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Spin-Off and Value Creation: The Case of Malaysia

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

This paper investigates the short- and long-run share return performance of Malaysian spin-off firms. Using daily and monthly data, it examines the performance of spin-off firms against the benchmarks of Malaysian indices and matched-firm portfolios. The results show that parent firms significantly outperformed the market during the few days surrounding the announcement date even after adjustment for size. In the long-run analysis over three years, however, we do not find abnormal performance for parents, spun-offs and combined entities. We also find evidence that the notable positive share returns for parent firms over the short-run period are related to political linkage rather than corporate focus or the size effect. Overall, this research allows us to plausibly argue that the market anticipates both increased value for parent shareholders and exploitable stock market inefficiency in the short-run period but not in the long-run period.

Field of Research: Corporate Finance

Keyword: spin-offs, share return performance, market efficiency, size effect, political linkage

JEL Classification: G14

1. Introduction

There is a debate in the academic community concerning whether spin-offs create wealth for shareholders in both the short-run and long-run periods. Earlier studies (e.g Hite and Owers, 1983; Schipper and Smith, 1983; Miles and Rosenfeld, 1983; Rosenfeld, 1984; Cusatis *et al.* 1993; Desai and Jain, 1999; Krishnaswami and Subramaniam, 1999; McConnell *et al.* 2001; Dasilas et al. 2010; and Chemmanur *et al.* 2010) other countries suggest that spin-offs generate positive abnormal returns during the few days surrounding the announcement. However, the evidence on the long-run share returns performance of firms is more mixed. A central concern is whether the conclusions drawn by previous empirical studies into spin-offs hold in the Malaysian share market. [i]

This study examines a sample of 36 spin-offs completed between January 1980 and April 2008. In a previous study which examined 85 Malaysian firms, Yoon and Ariff (2006) found a significant positive cumulative average abnormal return (CAAR) of +1.80% in a two-day (day -1 to day 0) event window surrounding the announcement date during the period 1986 to 2003. The authors did not study long-run share return performance and the influence of the size effect. Also, the issues of politically linked and corporate focus were not examined. Therefore, the present work represents the most comprehensive study of corporate spin-offs in the Malaysian capital market.

[1] Nadisah Zakaria, Department of Finance, College of Business and Administration – College for Women, Prince Sultan University, Riyadh 11546, Kingdom of Saudi Arabia
Email: NZakaria@psu.edu.sa or nadisahzakaria@yahoo.com
[2] Glen Christopher Arnold, A world-reowned researcher and writer on investment book, Leichestershire, England, UK

Malaysia presents an interesting case study. The performance of Malaysian firms has received much attention in recent years since the failure of numerous firms during and after the 1997 financial crisis (Fatimah, 2001). One key element is to separate the spin-off effect from the small firm effect. Indication of size effects was observed when *FTSE Asia Research* (June 2009) reported that Malaysian small capitalisation firms consistently *underperformed* large capitalisation firms over a 12-year period (1997-2008). Drew and Veeraraghanan (2002) found evidence of the small firm effect (small firms outperforming large firms) phenomenon in the Malaysian share market between 1992 and 1996. But, using all firms listed on the Bursa Malaysia during the period from 1994 to 2003, Nathrah (2006) observed that a reverse size effect (large firms outperforming small firms) is seen during bear months; and a positive small firm effect (small firms outperforming large firms) during bull months. Our paper shows that two-thirds of the spin-off events occurred during the period 1999 to 2006, following the massive fall in Malaysian share prices of 1997-98. It therefore seems reasonable to contend that it is important to separate the size effect from the spin-off effect.

Within the sample, some of the actions were spin-offs by politically linked entities. Politically linked firms are defined as business entities (run by Malay, Chinese, Indian and other business people) that have strong informal ties with leading politicians (Gomez and Jomo, 1997; and Johnson and Mitton, 2003). The government has openly supported certain firms with Bumiputra (ethnic Malay) status (Johnson and Mitton, 2003), but there are other firms with strong political connections or patronage.

Politically linked firms as a group encompass government-linked entities as a subset. These differ from other politically linked firms by virtue of the fact that they are officially owned by Bumiputra (Gomez and Jomo, 1997; and Johnson and Mitton, 2003). By definition, government-linked firms are entities that ostensibly have a primary commercial objective, and in that the Malaysian government has a controlling stake (Putrajaya Committee on GLCs High Performance, 2005).

Malaysia presents an appealing case study because of its relationship-based capitalism[ii] (Fraser, Hao and Chek, 2006) and the unique characteristics possessed by the Malaysian politically linked firms (Afzan and Rashidah, 2011). Unlike in other countries, the Malaysian government rarely shies away from playing a controlling role in the country's social and economic development. A number of politically linked firms, controlled by the government and key political leaders, were established as an integral part of the country's economic engine. The high degree of autonomy that the key government politicians have within the country allows them to selectively distribute government-created contract awards (Gomez, 2002).

The Putrajaya Committee on GLCs High Performance (2005) reports that the government-linked entities historically *underperformed* the broader Malaysian market in terms of operations and financial indicators over the 15 years from 1990 to 2004. Johnson and Mitton (2003) report a loss of Ringgit Malaysia (RM) 60 billion in market value for 67 politically connected firms in the early period of the Asian financial crisis, from July 1997 to August 1998. Quite a number of politically linked firms, which were 'too-big-to-fail', posted huge losses and had to be bailed out by the Malaysian government (Johnson and Mitton, 2003; and Fraser *et al*. 2006). Reports in the local and international financial press claim that both situations occurred because they were highly geared and invested in many projects that were not related to their core business (nor within their expertise). In light of these facts, this research can usefully inform this debate by examining the returns to politically linked entities engaged in spinning off units of their businesses.

In the booming economy (prior to the 1997 crisis) a number of Malaysian businesses expanded and diversified extensively (Fatimah, 2001; Ayoib, Ishak and Abd Manaf, 2003; and Zainal Abidin, 2005). A study by Claessens, Djankoc, Fan and Lang (2001) discovered that 70% of the Malaysian firms were multi-segmented (implying that they were involved in several industries) in the period 1990-1996 before the 1997 Asian financial crisis. Using 1995 data, Ayoib *et al*. (2003) found that 53% of the Malaysian firms in their sample were multi-segmented firms. Despite diversification having some economic and strategic value (Choo, 1999), over time these firms may have expanded beyond their means and capability. A number ventured into areas unrelated to their core business in which they had little or no expertise or experience (Choo, 1999; and Zainal Abidin, 2005). Fatimah (2001) pointed to diversification into unrelated areas in which firms had no expertise as one of the causes of the 1997 financial crisis.

Excessive leverage, lack of management expertise and ambitious involvement in unrelated businesses coupled with deteriorating market conditions (1997 crisis) led to the failure of many such businesses prompting them to engage in divestment (Zainal Abidin, 2005). Desai and Jain (1999) suggested that the most two common methods of refocusing were asset sell-offs and corporate spin-offs.

Through a case-by-case review from financial press announcements and other documents (for example firms' annual reports), this research has discovered that the spin-off event in Malaysia is claimed by most managers to be motivated by operating efficiency gains through increased corporate focus. Perhaps these managers spin-off their unrelated activities to concentrate on their core businesses (or focus-increasing) and eliminate negative synergies between the divested assets (spun-offs) and the remaining assets (parents). Thus, another essential question is whether the act of spinning-off units outside the core business creates wealth for shareholders.

Our study finds that:

1. the overall results confirm the presence of a spin-off effect for parent firms over the short-run period;
2. there is no significant abnormal performance for parents, spun-offs and combined firms in the long-run period; and
3. political linkage variable is more prevalent and more influential over the abnormal performance of spin-off firms in the short-run period.

The remainder of the paper is organised as follows. Section 2 describes a brief literature concerning share return performance of spin-off firms. Section 3 explains the sample selection and data. Section 4 outlines the methodologies used in the present study. Section 5 presents the results of this work. Section 6 concludes the paper.

2. Literature Review

The spin-off effect has been widely studied internationally. The US studies (e.g. Hite and Owers, 1983; Schipper and Smith, 1983; Miles and Rosenfeld, 1983; Rosenfeld, 1984; Cusatis, Miles and Woolridge, 1993; Desai and Jain, 1999; Krishnaswami and Subramaniam, 1999; McConnell, Ozbilgin and Wahal, 2001; Dasilas, Laventis, Sismanidou and Koulikidou, 2010; and Chemmanur, Jordan, Liu and Wu, 2010) generally show that investors who buy and then sell shares in the few days surrounding the spin-off announcement (short-run

period) and those who hold them for three-year period following the completion date of spin-offs (long-run period) gain superior positive returns.

In Europe, the evidence is more mixed with three-year holding period studies. For example, Kirchmaier, 2003; Veld and Veld-Merkoulova, 2004; Boreiko and Murgia, 2007; and Murray, 2008 provide no evidence that spin-offs create value. Evidence for short-run value creation, however, is similar in spirit to that reported using the US data.

Although limited empirical research has been conducted outside the US and Europe, the extant studies (e.g. Koh, Koh and Koh, 2005; Yoon and Ariff, 2006; and Uddin, 2010) demonstrate evidence consistent with the earlier works in these markets over the short-run period. However, the long-run period of, say, three years, has not been explored.

Given these facts, the question of whether an investor could develop a trading rule that would 'beat the market' to exploit the abnormal return opportunities with particular reference to long-run performance is subject to debate.

In spin-off studies, there are two different approaches to examining the influence of the size effect. Earlier works in the 1980s created both small firm and large firm sub-samples based upon the size of spun-off firms relative to their parents. Recent studies have divided the sample firms into small and large spin-offs by size, based upon their market capitalisation relative to other listed companies at the announcement date (parents) and the completion date of a spin-off (parents and spun-offs).

International studies (e.g. Vroom and Van Frederikslust, 1999; Veld and Veld-Merkoulova, 2009; Sudarsanam and Qian, 2006; and Yoon and Ariff, 2006) plausibly argue that part, if not all, spin-off gains are in fact associated with the proportionate size of divested subsidiaries relative to their divesting parent firms. Previous works in the US (e.g. Miles and Rosenfeld, 1983; and Hite and Owers, 1983) suggest superior abnormal performance for large parent firms relative to their counterparts in the smaller group during the few days surrounding the announcement date. In Singapore, evidence by Koh *et al*. (2005) suggests similar results; they find large parent firms produce superior returns to their peers in the smaller group in the short-run. Their paper, however, includes firms conducting corporate divestitures, with only a fraction being spin-off firms.

When sample firms are stratified by size relative to other listed shares based upon their market capitalisation at the announcement date (parents) and completion date of a spin-off (parents and spun-offs), evidence has shown somewhat interesting findings. In Europe, Kirchmaier (2003) finds small parents and spun-offs outperformed larger ones by a considerable margin in both the short-run and long-run periods.

Third, a key question for Malaysian society is whether political control of firms leads to poor performance for shareholders. Though limited in number, empirical studies reveal that most Malaysian political control firms generate lower returns to shareholders. Johnson and Mitton (2003) provide a detailed analysis of Malaysian businesses and their political connections during the 1997 Asian financial crisis. Of 424 Malaysian firms trading on Bursa Malaysia between July 1997 and August 1998, Johnson and Mitton (2003) identify 67 politically connected firms; the remaining 357 firms are not politically connected. The results show that politically connected firms have significantly worse share returns than their counterparts in the non-politically groups, on average -83% compared with -77.7% over the 13-month period from July 1997 to August 1998.

Issham et al. (2008) employ economic value added (EVA) to compare the government-linked firms and non-government linked firms in Malaysia over 1999-2002 periods. Based on the four-year pooled panel data of 37 government linked firms and 208 non-government linked firms, they find firms with government link tend to exhibit lower EVA scores than the firms without. Based on the coefficient scores, the EVA values of average government-linked entities in Malaysia are less than that of the non-government linked entities by RM -73,532.007.

Afzan and Rashidah (2011) examine the performance of 47 government-linked firms and 47 non-government linked firms over a six-year period from 2001 to 2006 using financial performance measures. Although the period of study overlaps with the early years of the GLCs Transformation Programme, their findings demonstrate that government-linked entities record lower median ROEs and ROAs. They also find that the median for asset turnover (sales to total assets) among government-linked firms is significantly lower than their peers in non-government linked firms, implying that the former group does not make as good use of their assets as the latter group.

Fourth, a crucial question in corporate spin-offs is whether the action to spin-off units outside the core business (focus-increasing) creates wealth for shareholders. 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, and Sivakumar, 1997; Desai and Jain, 1999; Krishnaswami and Subramaniam, 1999; Veld and Veld-Merkoulova, 2004; and Murray, 2008).

However, evidence on the long-run share return performance of spin-off firms is more mixed. A study in the US (e.g. Desai and Jain, 1999) shows that parents, spun-offs and combined performance of parents and spun-offs in the focus-increasing group significantly outperformed their peers in the non-focus increasing group over the three-year holding period following the completion date of a spin-off.

Nonetheless, studies in both Europe and the UK (e.g. Veld and Veld-Merkoulova, 2001; and Murray, 2008) do not demonstrate evidence consistent with the earlier work in the US over the long-run period. Given these facts, it is of interest to gather evidence to enlighten the debate on whether the long-run performance of focus-increasing entities gives a similar picture to the theoretical view of the focus-increasing hypothesis.

3. Sample Selection and Data

Both parents and spun-offs trading on the Main Market (merging of Main Board and the Second Board) and ACE (formerly known as MESDAQ) of Bursa Malaysia from 1st January 1980 to 30th April 2008 are identified. This enables the present study to analyse one to three years' post spin-off performance up to April 2011 for 36 Malaysian parent firms. Note that, a number of spin-offs are eliminated from the original sample due to following reasons: (1) parent firms spinning off their foreign subsidiaries; (2) the spin-off announcements are contaminated with other important financial news; and (3) any spin-off announcements made after April 2008 are excluded as the test period of one to three years' post spin-off performance is examined up to April 2011.

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 first receives a mention in the financial press. On the other hand, the event month

is defined as the month on which the new spun-off company is listed, and trading its shares begins on Bursa Malaysia. Daily data is used to identify abnormal returns above the market average for short-run announcement investigation, whilst monthly data is employed to measure the long-run share returns performance. Specifically, the data comprised of individual parent and spun-off companies' are closing price adjusted for dividends.

4. 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 returns performance over the long-run period. Fama (1998) in his study notes that the choice of weighting scheme depends on the hypothesis of interest to the researcher. Loughran and Ritter (2000, p. 363, note 2) state that if one is trying to measure the abnormal returns on the companies undergoing some event, then each company 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.

Veld and Veld-Merkoulova (2004) claim that they prefer equal 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. This conclusion is further reinforced because spin-offs are random events that occur intermittently from January 1980 to April 2008, making value weighting impossible.

4.1 Market Model and Cumulative Abnormal Returns (CARs) Model

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

$$\hat{A}R_{jt} = R_{jt} - \left(\hat{\alpha}_j + \hat{\beta}_j R_{mt}\right) \quad (1)$$

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 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 characteristic line, respectively; estimated for security *j* over the estimation period (e.g. 200 trading days) by running the ordinary least squares (OLS) regression. 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.

Based on the Cumulative Abnormal Returns (CARs) Model, the performance of an individual security is adjusted to the performance of a 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:

$$AR_{jt} = R_{jt} - R_{mt} \quad (2)$$

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 companies or securities using the following equation:

$$AAR_t = \frac{1}{N}\sum_{j=1}^{N} AR_{jt} \quad (3)$$

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

$$CAAR_{(t_1,t_2)} = \sum_{t=t_1}^{t_2} AAR_t \quad (4)$$

4.2 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, because its compounding approach is more accurate than that of CARs. As suggested by Barber and Lyon (1997), this research also includes matched-firms portfolios (adjusted to size and industry).

Using a matched-firms procedure, firms are matched with parents and spun-offs on the basis of market capitalisation and the Malaysia Standard Industrial Classification (MSIC) three-digit group. Specifically, this study identifies a matching firm as that with the closest market capitalisation to the sample firm in the same industry on the completion month of a spin-off. The closest matching firm is designated as the first matching firm; the second closest is designated as the second matching firm, and so on. This allows the present study to observe the returns of matched parents and spun-offs appropriate to the sample firm. The study then has data for the returns of matching firms over the 36 months following the completion date of a spin-off. These returns are then subtracted from the actual returns for the sample firm. To conduct a comprehensive analysis, a combined firm portfolio is constructed by weighting the return for each parent and spun-off by its respective market capitalisation on the completion month of a spin-off. As 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 for shares of both parents and spun-offs following the completion month of spin-off (Desai and Jain, 1999).

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

$$BHR_{jT} = \left[\prod_{t=1}^{T}\left(1+r_{jt}\right)\right]-1 \quad (5)$$

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 size and industry adjusted matched-firms are:

$$BHR_{mT} = \left[\prod_{t=1}^{T}\left(1+r_{mt}\right)\right]-1 \qquad (6)$$

r_{mt} is the corresponding monthly matching firm return in event period *t*.

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

$$BHAR_{jt} = \left[\prod_{t=1}^{T}\left(1+r_{jt}\right)-1\right]-\left[\prod_{t=1}^{T}\left(1+r_{mt}\right)-1\right] \qquad (7)$$

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

5. 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 as follows:

$$t = \frac{CAAR_{(t1,t2)}}{\sigma(AAR_t)*\sqrt{T}} \qquad (8)$$

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:

$$t = \frac{\overline{BHAR}_{(t1,t2)}}{\sigma\left(BHAR_t\right)/\sqrt{T}} \qquad (9)$$

Where, $BHAR_{(t_1,t_2)}$ 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 average buy and hold abnormal return in event period *t* and T is the total number of companies in the sample.

Lyon, Barber and Tsai (1999, p. 190) in their work state that 'a common problem in event studies that analyse long-run abnormal returns is overlapping periods of return calculation for the same firm'. Lyon *et al.* (1999) recognise that the long-run returns calculated during the event months are not independent because these returns share several months of overlapping returns. To address this issue, they present a method to adjust test-statistics for overlapping samples. Following Lyon *et al.* (1999) and Veld and Veld-Merkoulova (2004), this research makes use of this methodology as a robust test for results reported by the BHARs approach, particularly when using the matched-firms portfolios procedure. This paper

calculates test-statistics assuming a variance-covariance matrix $(\sum)$, and the estimates for the overlapping long-run returns of firms *i* and *j* as follows.

$$\sigma_{ij} = \frac{1}{\tau - a - 1} \sum_{t=s+a}^{s+\tau} \left(AR_{it} - \overline{AR_i}\right)\left(AR_{jt} - \overline{AR_j}\right) \qquad (10)$$

Where, firm *i* has an abnormal return calculated from period s to $s+\tau$, firm *j* has an abnormal return calculated from period $s+a$ to $s+\tau+a$, and $0 \leq a < \tau$. AR_{it} and AR_{jt} are the monthly abnormal returns for firms *i* and *j*, while both $\overline{AR_i}$ and $\overline{AR_j}$ are their means calculated over the $\tau - a$ overlap period. Lyon *et al.* (1999) claim that this method reduces, but does not eliminate, the misspecification in samples with overlapping long-run returns.

The non-parametric Sign Test is used to test the significance of percentage of parents, spun-offs and combined firms with positive abnormal returns in both the short-run and long-run periods. The null hypothesis for the Sign Test measures the proportion of positive abnormal returns equal to 50%. Note that this approach acts as a robust test for those reported results obtained from the parametric Test-Statistics. To produce robust results, this study also makes use of non-parametric Wilcoxon Signed Rank Test to test whether the median returns are significantly different from zero over the short-run period for the full sample of spin-off companies.

This study employs the non-parametric Mann-Whitney Rank Test to measure the significant difference in abnormal returns between the two sub-samples (e.g. small spin-offs and large spin-offs; politically linked spin-offs and non-politically linked spin-offs; and focus-increasing spin-offs and non-focus increasing spin-offs).

The present study also identifies the differentiating factors that might explain the abnormal performance of parent firms over the short-run period. The following linear regression model is used to illuminate the cumulative average abnormal return (CAAR), denoted as a dependent variable, as a function of several independent variables over the various interval periods.

$$CAAR_j = \alpha_0 + \alpha_1\, Size_j + \alpha_2\, political\ linkage_j + \alpha_3\, corporate\ focus_j + \varepsilon_j$$

Where,
α = a constant term
ε = an error

The regression coefficients for the announcement-period abnormal returns for 36 parent firms conducting spin-offs are estimated over the 28-year period from January 1980 to April 2008. To conduct this analysis, the CAAR for parent firms during the few days surrounding the announcement date are observed. The variables of corporate focus, political linkage and size are identified as differentiating factors that probably could explain the announcement-period abnormal performance for Malaysian spin-off parent firms.

Corporate focus is a dummy variable; it equals 1 if the three-digit Malaysian Standard Industrial Classification (MSIC) of a subsidiary to be spun-off is different from the three-digits of the primary MSIC of the parent firm; otherwise it equals 0.

Political linkage is a dummy variable equal to 1 if parent firms have strong informal ties with leading Malaysian politicians. This group includes firms in which the Malaysian government has a controlling stake and strong influence. The variable is equal to 0 if there no strong ties.

The present study also conducts the bivariate (Pearson) analysis to investigate whether both political linkage and corporate focus are heavily correlated, particularly when the sample firm is small.

Size is calculated as the ratio of the market capitalisation of parents to the sum of market capitalisation of all firms listed on Bursa Malaysia on the announcement date.

6. Results

6.1 Short-run Performance of Parent Firms Following the Spin-Off Announcement

Table 1 reports evidence of the announcement-period abnormal returns (adjusted to the market) on parent firms against the MAS-EWI and MAS-VWI benchmark.

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

Panel A: Announcement-period share return performance of the parent firms adjusted for MAS-EWI

Interval (day)	CARs Model						Market Model					
	CAARs	T-STAT	MEDIAN	SIG	% POS	SIG	CAARs	T-STAT	MEDIAN	SIG	% POS	SIG
-2 to +1	4.78%	1.85*	1.28%		72.22	b	4.79%	1.90*	1.37%		75.00	c
-1 to 0	2.55%	1.49	1.49%		69.44	b	2.71%	1.72*	1.64%		72.22	b
-1 to +1	4.99%	2.65**	2.55%		77.78	c	5.06%	3.00***	2.71%		83.33	c
0	2.13%	2.25**	1.36%		72.22	b	2.14%	2.27**	1.28%		72.22	b
0 to +1	4.57%	14.94***	3.35%		83.33	c	4.49%	21.59***	3.32%		75.00	c
0 to +3	5.43%	2.46**	4.74%	d	83.33	c	5.50%	2.60**	4.63%	d	77.78	c
0 to +5	5.49%	2.09**	4.98%	e	75.00	c	5.67%	2.27**	4.84%	e	75.00	c
+1 to +3	2.92%	1.33	2.78%		55.56		2.78%	1.30	2.63%		58.33	
+1 to +5	3.36%	1.51	2.92%	e	66.67	a	3.53%	1.69	2.78%	e	66.67	a

Panel B: Announcement-period share return performance of the parent firms adjusted for MAS-VWI

Interval (day)	CARs Model						Market Model					
	CAARs	T-STAT	MEDIAN	SIG	% POS	SIG	CAARs	T-STAT	MEDIAN	SIG	% POS	SIG
-2 to +1	5.31%	1.92*	1.45%		47.22		4.89%	1.92*	1.35%		77.78	c
-1 to 0	2.68%	1.43	1.54%		66.67	a	2.54%	1.54	1.49%		69.44	b
-1 to +1	5.40%	2.53**	2.68%		75.00	c	5.04%	2.68**	2.54%		80.56	c
0	2.27%	2.36**	1.62%		75.00	c	2.09%	2.25**	1.39%		75.00	c
0 to +1	5.00%	11.05***	3.64%		88.89	c	4.59%	11.38***	3.34%		77.78	c
0 to +3	6.16%	2.63**	5.20%	d	86.11	c	5.76%	2.71**	4.76%	d	80.56	c
0 to +5	6.34%	2.29**	5.53%	e	80.56	c	5.98%	2.39**	5.05%	e	77.78	c

Note:
0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) levels. The non-parametric Sign Test is used to test the significant percentage of firms with positive abnormal returns (denotes as % POS). The null hypothesis for the Sign Test is given as the proportion of positive abnormal returns equal to 50%. a, b and c indicate significance at the 10%, 5% and 1% levels. The significance of the medians is tested by means of the Wilcoxon Signed Rank Test. d, e and f indicate significance at the 10%, 5% and 1% levels. SIG denotes the significant value.

Notably, all the abnormal return metrics (CARs Model and MM), 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 MM, respectively. When the abnormal returns metrics are measured against the MAS-VWI, the results show that the CAARs for both CARs Model and MM are +5.40% and +5.04%, respectively. Both abnormal returns are positively significant at 5% level. These results are aligned with the findings reported by the non-parametric sign test. This approach is used as a robust test to analyse the significance of the percentage of parents with positive abnormal returns. It can be observed that the percentages of parent firms with positive abnormal returns over this period in both benchmarks are very strong, significant at 1% 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 the findings are slightly greater than those documented in the US (e.g. Desai and Jain, 1999), they are comparable to several European studies (e.g. Kirchmaier, 2003; Veld and Veld-Merkoulova, 2004; and Dasilas *et al*. 2010).

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

7. Size Adjustment

To show the size composition of our sample companies, we present the percentage of spin-off companies undertaking spin-offs decision based on the size-ranked decile portfolios relative to the cohort of listed companies (in Table 2) with the largest market capitalisation portfolio in deciles 1 and the smallest market capitalisation in deciles 10.

Table 2: Percentage of parents and spun-offs on the basis of size-ranked deciles

Size Deciles		Percentage of Parent Firms	Percentage of Spun-off Firms
1	(largest market capitalisation)	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 capitalisation)	0%	2.86%

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

Clearly the percentage of spun-off companies is distributed fairly evenly across the deciles. On the other hand, approximately 70% of the total number of parent companies is categorised in the largest market capitalisation quintile; hence we need to test if the performance of spin-off companies is a manifestation of a size effect.

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” by forming size deciles for each sample parent company at the date of announcement and observing the average returns for size decile that the sample company falls into. If these returns are subtracted from the actual returns for the sample company, we have the size-adjusted returns, and then can comment on whether the size effect subsumes the spin-off effect.

Table 3 displays the daily size-adjusted abnormal returns for parent firms during the period surrounding the announcement date.

Table 3: Size adjusted announcement period: share returns performance of the parent firms

Interval (day)	Size-Adjusted Abnormal Return (CARs Approach)					
	SAARs	T-STAT	MEDIAN	SIG	% POSITIVE	SIG
-2 to +1	5.16%	2.10**	1.72%		77.78	c
-1 to 0	2.35%	1.10	1.31%		69.44	b
-1 to +1	4.81%	2.13**	2.49%		83.33	c
0	2.25%	2.23**	1.79%		77.78	c
0 to +1	4.70%	22.57***	3.61%		91.67	c
0 to +3	6.70%	3.50***	5.17%	d	83.33	c
0 to +5	6.45%	2.45**	5.69%	e	77.78	c

Note:
0 denotes the announcement date of the spin-off event. Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) levels, using the two-tailed test. The non-parametric Sign Test is used to test the significance percentage of firms with positive abnormal returns. The null hypothesis for the Sign Test is given as the proportion of positive abnormal returns equal to 50%. a, b and c indicate significance at the 10%, 5% and 1% levels. The significance of medians is tested by means of the Wilcoxon Signed Rank Test. d, e and f indicate significance at the 10%, 5% and 1% levels. SIG denotes the significance value.

After adjusting for size, the 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 +4.81% and +4.21%, respectively, indicating that the short-run outperformance of parent firms persists following the size-adjustment analysis. Interestingly, the size adjustment increases the strength of evidence in favor of a pricing inefficiency. In the five days following the announcement there is a jump in returns, indicating some post-announcement drift, although the results are significant only at the 10% level. This finding is supported by the result of non-parametric Wilcoxon Signed Rank Test. Evidence shows that parent firms produce a positive and significant median return of +3.56% (at the 5% level).

At this point, our findings generally conform to the evidence put forth by Malaysian studies (See Dawson, 1981; Sadique and Siverpulle, 2001; Sharma and Wongbangpo, 2002; Natrah, 2006; Choudary, Lu and Peng, 2007; Lim, Brooks and Kim, 2007; Norli, Annuar, Taufik and Sazali, 2010), showing that the Malaysian market is not efficient. However, to avoid a false conclusion that the Malaysian share market provides pocket of inefficiency that can be exploited by investors over the short-run, we need to consider the transaction costs involved in share purchases of parent firms.

The trading of shares on Bursa Malaysia involves the following costs: brokerage fees, clearing fees and stamp duty fees[iii]. Madun (2008) reports that a typical transaction cost in the Malaysian share market is on average nearly +1% of the contract value, comparable to the share markets of Singapore (around +1%) and Hong Kong (around +0.6%). Taking the highest estimated cost of 1%, it appears that an investor could possibly earn an abnormal return net of transaction cost of +3.21% (4.21%-1.00%) by concentrating his investment on parent firms during the five-day event window (day +1 through day +5) following the spin-off announcement date. It is apparent that by opting for such action investors would 'beat the

market', and hence provide some evidence contradictory to the assertion of semi-strong efficiency.

8. Announcement Period Abnormal Returns by Sub-Sample

Table 4 presents the percentage daily abnormal returns (adjusted to the market) for different sub-samples in the three-day event window (day -1 through day +1) against the market benchmarks of MAS-EWI and MAS-VWI.

Table 4: Announcement-period abnormal returns of parent firms by sub-sample

Panel A: Cumulative average abnormal returns (-1,+1) for small parent and large parent using Market Model and CARs Model

	Market Model						CARs Model				
	Small parent CAARs			Large parent CAARs			Small parent CAARs		Large parent CAARs		
	Mean	t-stat	Sig	Mean	t-stat	Sig	Mean	t-stat	Mean	t-stat	Sig
MAS-EWI	6.45%	3.10***		3.95%	2.77**		6.50%	2.69**	4.02%	2.44**	
MAS-VWI	6.67%	3.14***		3.74%	2.20**		6.85%	2.80**	4.24%	2.24**	

Panel B: Cumulative average abnormal returns (-1,+1) for parent PLFs and parent NPLFs using Market Model and CARs Model

	Market Model						CARs Model				
	Parent PLFs CAARs		Sig	Parent NPLFs CAARs			Parent PLFs CAARs		Parent NPLFs CAARs		
	Mean	t-stat		Mean	t-stat	Sig	Mean	t-stat	Mean	t-stat	Sig
MAS-EWI	8.23%	3.75***		2.80%	1.98*		8.00%	3.08***	3.06%	1.91*	
MAS-VWI	8.03%	2.89**		2.90%	2.23**		8.17%	2.66**	3.43%	2.25**	

Panel C: Cumulative average abnormal returns (-1,+1) for focus-increasing parent and non-focus increasing parent using Market Model and CARs Model

	Market Model						CARs Model				
	Focus increasing parent CAARs			Non-focus increasing parent CAARs			Focus increasing parent CAARs		Non-focus increasing parent CAARs		
	Mean	t-stat	Sig	Mean	t-stat	Sig	Mean	t-stat	Mean	t-stat	Sig
MAS-EWI	5.44%	4.39***		4.64%	1.99*		5.81%	3.53***	4.35%	1.82*	
MAS-VWI	5.56%	4.05***		4.46%	1.79*		6.34%	3.61***	4.35%	1.69	

Note:
Above are the three-day cumulative average abnormal returns (CAARs) for sub-samples of 36 parent firms conducting spin-offs over the 28-year period from January 1980 to April 2008. The CAARs are calculated using the Market Model, estimated over a 200-day period for each firms (from day -220 through day -21) and also CARs Model. Small and large parent firms are ranked in descending order on the basis of their market capitalisation at the announcement date of spin-off; and then divided into two groups. Politically-linked parent firms (PLFs) are defined as those firms that have strong informal ties with leading Malaysian politicians, as a group encompassing firms in which the Malaysian government either directly or indirectly has a controlling stake or strong influence. PLFs are identified from the website of Putrajaya Committee on GLC High Performance

(www.pcg.gov.my) and from the studies conducted by Johnson and Mitton (2003) from Table A1 (pp.378-379) and Gomez (2002) from Table 3.2 (pp.90-97). Using the Malaysia Standard Industrial Classification (MSIC) three-digit group, a spin-off is considered to be focus-increasing when both parent and its spun-off are in dissimilar industrial classification; whilst a spin-off is said to be non-focus increasing if both parent and its spun-off are in similar industrial classifications. The significance of the means is tested using a test-statistic. The difference in means are tested using the Mann Whitney Rank Test. Asterisks indicate significance at the 10% (*), 5% (**) and 1% (***) level.

In Panel A, we present results for the small parent firms and large parent firms. Of the two models, the CARs Model reports the best performance of small parent firms relative to their larger peers. The mean abnormal returns show that the group of small parent firms significantly outperformed the group of large parent firms, on average by +6.50% to +4.02% (MAS-EWI) and +6.85% to +4.24% (MAS-VWI). However, the difference between the two sub-samples is not significantly different from zero. Our findings support the evidence put forth by Kirchmaier (2003).

In Panel B, we observe the share return performance of politically-linked parent firms (parent PLFs) and non-politically linked parent firms (parent NPLFs). Both the CARs Model and Market Model report that the parent PLFs significantly outperformed their counterparts in the NPLFs sub-samples. Using the CARs approach, we find that parent PLFs significantly outperformed parent NPLFs, showing an average of +8.00% compared with +3.06% (MAS-EWI) and +8.17% compared with +3.43% (MAS-VWI). We also find that the means are not significantly different for the two sub-samples.

Panel C presents the share return performance of focus-increasing parent firms and non-focus increasing parent firms. It can be seen that investors show favorable reactions to the refocusing decision by parent firms and thus support the corporate focus hypothesis. Note that corporate focus hypothesis claims that spinning off units unrelated to their core businesses create value for shareholders.

The evidence shows that focus-increasing parent firms significantly outperformed non-focus increasing parent firms, showing an average +5.81% compared with 4.35% (MAS-EWI) and +6.34% compared with +4.35% (MAS-VWI). Our finding is consistent with the empirical studies in the US, Europe and UK (see Daley *et al.* 1997; Desai and Jain, 1999; Krishnaswami and Subramaniam, 1999; Veld and Veld Merkoulova, 2004 and Murray, 2008).

9. Short-Run Analysis of Differentiating Factors

Table 5 presents the regression results of cumulative average abnormal returns (CAARs) for parent firms over the few days surrounding the announcement date reported by the Market Model and CARs Model. Table 5 demonstrates results for MAS-EWI and MAS-VWI, respectively. Table 6 shows the correlation coefficients between political linkage and corporate focus for the 36 parent firms.

Table 5: Regression analysis of announcement-period abnormal returns for parent firms

Regression analysis of announcement-period abnormal returns (day -1 through day +1) adjusted for MAS-EWI and MAS-VWI

Effect on CAAR or dependent variable: Using Market Model and Cumulative Abnormal Returns (CARs) Model Coefficient (t-value)				
	MAS-EWI		MAS-VWI	
	Market Model	CARs Model	Market Model	CAR Model
Interval	(-1, +1)	(-1, +1)	(-1, +1)	(-1, +1)
Differentiating factors or independent variables				
Size	-0.120 (-0.179)	-0.158 (-0.234)	-0.146 (-0.217)	-0.154 (-0.234)
Political linkage	0.055 (2.151)**	0.052 (2.029)**	0.052 (2.017)**	0.048 (1.900)
Corporate focus	0.006 (0.235)	0.010 (0.372)	0.009 (0.335)	0.018 (0.680)
Results for Regression Model				
R-Squared	0.129	0.120	0.118	0.117
Adjusted R-Square	0.047	0.037	0.035	0.035
S.E. Regression	0.075	0.076	0.075	0.074
F-Statistic	1.576	1.452	1.422	1.420
Durbin Watson	1.891	1.914	2.022	1.945

Note:
Above are the regression coefficients for the announcement period abnormal returns for 36 parent firms conducting spin-offs over the 28-year period from January 1980 to April 2008. The variable of corporate focus is a dummy variable equal to 1 if the three-digit Malaysia Standard Industrial Classification (MSIC) of a subsidiary to be spun-off is different from that of the parent firm; and 0 otherwise. Political linkage is a dummy variable equal to 1 if parent firms have strong informal ties with the leading Malaysian politicians and they as a group include firms in which the Malaysian government has a controlling stake and strong influence; and equal to 0 otherwise. The variable of size is calculated as a ratio of the market capitalisation of the parents to the sum of market capitalisation of the Malaysian listed firms at the announcement date. Asterisks indicate significance at the 5% (**) and 1% (***) levels. T-values or statistics are in parentheses.

Table 6: Pearson correlation coefficients for political linkage and corporate focus

Variable	*Corporate focus*	*Political linkage*
Corporate focus	1	
Political linkage	0.009	1

Note:
The correlations are based on the 36 parent firms conducting spin-offs over the 28-year period from January 1980 to April 2008. Corporate focus is a dummy variable when the three-digit Malaysian Standard Industrial Classification (MSIC) of a subsidiary to be spun-off is different from the three-digits of the primary MSIC of the parent. Political linkage is a dummy variable when the parent firms have strong informal ties with leading Malaysian politicians. This group includes firms in which the Malaysian government has a controlling stake and strong influence. ***, **, * indicate statistical significance at 1%, 5% and 10% levels (2-tailed test). The sig (2-tailed) for both political linkage and corporate focus is 0.957.

In Table 5, it can be observed that only the political linkage variable displays a positive and significant relationship (at 5% level) with the CAAR over the three-day event window (day -1 through day +1) when the MAS-EWI is used as a market benchmark. The result suggests that parent firms with strong political influence and control generate better abnormal returns. This finding confirms the earlier reported results from Table 4 (See Panel B), whereby politically linked parent firms significantly outperformed their counterparts in the non-politically linked group.

Also, similar evidence is reported when this study switches from equal-weighted market benchmarking to value weighting (as shown by the Market Model). The results also show that only the political linkage variable suggests a significant (at 5% level) relationship with the CAAR over the three-day event window (day -1 through day +1).

The superior performance of parent PLFs was anticipated. The strong interdependence between business and politics in Malaysia make the country unusual. We had indicated earlier that government interference in business is commonly practised. Like other informational event announcements (e.g. Initial Public Offering), we can plausibly argue that the parent PLFs initiate massive positive publicity about the decision to spin-offs than their counterparts in the parent NPLFs in an attempt to safeguard their power and reputation. Ariff, Prasad, Vozikis (2007) claim that the Malaysian government agencies initiate intense publicity to improve the chance of success of the government-linked Initial Public Offering, whereas private firms spend little on publicity. They also argue that failure to do that would have serious political costs for the ruling government.

Both Market Model and CARs Model, however report that neither size nor corporate focus shows significant results over a similar test period. Our finding is somewhat consistent with the result put forward by Yoon and Ariff (2006). Yoon and Ariff (2006) find that there is no significant relationship between the announcement-period abnormal return and corporate focus for Malaysian firms. Anecdotal evidence, which argues that spin-off events in Malaysia are claimed by most managers to be motivated by operating efficiency gains through increased corporate focus, is perhaps difficult to realise. Therefore, we can plausibly argue that political pressure is far more convincing in explaining the shareholders' gains during the three-day event window (from day -1 through day +1).

As shown in Table 6, we also find that the correlation coefficient between corporate focus and political linkage is very low (0.009) and not significant (p-value of 0.957). This indicates that both variables are not heavily correlated although the sample firm is considerably small.

10. Long-Run Performance of Parents, Spun-Offs and Combined Firms Following the Completion Month of Spin-offs

Table 7 presents the results of share performance of parents, spun-offs and combined firms over the three-year holding period following the completion of a spin-off (by adjusting test-statistics for overlapping returns).

Table 7: Long-run performance: share returns performance of the parents, spun-offs and combined firms adjusted for size and industry matched firm (adjusting the test-statistics for overlapping returns)

Panel A: Parent firms

Interval (month)	BHARs Model (Size And Industry-Adjusted Matched Firm)			
	ABHARs	T-STAT	PERCENTAGE POSITIVE	SIG
EX + 1 TO EX + 12	4.15%	0.07	47.22	
EX + 1 TO EX + 24	4.41%	0.03	55.57	
EX + 1 TO EX + 36	1.54%	0.01	50.00	
EX + 13 TO EX + 24	6.91%	0.35	61.11	
EX + 25 TO EX + 36	4.40%	0.05	47.22	

Panel B: Spun-off firms

Interval (month)	BHARs Model (Size And Industry-Adjusted Matched Firm)			
	ABHARs	T-STAT	PERCENTAGE POSITIVE	SIG
EX + 1 TO EX + 12	1.02%	0.004	47.22	
EX + 1 TO EX + 24	13.61%	0.05	47.22	
EX + 1 TO EX + 36	8.46%	0.03	55.57	
EX + 13 TO EX + 24	11.28%	0.08	55.57	
EX + 25 TO EX + 36	12.76%	0.21	58.33	

Panel C: Combined firms

Interval (month)	BHARs Model (Size And Industry-Adjusted Matched Firm)			
	ABHARs	T-STAT	PERCENTAGE POSITIVE	SIG
EX + 1 TO EX + 12	1.01%	0.01	41.67	
EX + 1 TO EX + 24	1.37%	0.01	55.57	
EX + 1 TO EX + 36	-3.62%	-0.02	50.00	
EX + 13 TO EX + 24	5.65%	0.07	55.57	
EX + 25 TO EX + 36	2.49%	0.03	52.78	

Note:
EX denotes the listing month of the spun-off firms. T-STAT is calculated by estimating the elements of the variance-covariance matrix $\sum$ for the overlapping long-run returns of spin-off firms to their matched entities (Formula is given in Sub-section 5.4.4). Asterisks indicate statistical significance at the 10% (*), 5% (**) and 1% (***) levels. Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for the parent firms against the industry and size-adjusted matched firms. Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the spun-off firms against the industry and size-adjusted matched firms. Panel C shows the results of average buy-and-hold abnormal returns (ABHARs) for the combined firms against the industry and size-adjusted matched firms. The non-parametric Sign Test is used to test the significance percentage of firms with positive abnormal returns. The null hypothesis for the Sign Test is given as the proportion of positive abnormal returns equal to 50%. a, b and c indicate significance at the 10%, 5% and 1% levels. SIG denotes the significance value.

On the whole, the results show that there is no significant abnormal performance for parents, spun-offs and combined entities in the three-year holding period following the completion month of a spin-off even after adjusting the test-statistics for overlapping samples. Similarly, the present work does not find significant results for the percentage of these entities with the positive average buy-and-hold abnormal returns. Our results conform with the evidence put forward by Veld and Veld-Merkoulova (2004). Unlike the US studies, Veld and Veld-Merkoulova (2004) do not find that spin-offs, on average, exhibit positive abnormal return over the three- year period of study.

11. Summary and Conclusion

The overall results indicate that spin-offs create (perhaps illusory) value in the short-run but there is no evidence of long-run market outperformance. We find that evidence for short-run value creation supports the broad consensus in the literature which indicates that spin-offs generate positive gains for shareholders during the few days surrounding the announcement date. We also find some evidence that the notable positive share returns for parent firms over the three-day event window (day -1 through day +1) are related to the political linkage rather than corporate focus and size effect. Nevertheless, evidence for the three-year period, does not show that spin-offs create value similar in spirit to the reported findings using the European data.

An interesting question arises from this work: What do the findings say about the efficiency of the stock market in pricing the shares?

We find that there is the possibility of a reasonably consistent delay in the positive reaction

by investors for a few days after the spin-off announcement, which may be exploitable. After taking into consideration the average trading costs in the order-driven Malaysian share market, it appears that an investor could possibly earn an abnormal return net of transaction cost of 3.21% by concentrating his investment on parent firms during the five-day event window (day +1 through day +5) following the spin-off announcement date. Our findings sit alongside the view put forward in most of the literature on the Malaysian market. As noted earlier, Malaysian studies reach into consensus that the Malaysian share market is semi-strong inefficient, even though their methodology, sample size and length of period taken are significantly different from each other.

This research is subject to some limitations. First, the present study only includes firms conducting spin-offs. Other divestiture announcements including split-offs, sell-offs and equity carve-outs are excluded. Second, the results of the study are based on a relatively small sample of firms (36 parent firms). Third, we did not include the long-run performance for size, politically-linked and focus-increasing in this work.

Endnotes

[i] This study defines 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 firms. Following the transaction, the subsidiary becomes an independent firm; therefore the parent firm has no controlling relationship with it. The former parent firm's shareholders, however, now own two different securities: the shares from the parent and the shares from the newly spun-off firm.

[ii] Relationship-based capitalism is when there are close links between business and politics; and when a government plays the role as a political patron to selected firms in controlling corporate equity ownership and granting licences, permits and contracts (e.g. Gomez and Jomo, 1997; Jomo, 1998; Gomez, 2002; Facio, McConnell and Masulis, 2006 and Fraser *et al.* 2006). This kind of business environment thus creates a group of politically linked firms.

[iii] The estimates for brokerage fees, clearing fees and stamp duties are obtained from the website of Bursa Malaysia. It should be noted the brokerage fees could change depending on the order size. For example, the brokerage fees are +0.3% of contract value (retail trades valued above RM100,000), +0.6% of contract value (retail trades below RM100,000). For simplicity, this study applies the +0.3% of contract value in the calculation. This study also takes account of the +0.001% stamp duty and +0.03% clearing fee.

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