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Article

Does investors react in long-term? The case of Malaysian acquisition

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Does investors react in long-term? The case of Malaysian acquisition

Norhamiza Ishak^{1*}, Kamarun Nisham Taufil Mohd² and Hanita Kadir Shahar²

Abstract: This study examines long-run stock performance for acquirers from years 2000 to 2013. Since acquisitions create agency problem and companies in Malaysia exhibit concentrated ownership structures, this study aims to investigate four major objectives which consist of the effects of family control, blockholder activism, board structures and deal characteristics on stock performance of acquirers. In addressing these objectives, the abnormal returns over 36 months are adopted as the proxy for the long-run stock performance, respectively. Moreover, ordinary least squares regression methods are used to examine the effects of the 16 factors on abnormal returns. The results show that Malaysian market can be considered as efficient, as most of the analyses show that the performance of acquirers does not differ from those of the matching firms. The findings imply that managers of family-controlled firms do not have to worry about investors penalizing them, as long as they engage in value-creating acquisitions. Moreover, institutional blockholders should play an active role if they want to protect their investments. Finally, investors have to realize that over the long run, there is no trading strategy that could be adopted to earn abnormal profit.



Norhamiza Ishak

ABOUT THE AUTHOR

This research is conducted by a research team consisting of Dr. Norhamiza Ishak as the first and corresponding author. She completed her PhD in Finance from UUM and currently serving as a Senior lecturer in Labuan Faculty of International Finance, Universiti Malaysia Sabah (UMS). She has authored, co-authored and reviewed referred journals including: *Labuan e-Journal of Muamalat and Society (LJMS)* and *Journal of Economics and Sustainability (JES)*. She has been teaching at Undergraduate program at UMS. The second researcher is Associate Professor Dr. Kamarun Nisham Taufil Mohd. He completed his PhD in Financial Economics from University of Arizona-Tucson, USA, now an Associate Professor in UUM. Finally, Dr. Hanita Kadir Shahar completed her PhD in Finance from UUM and she is senior lecturer in UUM. This research is never published in any publication before and thus, it is applying for considering in the *Cogent Business & Management* publication.

PUBLIC INTEREST STATEMENT

An acquisition could be described as one of the corporate exercises conducted when one company takeover another entity and establishes itself as the new owner. The acquisition is among the largest and most readily observed forms of corporate investments. This research examines the long-term impact on firms' value by looking at the stock price due to easy observation by outsiders (investor). On top of that, this research highlights the findings on long-run acquisition's performance in Malaysia. Findings show that over the three-years, there is no trading strategy that could be adopted to earn abnormal profits as the performance for the acquirers. Meanwhile, an investor assuming that he/she holds on to the acquirer's stock for a certain period could gain returns is vulnerable. This research has significant implication for investors and academicians and stock markets in Malaysia.

Subjects: Finance; Corporate Finance; Corporate Governance

Keywords: acquisition; long-run; acquire; board structure; Malaysia

1. Introduction

An acquisition enables an acquirer firm to diversify business activity, expand operation strategies and gain technical knowledge. The impacts of an acquisition on a firm's value are easily observed through the firm's stock prices (Dutta et al., 2011; Zhao, 2013). Moreover, large acquisitions have long-term consequences for the well-being of shareholders and other stakeholders, as they are risky in nature such as stock price drop or inefficient management after acquisitions.

Acquisition not only limited to short-term stock price performance, but it is also important to see whether the return or loss persist in the long-run. The long-term share price performance is crucial to be examined in order to test the market efficiency. Based on the past empirical reviews (see for example, Jensen & Ruback, 1983; Andrade et al., 2001; Martynova & Renneboog, 2008) over the long-term, there has been no consistent result found that can determine whether bidder creates or destroys value. The most common long-term share price performance measures are cumulative average abnormal return (CAAR) and buy and hold return (BHAR). Acquiring firms in Malaysia are generally listed companies while target firms are privately held companies. Since share prices of a privately held company are not available, this study focuses on long-term share price performance of acquire firms.

In Malaysian market, large shareholders are composed of families and government-linked investment companies (GLICs). Amran (2011), Rachagan and Satkunasingam (2009), Abdullah (2006), and Claessens et al. (2000) state that a common feature of East Asian business scenario is that majority of firms are controlled by substantial shareholders, either families or institutions. Claessens et al. (2000) find that 67.2% of firms in Malaysia are controlled by families while another 13.4% are controlled by government. They also find that 85% of Malaysian firms have managers (CEOs or chairpersons) who belong to controlling families. Families could use M&A as a step to diversify their portfolios, to expand their firms' size as their compensation is closely tied to firm size, to ensure that their firms survive and to pass on the firms to future generations. Due to this fact, it is the aim of this study to examine the influence of the family ownership and blockholders with stock price long-run performance of M&As.

The existing studies provide limited substantial evidence on the effect of family ownership for long-run performance. There are two studies for example, Adhikari and Sutton (2016) find that acquirers controlled by families earned higher returns in acquisitions. By using matching firm and market index as benchmarks, they argue that family firms engage in acquisitions by undertaking unrelated firms to reduce the risk of investment through lowering cost of capital. Thus, the diversifying activities taken by family firms create value in acquisitions. Meanwhile, Bouzgarrou and Navatte (2013) find that family-controlled firms in France do not generate returns over 36 months using either CAR or BHAR. Thus, this study intends to fill that gap.

On top of that the blockholder could monitor managerial actions in acquisition by reducing agency problem between managers and outside shareholders. Bouzgarrou and Navatte (2013), Harris et al. (2010), and Bauguess et al. (2009) argue that blockholders could influence decision making and can prevent any non-value enhancing proposals made by managers through close monitoring. Furthermore, a large blockholder has its own interest in ensuring the successful completion of M&A (André et al., 2007). There are two types of blockholder examined in this study: passive and active. A passive blockholder does not have its representation on board while active blockholder has a representative on board. Thus, it is expected that active shareholders will play a more vital role in monitoring managerial performance.

Furthermore, studies on long-run performance are not extensively explored as compared to the studies on the announcement's effects. It is well documented in literatures that over the long period of time, acquirers acquiring privately held targets might create or destroy value especially since the needed information regarding the targets cannot be publicly observed and thus there are uncertainties concerning the target's valuations (Bhabra & Huang, 2013; Dutta & Jog, 2009). Although Peng and Isa (2012) investigate the long-run stock price performance in Malaysian market, their study is only limited to the method of payment, types of target and relative size of acquirers. This paper nevertheless attempts to use more comprehensive variables that also include ownership and blockholders activism.

Finally, the findings show that over the three-year period, there is no trading strategy that could be adopted to earn abnormal profits as the performance of the acquirers are basically similar to those of matching firms and none of the factors is significant in all regression models. To enrich the study on long-run share price performance, an examination of the factors that affect performance is performed. The most obvious finding for BHAR is that there are six significant variables when EMAS is used as the benchmark. While for CAR, three variables are significant. When matching-firm portfolios are used for either 1-match, 2-match or 4-match, results of BHAR show that at most only two variables are significant while in CAAR only one variable is significant. The overall results indicate that most significant variables are D4CASH when BHAR is used and D4BLISPSV when CAR is adopted. Acquirers that used cash financing will create value in the long-run. Meanwhile, the presence of passive institutional blockholders in the acquire firms leads to value reduction over the three-year period.

The rest of the paper is structured as follows. Section 2 discusses the literature and defines the hypotheses. Section 3 presents the data. Section 4 discusses the empirical results. The conclusions are in Section 5.

2. Literature review

The first theory used to explain long-run acquisition is based on market efficiency. A market is efficient if the security prices fully reflect the available information (Fama, 1970). On an announcement of a proposed acquisition by acquire, the acquirer's share prices would vary considerably to reflect the investors' beliefs on the attractiveness of the proposed acquisition. If investors are convinced that the acquisition is value enhancing, the share prices would then go up. If happens otherwise, the acquisition is only to lessen the value, hence reduce the share prices. Thus, in the short-run, the prices would fluctuate depending on the promising potential of the acquisition. However, over the long-run, such as a duration of a three-year period, there should not be any overreaction or underreaction if the market is efficient since information regarding the acquisition is accessible to investors. Therefore, in the context of an efficient market, investors cannot make abnormal profits once the announcement is made. The failure of share prices to incorporate the information regarding the acquisition would be inconsistent with the efficient market hypothesis. Andrade et al. (2001) also support the efficient market hypothesis based on the findings that stock prices can quickly adjust to merger announcements on announcement dates while over a period of 24-month after the completion of acquisitions, they find zero abnormal returns. The same findings are reported by Dutta and Jog (2009), who observe insignificant three-year abnormal returns following the completion of acquisitions.

The second explanation for M&As is based on agency theory. There are two types of agency's problem: Type I, which is between owners and managers and Type II, takes place between the majority and minority shareholders (Villalonga & Amit, 2006). Agency's problem arises because of the differences that exist in goals and risk preferences (Eisenhardt, 1989). This problem can motivate the managers to pursue their own objectives at the expense of shareholders' interests (Jensen & Meckling, 1976). Gompers et al. (2003) report that firms with higher agency's problems and stronger managerial rights are more likely to pursue M&As.

In Type I agency's problems, the managers who claim to work in maximizing the shareholders' wealth are prone to abuse their powers. In other words, committing moral hazards is sometimes inevitable. For example, they might shirk their duties to enjoy more leisure (Jensen & Meckling, 1976). Moreover, Masulis et al. (2007) state-based on their research that managers who have greater divergence between the control rights and the cash flow right are more inclined to extract private benefits at the shareholders' expense. Most managers are tempted to pursue this because they do not directly own the company's resources. Next, Type II agency's problem usually occurs within the family firms. Family firms usually extend out private benefits to family members such as granting job promotions to their family members instead of the deserved employees, declaring special dividends, and giving out excessive compensation (Shleifer & Vishny, 1997). However, Type II agency's problem may actually be lessened by positioning the non-family members in top management's positions or by monitoring the family managers. These actions can then allow the necessary attention to be focused on strategies and plans in maximizing wealth for the survival of the company and attract more shareholders and investors. In addition, Yen and André (2007) also find that the highly concentrated ownership is consistent with the decrease of agency's costs and subsequently lead to the positive post-acquisition performance and increase in wealth of the acquire firms.

2.1. Empirical evidence on the long-run performance of acquire firms

Jensen and Ruback (1983) in their reviewed papers find that acquirers earn a significant negative return of -7.55% in the 12-month period after the takeover. Similarly, King et al. (2004) carry out a meta-analysis of 103 studies and find that long-run returns range from six months to three years to acquire firms are negative and statistically significant at 1%. They argue that the results imply that acquisitions do not lead to synergistic benefits to acquirers.

Bhabra and Huang (2013) examine the long-run performance of M&As by 136 Chinese firms. They find that acquire firms could create values of 49.88% in the 26-month period and 72.14% in the 36-month period under market index benchmark and value-weighted (VW) approach. They argue that the vast majority of acquire firms create value to their shareholders by acquiring unlisted target firms. Meanwhile, Chi et al. (2011) state that majority of their sample consist state-owned enterprises (SOEs) which Chinese government controlled completely for these types of firms. They find that return by using BHAR rather than CAR has positive and significant returns by EW approaches in 13 months after completion. The returns are 5.3% at one percent level. They argue that higher state ownership and stronger government connection have a significant positive impact on long-run acquiring firm's performance.

A study in India by Banerjee et al. (2014) also find that acquiring firm's positively long-run returns index for first to three years of 14.29% to 22.88% at one percent level for the whole sample. They also examine separately time periods of three groups such as 1995 to 2003; group I, the returns are 12.80% and 56.39 % (p-value: 0.05), group II (2004 to 2007) the returns are 11.65% (p-value: 0.10) and 1.2% and group III (2008 to 2011) the returns are 19.10% (p-value: 0.01) and 26.34% (p-value: 0.05). They argue that the largest long-runs in between 1995 and 2003 are related to the bullish market of the late 1990s. They added that a long-run performance is positive and significant for only two of the three times periods following separately time period. They identify for only two of the three time periods that are significant such as declined trend reflects the overpayment for targets and low expected synergies.

Underperformance returns observed by Ma et al. (2011) study in US merger firms between years of 1978 to 2002. They find that 1077 acquirer firms experience underperformance in long-run performances. By using the buy and hold method, acquirers gain negative returns of -7.6% based on matching control firms from three months to three years post acquisitions. They argue that post-acquisition for the whole sample underperformance is not driven by the reversal of over-valuation. The underperformance actually reflects the negative economic impact of mergers on estimated intrinsic value. A study by Lin et al. (2011) also find underperformance returns for 597

sample firms that used stock-for-stock acquisition in between 1984 and 2006. The results are negatively significant at one and five percent level for 12-month to 36-month. The returns under value-weighted (VW) and matching control firms benchmark are -5.10% , -20.25% and -28.36% . They strongly argue that underperformance long-run bidder firms are concentrated among highly overvalued firms.

Another study by Moeller et al. (2005) find that 4136 acquiring firms' that make large deal losses in between 1980 to 2001 suffer from underperformance returns of -14% by equally-weighted (EW) and matching control firms are statistically significant at one percent level. They argue that acquirers' loss of wealth is driven by merger wave that is costly for acquiring-firm shareholders. Meanwhile, Andrade et al. (2001) find that acquisitions do not lead to wealth destruction to acquirers except when equal-weighted return approach is used. They find a negative return of -5.0% and significant at five level under EW approach. Meanwhile, return under value-weighted (VW) is a negative of -1.4% but not significant. Their results are based on matching control firms. Therefore, large firms carry more weight than small firms. This shows that the long-run poor performance is driven by small acquire firms.

Another study in the US is by Rau and Vermaelen (1998). They study 2823 bidder firms between the years of 1980 to 1991 in the market. They find a significant (p-value: 0.01) negative -4% . By using CAR in calculating long-run CAR return, they argue that underperformance return is driven by the lower price-to-book value of firms or "glamour" acquirer in their samples. They claim that their results are also driven by the fact that investors and management overestimate the bidder's past performance. In line with the result, a study by Agrawal et al. (1992) finds that acquirers experience underperformance long-run returns by using cumulative average abnormal return (CAAR). They report the return under market index benchmark in three years by value-weighted (VW) approach is -7.38% meanwhile the returns for five years by EW and VW are -11.2% and 10.3% , respectively. All returns are significant at five percent level. Meanwhile, returns under matching control firms are positive of 7% at one percent level. They argue that underperformance returns are caused by a slow adjustment of the market to the merger event.

Martynova and Renneboog (2008) find that acquirers generate negative and significant returns in the three-year post-acquisition period. Additionally, they find that returns to acquirers are statistically significant when M&A transactions are partitioned into subsamples by means of payment, bid status and type of target firms. Meanwhile, Cosh et al. (2006) find that 363 UK firms in between 1985 and 1996 experience a negative and significant return of -16.26% by matching control firms based on industry and profitability in the 36-month post-acquisition period. They argue that their study is in line with several studies in the UK which is underperformance long-run return for acquiring firms.

Peng and Isa (2012) find acquirers in Malaysian market experience negative long-run performance for CAAR and BHAR by market index and matching control firm. The results show that CAARs are 2.88% and -15.13% for 24 months and 36 months. Both are statistically significant at 10% and 5% levels. Meanwhile for BHARs are negatives of -13.92% and -11.93% for 36 months and statistically significant at 5% and 10% levels. They argue that acquirer firms might be through difficulties in the bid/ask process and thus, a market investor perceives that the bid/ask integrations costs are higher than the synergistic gains. Finally, Bouzgarrou and Navatte (2013) find that returns of family's bidder in France region are underperformance long-runs. They find that positive but not significant at all for matching control firms benchmark. Thus, family' acquirers do not create value for shareholders wealth in 36-month post-acquisition. They argue that family bidder is strongly efficient in the extraction of private benefits in family firms.

Various studies focus on governance factors such as blockholders, independent directors and executive ownership. Boubakri et al. (2008) investigate the long-run performance of acquirers in the US property-liability insurance sector. They find that the presence of blockholders for 177

sample firms leads to significant negative returns over a three-year performance. They argue the result is consistent with entrenchment hypothesis. Meanwhile, Adhikari and Sutton (2016) find that blockholders do not give significant impact on shareholders' wealth. Boubakri et al. (2008) find the presence of independent directors in the US property-liability insurance sector leads to significant negative BHAR over a three-year period. They argue that independent directors do not play a role in reducing agency problem and the presence of independent director do not necessarily lead to profitable M&As for acquirers. Meanwhile, Dutta and Jog (2009) find that director independence does not influence returns to acquirers. Boubakri et al. (2008) find that CEO-ownership leads to a significant negative BHAR over a three-year period. They claim that the result on CEO-ownership is consistent with entrenchment hypothesis, where CEO might abuse his power to achieve his objectives. Meanwhile, Dutta and Jog (2009) find that CEO-ownership within 5% to 25% level earns significant negative returns.

In summary, empirical evidence show the effect of the market performance and governance factors on long run performance are mixed for selected countries.

3. Methodology

3.1. Sample selection

Sample selection for long-run performance includes all clean and unclean sample firms for the period from 2000 to 2013. The initial sample is composed of 278 firms. However, 11 firms have to be omitted from the sample due to non-availability of data on their stock prices. The study uses monthly data for prices (P) and total return index (RI) from three months prior to acquisition to 36 months after the acquisition completion date. Data on firm size (MV), market-to-book value (MTBV), and stock prices are obtained from Thompson DataStream. This study employs two methods of estimating abnormal returns (as discussed in Chapter Three), namely: a) CAARs; and b) BHARs. Two benchmarks for price performance are applied, which are: (a) the market benchmark approach using FTSE Emas Index; and (b) the matching firm approach (Barber & Lyon, 1997).

3.1.1. Examination of long-run performance

Two critical issues should be considered in employing long-term event studies: (a) methodology used to estimate returns and (b) the benchmarks employed to measure normal returns (Barber & Lyon, 1997; Bessler & Thies, 2007; Fama, 1998; Pontiff & Woodgate, 2008). There are two popular approaches in estimating long-run performance: buy-and-hold returns (BHAR) and cumulative average abnormal returns (CAAR). Almost all studies apply BHAR in detecting long-run abnormal returns (Cosh et al., 2006; Savor & Lu, 2009; Bouzgarrou & Navatte, 2013; Bhabra & Huang, 2013). Barber and Lyon (1997) argue that CAAR is a biased predictor of long-run buy-and-hold abnormal returns. Besides, CAAR also ignores the effects of monthly compounding. Additionally, by using BHAR, short-term returns are compounded to obtain long-run buy-and-hold returns, which are similar to the returns that investors will realize if they hold the investments over a long period of time. Therefore, Barber and Lyon (1997) suggest the use of BHAR to detect long-run performance.

This study uses EMAS Index Bursa Malaysia (FTSEEMAS) as a market benchmark that follows previous studies from Aik et al. (2015); Al-Sabri and Nordin (2018). However, EMAS Index is a weighted index and focuses more on large firms so it would carry more weight for larger firms. Thus, it might not be a suitable benchmark alone. Therefore, another benchmark is also used which is a control firm or a portfolio of control firms with similar characteristics to the acquiring firm. To identify matching control firms, this study matches each acquiring firm to controlling firms based on firm size and book-to-market. To be considered as control firms, firms must be listed for the whole length of the long-run performance. Furthermore, firms with the lowest Euclidean distance¹ are chosen as the matching firms.

3.2. Calculation of long-run abnormal return

Long-run performance might also be influenced by the way adjusted returns are weighted. Both equal weighted (EW)² and value weighted (VW)³ measures are used to investigate the effects of size on long-run performance. In measuring the long-run performance using market index or matching firms as the benchmarks, CAR and BHAR for a three-year period are calculated. To calculate CAR over a three-year period, the abnormal returns for each month for the 36-month period are added up. Buy-and-hold abnormal return (BHAR) refers to the abnormal return that an investor gains from holding on to the investment over a period of time. If an investor holds on to the share for three years, then BHAR refers to the total adjusted return that investor earns during this three-year period. BHAR is estimated as follows (Barber & Lyon, 1997).

4. Analyses results

4.1. Buy and Hold Abnormal Returns (BHARs) based on stock prices

The advantage of using BHARs is that the returns realized over the holding period for the investment is equal to the actual returns earned by the investor. Table 1 presents the results of buy-and-hold returns using equal-weighted (EW) as depicted in Panel A and value-weighted (VW) approaches as highlighted in Panel B. Column 1(a) of Table 1 shows the results of EW buy-and-hold raw returns without adjusting for the benchmarks. In the first year following acquisition, acquire firms earn an average return of 5.538%, increasing to 10.827% over a three-year period. All results are statistically significant at 5% and 10% levels. Meanwhile, when the VW approach is used, the results are also significant at 5% and 1% for 30-month and 36-month window periods, respectively. When the EW raw returns are compared to those of the benchmarks, this study finds that the BHARs over the three-year event period are negatively significant if EMAS Index (−17.528%) is used as the benchmarks. This finding is similar to those of other studies (see examples, Andrade et al. (2001); Ma et al. (2011); Moeller et al. (2005)).

These results show evidence of underperformance or overreaction by investors when EW measure is applied and this is especially true if performance is measured over a three-year period. Panel B of Table 1 shows that when VW approach is used, none of the BHAR is significant except when EMAS Index is used as the benchmark, in which case the BHAR of −6.898% is statistically

Table 1. Summaries of Equal(EW) and Value-Weighted (VW) approach of Buy-And-Hold Abnormal Return (BBHAR) following acquisition completion

MONTH	NO. FIRMS	PANEL A			PANEL B		
		EW-BHAR RAW (1a)	EW-EMAS Index BHAR (2a)	EW-BHAR ONE MATCH (3a)	VW-BHAR RAW (1b)	VW-EMAS Index BHAR (2b)	VW-BHAR ONE MATCH (3b)
1 to 12	267	5.538% (0.076)*	−3.652% (0.181)	0.105% (0.975)	7.024% (0.414)	0.766% (0.914)	5.426% (0.469)
1 to 18	266	8.479% (0.031)**	−4.528% (0.202)	−0.076% (0.987)	6.852% (0.530)	−2.476% (0.762)	4.803% (0.595)
1 to 24	261	7.694% (0.068)*	−9.074% (0.019)**	−2.579% (0.614)	6.202% (0.519)	−6.493% (0.389)	0.311% (0.970)
1 to 30	257	11.571% (0.017)**	−10.262% (0.027)**	−1.183% (0.844)	16.415% (0.018)**	−2.128% (0.663)	8.028% (0.159)
1 to 36	252	10.827% (0.020)**	−17.528% (0.000)***	−4.861% (0.451)	16.274% (0.005)***	−6.898% (0.094)*	4.916% (0.465)

*, ** and *** indicate 10%, 5% and 1% respectively

significant at 10%. The insignificance of BHAR when VW approach is used shows that the under-performance of EW-BHAR is driven by the small size of the acquiring firms.

4.2. Cumulative Average Abnormal Returns (CAARs) based on stock prices

Fama (1998) argue that BHARs may not be a good measure for performance in the long-run as BHARs uses compounded short-term returns to obtain long-run buy-and-hold returns. Thus, as suggested by Fama (1998), this study also estimates returns by using CAARs. Table 2 summarizes the results of cumulative average returns of acquire firms over a three-year period following acquisitions. Column 1(a) of Panel A sets out the cumulative raw returns over the three-year period without adjusting for benchmarks' returns, according to the definition of raw return given by Rau and Vermaelen (1998) in their study. The results show that the EW raw returns to acquire firms are positive and increasing. In the first year following an acquisition, acquire firms earn an average return of 4.976% and this percentage increases to 21.438% over the three-year period.

All returns are statistically significant at 1% and 10% levels. When the VW approach is used, the results are significant at 1% for 30-month and 36-month window periods. However, the positive results may be driven by good market performance. To investigate if the results are due to acquisitions, the raw returns have to be compared against the returns of a benchmark. Columns 2(a) to 5(a) summarizes the performance of acquire firms after adjusting for the performance of a benchmark by using EW-CAAR approach. When the performance of acquire firms is adjusted for the performance of the benchmark, none of the results is significant except for the CAAR of a 12-month period when four matching firms are used as the benchmark. The CAAR is -4.218% and it is significant at a 10% level. These results show that acquisitions do not lead to over- or under-performance of the acquire firms. In fact, investors react rationally to acquisition completions and their expectations of the future performance do not differ from the actual future performance. In this case, the market, at least in terms of the long-run performance of acquisitions, is found to be efficient in Malaysia.

When VW measures are used as reported in Panel B of Table 2, the results are basically similar to the EW results except that only two values of raw returns are significant, namely the returns over the 30-month and 36-month periods of 16.654% and 19.156%, respectively. Both returns are statistically significant at 1% level. However, when the returns are adjusted using the benchmarks, none of the CAARs are found to be significant. This finding corroborates the results of Chi et al. (2011) who find no

Table 2. Summaries of Equal (EW) and Value-Weighted (VW) approach of Cumulative Average Abnormal Return (CAAR) following acquisition completions

MONTH	NO OF FIRMS	PANEL A			PANEL B		
		EW-CAAR RAW (1a)	EW-EMAS Index CAAR (2a)	EW-CAAR ONE MATCH (3a)	VW CAAR-RAW (1b)	VW-EMAS Index CAAR (2b)	VW CAAR-ONE MATCH (3b)
1 to 12	267	4.976% (0.067)*	-3.570% (0.121)	-2.705% (0.327)	4.742% (0.587)	-0.957% (0.896)	3.327% (0.678)
1 to 18	266	10.409% (0.004)***	-1.860% (0.567)	-2.086% (0.623)	1.037% (0.930)	-7.499% (0.412)	-1.049% (0.920)
1 to 24	261	11.863% (0.008)***	-4.379% (0.294)	-3.148% (0.531)	5.350% (0.602)	-6.931% (0.397)	0.611% (0.950)
1 to 30	257	17.811% (0.000)***	-3.767% (0.414)	-1.570% (0.780)	16.654% (0.001)***	0.127% (0.977)	8.123% (0.115)
1 to 36	252	21.438% (0.000)***	-5.638% (0.236)	-1.991% (0.737)	19.156% (0.000)***	-1.573% (0.687)	7.385% (0.908)

*, ** and *** indicate 10%, 5% and 1% respectively

significant returns when market index is used as the benchmark. Meanwhile, Bouzgarrou and Navatte (2013) find no significant effects for 36-month CAARs by using matching firms as the benchmark. Again, these results indicate that investors form an unbiased expectation of future performance. Overall, the results of cumulative average abnormal returns reflect those of buy-and-hold returns, especially when VW measures are used.

4.3. Univariate analyses for the three-year performance

This section discusses the results of univariate analyses for relevant long-run independent variables. Tests of difference in means and Mann-Whitney U tests which assume non-normal distribution are used to investigate the existence of differences between the two groups. The long-run independent variables used are blockholders Equally-weighted (EW) by buy-and-hold returns (BHARs) and cumulative average abnormal returns (CAARs) over a three-year period are used to measure the dependent variable.

4.4. The effects of active blockholders on the three-year performance

This section separates the firms based on the presence of active blockholders. Tables 3-5 summarize the results of BHARs and CAARs as a result of the presence of active blockholders. The results show that all differences for both groups are not statistically significant when either parametric or non-parametric tests are used.

If an active blockholder is further separated into an active institutional blockholder or an active individual blockholder, the difference in BHARs between the presence of active institutional blockholders and non-presence of active institutional blockholders is significant at 5% for both tests when EMAS Index is used as a benchmark. The BHAR when active institutional blockholders are present is an insignificant -0.36% and the BHAR without the presence of active institutional blockholders is -22.78%. This result indicates that firms without active institutional blockholders experience greater value destruction compared to firms with active institutional blockholders. In this case, active institutional blockholders provide a monitoring role in the sense that they would ensure that firms would not engage in value-destructive acquisitions.

Similarly, the difference in BHARs between the presence of active individual blockholders and non-presence of active individual blockholders is significant. In contrast to the result of active institutional blockholders, the presence of active individual blockholders leads to a lower BHAR of -35.45% compared to the BHAR of -13.09% for the group of firms without the presence of active individual blockholders. This indicates that firms with active individual blockholders perform more poorly than firms without the presence of active individual blockholders. A plausible reason is that active individual blockholders might gain personal benefits from the M&As such as reducing the risk of their investments. In this case, they would neglect their role as monitoring agents in order to achieve their objective.

Finally, when portfolios of matching firms are used as the benchmark, none of the differences in BHAR is significant and when long run performance is measured by using CAAR, none of the differences is significant regardless of the type of benchmark used.

4.5. The effects of passive blockholders on the three-year performance

The presence of passive blockholders and the presence of institutional passive blockholders lead to significant impact when either method of measuring abnormal performance (BHAR or CAAR) is used with the EMAS index as the benchmark. The difference in returns between the presence of passive blockholders and non-presence of passive blockholders is significant at the 1% level for CAAR and 5% level for BHAR. The return when using BHAR is -28.20% while when using the CAAR method, the return is -19.07% when passive blockholders are present while the returns for both BHAR and CAAR are not significant in the non-presence of passive blockholders. These results indicate that the existence of passive blockholders in a firm lessens firm value.

Table 3. Test for differences in means by using BHAR and CAAR for governance characteristics

Bench marks	EMAS Index (BHAR)			EMAS Index (CAAR)		
	1	0	p-value Difference of two means (Mann Whitney U)	1	0	p-value Difference of two means (Mann Whitney U)
1 if family ownership ≥ 10% (N = 196) 0 if family ownership < 10% (N = 56)	−0.2019*** (0.000)	−0.0821 (0.412)	0.2862 (0.329)	−0.0687 (0.220)	−0.0134 (0.8769)	0.5925 (0.5230)
1 if family ownership ≥ 33% (N = 127) 0 if family ownership < 33% (N = 125)	−0.1730** (0.0130)	−0.1770*** (0.0030)	0.1974 (0.3140)	−0.0872 (0.1285)	0.0305 (0.7145)	0.2447 (0.1880)
1 if blockholder is present (N = 186) 0 if blockholder is not present (N = 66)	−0.2141*** (0.0000)	−0.0659 (0.5254)	0.5970 (0.4860)	−0.0810 (0.1510)	0.0190 (0.8300)	0.2948 (0.4570)
1 for presence of active blockholder (N = 104) 0 for non-presence of active blockholder (N = 148)	−0.1468** (0.0379)	−0.1953*** (0.0013)	0.3210 (0.1930)	0.0049 (0.9521)	−0.0994* (0.0841)	0.163 (0.206)
1 for presence of active institutional blockholder (N = 59) 0 for non-presence of active institutional blockholder (N = 193)	−0.0036 (0.9697)	−0.2278*** (0.0000)	0.0376** (0.0420)**	0.0439 (0.5581)	−0.0870 (0.1319)	0.1667 (0.2560)
1 for presence of active individual blockholder (N = 50) 0 for non-presence of active individual blockholder (N = 202)	−0.3545*** (0.0003)	−0.1309** (0.0115)	0.0346** (0.0800)*	−0.0811 (0.5823)	−0.0503 (0.2866)	0.8420 (0.4430)

(Continued)

Bench marks	EMAS Index (BHAR)			EMAS Index (CAAR)		
	1	0	p-value Difference of two means (Mann Whitney U)	1	0	p-value Difference of two means (Mann Whitney U)
1 for presence of passive blockholder (N = 135) 0 for non- presence of passive blockholder (N = 117)	−0.2820*** (0.0000)	−0.0521 (0.4705)	0.0120** (0.0150)**	−0.1907*** (0.001)	0.0987 (0.1853)	0.0025*** (0.0040)***
1 for presence of passive institutional blockhold (N = 83) 0 for non- presence of passive institutional blockholder (N = 169)	−0.3172*** (0.000)	−0.1056* (0.0668)	0.0205** (0.0170)**	−0.2317 (0.001)***	0.0297 (0.6290)	0.0048*** (0.0040)***
1 for presence of passive individual blockholder (N = 69) 0 for non- presence of passive individual blockholder (N = 183)	−0.3029*** (0.0002)	−0.1271** (0.0217)	0.0625* (0.1250)	−0.3029*** (0.0002)	−0.1271** (0.0217)	0.0622* (0.1330)
1 if firm use cash (N = 203) 0 if firm use stock and cash (mixed) (N = 49)	−0.1400*** (0.0080)	−0.3220*** (0.0000)	0.0600* (0.0950)*	−0.0260 (0.6440)	−0.1840** (0.0280)	0.1110 (0.1420)
1 if target company is public company (N = 27) 0 if target company is private company (N = 225)	0.1119 (0.4313)	−0.2097*** (0.0000)	0.0369** (0.010)***	0.0920 (0.4384)	−0.0742 (0.1489)	0.2010 (0.580)

*, **, and *** indicate 10%, 5% and 1% respectively.

Table 4. Test for differences in means by using BHAR for matching-firm portfolio

Benchmarks Variables	BHAR(one-firm portfolio)		
	1	0	-p-value Difference of two means (Mann Whitney U)
1 if family ownership \geq 10% (N = 196) 0 if family ownership < 10% (N = 56)	0.0000 (0.8338)	0.0006 (0.3805)	0.4350 (0.4880)
1 if family ownership \geq 33% (N = 127) 0 if family ownership < 33% (N = 125)	0.0002 (0.5820)	0.0002 (0.5970)	0.9467 (0.6240)
1 if blockholder is present (N = 187) 0 if blockholder is not present (N = 65)	0.0003 (0.3307)	-0.0001 (0.6990)	0.3524 (0.8580)
1 for presence of active blockholder (N = 105) 0 for non-presence of active blockholder (N = 147)	0.0005 (0.3508)	0.0000 (0.9314)	0.3717 (0.5680)
1 for presence of active institutional blockholder (N = 59) 0 non- presence of active institutional blockholder (N = 193)	0.0011 (0.1541)	0.0001 (0.6189)	0.1324 (0.3570)
1 for presence of active individual blockholder (N = 51) 0 non-presence of active individual blockholder (N = 201)	-0.0004 (0.3818)	0.0003 (0.2199)	0.1730 (0.3940)
1 for presence of passive blockholder (N = 135) 0 for non-presence of passive blockholder (N = 117)	0.0000 (0.9944)	0.0004 (0.2674)	0.4094 (0.5320)
1 for presence of passive institutional blockholder (N = 83) 0 for non- presence of passive institutional blockholder (N = 169)	-0.0002 (0.6669)	0.0004 (0.2192)	0.2903 (0.5310)
1 for presence of passive individual blockholder (N = 69) 0 non-presence of passive individual blockholder (N = 183)	-0.0001 (0.8933)	0.0003 (0.3283)	0.5315 (0.6420)
1 if firm use cash (N = 203) 0 if firm use stock and cash (mixed) (N = 49)	0.0003 (0.1040)	-0.0006 (0.3320)	0.151 (0.000)***
1 if target company is public listed company (N = 27) 0 if target company is private listed company (N = 225)	0.0007 (0.6231)	0.0001 (0.5683)	0.6871 (0.142)

*, ** and *** indicate 10%, 5% and 1% respectively

Table 5. Test for differences in means by using CAAR for matching-firms portfolio

Variables	CAAR (one-firm portfolio)		
	1	0	p-value Difference of two means (Mann Whitney U)
1 if family ownership \geq 10% (N = 208) 0 if family ownership < 10% (N = 44)	-0.0383 (0.5680)	0.0668 (0.5905)	0.4561 (0.6240)
1 if family \geq 33% (N = 134) 0 if family < 33% (N = 118)	0.0115 (0.790)	-0.0556 (0.404)	0.5694 (0.898)
1 if blockholder presence (N = 182) 0 if non-blockholder presence (N = 70)	-0.0326 (0.6453)	0.0130 (0.9054)	0.7263 (0.8580)
1 for presence of active blockholder (N = 99) 0 for non-presence of active blockholder (N = 153)	0.0514 (0.5708)	-0.0660 (0.3993)	0.3266 (0.2340)
1 for presence of active institutional blockholder (N = 48) 0 for non- presence of active institutional blockholder (N = 204)	0.0893 (0.5077)	-0.0456 (0.4909)	0.3690 (0.2650)
1 for presence of active individual blockholder (N = 55) 0 for non-presence of active individual blockholder (N = 197)	0.0293 (0.8024)	-0.0336 (0.6239)	0.6425 (0.3940)
1 for presence of passive blockholder (N = 130) 0 for non-presence of passive blockholder (N = 122)	-0.0868 (0.3153)	0.0514 (0.5256)	0.2428 (0.7260)
1 for presence of passive institutional blockhold (N = 79) 0 for non- presence of passive institutional blockholder(N = 173)	-0.255** (0.0341)	0.0875 (0.1857)	0.0126** (0.065)*
1 for presence of passive individual blockholder (N = 67) 0 for non-presence of passive individual blockholder (N = 185)	0.0521 (0.6289)	-0.0460 (0.5166)	0.4468 (0.3760)
1 if firm use cash (N = 203) 0 if firm use stock and cash (mixed) (N = 49)	-0.0250 (0.7040)	-0.0010 (0.9960)	0.8840 (0.5340)
1 if target company is public listed company (N = 26) 0 if target company is private listed company (N = 226)	0.0073 (0.9528)	-0.0230 (0.7217)	0.8272 (0.8530)

*, **, and *** indicate 10%, 5% and 1% respectively

When passive blockholders are further segregated into passive institutional blockholders and passive individual blockholders, the difference in returns between the presence of passive institutional blockholders and non-presence of passive institutional blockholders is significant at 1% level while the difference in returns between the presence of passive individual blockholders and non-presence of passive individual blockholders is not statistically significant. The return when BHAR (CAAR) is used is a statistically significant -31.72% (-23.17%) in the presence of passive institutional blockholders while BHAR (CAAR) when passive blockholders is not present is -10.56% (2.97%). These results indicate that the lower performance of passive blockholders is driven by passive institutional blockholders and not by passive individual blockholders. A possible reason is that passive institutional blockholders invest in many companies and hold a diversified portfolio. Thus, they do not participate in decision making, which contributes to less effective monitoring of a firm's management. If they are not satisfied with the firms' performance, they would just sell their holdings. When returns between the two groups are compared by using matching-firm portfolio, there is no significant difference except for CAAR of passive institutional blockholders if one is used as summarized in Table 5. The difference in CAARs between the two groups is significant at least at a 10% level.

4.6. Regression for long-run stock performance

Table 6 displays the regression results when different measures of blockholders with the ownership of directors' participation are appointed in Panel A and Panel B. The Ordinary least squares (OLS) method is used to test for the relationship between the dependent variable for long run price performance and the independent variable. Panel A uses dummy for the presence of blockholders and Panel B uses blockholder ownerships. The regression results in the forms of buy-and-hold abnormal returns (BHARs) and cumulative average abnormal returns (CAARs) using the equally-weighted (EW) returns with EMAS Index and matching-firm portfolio served as the benchmarks respectively. As for all 12 independent variables, the regression analyses of BHAR and CAAR are carried out. As observed from Table 6, there are more significant variables when EMAS Index is used as the benchmark. However, when matching-firm approach is adopted, the number of significant variables are reduced to at most three.

The F-statistics for Panel A for Model A1 shows that BHAR regression when EMAS index is used as the benchmark is 2.67 and it is statistically significant at 1%. The F-statistic indicates that jointly, the coefficients of the independent variables are not equal to zero. The regression equation is able to explain 10.37% of the variation in the dependent variable while the adjusted R-squared is 6.26%. There are five variables that influence BHAR returns, namely active individual blockholder (D4BLIDACT), passive individual blockholder (D4BLIDPSV), passive institutional blockholder (D4BLISPSV), cash (D4CASH) and types of target (D4PUBLIC).

The presence of active individual blockholder (D4BLIDACT) and passive individual blockholder (D4BLIDPSV) leads to the decrease in shareholders' wealth as they lead to a -19.13% , or 19.09% or reduction in three-year performance, respectively. Both coefficients are statistically significant at least at 10% levels. This implies that investors react adversely when acquire firms have more active or passive individual blockholder. Hypothetically, the D4BLIDACT and D4BLIDPSV should produce positive result as these two variables are believed to be able to lower the agency's problem. Interestingly, this study finds negative returns. One possible explanation is that either active or passive blockholder, only seek to diversify their investment in order to reduce their overall risk. Thus, they are willing to accept the non-profitable acquisitions.

The presence of passive institutional blockholder (D4BLISPSV) also shows decreasing returns to acquirers, with three-year wealth reduction of -22.29% and it is statistically significant at 5% level. Based on this data, it is presumable to explain the outcome by saying that passive institutional blockholders invest in many companies and hold a diversified portfolio, thus they do not participate in decision making, which contribute to less effective monitoring of a firm's management. If they are unsatisfied with the firms' performance, they have the option to sell their holdings. The

Table 6. Regression analyses by using Equally-Weighted (EW) approach following acquisitions completion

PANEL A				PANEL B							
VARIABLE	EMAS Index (BHAR) (A1)	EMAS Index (CAAR) (A2)	BHAR (A3)	CAAR (A4)	EMAS Index (BHAR) (B1)	EMAS Index (CAAR) (B2)	BHAR (B3)	CAAR (B4)			
			1-MATCH	1-MATCH							
FAMILY	0.1586 (0.5374)	0.1149 (0.6476)	0.0009 (0.5757)	0.1571 (0.6275)	0.4210 (0.1375)	0.3756 (0.2345)	0.0028* (0.0856)	0.1007 (0.7696)			
D4BLIDACT	-0.1913* (0.0979)	0.0009 (0.9954)	-0.0006 (0.2581)	0.0722 (0.6348)							
D4BLIDPSV	-0.1909** (0.0555)	-0.2334** (0.0419)	-0.0002 (0.6471)	0.0656 (0.6420)							
D4BLISACT	0.1877 (0.1077)	0.1296 (0.2885)	0.0012 (0.1385)	0.1847 (0.3346)							
D4BLISPSV	-0.2229** (0.0218)	-0.2495* (0.0119)	-0.0006 (0.2696)	-0.3442** (0.0408)							
BLIDACT					-1.1440* (0.0982)	0.0756 (0.9403)	0.0011 (0.6436)	0.9739 (0.2242)			
BLIDPSV					-0.4222 (0.6245)	-0.5394 (0.5647)	0.0026 (0.5448)	0.5995 (0.5559)			
BLISACT					0.7174** (0.0329)	0.5600* (0.0806)	0.0049** (0.0240)	0.1604 (0.7451)			
BLISPSV					-0.6452 (0.3729)	-0.7765 (0.2584)	0.0016 (0.6097)	-1.4554 (0.1919)			
BOARDSIZE	0.0346 (0.1286)	0.0110 (0.6022)	0.0002 (0.1280)	0.0044 (0.9208)	0.0249 (0.2504)	0.0033 (0.8785)	0.0001 (0.3508)	0.0010 (0.9816)			
D4FOUNDER	-0.0332 (0.8243)	-0.3386* (0.0996)	0.0001 (0.8013)	-0.0393 (0.8335)	1.7484 (0.6066)	-0.3495* (0.0956)	0.0000 (0.9669)	-0.0702 (0.7061)			
D4CASH	0.1657* (0.0996)	0.1049 (0.0996)	0.0012 (0.8013)	-0.1310 (0.8335)	0.1879* (0.6066)	0.1375 (0.0956)	0.0013* (0.9669)	-0.1019 (0.7061)			

(Continued)

PANEL A

VARIABLE	EMAS Index (BHAR) (A1)	EMAS Index (CAAR) (A2)	BHAR (A3)		CAAR (A4)		EMAS Index (BHAR) (B1)	EMAS Index (CAAR) (B2)	BHAR (B3)		CAAR (B4)	
			1-MATCH		1-MATCH				1-MATCH		1-MATCH	
	(0.0837)	(0.3022)	(0.1285)	(0.4607)			(0.0587)	(0.2051)	(0.0950)		(0.5522)	
D4PUBLIC	0.3105** (0.0453)	0.1806 (0.2067)	0.0002 (0.8916)	-0.0039 (0.9817)			0.3266** (0.0389)	0.1885 (0.2058)	0.0001 (0.9547)		0.0605 (0.7379)	
MTBV	-0.0234 (0.3702)	-0.0365 (0.4158)	0.0001 (0.3659)	0.0004 (0.9906)			-0.0189 (0.5466)	-0.0321 (0.5273)	0.0001 (0.4442)		0.0028 (0.9489)	
INEDOWN	1.5617 (0.6532)	5.9990 (0.3158)	0.0038 (0.7058)	0.2336 (0.9514)				5.7337 (0.3276)	0.0038 (0.6754)		-0.1858 (0.9594)	
CAR (3,1)		0.3959 (0.6501)		-0.9195 (0.3603)				0.2630 (0.7579)			-0.9930 (0.3400)	
CONSTANT	-0.4978** (0.0270)	-0.1166 (0.6105)	-0.0027* (0.0675)	0.0566 (0.8729)			-0.6550* (0.0071)	-0.2971 (0.2363)	-0.0036*** (0.0093)		0.0258 (0.9422)	
Obs	252	252	252	252	252	252	252	252	252	252	252	
F-stat	2.67	1.98	1.50	0.79			2.34	1.54	1.47		0.42	
Sign F-stat	0.0030	0.0268	0.1329	0.6568			0.0093	0.1095	0.1440		0.9541	
R-squared	0.1037	0.1012	0.0584	0.0406			0.1004	0.0810	0.0664		0.0215	
Adj R-squared	0.0626	0.0561	0.0152	-0.0076			0.0591	0.0349	0.0236		-0.0277	

Panel A shows blockholder as measured by dummy and director as measured by ownership and **Panel B** shows blockholder as measured by ownership and director as measured by ownership. **FAMOWN** relates to the percentage of voting rights an individual or a family holds, directly or indirectly (at least 10%), while the aggregate shareholdings of other major shareholders are not greater than 10%. **D4BLIDACT** is defined as a dummy of individual block holder and non-family owned companies having at least 5% of voting rights, and represented on the board. **D4BLIDPS** reflects a dummy of individual block holder and non-family owned companies holding at least 5% of voting rights and not represented on the board. **D4BLISACT** reflects a dummy of institutions, corporations, and non-family owned companies holding at least 5% of voting rights and represented on the board. **D4BLISPSV** is a dummy of institutions, corporations, and non-family companies holding at least 5% of voting rights and not represented on board. **BLIDACT** is defined as a percentage (%) of number of blockholders of an individual and non-family company holding at least 5% of voting rights, and represented on boards. **BLIDPSV** is percentage (%) of number of blockholders of an individual and non-family companies holding at least 5% of voting rights, and not represented on boards. **BLISACT** is percentage (%) of an institutions, corporations, and non-family companies holding at least 5% of voting rights and represented on boards. **BLISPSV** is percentage (%) of an institutions, corporations, and non-family companies holding at least 5% of voting rights and not represented on boards. **BOARDSIZE** constitutes the number of board members. **INEDOWN** represents the percentage (%) of independent directors to total directors. **D4FOUNDER** is defined as 1 if a firm has a founder on its board; 0 otherwise. **D4CASH** is defined as 1 if cash-acquisition; 0 otherwise. **D4PUBLIC** is defined as 1 if a target is a listed company; 0 otherwise. The number in the bracket is the p-value.

result is different from those of Boubakri et al. (2008) and Adhikari and Sutton (2016) who discovers that blockholder does not have any effect on long-run stock returns.

With regard to deal characteristics, this study finds positive results for acquisitions of method of payment (D4CASH) and public target (D4PUBLIC) on the three-year performance. When acquisitions are financed by cash (D4CASH), it can be noticed that shareholders experienced a return of 16.57% greater than that of the acquisition financed by a mixture of stock and cash. The return is significant at 10% level. The greater returns of cash financing acquisitions might be because acquirers will use cash if they are confident that they will not overpay for the acquisitions. If they believe that the targets are difficult to value, they will choose stock financing as in this way, the riskiness of the acquisitions will be shared with target shareholders.

Finally, D4PUBLIC leads to a 31.05% increase in buy-and-hold returns (BHARs) and it is statistically significant at a 5% level. The positive returns from acquiring a public target company can be linked to the acquirers' easier access in gaining information regarding the target. Since the target is a listed company, it is a requirement regulated by Bursa Malaysia that all listed companies must provide complete annual reports and to disclose any material information to their shareholders. In this case, it is easier to value a public company and the bidder can prevent overpayment to obtain the targets. The result is consistent with that of Bhabra and Huang (2013) who claim that bidder in China generate synergetic benefit in acquiring public-listed firms over a three-year period. In contrast, Peng and Isa (2012) state that acquirers who acquired public target companies do not experience value-reduction, but such results might be due to the small sample of public acquisitions, while in fact, the acquisitions of private targets lead to decreasing return to shareholders.

The results in Panel A for Model A2 show the cumulative average abnormal returns (CAARs) when EMAS Index is used as a benchmark. The adjusted R-squared in Model A2 is 1.98%. Only three variables are significant. Two blockholder variables, D4BLIDPSV and D4BLISPSV, are negatively significant. These results are similar to those in Model A1. The results of both passive individual and institutional are negative with -23.34% and -24.95%, respectively. Both results are statistically significant at least at 10% level. The existence of founder-director (D4FOUNDER) is negatively significant at 10% level. D4FOUNDER leads to a -33.86% reduction in CAARs for a three-year performance. The negative return suggests that founder-director may acquire other companies to diversify their risks. In this case, chances that they might overpay for the targets are higher. Furthermore, as argued by the hubris hypothesis (Roll, 1986), the founders' intuition in making risky selection of other firms might be due to their previous success in prospering their companies. Thus, the variables D4BLIDACT, D4CASH and D4PUBLIC which are significant in Model A1, are no longer significant.

Panels A for Model A3 and Model A4 of Table 6 display regression results when the matching-firm portfolios is used as the benchmarks for both BHAR and CAAR. The results in Model A3 imply that there is no significant variable with F-statistics is 1.50 and not statically significant when one matching firm is used. Next, Model A4 shows the results of CAAR. Only blockholder (D4BLISPSV) is significant at least at 10% level. The adjusted R-squared is -0.76% and the coefficients of D4BLISPSV is -34.42% (p-value = 0.05%). The rest of the variables continue to have an insignificant effect on shareholder's wealth for the three-year performance.

Next, Panel B uses blockholder ownership and the ownership of directors' participation. The results shows in Panel B are slightly different with Panel A. Model B1 shows that buy and hold return when EMAS index is used as the benchmarks. The adjusted R-squares are 0.0591% and the F-statistic indicates that jointly, the coefficients of the independent variables are not equal to zero for both models. The results obtained indicate that BLISACT, D4CASH and D4PUBLIC have significant positive effects on abnormal returns. The coefficient for BLISACT, D4CASH and D4PUBLIC are 0.7174, 18.79% and 32.66%. These coefficients are statistically significant at least at 10% levels. While for BLIDACT, the coefficient is -1.1440 and is significant at 10% level. Furthermore, BLISACT continuously show a significant positive return in Model B2.

Meanwhile D4FOUNDER is negatively significant at 10% level. In turn to matching-firm portfolios, BHAR show that three variables are significant. Surprisingly, FAMILY is positive significant return at 10% level. The result indicate that family companies could engage in acquisitions by undertaking unrelated firms to reduce the risk of investment through lowering cost of capital. Thus, the diversifying activities taken by family firms create value in acquisitions (Adhikari & Sutton, 2016). Following that, BLISACT and D4CASH also show positive significant return at least at 10%. However CAAR in Model B4 is unable to show significant variables.

In summary, the empirical evidence obtained entails that blockholders lead to a better performance after acquisitions and family ownership does not lead to value-destruction. Furthermore, there are more significant variables when EMAS is used as the benchmark instead of portfolios of matching firm.

5. Summary and contributions and implication of findings

This research examines the long-run performance since there is a lack of studies on long-run performance in Malaysia. To make the results of long run performance more robust, this study uses both methods of estimating returns (BHAR and CAAR), both weightage techniques (EW and VW) and different benchmarks (EMAS and matching firms (1-match). A comparison of the two benchmarks shows that the results become less significant when matching-firm is adopted as the benchmark. Since the matching-firm approach compares an acquiring firm with firms with similar characteristics, it is a better benchmark to be adopted.

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Competing Interest

This manuscript has not been published and is not under consideration for publication elsewhere. We have zero conflicts of interest to disclose. Thank you for your consideration.

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Notes

1. Euclidean distance is estimated to identify the matching companies. Three groups of matching firms are used, which are one-matching, two- matching and four-matching firms. Matching is done one month prior to completion of the acquisition.

2. In EW approach, each firm is weighted equally in calculation of returns.
3. In VW approach the abnormal return for each firm is weighted by its size. Therefore, large firms carry more weight than small firms.

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