distribution of the shares of a subsidiary, creating combined firms provides information about the return that an investor would have realised if he had kept the shares of both the parent and spin-off firms after the completion month of the spin-offs (Desai & Jain, 1997). Using the Malaysia Standard Industrial Classification (MSIC) three-digit group, a spin-off is considered to be focus-increasing when the parent and its spin-off are in dissimilar industry classifications, whilst a spin-off is said to be non-focus-increasing if both the parent and its spin-off are in a similar industry classification. Six sub-samples are thus created: focus-increasing and non-focus-increasing parents, spin-offs and combined firms, respectively[4]. From the total sample of 36 spin-off firms, 19 are categorised as focus-increasing spin-offs and 17 are classified as non-focus-increasing spin-offs.

In the case of daily data, defining $t = 0$ as the announcement date, $t = -20$ days to $t = +20$ days represents the event period or observation period, and $t = -220$ days to $t = -21$ constitutes the estimation period (to apply in the Market Model for obtaining the value of alpha, α, and beta, β). Share price data are collected from the Datastream database. Specifically, the data comprise individual parent and spin-off firms' adjusted closing price (adjusted for dividends).

METHODOLOGY

To analyse short-run share return performance, we employ the Market Model (henceforth MM) and Cumulative Abnormal Returns (henceforth CARs). Buy-and-Hold Abnormal Returns (henceforth BHARs) are used to measure the share return performance over the long-run period. Fama (1998) notes that the choice of weighting scheme depends on the hypothesis that the researcher is addressing. Loughran and Ritter (2000) state that:

> If one is trying to measure the abnormal returns on the firms undergoing some event, then each firm should be weighted equally.... [this] will produce point estimates that are relevant from the point of view of a manager, investor, or researcher attempting to predict the abnormal returns associated with a random event.
>
> (p. 363, note 2)

Veld and Veld-Merkuovela (2004) claim that they prefer equally weighted portfolio returns to test whether the random event of spin-offs is associated with long-run superior performance. Therefore, we adopt equal weighted portfolio

returns rather than value-weighted portfolio returns because spin-offs are random events that occur intermittently from January 1980 to April 2008.

Market Model and Cumulative Abnormal Returns (CARs) Model

Following the Market Model, the daily abnormal returns for security *j* of spin-off firms in event period *t* is computed as:

$$\hat{\alpha}R_{jt} = R_{jt} - (\hat{\alpha}_j + \hat{\beta}_j R_{mt}),$$

where $\hat{A}R_{jt}$ and R_{jt} are the daily abnormal return and the daily actual return of security *j* in event period *t*, respectively. R_{mt} is the daily market return of the MAS-EWI and MAS-VWI in event period *t*. The parameters of alpha $\hat{\alpha}_j$ and beta $\hat{\beta}_j$ are the regression intercept and the slope of the characteristic line, respectively, estimated for security *j* over the estimation period (e.g., 200 trading days) by running the ordinary least squares (OLS) regression.

Based on the Cumulative Abnormal Returns (CARs) Model, the performance of an individual security is adjusted to the performance of the market index. Therefore, the daily abnormal returns of any security *j* is given as the difference between daily actual return and the corresponding daily return on the market index during period *t* and are computed as follows:

$$AR_{jt} = R_{jt} - R_{mt}$$

The abnormal return for each security *j* (derived from the above two models) is observed for each day in the event period and averaged across N firms or securities using the following equation:

$$AAR_t = \frac{1}{N}\sum_{j=1}^{N} AR_{jt}$$

where AAR_t is the daily average abnormal return in event period *t* and N denotes the number of securities in the sample.

Finally, the $CAAR_{(t,t_2)}$ is computed by summing the daily average abnormal returns, AAR_t over days from period t_1 to period t_2 as follows:

$$CAAR_{(t_1,t_2)} = \sum_{t=t_1}^{t_2} AAR_t$$

Buy-and-Hold Abnormal Returns (BHARs)

The main justification for including BHARs for long-run abnormal returns is that this approach is able to accurately simulate the effect of a spin-off event on the investor's portfolio due to its more accurate compounding approach compared with CARs.

The three-year holding period return is examined by computing the compounded monthly Buy-and Hold Return, BHR_{jT} for both parent and spin-off firms in time *t* as follows:

$$BHR_{jT} = \left[\prod_{t=1}^{T} (1 + r_{jt}) \right] - 1$$

where, r_{jt} is the monthly actual return on security *j* in event period *t*. T is designated as number of months in event period *t*.

The Buy-and-Hold Returns, BHR_{mT} for the market benchmarks, proxied by the MAS-EWI and MAS-VWI are:

$$BHR_{mT} = \left[\prod_{t=1}^{T} (1 + r_{mt}) \right] - 1$$

r_{mt} is the corresponding monthly index level of MAS-EWI and MAS-VWI in event period *t*.

The Buy-and-Hold Abnormal Returns for each security or firm in event period *t* are computed as:

$$BHAR_{jt} = \left[\prod_{t=1}^{T} (1 + r_{jt}) - 1 \right] - \left[\prod_{t=1}^{T} (1 + r_{mt}) - 1 \right]$$

where $BHAR_{jt}$ is the Buy-and-Hold Abnormal Return of security *j* in event period *t*.

The Statistical Tests

The statistical significance of the cumulative average abnormal returns is calculated following Brown and Warner (1980, 1985), and the *t*-value for the daily cumulative average abnormal returns, $CAAR_{(t_1,t_2)}$, from period t_1 to period t_2 is as follows:

$$t = \frac{CAAR_{(t1,t2)}}{\sigma(AAR_t) * \sqrt{T}}$$

where $CAAR_{(t_1,t_2)}$ is the daily cumulative average abnormal return from period t_1 to period t_2, $\sigma(AAR_t)$ is the standard deviation of daily average abnormal return and T denotes the total number of days in event period *t*.

The test statistic for the monthly buy-and-hold abnormal returns, $BHAR_{(t_1,t_2)}$, during the clustering period from t_1 to period t_2 is calculated as:

$$t = \frac{\overline{BHAR}_{(t1,t2)}}{\sigma(BHAR_t)/\sqrt{T}}$$

where $\overline{BHAR}_{(t_1,t_2)}$ is the monthly average buy-and-hold abnormal return from period t_1 to period t_2, $\sigma(BHAR_t)$ is the standard deviation of monthly buy and hold abnormal return in event period *t* and T is the total number of firms in the sample.

To measure the significant difference in abnormal returns between the sub-sample of focus-increasing firms and the sub-sample of non-focus-increasing firms, we employ the non-parametric Mann-Whitney Rank Test.

RESULTS

Short-run Performance of Parent Firms After the Spin-offs Announcement

Table 1 reports the percentage daily abnormal returns (adjusted to the market) on parent firms from day –20 through day +20 against the MAS-EWI and MAS-VWI benchmarks[5].

Although the CARs Model and the MM exhibit insignificant results over the periods before the spin-off announcement, the cumulative average abnormal

returns (henceforth CAARs) are persistently positive for both market benchmarks around the date of the announcement.

Notably, all the abnormal return metrics (the CARs Model and the MM), on average, demonstrate positively significant abnormal returns in the three-day event window, from day –1 through day +1. Using the MAS-EWI as a benchmark, spin-offs generate positively significant CAARs of +4.99% and +5.06% for the CARs Model and the MM, respectively. When the abnormal return metrics are measured against the MAS-VWI, the CAARs for the CARs Model and the MM are +5.40% and +5.04%, respectively. Both abnormal returns are positively significant at the 5% level.

The presence of strongly significant positive abnormal returns for parent firms in the three-day event window (day –1 through day +1) is of considerable interest, indicating that the market anticipates considerable shareholder wealth enhancement. Although our findings are slightly greater than those documented in the US (e.g., Desai & Jain, 1999), they are comparable to several European studies (Kirchmaier, 2003; Veld & Veld-Merkuovela, 2004).

Interestingly, we also observe that parent firms outperform both market benchmarks in the five-day event window (day +1 through day +5) after the spin-off announcement date. However, using the MAS-VWI as a benchmark, only the MM is found to show a significant CAAR of +3.88% (at the 10% level). Unfortunately, neither the CARs Model nor the MM posits significant results, though both methods record positive abnormal returns when the MAS-EWI is used as a market benchmark. Therefore, we find it difficult to conclude on this evidence alone that we have found a strongly expressed, exploitable market pricing inefficiency, especially considering that transaction costs have not been deducted (see Summary and Conclusion).

Table 1
Announcement period: share returns performance of the parent firms over a short-run adjusted for MAS-EWI and MAS-VWI.
Panel A: Share returns performance of the parent firms adjusted for MAS-EWI

Interval (day)	CARs Model			Market Model		
	CAARs	T-STAT	SIGNIFICANT	CAARs	T-STAT	SIGNIFICANT
–20 to +20	9.38%	1.55		10.00%	1.65	
–20 to 0	5.86%	1.08		5.97%	1.09	
–15 to 0	5.76%	1.07		5.39%	0.99	
–10 to +10	7.26%	1.26		7.96%	1.40	
–5 to +5	5.79%	1.92	*	6.07%	2.04	**
–3 to +3	4.96%	1.68		4.86%	1.66	
–2 to +1	4.78%	1.85	*	4.79%	1.90	*
–1 to 0	2.55%	1.49		2.71%	1.72	*
–1 to +1	4.99%	2.65	**	5.06%	3.00	***
0	2.13%	2.25	**	2.14%	2.27	**
0 to +1	4.57%	14.94	***	4.49%	21.59	***
0 to +3	5.43%	2.46	**	5.50%	2.60	**
0 to +5	5.49%	2.09	**	5.67%	2.27	**
0 to +7	5.06%	1.66		5.51%	1.92	*
0 to +10	4.24%	1.28		4.96%	1.58	
0 to +15	4.59%	1.34		4.94%	1.49	
0 to +20	5.65%	1.63		6.17%	1.83	*
+1 to +3	2.92%	1.33		2.78%	1.30	
+1 to +5	3.36%	1.51		3.53%	1.69	
+1 to +7	2.93%	1.15		3.37%	1.43	
+1 to +10	2.10%	0.77		2.82%	1.11	
+1 to +15	2.46%	0.88		2.80%	1.04	
+1 to +20	3.52%	1.23		4.03%	1.46	

Note: 0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) level, respectively using a two-tailed test.

Panel B: Share returns performance of the parent firms adjusted for MAS-VWI

Interval (day)	CARs Model			Market Model		
	CAARs	T-STAT	SIGNIFICANT	CAARs	T-STAT	SIGNIFICANT
–20 to +20	9.83%	1.60		10.04%	1.68	
–20 to 0	5.80%	1.08		5.76%	1.08	
–15 to 0	5.96%	1.12		5.40%	1.02	
–10 to +10	8.72%	1.50		8.33%	1.47	
–5 to +5	6.86%	2.15	**	6.36%	2.13	**
–3 to +3	5.79%	1.87	*	5.16%	1.76	*
–2 to +1	5.31%	1.92	*	4.89%	1.92	*
–1 to 0	2.68%	1.43		2.54%	1.54	
–to +1	5.40%	2.53	**	5.04%	2.68	**
0	2.27%	2.36	**	2.09%	2.25	**
0 to +1	5.00%	11.05	***	4.59%	11.38	***
0 to +3	6.16%	2.63	**	5.76%	2.71	**
0 to +5	6.34%	2.29	**	5.98%	2.39	**
0 to +7	6.09%	1.87	*	5.96%	2.08	**
0 to +10	5.26%	1.46		5.17%	1.61	
0 to +15	5.54%	1.49		5.41%	1.62	
0 to +20	6.31%	1.67		6.38%	1.87	*
+1 to +3	3.37%	1.40		3.08%	1.40	
+1 to +5	4.07%	1.69		3.88%	1.79	*
+1 to +7	3.82%	1.37		3.87%	1.58	
+1 to +10	2.98%	0.99		3.08%	1.14	
+1 to +15	3.27%	1.05		3.32%	1.20	
+1 to +20	4.04%	1.27		4.28%	1.50	

Note: 0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) level, respectively using a two-tailed test.

Table 2 presents the share return performance of focus-increasing parent firms and non-focus-increasing parent firms in the 41 trading days (day -20 through day +20) against the market benchmarks of the MAS-EWI and MAS-VWI.

Table 2
Share returns performance of the focus–increasing and non focus–increasing parent firms over the short–run period adjusted for MAS–EWI and MAS–VWI.

Panel A: Share returns performance of the focus–increasing and non focus–increasing parent firms adjusted for MAS–EWI

Interval(day)	CARs Model		Market Model	
	CAARs (focus–increasing firms)	CAARs (non focus increasing firms)	CAARs (focus–increasing firms)	CAARs (non focus–increasing firms)
–20 to +20	7.65%(1.49)[b]	10.75%(1.06)[b]	7.10%(1.41)[b]	13.23%(1.32)[b]
–20 to 0	4.84%(1.31)	6.54%(0.67)	4.55%(1.25)	7.55%(0.78)
–15 to +15	6.55%(1.35)[c]	9.84%(0.98)[c]	4.92%(1.03)[c]	11.85%(1.19)[c]
–15 to 0	4.88%(1.40)[a]	6.54%(0.67)[a]	3.64%(1.03)[b]	7.35%(0.76)[b]
–10 to +10	6.40%(1.47)[c]	8.17%(0.83)[c]	5.19%(1.23)[c]	11.06%(1.13)[c]
–5 to +5	6.77%(1.89*)[a]	5.18%(1.63)[a]	5.77%(1.64)	6.42%(2.06*)
–5 to 0	3.45%(1.31)[b]	1.51%(0.58)[b]	2.94%(1.06)[b]	2.10%(0.80)[b]
–2 to +1	4.99%(1.57)	4.79%(*1.94)	4.55%(1.54)	5.06%(2.05*)
–1 to 0	2.99%(2.64**)	2.18%(0.88)	2.93%(3.76***)	2.46%(1.00)
–1 to +1	5.81%(3.53***)	4.35%(1.82*)	5.44%(4.39***)	4.64%(1.99*)
0	2.06%(2.57**)	2.32%(1.47)	1.86%(2.36**)	2.46%(1.57)
0 to +1	4.88%(6.40***)	4.49%(29.99***)	4.36%(6.70***)	4.64%(16.14***)
0 to +3	5.31%(2.04*)	5.99%(3.10***)	4.54%(1.88*)	6.58%(3.54***)
0 to +5	5.39%(1.79*)	5.99%(2.46**)	4.68%(1.70)[a]	6.78%(2.92**)[a]
0 to +7	5.07%(1.55)	5.38%(1.69)	4.64%(1.60)[b]	6.49%(2.12**)[b]
0 to +10	4.00%(1.09)	4.61%(1.25)	3.74%(1.09)	6.33%(1.79*)
0 to +15	3.73%(0.95)	5.62%(1.51)	3.13%(0.83)	6.96%(1.91*)
0 to +20	4.87%(1.19)	6.54%(1.74)	4.40%(1.12)	8.14%(2.19**)
+1 to +3	3.12%(1.16)	2.99%(1.69)	2.33%(0.89)	3.28%(2.02*)
+1 to +5	3.33%(1.22)	3.67%(1.94*)	2.83%(1.14)	4.32%(2.51**)
+1 to +7	3.01%(1.05)	3.06%(1.18)	2.78%(1.10)[a]	4.03%(1.66)[a]
+1 to +10	1.94%(0.61)	2.29%(0.75)	1.89%(0.62)[c]	3.87%(1.35)[c]
+1 to +15	1.67%(0.49)	3.30%(1.07)	1.28%(0.34)[c]	4.50%(1.53)[c]
+1 to +20	2.81%(0.77)[b]	4.22%(1.35)[b]	2.55%(0.72)[c]	5.68%(1.88*)[c]

Note: 0 denotes the announcement date of the spin–off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) level of the difference between the return for the sample firms and the market, respectively using a two–tailed test. Using non parametric Mann–Witney Rank Test a, b and c represent the significant difference between the abnormal returns of focus–increasing and non focus–increasing parent firms at the 10%, 5% and 1% level, respectively. Panel A presents the share returns performance of focus–increasing and non focus–increasing parent firms adjusted for MAS–EWI.

Panel B: Share returns performance of the focus-increasing and non focus-increasing parent firms adjusted for MAS-VWI

Interval(day)	CARs Model		Market Model	
	CAARs (focus–increasing firms)	CAARs (non focus–increasing firms)	CAARs (focus–increasing firms)	CAARs (non focus–increasing firms)
−20 to +20	8.30%(1.57)[c]	11.54%(1.17)[c]	6.88%(1.42)[c]	13.58%(1.37)[c]
−20 to 0	5.00%(1.30)	6.69%(0.71)	4.31%(1.23)	7.39%(0.78)
−15 to +15	8.26%(1.68)	10.30%(1.05)	5.92%(1.30)	11.85%(1.20)
−15 to 0	5.73%(1.60)	6.21%(0.66)	4.17%(1.24)[a]	6.78%(0.71)[a]
−10 to +10	7.68%(1.72*)[c]	9.88%(1.02)[c]	5.76%(1.40)[c]	11.19%(1.15)[c]
−5 to +5	7.52%(2.01*)	6.13%(1.90*)	6.16%(1.79*)	6.59%(2.10*)
−5 to 0	3.84%(1.39)[b]	1.63%(0.65)[b]	3.12%(1.17)[b]	1.76%(0.73)[b]
−3 to +3	5.68%(1.54)	5.91%(2.10*)	4.38%(1.31)	6.02%(2.16**)
−2 to +1	5.55%(1.66)	5.05%(1.98*)	4.76%(1.61)	5.04%(2.01*)
−1 to 0	3.36%(2.46**)	1.91%(0.79)	3.00%(2.96****)	2.02%(0.86)
−1 to +1	6.34%(3.61****)	4.35%(1.69)	5.56%(4.05****)	4.46%(1.79*)
0	2.36%(2.86**)	2.17%(1.41)	2.01%(2.46**)	2.19%(1.41)
0 to +1	5.34%(8.69****)	4.61%(17.08****)	4.57%(8.38****)	4.62%(18.83****)
0 to +3	5.90%(2.13**)	6.45%(3.43****)	4.95%(2.06*)	6.66%(3.69****)
0 to +5	6.05%(1.89*)	6.67%(2.87**)	5.05%(1.81*)	7.02%(3.18****)
0 to +7	5.99%(1.73*)	6.21%(1.98*)	5.32%(1.85*)[a]	6.67%(2.20**)[a]
0 to +10	4.97%(1.29)	5.58%(1.48)	4.21%(1.21)	6.25%(1.70)
0 to +15	4.90%(1.19)	6.27%(1.63)	3.77%(1.02)	7.26%(1.94*)
0 to +20	5.67%(1.31)	7.03%(1.79*)	4.59%(1.17)	8.38%(2.20**)
+1 to +3	3.29%(1.16)	3.46%(1.79*)	2.59%(1.02)	3.63%(1.97*)
+1 to +5	3.68%(1.31)	4.50%(2.26**)	3.04%(1.24)	4.83%(2.57**)
+1 to +7	3.63%(1.22)	4.04%(1.48)	3.31%(1.34)[a]	4.48%(1.71)[a]
+1 to +10	2.61%(0.80)	3.41%(1.03)	2.20%(0.73)[c]	4.06%(1.26)[c]
+1 to +15	2.53%(0.89)[b]	4.09%(1.22)[b]	1.76%(0.56)[c]	5.07%(1.55)[c]
+1 to +20	3.30%(0.89)[c]	4.85%(1.42)[c]	2.58%(0.75)[c]	6.19%(1.86*)[c]

Note: 0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (****) level of the difference between the return for the sample firms and the market, respectively using a two-tailed test. Using non parametric Mann-Witney Rank Test a, b and c represent the significant difference between the abnormal returns of focus-increasing and non focus-increasing parent firms at the 10%, 5% and 1% level, respectively. Panel B shows the share returns performance of focus-increasing and non focus-increasing parent firms adjusted for MAS-VWI.

We observe that focus-increasing parent firms significantly underperformed compared to their counterparts in the non-focus-increasing sub-sample from day –20 through day +20 surrounding the spin-off announcement in both benchmarks.

Of the two models, the MM reports the worst performance of focus-increasing parent firms relative to their peers in the non-focus-increasing sub-sample. Our results postulate that focus-increasing parent firms significantly underperformed compared to non-focus-increasing parent firms, showing, on average, +7.10% compared with +13.23% (MAS-EWI) and +6.88% compared with +13.58% (MAS-VWI). The difference in abnormal returns between the two sub-samples is statistically significant at the 5% level (MAS-EWI) and at the 1% level (MAS-VWI).

Likewise, both abnormal return metrics demonstrate similar results over the 20 trading days (day +1 through day +20) after the spin-off announcement date when they are measured against the MAS-EWI and MAS-VWI. The MM demonstrates that focus-increasing parent firms significantly underperformed compared to their counterparts in the non-focus-increasing sub-sample, on average, +2.55% compared with +5.68% (MAS-EWI) and +2.58% compared with +6.19% (MAS-VWI). The difference in abnormal returns between the two sub-samples is statistically significant at the 1% level.

Long-run Performance of Parent Firms After the Listing of Spun-off Firms

Although Lyon, Barber and Chih (1999) remind us that "analysis of long-run abnormal return is treacherous" (p. 198), several methods are proposed[6]. Extensive literature favours the use of the BHAR method because it copes better with the effect of compounding compared with the CAR (e.g., Ritter, 1991; Barber & Lyon, 1997). In modern event studies, the most commonly accepted methodology is the BHAR approach. Therefore, we engage this method to capture the effect of a spin-off event on the investor's portfolio over the long-run period[7].

Table 3 presents the percentage monthly buy-and-hold abnormal returns of parent firms in the three-year holding periods after the listing of spin-off firms against the MAS-EWI and MAS-VWI benchmarks.

In Panel A, we find that parent firms significantly outperformed (at the 10% level) the MAS-EWI, on average, +19.61% in the three-year holding period after the listing of spin-off firms. Our result supports the earlier finding reported by Cusatis et al. (1993). When the buy-and-hold returns of parent firms are

measured against the market benchmark of the MAS-VWI, the parent firms show an opposite result. The parent firms demonstrate negative and significant ABHAR of –18.74% over three years, indicating that in the Malaysia market as a whole, large firms outperformed small firms during the study period.

Table 3
Long run performance: share returns performance of the parent firms adjusted for MAS-EWI and MAS-VWI

Panel A: All parent firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	5.67%	0.47	–7.25%	–0.60
EX + 1 TO EX + 24	1.78%	0.21	–18.46%	–2.14**
EX + 1 TO EX + 36	19.61%	1.82*	–18.74%	–1.75*
EX + 13 TO EX + 24	6.52%	0.93	0.68%	0.10
EX + 25 TO EX + 36	21.57%	2.31**	7.44%	0.85

Panel B: Focus-increasing parent firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	10.23%	0.46	–5.38%	–0.24
EX + 1 TO EX + 24	3.37%	0.26	–23.23%	–1.80*
EX + 1 TO EX + 36	8.54%	0.80	–36.97%	–3.49%***
EX + 13 TO EX + 24	12.20%	1.20	4.32%	0.50
EX + 25 TO EX + 36	3.23%	0.40[a]	–11.91%	–1.61[a]

Panel C: Non focus-increasing parent firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	–2.36%	–0.32	–15.24%	–2.03*
EX + 1 TO EX + 24	3.87%	0.40	–16.27%	–1.40
EX + 1 TO EX + 36	32.55%	1.72*	–10.25%	–0.51
EX + 13 TO EX + 24	6.64%	0.74	–0.90%	–0.09
EX + 25 TO EX + 36	36.10%	2.09*[a]	20.33%	1.27[a]

Note: EX denotes the listing month of the spun-off firms. Asterisks indicates statistical significance at the 10% (*), 5% (**) and 1% (*), respectively using a two tailed test. Using non parametric Mann-Whitney Rank Test, a, b, and c represent the significant difference in abnormal returns between the sample of focus-increasing and non focus-increasing at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the parent firms against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the focus-increasing parent firms against the MAS-EWI and MAS-VWI benchmarks.
Panel C shows the average buy-and-hold abnormal returns (ABHARs) for the non focus-increasing parent firms against the MAS-EWI and MAS-VWI benchmarks.

When sample firms are split into focus-increasing parent firms and non-focus-increasing parent firms, the overall results are mixed (as shown in Panels B and C). Nevertheless, there is evidence that focus-increasing parent firms significantly underperformed compared to their counterparts in the non-focus-increasing in the third-year period (EX+25 TO EX+36) after the listing of spin-off firms, on average, +3.23% compared with +36.10% (MAS-EWI) and -11.91% compared with +20.33% (MAS-VWI), respectively. The difference in abnormal returns between the two sub-samples is however very weak, statistically significant at the 10% level.

Long-run Performance of Spun-off Firms Pursuant their Listing Month

Table 4 demonstrates the percentage monthly buy-and-hold abnormal returns (adjusted to the market) of spin-off firms in the three-year holding period pursuant their listing month against the market benchmarks of the MAS-EWI and MAS-VWI.

Table 4
Long-run performance: share returns performance of the spun-off firms adjusted for MAS-EWI and MAS-VWI.

Panel A: All spun-off firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	11.24%	0.99	–2.59%	–0.22
EX + 1 TO EX + 24	33.08%	1.88*	12.44%	0.66
EX + 1 TO EX + 36	29.19%	2.51**	–12.90%	–0.98
EX + 13 TO EX + 24	27.68%	2.31**	22.54%	1.72*
EX + 25 TO EX + 36	16.58%	1.83*	0.15%	0.01

In Panel A, the results suggest that spin-off firms significantly outperformed the MAS-EWI, on average by +29.19% over the 36 months holding periods pursuant their listing month. We find that the long-run share return performance of the spin-off firms is better than the parent firms (perhaps they are more focused on their core business than their corresponding parent firms, as claimed by most Malaysian spin-offs managers). Our result thus supports the findings documented in both European (e.g., Kirchmaier, 2003) and US (e.g., Cusatis et al., 1993; Desai & Jain, 1999) markets. In contrast, using the MAS-VWI as a benchmark, the result shows that spin-off firms insignificantly underperformed against the market, on average by –12.90% over the three-year holding period after the completion month of a spin-off.

Panel B: Focus-increasing spun-off firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	32.94%	1.70	18.44%	0.91[b]
EX + 1 TO EX + 24	55.11%	1.88*	30.75%	0.98
EX + 1 TO EX + 36	27.84%	1.89*	–13.77%	–0.83
EX + 13 TO EX + 24	28.87%	1.73*	22.16%	1.21
EX + 25 TO EX + 36	10.66%	0.85[a]	–3.63%	–0.28

Panel C: Non focus-increasing spun-off firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	–13.85%	–2.09*	–26.72%	–4.29***[b]
EX + 1 TO EX + 24	9.71%	0.59	–10.43%	–0.61
EX + 1 TO EX + 36	31.90%	1.72*	–10.89%	–0.56
EX + 13 TO EX + 24	28.98%	1.66	21.44%	1.16
EX + 25 TO EX + 36	22.83%	1.72*[a]	7.06%	0.56

Note: EX denotes the listing month of the spun-off firms. Asterisks indicates statistical significance at the 10% (*), 5% (**) and 1% (*), respectively using a two tailed test. Using non parametric Mann-Whitney Rank Test, a, b, and c represent the significant difference in abnormal returns between the sample of focus-increasing and non focus-increasing at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the spun-off firms against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the share returns performance of focus-increasing spun-off firms adjusted for MAS-EWI and MAS-VWI benchmarks.
Panel C indicates the share returns performance of non focus-increasing spun-off firms adjusted for MAS-EWI and MAS-VWI benchmarks.

In Panels B and C, we find that focus-increasing spin-off firms significantly underperformed compared to their peers in the non-focus-increasing sub-sample by an average of +10.66% compared with +22.82% in the third-year period (EX+25 TO EX+36) pursuant their listing month when the MAS-EWI is used as a market benchmark. The difference in abnormal returns between the two sub-samples is statistically significant at the 10% level. Nevertheless, the overall results (as shown in both market benchmarks) for both focus-increasing and non-focus-increasing spin-off firms are mixed and inconclusive; therefore, it is difficult for us to make a definite conclusion.

Long-run Performance of Combined Firms After the Completion Month of Spin-off

Table 5 demonstrates the percentage monthly buy-and-hold abnormal returns of combined firms in the three-year holding period after the completion month of spin-off against the MAS-EWI and MAS-VWI benchmarks.

In Panel A, though the combined companies outperformed the MAS-EWI in the three-year holding period after the completion month of spin-offs, the ABHAR at +16.50% is statistically insignificant. Nevertheless, we find that the combined firms are associated with significant negative ABHAR when the MAS-VWI is used as a benchmark. The ABHAR for combined firms over the thirty-six-month holding periods is –23.48% and is statistically significant at that 5% level. Not surprisingly, our finding is substantially different from those in the US (e.g., Cusatis et al., 1993; Desai & Jain, 1999) and European (e.g., Kirchmaier, 2003; Veld & Veld-Merkuovela, 2004) studies.

Table 5
Long run performance: share returns performance of the combined firms adjusted for MAS-EWI and MAS-VWI

Panel A: All combined firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	1.20%	0.12	–11.83%	–1.20
EX + 1 TO EX + 24	1.43%	0.20	–19.44%	–2.56**
EX + 1 TO EX + 36	16.50%	1.60	–23.48%	–2.26**
EX + 13 TO EX + 24	9.79%	1.44	3.30%	0.49
EX + 25 TO EX + 36	16.13%	2.12**	1.50%	0.21

In Panel B and C, we fail to find a significant difference in abnormal returns between the group of focus-increasing combined firms and the group of non-focus-increasing combined firms over the three-year holding period after the completion month of spin-off.

Panel B: Focus-increasing combined firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	8.87%	0.50	–6.68%	–0.37
EX + 1 TO EX + 24	4.18%	0.37	–22.29%	–1.96*
EX + 1 TO EX + 36	7.74%	0.75	–37.54%	–3.57***
EX + 13 TO EX + 24	11.59%	1.18	3.78%	0.40
EX + 25 TO EX + 36	4.06%	0.49	–11.04%	–1.48

Panel C: Non focus-increasing combined firms

Interval (month)	BHARs Model (MAS–EWI)		BHARs Model (MAS–VWI)	
	ABHARs	T–STAT	ABHARs	T–STAT
EX + 1 TO EX + 12	–6.00%	–0.99	19.04%	–3.26***
EX + 1 TO EX + 24	2.52%	0.30	–17.92%	–1.80*
EX + 1 TO EX + 36	29.51%	1.61	–14.98%	–0.79
EX + 13 TO EX + 24	8.73%	0.94	2.18%	0.23
EX + 25 TO EX + 36	26.63%	1.94*	9.56%	0.77

Note: EX denotes the listing month of the spun-off firms. Asterisks indicates statistical significance at the 10% (*), 5% (**) and 1% (*), respectively using a two tailed test. Using non parametric Mann-Whitney Rank Test, a, b, and c represent the significant difference in abnormal returns between the sample of focus-increasing and non focus-increasing at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the combined firms against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the focus-increasing combined firms against the MAS-EWI and MAS-VWI benchmarks.
Panel C shows the average buy-and-hold abnormal returns (ABHARs) for the non focus-increasing combined firms against the MAS-EWI and MAS-VWI benchmarks.

Table 6

Monthly cumulative returns of the Bursa Malaysia Index Series (January 1996–January 2011

Indices	FTSE Bursa Malaysia KLCI	FTSE Bursa Malaysia EMAS Index	FTSE Bursa Malaysia Mid 70 Index	FTSE Bursa Malaysia Small Cap Index	FTSE Bursa Malaysia Fledgling Index
Number of constituents	30	100	70	260	431
Market Capitalization (RM)	485,666.50	690,859.41	137,745.02	67,447.92	18,958.84
1 Month (%)	2.75	2.60	3.08	0.30	4.16
3 Month (%)	12.71	13.45	14.34	19.04	40.15
6 Month (%)	1.21	1.33	2.19	3.59	18.27
12 Month (%)	15.28	18.87	26.66	19.66	27.46
36 Month (%)	–43.96	–47.88	–55.87	–55.43	–52.95
60 Month (%)	–31.05	–37.88	–52.91	–57.40	–53.07
120 Month (%)	–13.40	–27.34	–40.66	–64.36	–55.79
132 Month (%)	12.69	–2.41	–14.22	–48.10	–44.22
144 Month (%)	32.01	17.37	–2.42	–28.86	–37.18
156 Month (%)	–16.20	–27.99	–42.54	–58.42	–58.28
168 Month (%)	19.30	5.44	–13.01	–33.22	–39.37
180 Month (%)	44.01	30.12	17.25	–18.13	–29.43

Note:

1. Price Index data for FTSE Bursa Malaysia EMAS, FTSE Bursa Malaysia Mid 70, FTSE Bursa Malaysia Small Cap and FTSE Bursa Malaysia Fledgling indices is officially available in Datastream on 1 January 1996.
2. FTSE Bursa Malaysia KLCI comprises the 30 largest firms in the FTSE Bursa Malaysia EMAS Index by full market capitalization.
3. FTSE Bursa Malaysia EMAS comprises the constituent of the FTSE Bursa Malaysia Top 100 Index (constitute of FTSE Bursa Malaysia Mid 70 Index and FTSE Bursa Malaysia KLCI) and FTSE Bursa Malaysia Small Cap Index.
4. FTSE Bursa Malaysia Mid 70 Index comprises 70 medium size firms in the FTSE Bursa Malaysia EMAS Index by full market capitalization.
5. FTSE Bursa Malaysia Small Cap Index comprises those eligible firms within the top 98% of the Bursa Malaysia Main Market excluding constituents of the FTSE Bursa Malaysia KLCI and FTSE Bursa Malaysia Mid 70 Index.
6. FTSE Bursa Malaysia Fledgling Index comprises of the Main Market firms that meet stated eligibility requirements but not in the top 98% by full market capitalization and are not constituents of the FTSE Bursa Malaysia EMAS Index.

(Source: Number of constituents, market capitalizations (in Ringgit Malaysia) and the features of FTSE Bursa Malaysia Index Series are obtained from the website of Bursa Malaysia, as at 28/03/2011)

Index Performance of the FTSE Bursa Malaysia Index Series

We have already noted an indication that Malaysian large firms outperformed small firms; we now examine this in more detail. FTSE Asia Research (June, 2009) reports that Malaysian small capitalisation firms consistently underperformed compared to large capitalisation firms over a 12-year period (1997–2008). To confirm this, we analyse the index performance of the FTSE Bursa Malaysia Index Series over a 15-year period (1996–2011) before we investigate whether the size effect subsumes the spin-off effect. The historical index performance of the FTSE Bursa Malaysia Index Series is shown in Table 6 and Figure 1. Because the price index data for all Index Series (excluding the FTSE Bursa Malaysia Kuala Lumpur Composite Index (KLCI)) is officially available in Datastream on 1 January 1996, our analysis begins on that date.

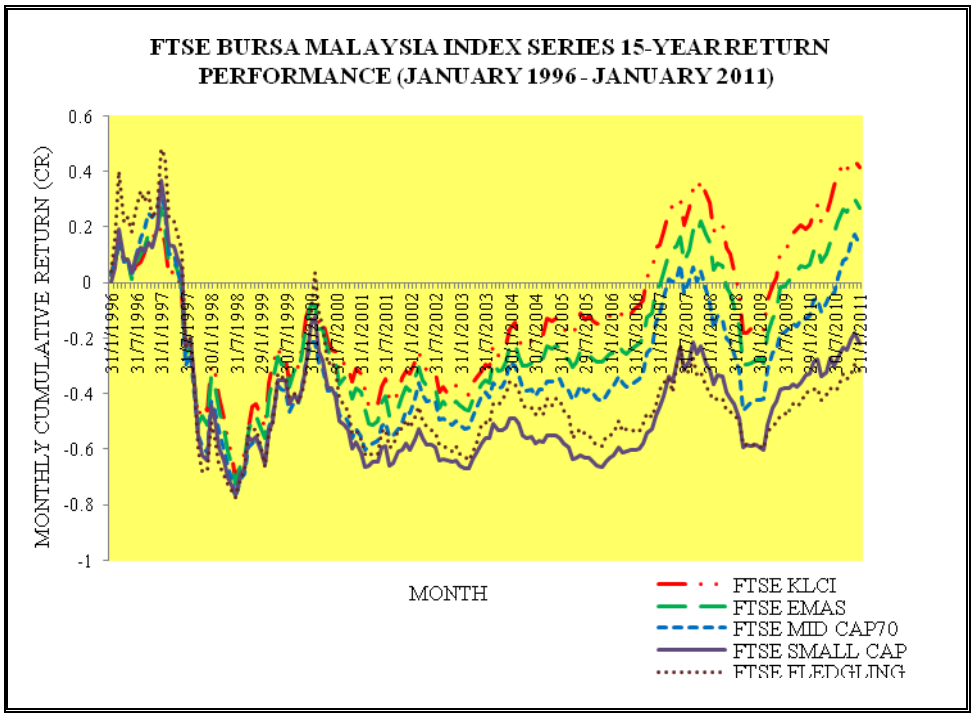

Figure 1. Long-run return performances of FTSE Bursa Malaysia Index Series

We find that the FTSE Bursa Malaysia KLCI, a large cap index, has outperformed other indices over a long-run period. Over the 15-year period, the FTSE Bursa Malaysia KLCI generates substantial positive cumulative returns, up to +44.01%. Over the same period, the FTSE Bursa Malaysia Fledgling Index records the worst share returns performance of –29.43%; followed by the

FTSE Bursa Malaysia Small Cap Index with negative cumulative returns of -18.13%.

From Figure 1, we notice that both the FTSE Bursa Malaysia Fledgling and Small Cap indices outperformed the FTSE Bursa Malaysia KLCI during the bull periods of 1996 (before the 1997 financial crisis) and 2000. Nevertheless, we observe that the trend is reversed during the bear periods, from 2001 to 2006. The large capitalisation firms continue to demonstrate superior performance in the subsequent years. It is important to note that our test period of one to three years post spin-off performance coincides with several periods of Malaysia bear market. Two-thirds of the spin-off events occurred during the period from 1999 to 2006, after the 1997–1998 massive decrease in Malaysia share prices, disproportionately affecting small capitalisation firms more than large capitalisation firms. Our findings thus support the results reported by Ya'cob (2006). Using all firms listed on the Bursa Malaysia during the period from 1994 to 2003, she observes that a reversed size effect is seen during the bear months and that a small firm effect tends to occur during the bull months.

To show the size composition of our sample firms, we present the percentage of spin-off firms based on the size-ranked deciles portfolios (as in Table 7) with the largest market capitalisation portfolio in deciles 1 and the smallest market capitalisation in deciles 10.

Table 7

Percentage of spin-off firms undertaking spin-offs decision based on the size-ranked deciles

Size Deciles		% of Parent Firms	% of Spun-off Firms
1	(largest market capitalization)	31.43%	17.14%
2		40.00%	8.57%
3		11.43%	17.14%
4		8.57%	5.71%
5		2.86%	11.43%
6		2.86%	5.71%
7		2.86%	11.43%
8		0%	5.71%
9		0%	14.29%
10	(smallest market capitalization)	0%	2.86%

Note: Size deciles are created using the market capitalizations on the completion month of spin-offs.

Clearly the percentage of spin-off firms is distributed fairly evenly across the deciles. On the other hand, approximately 70% of the total number of parent

firms is categorised in the largest market capitalisation quintile; therefore, we need to test whether the performance of spin-off firms is a manifestation of a size effect.

Size Adjustment

To ascertain whether there is a spin-off effect independent of a size effect, a full size-adjustment analysis is conducted. Following Arnold and Baker (2007), we create "size-adjusted portfolios". To generate these portfolios, we first take the completion month of a spin-off and on that date allocate all the shares in the Malaysia market into deciles on the basis of market capitalisation. Size decile 1 consists of the largest market capitalisation firms, whilst size decile 10 includes firms with the smallest market capitalisation, which allows us to observe the returns for the size decile appropriate for the sample firm. We then have data for the returns (for each of our 36 spin-off firms) over the 36 months after the spin-off completion as a result of belonging to a size decile. If these returns are subtracted from the actual returns for the sample firm, we have the size-adjusted returns and then can comment on whether the size effect subsumes the spin-off effect. We conducted a similar analysis for the few days around the spin-off announcement by forming a size decile for each sample parent firm at the date of announcement and observing the average returns for size decile to which the sample firm belongs.

Table 8 displays the daily size-adjusted abnormal returns for the full sample of parents, focus-increasing parents and non-focus-increasing parents in the 41 trading days (day –20 through day +20) surrounding the announcement date. Table 9 demonstrates the percentage monthly size-adjusted abnormal returns for the full sample of parents, spin-offs and combined firms, including their focus-increasing and non-focus-increasing sub-samples in the three-year holding period after the completion month of the spin-offs.

Table 8
Size adjusted announcement period: share returns performance for the full sample of parent firms, focus-increasing parent firms and non focus-increasing parent firms.

Interval (day)	Size–Adjusted Abnormal Return For Full Sample (CARs Approach)		Size–Adjusted Abnormal Return For Focus–Increasing (CARs Approach)		Size–Adjusted Abnormal Return For Non–Focus Increasing (CARs Approach)	
	SAARs	T–STAT	SAARs	T–STAT	SAARs	T–STAT
–20 to +20	8.40%	1.30	7.23%	1.47[c]	9.71%	0.91[c]
–20 to 0	4.32%	0.78	3.44%	0.89[c]	5.31%	0.55[c]
–15 to 0	5.18%	0.95	4.90%	1.39[a]	5.49%	0.58[a]
–10 to +10	8.55%	1.41	8.54%	2.21*[b]	8.55%	0.82[b]
–5 to +5	6.70%	2.15**	6.91%	2.22**	6.46%	1.52
–3 to +3	5.96%	2.14**	5.47%	1.78	6.50%	1.96*
–2 to +1	5.16%	2.10**	5.03%	1.96*	5.31%	1.68
–1 to 0	2.35%	1.10	3.26%	2.48**	1.34%	0.44
–1 to +1	4.81%	2.13**	5.47%	4.27***	4.07%	1.21
0	2.25%	2.23**	2.29%	2.97***	2.20%	1.32
0 to +1	4.70%	22.57***	4.50%	63.15***	4.93%	9.46***
0 to +3	6.70%	3.50***	5.61%	2.55**	7.92%	3.89***
0 to +5	6.45%	2.45**	5.67%	2.16**	7.33%	2.35**
0 to +7	5.93%	1.67	5.98%	2.04*	5.87%	1.24
0 to +10	5.49%	1.44	5.78%	1.81*	5.17%	0.97
0 to +15	5.88%	1.48	6.07%	1.73	5.67%	1.05
0 to +20	6.33%	1.57	6.08%	1.61	6.61%	1.22
+1 to +3	3.42%	1.72*	3.04%	1.50	3.83%	1.70
+1 to +5	4.21%	1.86*	3.39%	1.60	5.12%	1.74
+1 to +7	3.68%	1.17	3.69%	1.56	3.67%	0.82
+1 to +10	3.25%	0.98	3.50%	1.37	2.96%	0.59
+1 to +15	3.63%	1.06	3.78%	1.32	3.46%	0.69
+1 to +20	4.08%	1.17	3.79%	1.20	4.40%	0.87

Note: 0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) level, respectively using a two-tailed test.
Using non parametric Mann-Whitney Rank Test, a, b, and c represent the significant difference in abnormal returns between the sample of focus-increasing and non focus-increasing at the 10%, 5% and 1%, respectively.

Table 9
Size adjusted long-run performance: share returns performance for the full sample of parents, spun-offs and combined firms including their focus-increasing and non focus-increasing sub-samples.

Panel A: Parent firms

Interval (month)	Size Adjusted Abnormal Returns For Full Sample (BHARs Approach)		Size Adjusted Abnormal Returns For Focus–Increasing (BHARs Approach)		Size Adjusted Abnormal Returns For Non–Focus Increasing (BHARs Approach)	
	SAARs	T–STAT	SAARs	T–STAT	SAARs	T–STAT
EX + 1 TO EX + 12	–1.01%	–0.11	0.61%	0.04[a]	–2.82%	–0.47[a]
EX + 1 TO EX + 24	–4.19%	–0.63	–8.96%	–0.92	1.13%	0.12
EX + 1 TO EX + 36	–8.09%	–0.87	–18.88%	–2.42**	3.97%	0.23
EX + 13 TO EX + 24	3.15%	0.55	5.49%	0.68	0.53%	0.07
EX + 25 TO EX + 36	–0.68%	–0.09	–5.06%	–0.47	4.22%	0.35

Panel B: Spun-off firms

Interval (month)	Size Adjusted Abnormal Returns For Full Sample (BHARs Approach)		Size Adjusted Abnormal Returns For Focus–Increasing (BHARs Approach)		Size Adjusted Abnormal Returns For Non Focus–Increasing (BHARs Approach)	
	SAARs	T–STAT	SAARs	T–STAT	SAARs	T–STAT
EX + 1 TO EX + 12	2.24%	0.25	18.05%	1.16[a]	–15.42%	–2.93***[a]
EX + 1 TO EX + 24	8.90%	0.86	17.65%	0.98	–0.88%	–0.10
EX + 1 TO EX + 36	5.58%	0.48	–1.36%	–0.08	13.34%	0.80
EX + 13 TO EX + 24	11.06%	1.68	7.85%	0.92	14.66%	1.45
EX + 25 TO EX + 36	4.70%	0.61	–0.25%	–0.03	10.23%	0.83

Panel C: Combined firms

Interval (month)	Size Adjusted Abnormal Returns For Full Sample (BHARs Approach)		Size Adjusted Abnormal Returns For Focus–Increasing (BHARs Approach)		Size Adjusted Abnormal Returns For Non Focus–Increasing (BHARs Approach)	
	SAARs	T–STAT	SAARs	T–STAT	SAARs	T–STAT
EX + 1 TO EX + 12	–4.35%	–0.57	–1.63%	–0.12	–7.38%	–1.61
EX + 1 TO EX + 24	–6.22%	–1.02	–10.55%	–1.12	–1.39%	–0.19
EX + 1 TO EX + 36	–9.24%	–1.01	–19.64%	–2.15**	2.38%	0.15
EX + 13 TO EX + 24	3.33%	0.62	3.44%	0.46	3.20%	0.41
EX + 25 TO EX + 36	–1.81%	–0.26	–4.50%	–0.50	1.20%	0.11

Note: EX denotes the listing month of the spun-off firms. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***).
Using non parametric Mann-Whitney Rank Test, a, b, and c represent the significant difference in abnormal returns between the sample of focus-increasing and non focus-increasing at the 10%, 5% and 1%, respectively.
Panel A indicates the size-adjusted abnormal returns (SAARs) for full sample of parent firms, focus-increasing parents and non focus-increasing parents adjusted for the size-control portfolio returns.
Panel B presents the size-adjusted abnormal returns (SAARs) for full sample of spun-off firms, focus-increasing spun-offs and non focus-increasing spun-offs adjusted for the size-control portfolio returns.
Panel C shows the results of size-adjusted abnormal returns (SAARs) for full sample of combined firms, focus-increasing combined firms and non focus-increasing combined firms adjusted for the size-control portfolio returns.

After adjusting for size, our results confirm the presence of a spin-off effect for parent firms during the few days surrounding the announcement date. The size-adjusted abnormal returns (SAARs) in the three-day event window (day –1 through day +1) and in the five-day event window (day +1 through day +5) are recorded at +5.00% and +4.36%, respectively, indicating that the short-run outperformance of parent firms persists after the size-adjustment analysis. Interestingly, the size adjustment increases the strength of evidence in favour of a pricing inefficiency. In the five days after the announcement, there is a jump in returns, indicating some post-announcement drift. However, the results are significant only at the 10% level.

In contrast to the results obtained using market adjusted buy-and-hold abnormal returns as shown earlier, we observe that there are no significant spin-off effects for parents, spin-offs and combined firms over the three-year holding period after eliminating the influence of size; thus, any spin-off effect is subsumed by the size effect.

When we split the 36 spin-off firms into two groups, focus-increasing and non-focus-increasing, we observe that focus-increasing parent firms continue to underperform compared to their counterparts in the non-focus-increasing group over the short-run period surrounding the spin-off announcement day. After the comprehensive size adjustment, focus-increasing parent firms significantly underperformed compared to non-focus-increasing parent firms, on average, +7.23% compared with +9.72% in the 41 trading days (from day –20 through day +20). The difference in abnormal returns between the two sub-samples is statistically significant at the 1% level.

However, we fail to find abnormal performance for parents, spin-offs and combined firms in the focus-increasing sub-sample over the three-year holding periods after allowing for size.

SUMMARY AND CONCLUSION

This study provides several new findings about Malaysian corporate spin-offs. First, although investors react positively to spin-offs, we find focus-increasing parent firms significantly underperformed compared to their counterparts in the non-focus-increasing sub-sample during the few days surrounding the announcement date. Evidence shows that focus-increasing parent firms continue to demonstrate short-run underperformance even after eliminating the influence of size. This result implies that the Malaysian stock market treats the spin-off announcement of the two sub-samples differently. Perhaps investors in Malaysia might perceive parent firms' decision to concentrate on core businesses through

spin-offs as unfavourable news because the spin-off announcement might not be coupled with viable future strategies. Another possible reason could be that focus-increasing parent firms fail to convey information that the action is motivated to improve operating efficiency and not merely to signal the stand-alone value of a business entity. Whatever the cause of the negative perceptions, our findings provide evidence against the corporate focus hypothesis.

Second, in the long-run, three-year analysis, after allowing for size, we fail to find abnormal performance for focus-increasing parents, spin-offs and combined firms. We can plausibly argue that focus-increasing spin-off firms are not acting in the best interests of their shareholders in the long-run. Overall, our findings thus support the results documented by Yoon and Ariff (2007). Using a multiple regression approach, they find that the variable of corporate focus fails to demonstrate a significant result, thus indicating that increased corporate focus is not a differentiating factor in the subsequent performance of spin-off parent firms.

Third, by looking at the performance of shares for the full sample of spin-off firms, we find spin-offs create (perhaps illusory) value in the short-run period, but we do not find evidence of long-run market outperformance after allowing for size. An interesting question arises from this work: "What do the findings say about the efficiency of the stock market in pricing the shares?"

We observe that there is the possibility of a reasonably consistent delay in the positive reaction by the investors in few days after the spin-off announcement, which is exploitable. Stoll and Whaley (1983), however, claim that on the basis of currently available information, a market is inefficient only if it is possible for an investor to earn abnormal returns (adjusted to market) net of all transaction costs. To avoid mistakenly concluding that the Malaysian market is inefficient and underestimating the transaction costs associated with the share purchases of parent firms, we now consider the average trading costs in the order-driven Malaysia share market.

Trading of shares on the Bursa Malaysia involves the following costs: brokerage fees, clearing fees and stamp duty[8]. Accounting for these costs in our calculation, we find an average roundtrip transaction cost in buying and selling shares on Bursa Malaysia is approximately about +0.7% of the contract value[9]. Madun (2008) reports that a typical transaction cost in Malaysia share market is on average nearly +1% of the contract value and fairly comparable to the Singapore share market (around +1%) and the Hong Kong share market (around +0.6%). Taking the highest estimated cost of 1%, it appears that an investor can possibly earn abnormal return net of transaction cost of +4.68% (5.68%–1.00%) by concentrating his investment on non-focus-increasing parent firms during the

20-day event window (day +1 through day +20) after the spin-off announcement date.

Therefore, we can plausibly argue that there are abnormal return opportunities that can be exploited by investors and hence provide some evidence against the efficient stock market hypothesis.

A suggestion for future research is to investigate the performance of focus-increasing firms using the accounting measure of operating performance (e.g., profitability measure). Considering the scarcity of research in this area in Asia, a similar attempt should be made to discover whether spin-offs create value in other capital markets such as Korea and China in an effort to provide an integral framework for comparative study.

ACKNOWLEDGEMENTS

The authors would like to thank Professor Rose Baker and Professor Annuar Md. Nassir for their valuable comments and suggestions. This paper has been presented at the British Accounting and Finance Association in Manchester, United Kingdom, on 6 September 2011.

NOTES

1. Both benchmarks cover firms of all sizes (based on the market capitalisation).
2. Each benchmark comprises different cohorts of firms based on market capitalisation. The FTSE Bursa Malaysia KLCI Index consists of the 30 largest firms in the market, whilst the FTSE Bursa Malaysia EMAS Index constitutes the top 100 largest firms and 261 small capitalisation firms (as of 16th February 2011).
3. See Cusatis et al. (1993, p. 295).
4. To conduct the analysis, the Malaysian Standard Industrial Classification (MSIC) three-digit group of sample firm is first observed. A spin-off is considered to be focus-increasing when the three-digit MSIC of the subsidiary is different from the three-digit MSIC of the parent. This allows us to identify 19 focus-increasing parents and 17 non-focus-increasing parents. A similar analysis is conducted for the spin-offs and combined entities.
5. As a robustness check, we compute the statistical significance level using the standard deviation (employed in the t-statistics' calculation) based on the pre-event estimation period. The pre-event estimation period is estimated from day –220 to day –21. The results show significant improvements in the significance level for all event windows. However, we do not report them in the present paper.

6. See, for example, Barber & Lyon (1997), Fama (1998) and Lyon et al. (1999).
7. To double-check the results presented by the BHAR Model, we analyse the long-run share returns performance using the CAR Model. By adjusting the share returns of spin-off firms to the market benchmarks of the MAS-EWI and MAS-VWI, we find that the CAR Model produces results consistent with the BHAR; therefore we do not report them in this paper.
8. Estimates of brokerage fees, clearing fees and stamp duty are taken from the Bursa Malaysia website (http://www.bursamalaysia.com/website/bm/tradings/equities/transaction_cost.html). It should be noted the brokerage fees could change depending on the order size. For example, the minimum brokerage fees are +0.3% of contract value (retail trades valued above RM100, 000), +0.6% of contract value (retail trades below RM100, 000) and up to a maximum of +0.7% of the contract value. For simplicity, we apply the +0.3% of contract value in our calculation. We also take account of the +0.001% stamp duty and +0.03% clearing fee.
9. We calculate the roundtrip transaction cost as follows:
   Roundtrip transaction cost = (2*brokerage fees) + (2*stamp duty) + (2*clearing fees)
   = (2 * 0.3%) + (2 * 0.001%) + (2 * 0.03%)
   = +0.662%

REFERENCES

Abu Bakar, F. (2001). Corporate governance in financial troubled companies. In *Seminar on Corporate Governance: Issue and Challenges* (pp. 1–35). Sintok, Kedah: Universiti Utara Malaysia Press.

Arnold, G. & Baker, R. D. (2007). *Return reversal in UK shares*. Retrieved 28 March, 2011, from Social Science Research Network.

Barber, B. M. & Lyon, J. D. (1997). Detecting long-run abnormal stock return: The empirical power and specification of test statistics. *Journal of Financial Economics*, *43*(3), 341–372.

Bhagat, S., Shleifer, A., & Vishny, R. (1990). Hostile takeovers in the 1980s: The return to corporate specialization. *Brooking Papers on Economic Activity Microeconomics*, 1990, 1–84.

Brown, S. & Warner, J. (1980). Measuring security price performance. *Journal of Financial Economics*, *8*, 205–258.

Brown, S.J. & Warner, J.B. (1985). Using daily stock returns: the case of event studies. *Journal of Financial Economics*, *14*, 3–31.

Che Ahmad, A., Ishak, Z., & Abdul Manaf, N. A. (2003). Corporate governance, ownership structure and corporate diversification: Evidence from the Malaysian listed companies. *Asian Academy of Management Journal*, *8*(2), 67–89.

Choo, K. Y. (1999, 12 July). Unlocking corporate excellence. *The Edge*, p. 24.

Cusatis, P. J., Miles, J. A., & Woolridge, J. R. (1993). Restructuring through spin-offs: The stock market evidence. *Journal of Financial Economics*, *33*(3), 293–311.

Comment, R., & Jarell, G. A. (1995). Corporate focus and stock return. *Journal of Financial Economics*, *37*, 67–87.

Daley, L., Mehrotra, V., & Sivakumar, R. (1997). Corporate focus and value creation: Evidence from spinoffs. *Journal of Financial Economics*, *45*, 257–281.

Desai, H. & Jain, P. C. (1999). Firm performance and focus: Long run stock market performance following spin-offs. *Journal of Financial Economics, 54*, 75–101.

Denis, D. J., Denis, D. K., & Sarin, A. (1997) Agency problems, equity ownership and corporate diversification. *The Journal of Finance, 52*(1), 135–160.

Fama, E. F. (1998). Market efficiency, long-term returns, and behavioural finance. *Journal of Financial Economics*, *49*, 283–306.

FTSE Asia Research (2009). *Report of the enhancement of the Kuala Lumpur Composite Index (KLCI)*. Retrieved 3 March 2011, from http://www.ftse.com/Research and Publications/Downloads/FTSE Asia Monthly Performance Report-June2009.pdf.

Haynes, M., Thompson, S., & Wright, M. (2000). The determinants of corporate divestment in the UK. *International Journal of Industrial Organization*, *18*(8), 1201–1222.

Hite, G. K., & Owers, J. E. (1983). Security price reaction around corporate spin-off announcements. *Journal of Financial Economics, 12*, 409–436.

Kirchmaier, T. (2003). The performance effects of European demergers. *Center for Economic Performance Discussion* (pp. 1–37). Retrieved 23 December 2010, from Social Science Research Network.

Krishnaswami, S., & Subramaniam, V. (1999). Information asymmetry, valuation, and the corporate spin-off decision. *Journal of Financial Economies, 53*, 73–112.

Liebeskind, J., & Opler, T. C. (1993). *The causes of corporate refocusing*. Working Paper, Southern University Dallas, Texas, USA.

Loughran, T. & Ritter, J. R. (2000). Uniformly least powerful tests of market efficiency. *Journal of Financial Economics*, *55*, 361–389.

Lyon, J. D., Barber, B. M. & Chih, L. T. (1999). Improved methods for tests of long-run abnormal stock returns. *Journal of Finance*, *54*(1), 165–201.

Markides, C. C. (1992). Consequences of corporate refocusing: Ex ante evidence. *Academy of Management Journal*, 35, 398–412.

Miles, J., A. & Rosenfeld, J. D. (1983). The effect of voluntary spin-off announcements on shareholder wealth. *The Journal of Finance, 38*(5), 1597–1606.

Murray, L. (2008), Spin-offs in an environment of bank debt. *Journal of Business Finance and Accounting, 35*(3&4), 406–433.

Putih, Z. A. (2005). Malaysia's experience with corporate restructuring. In Pomerleano, M., & Shaw, W. (Eds.), *Corporate restructuring: Lesson from experience* (pp. 209–221). Washington D.C.: World Bank Publication.

Ritter, J. (1991). The long-run performance of initial public offerings. *Journal of Finance, 46*, 3–28.

Rosenfeld, J. D. (1984). Additional evidence on the relation between divestiture announcement and shareholder wealth. *Journal of Finance*, *39*, 1437–1447.

Schipper, K., & Smith, A. (1983). Effects of re-contracting on shareholder wealth: The case of voluntary spin-offs. *Journal of Financial Economics, 12*(4), 437–467.

Stoll, H. R., & Whaley, R.E. (1983). Transaction costs and the small firm effect. *Journal of Financial Economics, 12*, 57–79.

Veld, C., & Veld-Merkoulova, Y. V. (2004). Do divestiture create value? The case for European spin-off. *Journal of Banking and Finance*, *28*(5), 1111–1135.

Ya'cob, N. (2006). *The evidence of size effect during bull and bear markets.* Unpublished Master Dissertation, Universiti Putra Malaysia, Malaysia.

Yoon, C. S., & Ariff, M. (2007). Corporate spin-offs, their price reactions and determinants in Malaysia. *International Journal of Banking and Finance, 5*, 83–112.