DO MALAYSIAN POLITICALLY-LINKED SPIN-OFF COMPANIES UNDERPERFORM?

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Abstract

This study examines the short-run and long-run share return performance of politically-linked companies in the event of a spin-off during the period January 1980 to April 2011. We find that the group of politically-linked parent companies significantly outperformed the group of non politically-linked companies during the few days surrounding the announcement date even after an adjustment for size. This indicates that the market anticipates increased value for politically-linked parent's shareholders and a potential exploitable stock market inefficiency. However, after allowing for size, we observe that spin-offs by the politically-linked entities fail to demonstrate abnormal performance in the long-run period (three-years).

JEL Classification: G14, G30, G38

Key words: Spin-offs, share returns performance, market efficiency, politically-linked companies

1. Introduction

A key question for Malaysian society is whether political control of companies leads to poor performance for shareholders. This paper presents evidence to inform this debate by concentrating on the returns to companies engaged in spinning off units of their businesses. We find that politically-linked companies or PLCs perform no worse than non politically-linked companies or NPLCs in the short-run; but fail to demonstrate abnormal performance in the long-run.

Politically-linked companies are defined as companies (run by Malay, Chinese and Indian) that have strong informal ties with leading politicians (Gomez & Jomo, 1997; Johnson & Mitton, 2003). The government has openly supported certain companies with Bumiputra status (Johnson & Mitton, 2003), but there are other companies with high political connection or patronage. Other Malaysian studies commonly use the term of political-connection or political patronage, which is also represents the PLCs (see later).

Thus, PLCs as a group encompass government-linked companies (GLCs) as a subset. These differ from other PLCs by virtue of the fact that they are officially owned by ethnic Malays or Bumiputra (Gomez & Jomo, 1997; Johnson & Mitton, 2003). By definition, GLCs are companies that ostensibly have a primary commercial objective, and in which the Malaysian government has a controlling stake (Putrajaya Committee on GLC High Performance, 2005). However, the government also invests in many other Malaysian public listed companies either directly or indirectly through its investment companies such as Ministry of Finance Incorporation (MOF Incorporation), Khazanah Nasional Berhad (KNB), Permodalan Nasional Berhad (PNB), Employee Provident Fund (EPF), Armed Forces Fund Board (AFFB) and Lembaga Tabung Haji (LTH)[1].

[1] Source: The GLC Transformation Programme Progress Review: March 2010, Putrajaya Committee on GLC High Performance, as at 31st March 2011.

Although PLCs constitute a significant part of the socio-economic development in Malaysia, their performance has trailed behind than that of NPLCs (Mariati et al., 2005; Issham, 2008). Quite a number of PLCs which were 'too-big-to-fail' posted huge losses and had to be bailed out by the Malaysian government (Johnson & Mitton, 2003; Fraser et al., 2006). This study fills the gap in the literature by making several contributions.

First, as there is no extant short and long-run evidence on the share return performance of PLCs in the event of a spin-off in the Malaysia capital market it adds to a growing body of international evidence in corporate spin-offs decision. Second, we employ two novel market indices: Malaysia All-Shares Equal Weight Index (MAS-EWI) and Malaysia All-Shares Value Weight Index (MAS-VWI)[2]. Both benchmarks are more comprehensive than any used in previous Malaysia event studies which commonly adopt two popular market indices, namely FTSE Kuala Lumpur Composite Index (KLCI) and FTSE Bursa Malaysia EMAS Index which fail to represent the broader Malaysia market[3]. Third, we use Cumulative Abnormal Returns (CARs), Buy-and-Hold Abnormal Returns (BHARs) and Market Model as the abnormal return metrics to provide a more comprehensive analysis of share return performance whereas previous international studies used only one of these models in their analysis.

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 companies. Following the transaction, the subsidiary becomes an independent company; therefore the parent company 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 newly spun-off company. Studies from other countries suggest that spin-offs generate positive abnormal returns over the few days

[2] Both benchmarks cover all sizes of all firms (based on the market capitalization).

[3] Each benchmark comprises of different cohorts of companies based on market capitalization. The FTSE Bursa Malaysia KLCI Index consists of 30 largest companies in the market, whilst the FTSE Bursa Malaysia EMAS Index constitutes the top 100 largest companies and 261 small capitalization companies (as at 16th February 2011).

surrounding the announcement. However, the evidence on the long-run share returns performance of spin-off companies is more mixed.

Spin-off activity by Malaysian listed companies began in the late 1980s in tandem with the development of the capital market. It has gathered momentum with increasing numbers of corporate spin-offs during the bull-run period of 1993 to 1994; and also in the years following the 1997 crisis. Out of 36 cases, 67% of the spin-off announcements occurred during the bear periods from 1999 to 2006. Malaysia presents an appealing case study because of its relationship-based capitalism[4] (Fraser et al., 2006) and the unique characteristics possessed by the Malaysian PLCs (Afzan & Rashidah, 2011). Unlike in other countries, the Malaysian government rarely shies away from playing a crucial role in the country's social and economic development. A number of PLCs, controlled by the government and key political leaders were established as an integral part of the country's economy engine. The high degree of autonomy that the key government politicians have within a country allows them to selectively distribute government-created contracts (Gomez, 2002).

Out of 36 Malaysian spin-off companies, 15 are identified as PLCs and 21 are classified as NPLCs. To produce comprehensive results we also analyze the short and long-run share return performance for the full sample of spin-off companies (parents, spun-offs and combined performance of parents and spun-offs) completed between January 1980 and April 2008.

In a previous study, examining 85 companies, Yoon and Ariff (2007) find significant positive cumulative average abnormal return (CAAR) of +22.7% in two-day (day -1 to day 0) event

[4] 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 companies in controlling corporate equity ownership and granting licences, permits and contracts (e.g. Gomez & Jomo, 1997, 1998; Facio et al., 2001; Gomez, 2002, Fraser et al., 2006). This kind of business environment thus creates a group of political-linked companies.

window surrounding the announcement date during the period of 1986 to 2003. It is unfortunate that they do not study long-run share return performance of spin-off companies. It is also unfortunate that the issue of political links is not examined. Therefore the present work represents the first comprehensive study of corporate spin-offs in Malaysia capital market in the short and long-run periods against the market benchmarks of MAS-EWI and MAS-VWI.

Our study finds that: (1) before size adjustment, parent PLCs significantly outperformed their counterparts in the NPLCs group (by +15.48%) in the period surrounding the spin-offs announcement (from day -20 through day +20); (2) before size adjustment, combined (parents and spun-offs) PLCs significantly underperformed their peers in the NPLCs, (an average of -6.95% compared with +40.96%) over the two years following the completion month of spin-offs when MAS-EWI is used as a benchmark; (3) before size adjustment, none of the difference in abnormal returns between the PLCs sub-sample and NPLCs sub-sample for both parent and spun-off companies posits significant results over the three-year holding period; (4) after comprehensive size adjustment, our results confirm the superior performance of parent PLCs relative to their peers in the NPLCs over the short-run; (5) after comprehensive size adjustment, we fail to find abnormal performance for PLCs in the long-run period; and (6) using a full sample of spin-off companies, 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.

The remainder of the paper is organized as follows. Section 2 describes a brief literature review concerning the background and performance of PLCs in Malaysia context; and international evidence on the share return performance of spin-off companies. Section 3 explains the sample selection and data. Section 4 describes the methodologies used in the present study. Section 5 presents the empirical results. Section 6 concludes the paper.

2. Literature review

A. Background and performance of politically-linked companies in Malaysia context

After Independence in 1957, there was a socio-economic imbalance[5] between the ethnic groups[6] in Malaysia. To address this issue two policy instruments were established; the New Economic Policy (NEP) from 1970 to 1990 and the National Development Policy (NDP) from 1991 to 2000. The ultimate objective of the NEP and NDP were to increase the economic pie of Bumiputra in the Malaysian corporate ownership and capital markets[7]. To attain this objective a series of privatization and corporatization of several government departments in the early 1980s has led to the formation of many PLCs. Upon pursuing these policies the majority of the Malaysian companies and conglomerates have become more governmentally and politically affiliated or politically-linked (Singam, 2003). The Malaysian corporate culture, 'knowing who' is as important as 'knowing how' (Singam, 2003). Informal ties with politicians involve pure chance personal encounters (Johnson & Mitton, 2003), thus creating political patronage companies or PLCs (Fraser et al., 2006).

A number of PLCs emerged following the appointment of Mahathir Mohamad as Prime Minister in 1981. The country has witnessed a rapid rise of a 'Malay new rich' class as he consistently promoted Malay entrepreneurial capitalists (Gomez, 2002; Johnson & Mitton, 2003). During his tenure as a Prime Minister, Mahathir personally helped his associated businessman to setup the Heavy Industries Corporation of Malaysia or HICOM (one of the largest industrial companies in Malaysia); invested in the auto industry, steel and cement (Johnson & Mitton, 2003; Fraser et al.,

[5] In 1969, the Bumiputra, Indian and Chinese equity ownerships in limited companies amounted to 15%, 0.9% and 22.8%, respectively, while the remaining equity was held by foreign investors (Source: Gomez, 2002).

[6] Three dominants ethnic groups are Malay (known as Bumiputra), Chinese and Indian. The latter two groups are known as Non-Bumiputra.

[7] According to Singam (2003), the main aspects of NEP and NDP include: (1) 30% of the government contracts and tenders were reserved for Bumiputra; (2) preference was given to Bumiputra in the issue of licenses or permits for vehicle import, mining, banking, finance, insurance and transport; (4) all companies listed on the Kuala Lumpur Stock Exchange (KLSE) must offer at least 30% of their shares to Bumiputra (however, on 22nd April 2009 the Malaysian government has liberalized 27 service subsectors with no such rule being imposed); and (5) 20% of all loans made by commercial banks were to be made to Bumiputra.

2006). This practice has encouraged other political leaders to use their power to help business in Malaysia. Also, it has opened the door for businessmen to use their personal connections with the key government politicians to gain access to government-created contract awards (Johnson & Mitton, 2003).

The Malaysian government and the key government politicians have the ability to appoint members of the board of directors and senior management positions. PLCs are more inclined to hire politically connected people or wealthy people with a very high status who often carry royal titles bestowed by the various rulers rather than professionals to manage the companies (Mariati et al., 2005; Issham, 2008). They are mere figureheads, appointed as a means to gain priority for government contracts, increased access to capital and other subsidies (Gomez, 2002). The government and the key government politicians also can exercise their position as a substantial shareholder in making major decisions; for instance contract awards, strategy, restructuring and financing, acquisition and divestment (Lau & Tong, 2008; Afzan & Rashidah, 2011).

The PLCs' reach is broad (depending on the opportunities given by their patrons); yet such control is concentrated in key strategic utilities and services, including electricity, telecommunications, postal services, airlines, airports, public transport, water and sewerage, banking and financial services[8].

Ironically, The Catalysing GLC Transformation to Advance Malaysia's Development Review (2005) reports that the GLCs historically underperformed the broader Malaysia market in terms

[8] Among the well-known PLCs are Malaysian' national airline (MAS); Malaysian' national car manufacturer (Proton), two leading telecommunications operators (Telekom Malaysia and Maxis Communication Group), two leading banking and finance services providers (CIMB Group and Malayan Banking) and a number of other businesses. While among the most influential alliances between associated businessmen and key political leaders are Tajuddin Ramli (allied to Daim Zainuddin), Halim Saad (allied to Daim Zainuddin), Vincent Tan (allied to Daim Zainuddin and Mahathir Mohamad), Quek Leng Chai (allied to Anwar Ibrahim) and Ananda Krishnan (allied to Mahathir Mohamad).

of operations and financial indicators over the 15 years from 1990 to 2004. Johnson and Mitton (2003) report RM60 billions loss in market value for 67 political-connected companies in the early period of the Asian financial crisis, from July 1997 to August 1998. Reports in the local and international financial press claim that both situations occurred because they are highly geared[9] and invested in many projects that are not related to their core business (nor within their expertise).

These facts have shocked the nation and have prompted the government to set up a platform for change. In this regard, the Malaysian government launched the GLCs Transformation Programme in July 2005 with the objective to transform the GLCs into high performing entities over the course of a 10-year time horizon. Ten initiatives[10] were established based on the three key underlying principles; which are aiming to (1) increase national development benefits particularly among Bumiputra; (2) improve corporate governance and companies' performance; and (3) maximize shareholders' wealth.

This significant shift in thinking influenced academicians to investigate the performance of the Malaysian PLCs largely through the use of accounting ratios. Empirical studies reveal that most Malaysian PLCs are highly geared and provide lower returns to shareholders.

[9] Given the lack of viable bond market, debt for most Malaysian companies takes the form of bank loans (Fraser et al., 2006).

[10] The ten initiatives are aiming to (1) enhance board effectiveness; (2) strengthen directors' capabilities; (3) enhance monitoring and management function of government-linked investment companies; (4) improve regulatory environment; (5) clarify social obligation; (6) review and revamp procurement; (7) optimize capital management practices; (8) manage and develop leaders and other human capital; (9) intensify performance management practices; and (10) enhance operational improvement.
(Source: Catalyzing GLC Transformation to Advance Malaysia's Development: July 2005, Putrajaya Committee on GLC High Performance, as at 31st March 2011).

Issham et al. (2008) employ economic value added (EVA)[11] to compare the GLCs and NGLCs in Malaysia over 1999-2002 periods. Based on the four-year pooled panel data of 37 GLCs and 208 NGLCs, they find companies with government links tend to exhibit lower EVA scores than the companies without. Based on the coefficient scores, the EVA values of average GLCs in Malaysia are less than that of the NGLCs by Ringgit Malaysia -73,532.007.

A recent study by Afzan and Rashidah (2011) examines the performance of 47 GLCs and 47 NGLCs 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 GLCs record lower median ROEs and ROAs. They also find that the median for asset turnover (sales to total assets) among GLCs is significantly lower than their peers in NGLCs, implying that the former group does not make as good use of their assets as the latter group.

B. International evidence on the short and long-run share returns performance of spin-off companies

A spin-off effect has been shown in the US and European studies (e.g. Hite & Owers, 1983; Schipper & Smith, 1983; Miles & Rosenfeld, 1983; Rosenfeld, 1984; Cusatis et al., 1993; Desai & Jain, 1999; Krishnaswami & Subramaniam, 1999; Kirchmaier, 2003; Veld & Veld Merkuovela, 2004). The US studies generally show that investors who purchase and then sell shares in the spin-offs announcement window or short-run period (e.g. Hite & Owers, 1983; Schipper & Smith, 1983; Miles & Rosenfeld, 1983; Rosenfeld, 1984) and those who hold for three year periods following the completion of spin-offs or long-run period (e.g. Cusatis et al., 1993; Desai & Jain, 1999; Krishnaswami & Subramaniam, 1999) gain high positive returns. In

[11] EVA is defined as the dollar amount of net operating profit after tax (NOPAT) minus the amount of capital (both debt and equity) by multiplied by the weighted average cost of capital or WACC (Issham et al., 2008).

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[12] and voluntary US spin-off companies over the 1965-1988 period, Cusatis et al. (1993) investigate value creation through spin-offs by measuring the share return performance of parent, spun-off, and combined companies. They use the buy-and-hold investment strategy against the benchmark of equal-weighted matched-companies portfolios (adjusted to size and industry) and report significantly positive abnormal returns for spun-offs, their parents and combined companies in the three-year holding periods.

Similarly, Desai and Jain (1999) compute buy-and-hold abnormal returns of 155 US companies using a matching-company methodology for three-year holding periods. They show results of combined, spun-off and parent companies separately for focus-increasing[13] and non focus-increasing sub-samples. Consistent with Cusatis et al. (1993), they find evidence of outperformance for both combined and spun-off companies relative to their equal-weighted matching companies in the three-year holding periods following the completion of the spin-offs. The average buy-and-hold abnormal returns in the three-year holding period are positively significant at +19.82% and +32.31% for combined and spun-off companies, respectively. However, for parent companies, the result shows a positive but insignificant abnormal return of +15.18% in the three-year holding period.

Veld and Veld-Merkuovela (2004) investigate the short and long-run wealth effect of 156 spin-off announcements by European companies over the period 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

[12] See Cusatis et al. (1993, p. 295).

[13] A spin-off is considered to be a focus-increasing when the standard industrial classification (SIC) code of the subsidiary is different from its parent.

cumulative average abnormal return, CAAR is +2.62% over the event window from day -1 to day +1, significant at the 1% level. The abnormal returns for smaller event windows (e.g between day -1 to day 0, and day 0 alone) also indicate significantly positive results at the 1% level[14]. Using the equal-weighted matching-company approach, the authors declare, after examining the share returns performance in the three-year holding period that parent, spun-off and combined companies insignificantly underperform their corresponding matching companies.

Kirchmaier (2003) investigates the short and long-run effects of the spin-off event on shareholder wealth using a sample of 48 European companies. Following a similar approach to Veld and Veld-Merkuovela (2004), they find positively significant announcement effects of +4.1% for the two-day event period (day 0 to day +1) and +5.4% during the three-day event period (day -1 to day +1), respectively. For longer holding periods, the combined performance of both parent and spun-off companies results is a statistically insignificant abnormal return of +4.2% from day +0 to day +699 compared with the overall market. Spun-off companies appear to outperform the market whereas parent companies don't; spun-off companies demonstrate a statistically significant abnormal return of +17.3% (day +0 to day +699). The parent companies insignificantly underperformed the market by -5.9% (day +0 to day +699).

3.0 Sample Selection and Data

To ensure a comprehensive study all parent and spun-off companies traded on the Bursa Malaysia from 1st January 1980 to 30th April 2008 are identified. This enables the present study to analyze one to three years' post spin-off performances up to 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

[14] The results show cumulative average abnormal returns of +1.74% for day -1 to day 0; and +1.19% for day 0, respectively.

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. The identities of both parent and spun-off companies are obtained from the Investors Digest and Bursa Malaysia's website[15]. These sources of announcements are then cross-checked with the relevant press and financial announcements, for instance Nexis Business and News database, local English newspaper, individual company's website and its annual report. 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. Combined companies are created by weighting the return of parent and that of the spun-off companies by the market value of equity of the completion month of spin-off. As a spin-off involves a pro rata distribution of shares of a subsidiary, creating combined companies provides information about the return that an investor would have realized if he had held on to the shares of both parent and spun-off companies following the completion month of spin-off (Desai and Jain, 1997). PLCs 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)[16] and Gomez (2002)[17].

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 comprised of individual parent and spun-off companies' adjusted closing price (adjusted for dividends).

[15] http://www.bursamalaysia.com/website/bm/listed_companies/company_announcements.
http://www.bursamalaysia.com/website/bm/listed_companies/list_of_companies.
[16] See Table A1 (pp. 378-379).
[17] See Table 3.2 (pp. 97-90).

4.0 Methodology

To analyze 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) 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 (p.363, note 2).

Veld and Veld-Merkuovela (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 because spin-offs are random events that occur intermittently from January 1980 to April 2008.

A. 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:

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

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.

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:

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

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:

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

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:

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

B. 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 spun-off companies in time t as follows:

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

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:

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

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 company 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.

C. 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:

$$t = CAAR_{(t_1,t_2)} / \sigma(AAR_t) * T^{\frac{1}{2}}$$

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:

$$t = \overline{BHAR}_{(t_1,t_2)} / \sigma(BHAR_t) / T^{\frac{1}{2}}$$

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.

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

5.0 Results

A. Short-run performance of parent companies following the spin-offs announcement

Table 1 reports evidence of the percentage daily abnormal returns (adjusted to the market) on parent companies from day -20 through day +20 against the MAS-EWI and MAS-VWI benchmarks[18].

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

Panel A: Share returns performance of the parent companies 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	
-10 to +10	7.26%	1.26		7.96%	1.40	
-20 to 0	5.86%	1.08		5.97%	1.09	
-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 +5	5.49%	2.09	**	5.67%	2.27	**
0 to +10	4.24%	1.28		4.96%	1.58	
0 to +20	5.65%	1.63		6.17%	1.83	*
+1 to +3	2.92%	1.33		2.77%	1.30	
+1 to +5	3.36%	1.51		3.53%	1.69	
+1 to +10	2.10%	0.77		2.82%	1.11	
+1 to +20	3.52%	1.23		4.03%	1.46	

[18] 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.

Panel B: Share returns performance of the parent companies 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	
-10 to +10	8.72%	1.50		8.33%	1.47	
-20 to 0	5.80%	1.08		5.76%	1.08	
-1 to 0	2.68%	1.43		2.54%	1.54	
-1 to +1	5.40%	2.53	**	5.04%	2.68	**
0	2.27%	2.36	**	2.09%	2.25	**
0 to +5	6.34%	2.29	**	5.98%	2.39	**
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 +10	2.98%	0.99		3.08%	1.14	
+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.
Panel A indicates the cumulative average abnormal returns (CAARs) for the parent companies adjusted for MAS-EWI.
Panel B presents the cumulative average abnormal returns (CAARs) for the parent companies adjusted for MAS-VWI.

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 MAS-VWI is used as a benchmark, we find the CAARs for the CARs Model and MM are +5.40% and +5.04%, respectively. Both abnormal returns are positively significant at 5% level.

The presence of strongly significant positive abnormal returns for parent companies 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) following 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. So 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 later).

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

Table 2
Share returns performance of the politically-linked parent companies (PLCs) and non politically-linked companies (NPLCs) over the short-run period adjusted for MAS-EWI and MAS-VWI.

Panel A: Share returns performance of the PLCs and NPLCs adjusted for MAS-EWI

Interval (day)	CARs Model		Market Model	
	CAARs (PLCs)	CAARs (NPLCs)	CAARs (PLCs)	CAARs (NPLCs)
-20 to +20	14.58%(1.22)[c]	5.21%(1.23)[c]	13.55%(1.11)[c]	7.46%(1.95*)[c]
-10 to +10	8.55%(0.75)[c]	6.30%(1.81*)[c]	9.49%(0.82)[c]	6.88%(2.24**)[c]
-20 to 0	9.55%(0.87**)[c]	2.85%(0.99)[c]	8.84%(0.79)[c]	3.91%(1.48)[c]
-1 to 0	3.96%(2.17***)	1.64%(0.96)	4.37%(2.67**)	1.52%(1.00)
-1 to +1	8.00%(3.08***)	3.06%(1.91*)	8.23%(3.75***)	2.80%(1.98*)
0	2.89%(1.55)	1.68%(1.58)	3.01%(1.58)	1.52%(2.55**)
0 to +5	5.48%(1.10)	5.80%(4.22***)	6.12%(1.31)[b]	5.35%(4.13***)[b]
0 to +10	4.78%(0.91)	3.94%(1.32)	6.08%(1.21)[c]	4.16%(1.62)[c]
0 to +20	7.92%(1.37)[c]	4.04%(1.15)[c]	7.71%(1.33)[c]	5.07%(1.62)[c]
+1to +3	3.59%(0.83)[a]	2.68%(3.35***)[a]	3.16%(0.75)[a]	2.50%(3.64***)[a]
+1 to +5	2.60%(0.58)	4.13%(3.75***)	3.12%(0.76)	3.82%(3.57)
+1 to +10	1.90%(0.42)	2.26%(0.86)	3.08%(0.72)	2.64%(1.17)
+1 to +20	5.03%(0.98)	2.36%(0.75)	4.70%(0.92)	3.55%(1.25)

Panel B: Share returns performance of the PLCs and NPLCs adjusted for MAS-VWI

Interval (day)	CARs Model		Market Model	
	CAARs (PLCs)	CAARs (NPLCs)	CAARs (PLCs)	CAARs (NPLCs)
-20 to +20	15.48%(1.30)[c]	5.80%(1.38)[c]	14.87%(1.22)[c]	6.59%(1.78*)[c]
-10 to +10	11.17%(0.99)[c]	6.97%(1.98*)[c]	10.93%(0.95)[c]	6.47%(2.08*)[c]
-20 to 0	9.92%(0.92)[c]	2.85%(1.02)[c]	8.61%(0.77)[c]	3.73%(1.55)[c]
-1 to 0	3.89%(1.68)	1.81%(1.16)	3.95%(1.89*)	1.53%(1.15)
-1 to +1	8.17%(2.66**)	3.43%(2.25**)	8.03%(2.89**)	2.90%(2.23**)
0	3.10%(1.67)	1.68%(2.57**)	3.02%(1.59)	1.43%(2.47**)
0 to +5	6.75%(1.35)[b]	6.05%(4.12***)[b]	6.96%(1.50)[b]	5.28%(4.08***)[b]
0 to +10	6.24%(1.16)[c]	4.56%(1.49)[c]	6.83%(1.34)[c]	3.99%(1.50)[c]
0 to +20	8.66%(1.41)[c]	4.63%(1.31)[c]	9.28%(1.59)[c]	4.30%(1.36)[c]
+1 to +3	4.35%(1.02)[a]	2.67%(2.44**)[a]	4.01%(0.97)	2.42%(2.75**)
+1 to +5	3.65%(0.81)	4.36%(3.49***)	3.94%(0.95)	3.85%(3.39***)
+1 to +10	3.14%(0.68)	2.87%(1.05)	3.81%(0.87)[c]	2.55%(1.06)[c]
+1 to +20	5.56%(1.02)	2.95%(0.92)	6.26%(1.21)[c]	2.87%(0.99)[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 in abnormal returns between the politically-linked companies and non politically-linked companies at the 10%, 5% and 1% level, respectively. Panel A indicates the cumulative average abnormal returns (CAARs) for the PLCs and NPLCs adjusted for MAS-EWI. Panel B presents the cumulative average abnormal returns (CAARs) for the PLCs and NPLCs adjusted for MAS-VWI.

We find that the parent PLCs significantly outperformed their counterparts in the NPLCs from day -20 through day +20 surrounding the spin-off announcement in both benchmarks.

Of the two models, the CARs model reports the best performance of parent PLCs relative to their peers in the NPLCs. Our results postulate that parent PLCs significantly outperformed parent NPLCs, showing on average of +14.58% compared with +5.21% (MAS-EWI) and +15.48% compared with +5.80% (MAS-VWI). The difference in abnormal returns between the two sub-samples is statistically significant at 1% level.

Interestingly, we also observe the outperformance of parent PLCs in the 20-trading days (day +1 through day +20) after the spin-off announcement date against the market benchmark of MAS-VWI. The MM shows that the parent PLCs perform better than that of parent NPLCs, on average

of +6.26% compared with +2.95%. The difference in abnormal returns between the two sub-samples is statistically significant at 1% level.

B. Long-run performance of parent companies following the listing of spun-off companies

Although Lyon et al. (1999) remind us that "analysis of long-run abnormal return is treacherous" (p.198), a number of methods are proposed[19]. Extensive literature favours the use of the BHAR method as it copes better with the effect of compounding compared with CAR (e.g. Ritter, 1991; Barber & Lyon, 1997). In modern event studies, the most commonly accepted methodology is the BHAR approach. Therefore, we use this method to capture the effect of a spin-off event on the investor's portfolio over the long-run period[20].

Table 3 presents the percentage monthly buy-and-hold abnormal returns (adjusted to the market) of parent companies in the three years following the listing of spun-off companies against the MAS-EWI and MAS-VWI benchmarks.

[19] See for example Barber and Lyon (1997), Fama (1998) and Lyon et al., (1999).

[20] To double check the results presented by the BHARs Model, we analyze the long-run share returns performance using the CARs Model. By adjusting the share returns of spin-off companies to the market benchmarks of MAS-EWI and MAS-VWI, we find that the CARs Model produces results consistent with the BHARs, therefore we do not report them in this paper.

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

Panel A: All parent companies

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: Politically-linked parent companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	-7.36%	-1.02	-17.84%	-2.53**
EX + 1 TO EX + 24	-9.76%	-1.33	-26.26%	-3.73***
EX + 1 TO EX + 36	1.20%	0.11	-33.27%	-3.44***
EX + 13 TO EX + 24	-0.30%	-0.04	-3.87%	-0.59
EX + 25 TO EX + 36	7.19%	1.14	-5.82%	-1.30

Panel C: Non politically-linked parent companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	12.08%	0.60	-3.98%	-0.07
EX + 1 TO EX + 24	11.50%	0.87	-15.05%	-0.26
EX + 1 TO EX + 36	31.48%	1.87*	-16.20%	-0.28
EX + 13 TO EX + 24	15.78%	1.53	6.15%	0.11
EX + 25 TO EX + 36	28.48%	1.85*	12.07%	0.21

Note:
EX denotes the listing month of the spun-off companies. 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 politically-linked companies (PLCs) and non politically-linked companies (NPLCs) at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the parent companies against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the politically-linked parent companies against the MAS-EWI and MAS-VWI benchmarks.
Panel C shows the average buy-and-hold abnormal returns (ABHARs) for the non politically-linked parent companies against the MAS-EWI and MAS-VWI benchmarks.

In Panel A, we find parent companies significantly outperformed (at the 10% level) the MAS-EWI, on average by +19.61% in the three-year holding period following the listing of spun-off companies. Our result supports the earlier finding reported by Cusatis et al. (1993). When the buy-and-hold returns of parent companies are measured against the market benchmark of MAS-VWI, the parent companies show a contrary result. The parent companies demonstrate negative and significant ABHAR of -18.74% over the three years, indicating that in the Malaysia market as a whole large firms outperformed small firms during the study period.

In Panel B and C, our results show the underperformance of parent PLCs over the three-year holding period following the listing of spun-off companies. However we fail to find a significant difference in abnormal returns between the two sub-samples.

C. Long-run performance of spun-off companies pursuant their listing month

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

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

Panel A: All spun-off companies

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

Panel B: Politically-linked spun-off companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	31.55%	1.38	21.07%	0.90
EX + 1 TO EX + 24	67.91%	1.80*	51.41%	1.32
EX + 1 TO EX + 36	36.54%	2.04*	2.07%	0.11
EX + 13 TO EX + 24	36.80%	1.52	32.23%	1.29
EX + 25 TO EX + 36	10.90%	0..85	-2.11%	-0.16

Panel C: Non politically-linked spun-off companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	-3.95%	-0.41	-20.00%	-2.04*
EX + 1 TO EX + 24	9.22%	0.78	-17.34%	-1.37
EX + 1 TO EX + 36	24.92%	1.62	-22.76%	-1.34
EX + 13 TO EX + 24	23.30%	2.07*	13.67%	1.10
EX + 25 TO EX + 36	20.34%	1.60	3.93%	0.31

Note:
EX denotes the listing month of the spun-off companies. 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 politically-linked companies (PLCs) and non politically-linked companies (NPLCs) at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the spun-off companies against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the politically-linked spun-off companies against the MAS-EWI and MAS-VWI benchmarks.
Panel C shows the average buy-and-hold abnormal returns (ABHARs) for the non politically-linked spun-off companies against the MAS-EWI and MAS-VWI benchmarks.

In Panel A, the results suggest that spun-off companies significantly outperformed the MAS-EWI, on average by +29.19% over the thirty-six months holding periods pursuant their listing month. This result thus supports the extant 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 spun-off companies insignificantly underperformed the market, on average by -12.90% over the three-year holding period following the completion month of spin-off.

Although our results in Panel B and C indicate that spun-off PLCs perform better than their peers in NPLCs over the three-year holding period, none of the difference in abnormal returns between the two sub-samples is statistically significant.

D. Long-run performance of combined companies following the completion month of spin-offs

Table 5 demonstrates the percentage monthly buy-and-hold abnormal returns (adjusted to the market) of combined companies in the three-year holding period following the completion month of spin-off against the MAS-EWI and MAS-VWI benchmarks.

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

Panel A: All combined companies

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

Panel B: Politically-linked combined companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	-5.34%	-0.87[c]	-15.83%	-2.66**
EX + 1 TO EX + 24	-6.95%	-1.02[c]	-23.45%	-3.63***
EX + 1 TO EX + 36	0.71%	0.07	-33.76%	-3.72***
EX + 13 TO EX + 24	1.39%	0.17	-2.18%	-0.31
EX + 25 TO EX + 36	5.49%	0.81[c]	-7.51%	-1.52

Panel C: Non politically-linked combined companies

Interval (month)	BHARs Model (MAS-EWI)		BHARs Model (MAS-VWI)	
	ABHARs	T-STAT	ABHARs	T-STAT
EX + 1 TO EX + 12	77.08%	1.26[c]	-9.73%	-0.59
EX + 1 TO EX + 24	40.96%	3.56***[c]	-17.65%	-1.45
EX + 1 TO EX + 36	48.97%	1.71	-20.40%	-1.21
EX + 13 TO EX + 24	32.53%	3.13***	6.87%	0.66
EX + 25 TO EX + 36	60.76%	2.93***[c]	5.15%	0.44

Note:
EX denotes the listing month of the spun-off companies. 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 politically-linked companies (PLCs) and non politically-linked companies (NPLCs) at the 10%, 5% and 1%, respectively.
Panel A indicates the average buy-and-hold abnormal returns (ABHARs) for all the combined companies against the MAS-EWI and MAS-VWI benchmarks.
Panel B presents the average buy-and-hold abnormal returns (ABHARs) for the politically-linked combined companies against the MAS-EWI and MAS-VWI benchmarks.
Panel C shows the average buy-and-hold abnormal returns (ABHARs) for the non politically-linked combined companies 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 following the completion month of spin-offs, the ABHAR at +16.50% is statistically insignificant. Nevertheless, we find that the combined companies are associated with significant negative ABHAR when the MAS-VWI is used as a benchmark. The ABHAR for combined companies over the thirty-six months holding periods is -23.48%, statistically significant at 5% level. Not surprisingly, our finding substantially differed from those that in the US (e.g. Cusatis et al., 1993; Desai & Jain, 1999) and European (e.g. Kirchmaier, 2003; Veld & Veld-Merkuovela, 2004) studies.

In Panel B and C, we can see that combined (parents and spun-offs) PLCs significantly underperformed their counterparts in NPLCs, showing an average of -6.95% compared with +40.96% over the two-year holding period when MAS-EWI is used as a benchmark. The difference in abnormal returns between the two sub-samples is statistically significant at 1% level.

E. Index Performance of the FTSE Bursa Malaysia Index Series

We have already pointed out on indication that Malaysian large companies outperformed small companies; we now examine this in more detail. FTSE Asia Research (June, 2009) reports that Malaysian small capitalization companies consistently underperformed large capitalization companies over the 12-year period (1997-2008). To confirm this we analyze the index performance of the FTSE Bursa Malaysia Index Series over the 15-year period (1996-2011) as a preliminary to investigating 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. Since the price index data for all Index Series (excluding FTSE Bursa Malaysia Kuala Lumpur Composite Index) becomes available in Datastream from 1st January 1996, our analysis begins on the particular date.

Table 6
Monthly cumulative returns of the Bursa Malaysia Index Series (January 1996 – January 2011)

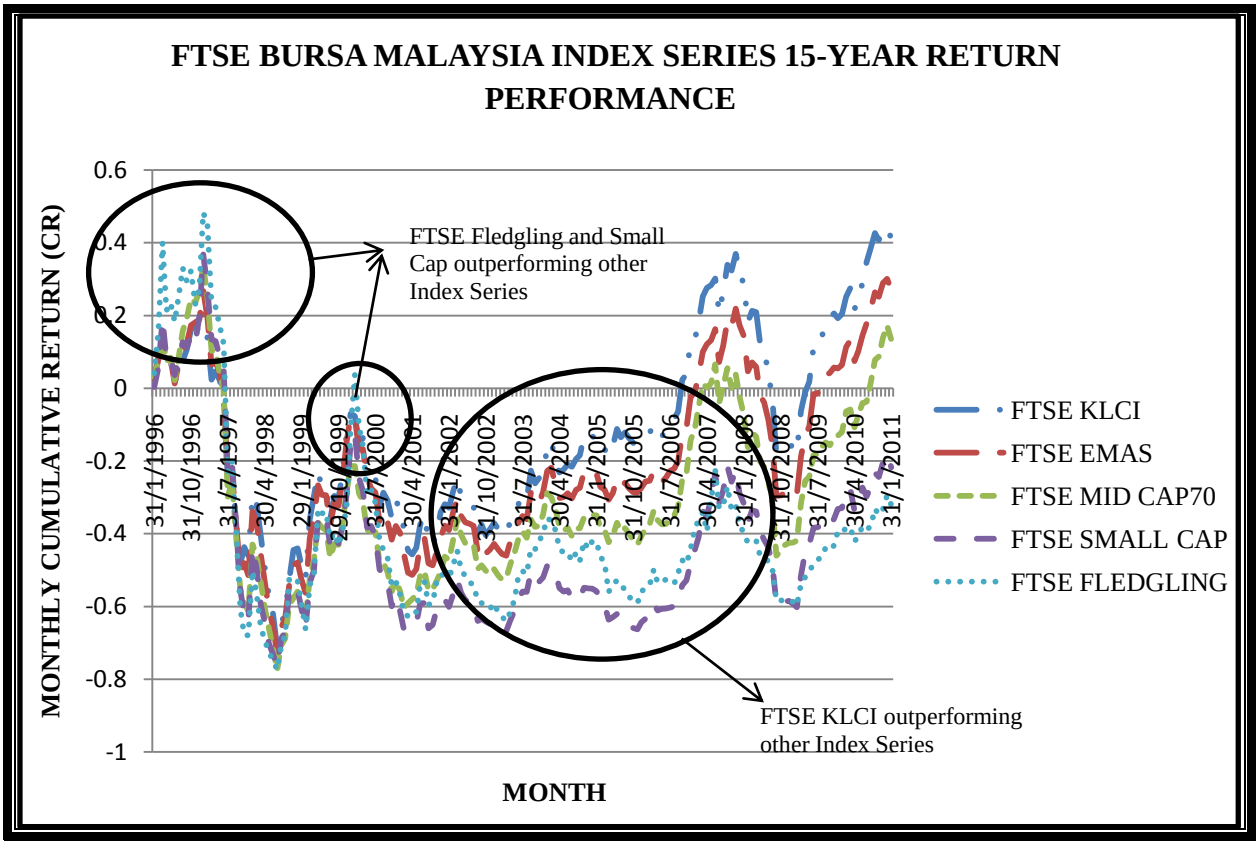
Indices	FTSE Bursa Malaysia KLCI	FTSE Bursa Malaysia EMAS Index	FTSE Bursa Malaysia Mid 70 Index	FTSE Bursa Malaysia Small Cap Index	FTSE Bursa Malaysia Fledgling Index
Number of constituents	30	360	70	260	431
Market Capitalization (RM)	485,666.50	690,859.41	137,745.02	67,447.92	18,958.84
1 Month (%) from 1996	2.75	2.60	3.08	0.30	4.16
3 Month (%) from 1996	12.71	13.45	14.34	19.04	40.15
6 Month (%) from 1996	1.21	1.33	2.19	3.59	18.27
12 Month (%) from 1996	15.28	18.87	26.66	19.66	27.46
36 Month (%) from 1996	-43.96	-47.88	-55.87	-55.43	-52.95
60 Month (%) from 1996	-31.05	-37.88	-52.91	-57.40	-53.07
120 Month (%) from 1996	-13.40	-27.34	-40.66	-64.36	-55.79
132 Month (%) from 1996	12.69	-2.41	-14.22	-48.10	-44.22
144 Month (%) from 1996	32.01	17.37	-2.42	-28.86	-37.18
156 Month (%) from 1996	-16.20	-27.99	-42.54	-58.42	-58.28
168 Month (%) from 1996	19.30	5.44	-13.01	-33.22	-39.37
180 Month (%) from 1996	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 1st January 1996.
2. FTSE Bursa Malaysia KLCI comprises the 30 largest companies 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 companies in the FTSE Bursa Malaysia EMAS Index by full market capitalization.
5. FTSE Bursa Malaysia Small Cap Index comprises those eligible companies 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

Figure 1
Long-run return performance 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 years 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 (prior to the 1997 financial crisis) and 2000. Nevertheless, we observe that the trend is reversed during the bear periods, from 2001 to 2006. The large capitalization companies 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 performances coincides with the several periods of Malaysia bear market.

Two-thirds of the spin-off events occurred during the period 1999 to 2006, following the 1997-98 massive decrease in Malaysia share prices, disproportionately affecting small capitalization companies. Our findings thus support the results documented by Nathrah (2006). Using all companies 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 a small firm effect tends to occur during the bull months.

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 (in Table 7) with the largest market capitalization portfolio in deciles 1 and the smallest market capitalization in deciles 10.

Table 7: Percentage of spin-off companies undertaking spin-offs based on the size-ranked deciles.

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

F. 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, we firstly take the completion month of spin-off and on that date allocate all the shares in the Malaysia market into deciles on the basis of market capitalization. Size decile 1 consists of the largest market capitalization companies, whilst size decile 10 includes companies with the smallest market capitalization. This allows us to then observe the returns for the size decile appropriate for the sample companies. We then have data for the returns (for each of our 36 spin-off companies) over the 36 months following 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 company, 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 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.

Table 8 displays the daily size-adjusted abnormal returns for the full sample of parent companies, parent PLCs and parent NPLCs in the 41-trading days (day -20 through day +20) surrounding the announcement date. Table 9 shows the percentage monthly size-adjusted abnormal returns for the full sample of parents, spun-offs and combined companies including their PLCs and NPLCs sub-samples in the three-year holding period following the completion month of spin-offs.

Table 8
Size adjusted announcement period share returns performance for the full sample of parent companies, politically-linked parent companies (Parent PLCs) and non politically-linked parent companies (Parent NPLCs).

Interval (day)	Size-Adjusted Abnormal Return For Full Sample of Parent (CARs Approach)		Size-Adjusted Abnormal Return For Parent PLC (CARs Approach)		Size-Adjusted Abnormal Return For Parent NPLC (CARs Approach)	
	SAARs	T-STAT	SAARs	T-STAT	SAARs	T-STAT
-20 to +20	8.40%	1.30	15.26%	1.30[c]	3.50%	0.64[c]
-20 to 0	4.32%	0.78	9.45%	1.42[c]	0.66%	0.19[c]
-10 to +10	8.55%	1.41	11.11%	1.02[c]	6.72%	1.44[c]
-1 to 0	2.35%	1.10	4.03%	1.84*	1.15%	0.55
-1 to +1	4.81%	2.13**	8.08%	2.91**	2.48%	1.26
0	2.25%	2.23**	3.11%	1.70	1.63%	1.91*
0 to +1	4.70%	22.57***	7.16%	7.71***	2.95%	9.66***
0 to +5	6.45%	2.45**	6.64%	1.38[b]	6.32%	3.00***[b]
0 to +10	5.49%	1.44	6.31%	1.21[b]	4.91%	1.21[b]
0 to +20	6.33%	1.57	8.93%	1.42[c]	4.47%	1.00[c]
+1 to +3	3.42%	1.72*	4.24%	1.06[a]	2.83%	4.68***[a]
+1 to +5	4.21%	1.86*	3.53%	0.83	4.69%	2.29**
+1 to +10	3.25%	0.98	3.19%	0.72	3.28%	0.85
+1 to +20	4.08%	1.17	5.81%	1.03	2.84%	0.66

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 politically-linked companies (PLCs) and non politically-linked companies (NPLCs) 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 companies including their politically-linked companies (PLCs) and non politically-linked companies (NPLCs) sub-samples.

Panel A: Parent companies

Interval (month)	Size Adjusted Abnormal Returns For Full Sample of Parent (BHARs Approach)		Size Adjusted Abnormal Returns For Parent PLC (BHARs Approach)		Size Adjusted Abnormal Returns For Parent NPLC (BHARs Approach)	
	SAARs	T-STAT	SAARs	T-STAT	SAARs	T-STAT
EX + 1 TO EX + 12	-1.01%	-0.11	-3.66%	-0.70	0.88%	0.06
EX + 1 TO EX + 24	-4.19%	-0.63	-9.40%	-1.70	-0.48%	-0.04
EX + 1 TO EX + 36	-8.09%	-0.87	-17.33%	-2.01*	-1.48%	-0.10
EX + 13 TO EX + 24	3.15%	0.55	-7.27%	-1.30[b]	10.59%	1.22[b]
EX + 25 TO EX + 36	-0.68%	-0.09	-11.26%	-1.87*	6.88%	0.54

Panel B: Spun-off companies

Interval (month)	Size Adjusted Abnormal Returns For Full Sample of Spun-off (BHARs Approach)		Size Adjusted Abnormal Returns For Spun-off PLC (BHARs Approach)		Size Adjusted Abnormal Returns For Spun-off NPLC (BHARs Approach)	
	SAARs	T-STAT	SAARs	T-STAT	SAARs	T-STAT
EX + 1 TO EX + 12	2.24%	0.25	21.50%	1.34[c]	-11.52%	-1.24[c]
EX + 1 TO EX + 24	8.90%	0.86	30.22%	1.63	-6.32%	-0.58
EX + 1 TO EX + 36	5.58%	0.48	9.56%	0.52	2.74%	0.18
EX + 13 TO EX + 24	11.06%	1.68	13.24%	1.16	9.51%	1.21
EX + 25 TO EX + 36	4.70%	0.61	2.18%	0.23	6.50%	0.56

Panel C: Combined companies

Interval (month)	Size Adjusted Abnormal Returns For Full Sample of Combined (BHARs Approach)		Size Adjusted Abnormal Returns For Combined PLC (BHARs Approach)		Size Adjusted Abnormal Returns For Combined NPLC (BHARs Approach)	
	SAARs	T-STAT	SAARs	T-STAT	SAARs	T-STAT
EX + 1 TO EX + 12	-4.35%	-0.57	-3.93%	-0.95	-4.64%	-0.36
EX + 1 TO EX + 24	-6.22%	-1.02	-9.57%	-1.90*	-3.84%	-0.39
EX + 1 TO EX + 36	-9.24%	-1.01	-19.58%	-2.09*	-1.86%	-0.13
EX + 13 TO EX + 24	3.33%	0.62	-5.15%	-0.90	9.39%	1.17
EX + 25 TO EX + 36	-1.81%	-0.26	-11.22%	-1.71	4.92%	0.45

Note:
EX denotes the listing month of the spun-off companies. 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 politically-linked companies (PLCs) and non politically-linked companies (NPLCs) at the 10%, 5% and 1%, respectively.
Panel A indicates the size-adjusted abnormal returns (SAARs) for full sample of parent companies, parent PLC and parent NPLC adjusted for the size-control portfolio returns.
Panel B presents the size-adjusted abnormal returns (SAARs) for full sample of spun-off companies, spun-off PLC and spun-off NPLC adjusted for the size-control portfolio returns.
Panel C shows the results of size-adjusted abnormal returns (SAARs) for full sample of combined companies, combined PLC and combined NPLC adjusted for the size-control portfolio returns.

After adjusting for size, our results confirm the presence of spin-off effect for the full sample of parent companies 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 companies persist following the size-adjustment analysis. Interestingly, the size adjustment increases the strength of evidence in favour of a pricing inefficiency. In the five days following the announcement there is jump in returns indicating some post-announcement drift. But the results are significant only at the 10% level.

In contrast to the results obtained using market adjusted buy-and-hold abnormal returns as reported earlier, we observe there is no significant spin-off abnormal return for parents, spun-offs and combined companies 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 companies into two groups: PLCs and NPLCs, we observe the superior performance of parent PLCs relative to their peers in the NPLCs over the short-run period surrounding the spin-offs announcement day. After comprehensive size-adjustment, the parent PLCs significantly outperformed parent NPLCs, on average of +15.26% compared with +3.50% (from day -20 through day +20) and +4.24% compared with +2.83% (from day +1 through day +3). The difference in abnormal returns between the two sub-samples is statistically significant at 1% level.

Interestingly, we observe that parent PLCs underperformed NPLCs, on average of -7.27% compared with +10.59% in the second-year period. The difference in abnormal returns between the two sub-samples is statistically significant at 5% level.

In contrast, we find strong evidence that spun-off PLCs outperformed NPLCs, showing an average of +21.50% compared with -11.52% in the first-year period pursuant their listing month. The difference in abnormal returns between the two sub-samples is statistically significant at 1% level.

However, in terms of overall effect the weighting of the parent companies is more influential because we find that combined PLCs significantly underperformed their peers in the NPLCs, on average of -19.58% compared with -1.86% in the three-year holding period following the completion month of spin-off. Unfortunately, the difference in abnormal returns between the two sub-samples is statistically insignificant.

Overall, we conclude that spin-offs by the politically-linked entities fail to demonstrate abnormal performance in the long-run period after allowing for size.

6.0 Summary and Conclusion

This study provides a number of new findings about Malaysian corporate spin-offs. First, we observe that the parent PLCs significantly outperformed their counterparts in the NPLCs during the few days surrounding the announcement date. The evidence shows that parent PLCs continue to demonstrate short-run abnormal performance even after eliminating the influence of size. The superior performance of parent PLCs could possibly be due to the fact that they are managed and

controlled by the government and are relatively better positioned for investors to exploit the spin-off information during the few days period surrounding the spin-off announcements.

Second, we fail to find abnormal performance for parents, spun-offs and combined (parents and spun-offs) PLCs in the long-run analysis of three-years even after adjusting for size, thus supporting the earlier findings documented by Putrajaya Committee on GLC High Performance (2005), Fraser et al. (2006), Issham (2008) and Afzan and Rashidah (2011). This implies that holding PLCs' shares in a portfolio would give a negative return effect to investors in the three-year holding period. This could be construed as a signal that spin-off companies with government ownerships are not acting at the best interests of their shareholders over the long-run period.

We can also plausibly argue that the underperformance of PLCs in the long-run period could be partly caused by the unique characteristics possessed by these companies. It is important to note that PLCs strategies and decisions are confused with political and social agendas rather than their operating and financial performances. For example, one of the most controversial policies is the government's intention to ensure active participation of Bumiputra in the Malaysian corporate ownership and capital market. While pursuing this agenda, the majority of Malaysian companies became more tied to the politicians. Evidently, the PLCs are more inclined to hire politically connected people rather than professional and qualified managers in order to secure contracts and tenders; this may impede the operating and managerial efficiencies of these companies. Likewise, selective distribution of government-created awards might result in corruption, poor corporate governance and conflicts of interest among Malaysian businesses. As indicated earlier, the Malaysian government has the ability to exercise its position as a substantial shareholder in encouraging particular corporate decisions, which may lead to value expropriation, damaging

minority shareholders' interests. We have produced evidence that might strengthen those who argue that it is time the Malaysia government to lessen its control on the PLCs to allow more positive competition in the market, which may improve the performance of these companies generally rather than to continue to distort competition by giving greater help to be a 'typical' government enterprises.

Third, by looking at the performance of shares for the full sample of spin-off companies we find spin-offs create (perhaps illusory) value in the short-run period following an adjustment for size; 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 positive reaction by the investors in few days after the spin-off announcement, which may be 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 Malaysia market is inefficient, and at the same time not to underestimate the transaction costs associated with the share purchases of parent companies, we need to consider the average trading costs in the order-driven Malaysia share market.

Trading of shares on Bursa Malaysia involves the following costs: brokerage fees, clearing fees and stamp duty[21]. Taking these costs into our calculation, we find an average roundtrip transaction cost in buying and selling shares on Bursa Malaysia is approximately about +0.66% of the contract value[22]. 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 Singapore share market (around +1%) and 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 +3.55% (4.35%-1.00%) by concentrating his investment on parent PLCs during the three-day event window (day +1 through day +3) following the spin-off announcement date. Therefore, we can plausibly argue that there are abnormal returns opportunities that can be exploited by investors and hence provide some evidence against the efficient stock market hypothesis.

[21] 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.

[22] 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%

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