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GOVERNMENT OWNERSHIP AND MANAGERS' ROLE: EFFECT TO ACQUISITION RETURN AMONG HIGH-TECHNOLOGY COMPANIES

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ABSTRACT

This study investigates the effect of high-technology (high-tech) company acquisitions and GLIC ownership on shareholders' value creation. Study samples for empirical analyses were carried out using the market-model event-study and multivariate analysis on studies published between 2011 and 2018. The findings indicate that; (i) The CAR for high-tech acquiring firms for the three-day event window (–1,1), five-day event window (–2, +2) and 11-day event window led to significant positive returns, with at least at 10% level, signifying that investors have a favourable reaction towards short-term high-tech acquisitions; (ii) The relationship between the GLICs' Institutional Blockholders (BPSVGLIC) and executive director (FRACEXEC) was found to affect the abnormal returns significantly negatively at a minimum 5% significance level. These results provide two practical implications; firstly, investors gain abnormal returns from their investment in high-tech acquiring companies, and secondly, firms with greater ownership stakes in GLICs could experience value destruction.

Keywords: High-tech acquisitions, Government-linked investment company, GLIC, Cumulative abnormal return, CAR, Malaysia

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INTRODUCTION

The advancement of IR4.0 (fourth industrial revolution) has witnessed the dynamic digital transformation of Malaysia's manufacturing and services sectors which are being driven primarily by mergers and acquisitions (M&As) implementations. These M&As strategies enable the country to tap into domestic and foreign markets, acquire cutting-edge technology, improve products and services, and reduce costs (Ishak et al., 2020a). Over the past decades, there has been a high prevalence of acquisition activities in high-technology (high-tech) sectors because acquirers want to access tacit and socially-complex knowledge, and avoid ambiguous internal technology development processes. Due to these facts, Malaysia is now on the right track in developing a high-tech and Internet-driven environment tailored to the requirements of the industry players. As such, Malaysia is well on its way towards establishing a high-tech and Internet-oriented environment that caters to the needs of the industry participants. As the primary contributor to the country's economy, the high-tech industry contributed USD90.3 billion in exports in 2018 or 52.8% of the overall manufacturing exports (www.theedgemarkets.com). Malaysia recorded a consecutive double-digit growth in high-tech exports in 2017 and 2018, i.e., 17.2% and 22.0%, respectively. In terms of export value, Malaysia is the 11th largest high-tech merchandise exporter as ranked in 2017. Numerous studies from the global market such as the U.S., U.K. and Asian countries such as India, China and Hong Kong reflected positive returns on shareholders' wealth and value creation in acquiring high-tech companies (see studies by Yoon and Lee, 2016; Saboo et al., 2017; Tampakoudis et al., 2018; Dranev et al., 2019; Thraya et al., 2019; and Cho et al., 2022).

This study aims at realising these objectives (Kapil & Kumar, 2021):

1. To analyse the effect of government ownership in the high-tech acquisition that could lead to shareholders' value creation.
2. To analyse the effect of managers' role in the high-tech acquisition that could lead to shareholders' value creation.

The study performed multiple empirical analyses including event-study methodology using a market model and multivariate analysis on studies published between 2011 and 2018.

Motivation of the Studies

In the Malaysian context, studies on the acquisition of high-tech companies in relation to government ownership are not much explored as compared to the studies on the announcement effects on various acquirer companies. This study

investigates factors that could explain short-run performance of government-controlled firms such as Government-Linked Investment Companies or GLICs and managers' role in Malaysia. On top of that, there is a different perspective of state-owned enterprise (SOE) between Malaysia and developed countries. While GLICs or SOE in Malaysia is mainly in the form of statuary body, in developed country, it is truly public corporation company. Most of the GLICs are statutory bodies that has varying levels of influence on how the company runs, like restructuring staff, deciding who gets to be board members, and determining business strategies. Furthermore, the company could get preferential treatment including direct subsidies, concessionary financing, state-backed guarantees and exemptions from antitrust enforcement or bankruptcy rules (Menon, 2017). For example, during Asian Financial Crisis in the 1997, many companies which are financially distress were bailed out by the government. This action has directly increase ownership in the Malaysian stock market.

Previous study by Mat-Rahim and Pok (2013) focused on the performance of various acquirer companies that gain significant positive returns for the short term during three-wave condition economies (Pre-bull, Bull and Bear), whereas a study by Ishak et al. (2020a; 2020b) only focused on the performance of short- and long-term returns from various acquirer companies towards ownership and governance structures which create positive returns to shareholder wealth. This study, however, attempts to provide more comprehensive variables such as the exclusive role of government ownership and the manager's role, particularly in high technology acquiring companies key factors influencing shareholders' wealth and value creation. Various results could be acquired due to the distinct acquisition characteristics in Malaysia such as government ownership structure in the GLICs and managers' roles.

Malaysia business scenario is flagged by 13.4% of the government-controlled firms (Claessens et al., 2000; Taufil Mohd et al., 2013). This represents 70% of the overall institutional shareholdings of firms listed on Bursa Malaysia are held by GLICs (Wahab et al., 2008). Thus, this study aims to examine the influence of the selected board characteristics, namely blockholder (government ownership), and managers' role on the stock price performance of high-tech acquisitions. GLICs could serve as blockholders, being one of the investor groups with substantial stakes in listed firms. Scholars have asserted that, via close monitoring, blockholders can affect decision-making and prevent non-valuable proposals from being made by managers (Bouzgarrou & Navatte, 2013; Harris et al., 2010; Gleason et al., 2012). Blockholders can be either passive or aggressive. A passive blockholder is not represented on the board whilst an aggressive blockholder is. An aggressive blockholder is projected to play a crucial role in

monitoring managerial performance as highlighted by Ishak et al. (2020a; 2020b) in their studies.

An effective manager can ensure reduction in agency problems, prevention of wealth transfer, and protection of shareholder values due to the monitoring of managers' actions and decisions by the board of directors (Masulis et al., 2007; Hilscher & Şişli-Ciamarra, 2013). In contrast, weak managers could lead shareholders to engage in value-destroying mergers stirred by agency motives and/or managerial entrenchment (Tampakoudis et al., 2018).

LITERATURE REVIEW

Synergy and Agency Problem

The M&A in this study are synergy-based, and driven by type of agency problem, namely managerial entrenchment. For Khan and Bin Tariq (2023), and Gupta et al. (2021), synergy is related to M&A deals where target and acquirers' firms have common industry, are more than unrelated M&A deals. This means that synergy can be realised in various ways such as through technical efficiency where the acquirer utilises the economies of scale and scope to create value, i.e., by reducing marginal costs and rising production output following target production integration. This can be achieved by merging two firms to avoid double-fixed costs (e.g., administrative and customer service costs).

The type of agency problem falls under managerial entrenchment hypothesis. Managerial entrenchment is a situation where the managers are too valuable for their firms and costly to be replaced. Through acquisitions, managers can diversify to lower their risk of being replaced (Berger et al., 1997; Bauguess & Stegemoller, 2008; Khan & Bin Tariq, 2023). This hypothesis asserts that managers acquire other firms for their own self-interest to the detriment of the shareholders.

Stock Market Reaction of Acquisitions in High-Tech Firms

Empirical evidence suggests that those acquisitions can lead to the creation of synergistic gains. Harris and Ravenscraft (1991) whose study investigated the gains and losses of 6,000 US-based acquisitions of manufacturing firms between 1950 and 1977 found that the target firms derived gains while the acquirers' suffered losses. The target firms' gains are driven by several complex factors. According to the authors, 30% of acquisitions is the result of greater efficiency; 30% is driven by wealth transfer from the acquirers' shareholders, bondholders,

workers and government to the target shareholders, whilst another 30% is due to the information derived from a superior acquirer.

According to Mulherin and Boone (2000), wealth-generating acquisitions are in line with the theory of synergy. The study investigated 281 sample acquirers from 59 industries between the year 1990 to 1999 and found that the targets attained significant positive returns of 3.56%. They claimed that the outcome is contributed by the targets and acquirers' combined returns following a two-day announcement, facilitated by economic changes and industry shocks. Andrade et al. (2001) also found that the combined returns achieved by the targets and acquirers generated significant values of 1.8% and 1.9% following a three-day and 20-day announcements, respectively. They examined 3,688 firms from various industries such as telecommunications, utilities and broadcasting. The findings support the synergistic theory which highlights the impacts of industrial and deregulation shocks.

When examining the stock market's reaction to high-tech and low-tech acquisition alliances, Porrini (2004) found that 85% of high-tech acquirers engage in one or more alliances prior to acquisition. Based on an 11-day event window (–5, 5), the study showed that the acquirers' alliance positively correlated with the value creation in high-tech acquisitions at a significant level of 1%. The study also revealed that high-tech acquirer alliances can improve and accelerate the integration process' management which would substantially benefit the high-tech acquirers. Meanwhile, the low-tech acquirers' alliance was found to negatively correlate with value creation at a significant level of 5%. Low-tech acquisitions benefit less from proprietary resource purchases such as patents; investors consider acquirer alliances as superior to acquisitions as they minimise numerous acquisition-related risks such as premium payments, diluted managerial attention, and diluted firm resources.

Gleason et al. (2012) investigated the relationship between corporate governance and high-tech acquisitions over the period from 1996 to 2003. They found that bidders with diversified acquisitions (high-tech firms acquiring non-high-tech targets) with independent boards (1.093%) and high blockholding (1.325%) achieved higher abnormal returns at a 5% minimum significance level over a three-day period (–1, 1). This means that, with proper monitoring mechanisms, diversified acquisitions could result in lower value destruction. This is in line with the monitoring theory, which demonstrates that governance quality affects the perception of wealth creation prospects through M&A. Using the event study method, André et al. (2014) examined stock market reactions to high-tech firm acquisitions under family ownership. They found that the 215 Canadian

acquirers under study achieved significant positive abnormal returns of 53.02% (p = 0.01) following a three-day event window (–1, 1). The finding indicated positive market perception towards the value generation capability of the high-tech M&A firms acquired by Canadian firms over the period from January 1997 to 2006. Canace and Mann (2014) categorised tech firm acquisitions into IT firms and non-IT firms. In the context of their study, IT firms involve computers and office equipment, communications equipment, electronic components and accessories, scientific and engineering instruments including laboratory equipment and analytical, optical, measuring and controlling instruments, photographic equipment, computer programming, data processing and other computer software. They found that the market reacted positively to the IT firms' acquisition, i.e., at 0.064% for a three-day window (–1, 1) at a significant level of 1%. Meanwhile, the market also reacted positively to the non-IT firms' acquisition, i.e., at 0.059% with a significance level of 10%. This shows that the market reacted more favourably to the M&A tech firm acquisitions due to the stronger R&D correlation.

Using the event study method, Sears (2017) examined stock market reactions to the acquirers' technology leader and laggard status in the U.S. It was found that the acquirer's technology leader destroyed shareholder value over a three-day period (–1, 1) at a significant level of 10%. The author asserted that the shareholders dismissed the acquirer's technological capabilities due to their external acquisition rather than internal development. On the other hand, the acquirer's technology laggard created shareholder value over a three-day period (–1, +1) at a significant level of 5%. This was due to the attainment of overlapping target technology capabilities and the change in the acquiring firm's strategic direction. Due to the laggard acquirers' failure in existing technology trajectory, they implemented a "strategic renewal" approach whereby they transformed the firm's core technology strategy by using the target's technological capabilities.

Saboo et al. (2017) examined the link between acquisition performance and the acquirer-target relationship in terms of technological resources (innovation overlap). The authors defined innovation overlap as the degree of intersection between two firms' innovation knowledge bases or expertise domains. The multivariate analysis revealed that acquisition performance positively correlated with innovation overlap over a seven-day (–3, 3) window at a significant level of 5%. According to the authors, the current knowledge domains' consolidation or specialisation is more valuable than their expansion into new domains, especially for high-tech firms.

Thraya et al. (2019) employed the event study methodology to examine the relationship between corporate governance and high-tech firm acquisitions by 112 French acquirers over the period from 2005 to 2016. They found that the high-

tech French firms were able to create shareholder wealth, with a governance score of 2.60% at a significant level of 1% over a three-day period (–1, 1). According to the authors, good governance affects the market's reaction to the high-tech firms' acquisition announcement. Additionally, good governance was found to improve intra-firm communication with regards to the selection of multi-sector targets, hence minimising information asymmetry between the managers and investors. In their study on the stock price market's reaction to US Fintech firms in IT and financial sectors, Dranev et al. (2019) revealed that the M&A Fintech firms had gained significant abnormal returns. The univariate analysis presented results of 1.02% ($p = 0.01$), 0.84% ($p = 0.01$), 0.87% ($p = 0.05$) and 1.25% ($p = 0.10$) over a two-day (0,1), three-day (–1,1), seven-day (–3,3) and 11-day (–10, 10) event windows, respectively, which indicate that Fintech acquisitions generate positive abnormal returns for the acquirer and that investors favour short-term M&A announcements. The results may be driven by the greater synergistic integration effect between the core financial businesses and Fintech services.

Using 349 concluded M&As across various business sectors, Tampakoudis et al. (2018) examined the economic impact of M&As on European acquiring firms in the sixth merger wave from 2003 to 2017. It was revealed that the acquirers attained positive excess returns of 0.46% over three days and 0.42% over two days (0, 1) following the announcement date, all at a 1% significance level. The authors asserted that acquirers with higher profitability can better exploit synergies and create value via mergers. Ultimately, the findings on high-tech firm acquisitions were concluded to be inconclusive.

Stock Market Reaction to Cross-Border Acquisitions of High-Tech Firms

Focusing on the cross-border acquisitions of 1,167 high-tech firms, Patel and King (2016) studied the two criteria of:

1. Technology distance, i.e., similar technologies that allow a better interpretation of the target firm's knowledge and the relationships between tasks, tools and processes, and
2. Culture distance, i.e., language, location, and culture differences that hinder coordination and cause conflict.

For technology distance, the cross-border high-tech acquisitions showed positive returns at a 5% significance level over a seven-day period (–3, +3). As expected, technological distance reduces learning limitations. For culture distance, the cross-border high-tech acquisitions demonstrated negative returns at a 1% significance level over a seven-day period (–3, 3). Culture distance is said to limit information sharing and integration which are crucial in attaining strategic openings. The

attainment of higher values is possible if the acquiring firms' managers concentrate on cross-border acquisitions in distant markets with similar technologies or nearer markets with differing technologies.

Focusing on emerging market firms (EMFs), Yoon and Lee (2016) studied the impact of cross-border acquisitions on the creation of shareholder wealth. The authors investigated EMFs in Brazil, Russia, India, China and Mexico over the period from 2000 to 2013, along with high-tech targets from the U.S., the U.K., Germany, Hong Kong, Canada, Spain, South Africa and Australia. The univariate analysis revealed that international tech firm acquisitions by EMFs showed positive abnormal returns of 53.49%, 52.06% and 53.02% over a two-day (–1, 0), three-day (–1, 1) and five-day (–3, 1) period, respectively. Among the several benefits of cross-border tech acquisitions include new skills development and greater exploratory learning towards improving the bidding firms' technological expertise.

Dranev et al. (2019) found that the cross-border acquisitions of Fintech firms in Canada, Europe, China and India attained significant higher returns of 2.05% at a significant level of 1% over a two-day period (0, 1). Fintech firms in cross-border transactions attained significant higher returns of 0.76% ($p = 0.01$) compared to non-financial firms. According to the authors, the acquiring firms can expect swift adoption of the target firms' knowledge at their home markets.

Lusyana and Sherif (2016) examined the performance of cross-border high-tech firm acquisitions over the first period of the dotcom bubble (1996–2002) and the second period (2007–2014). The abnormal returns attained by the bidders were found to be significantly lower than the CAR over the pre-announcement (–1, 0) period, i.e., –1.653% at a significant level of 10%. The cross-border acquisitions over the first and second period of the dotcom bubble demonstrated no significant effects, indicating no real wealth attainment by the bidding firms' shareholders from the transactions. Similarly, André et al. (2014) found that no significant value was created from the 60% cross-border transactions performed by high-tech family-owned firms in Canada. Ultimately, the findings on high-tech firm acquisitions were concluded to be inconclusive.

Role of Corporate Governance in the Acquisition

A study by La Porta et al. (2002) justified how corporate governance is crucial in mitigating agency problems mechanisms that could protect outside investors from being expropriated by insiders, including managers and controlling shareholders. There are numbers of studies focusing on managers' roles such as founder-director, independent director, blockholders and executive ownership. In

analysing the post-acquisition effect of founder CEOs on family-owned high-tech firms, André et al. (2014) found that founder CEOs led to a 3.4% value generation over three days (–1, 1). As opposed to externally-acquired CEOs, founder CEOs can better improve firm performance due to their greater experience and expertise in devising value-generating strategies. According to Kohers and Kohers (2000), manager-owned firms recorded a positive and significant result at a 5% level, thus indicating that moderate managerial ownership can reduce agency problems. As for independent directors, the findings of André et al. (2014), the directors' independence in family-owned high-tech firms pose no effect on the abnormal returns in M&As. Gleason et al. (2012) also suggested that independent directors in high-tech acquiring firms demonstrated a negative and statistically significant effect at a 5% level over a three-day period (–1, 1). According to the authors, the governance of high-tech firms is more effectively performed by inside directors as they have a better insight of the firms' complex technology. Blockholders in acquiring firms were found to have a positive and statistically significant effect at a 1% level over a three-day (–1, 1) event window (Gleason et al., 2012). Blockholders monitor the behaviour of the board of directors; top management decisions must be scrutinised as either value-enhancing or value-destroying. Institutional roles in high-tech firms were identified to contribute significantly to negative effects at a 5% level (Kohers & Kohers, 2000). Increased institutional ownership is associated with decreased abnormal returns for bidding firms, thus indicating the greater discriminating assessments by institutional owners as opposed to individual investors on the prospects of the merged firms. Individual investors are generally inexperienced than institutional investors who are more likely to avoid speculations about high-growth firms operating in highly uncertain environments. André et al. (2014) revealed that professional managers in family-owned firms posed a significantly negative effect over a three-day (–1, 1) window, and caused type I agency problems. A CEO's functional background was found to have contingent effect on the top management's decisions and actions (Saboo et al., 2017). It was revealed to affect the relationship negatively and significantly between innovation overlap and acquisition performance at a 10% level over a seven-day (–3, 3) period. This means that a 10% increase in innovation overlap can cause a drop of 648.12 million in firm value.

Malaysian Corporate Environment and GLIC Performance

Rahman et al. (2019) investigated relationship between GLICs' and real earning management activities in Malaysia by using three proxies to measure real earning management, namely: abnormal levels of cash flow from operations (RCFO), abnormal production costs (RPC) and abnormal discretionary expenses (RDE). The data is collected from 213 firm-year of GLIC from 2010 to 2015. They found

significant negative relationship between FGPIF (total percentage of shareholding by EPF, LTAT, TH, KWAP and TH measures of real earnings management (REM), and RCFO and RDE. They argued that Khazanah, EPF and PNB are the most effective government institutional investors in Malaysia in limiting managerial opportunism.

Taufil Mohd et al. (2013) investigated and analysed the effect of ownership by different groups of investors on the performance of listed companies in Malaysia for a period of 10 years from 2000 to 2009 through the use of generalised least square (GLS). They found that firm performance was positive and significantly related to five government-linked investment companies, foreign ownership, and DPII ownership while it is negatively and significantly related to ownership. Thus, they argued that GLICs does not lead to value destruction, in fact it could lead to better monitoring. Based on these two studies, it is evidently proven that the presence of GLIC in corporate activities and public listed companies could lead value creation toward performance. Thus, it is worth to study the effectiveness of GLIC in high-tech acquisitions.

Data and Sample Selection

This current study employs event study methodologies following the suggestions of Brown and Warner (1985), Bradley et al. (1983) and MacKinlay (1997). Abnormal market reactions to M&A announcement returns are measured using the market model. Data is derived from Bursa Malaysia's website, specifically the general announcement section, circulars to shareholders, annual reports of the firms, the Securities Commission's website, the Thompson DataStream and the Bloomberg M&As database. Table 1 is a summary of the dependent and independent variables' measurements.

Table 1
Summary of measurement of the dependent and independent variables

Variables	Definition
High-technology industry companies (Yearly)	Acquirer primary SIC (Bloomberg Data) SIC Code within 6000–6700, 7371–7374, and 8700–8900 (Bloomberg Data)
CAR_{t1-t2}	Cumulative abnormal returns over a window interval of t1 to t2.

(*Continued on next page*)

Table 1 (*Continued*)

Variables	Definition
GLICs' ownership (Yearly)	At least 5% of shares owned by the government. There are seven GLICs: • Minister of Finance (MOF) • Khazanah Nasional Berhad • Employees Provident Fund (EPF) • Lembaga Tabung Haji (LTH) • Armed Forces Fund Board (LTAT) • Retirement Fund (KWAP) • Permodalan Nasional Berhad (PNB) (Retrieved from Bursa Malaysia Annual Report from 2011 to 2018)

The initial sample comprises 1,006 companies announce acquisition with proposed domestic and cross-border acquisitions between 1 January 2011 and 31 December 2018[1]. This study excludes firms with simultaneous announcements following the M&A announcement dates such as announcements of bonus issues, private placements, warrants, share splits and joint ventures. The acquisition is deemed to affect the acquiring firm's market value when the value under consideration is at least 5% of the acquiring firm's market capitalisation. The final sample has 121 acquisitions which comprises 68 clean[2] and 53 unclean groups[3].

The impact of market reactions on the M&A announcements is captured by using a 121-day event window entailing 60 pre-event days, the event day, and 60 post-event days. The estimation period starts from day –200 to day –61 prior to the announcement date. MacKinlay (1997) suggested using a larger event window to capture market reactions prior to the official announcement date. The cumulative abnormal return (CAR) is measured firstly by calculating the normal return using the market model approach proposed by MacKinlay (1997). The normal return is the expected return in the non-occurrence of the event. The chosen market portfolio is the FTSE Bursa Malaysia EMAS Index (FBMEMAS) as it is a much broader index than the highly popular FTSE Bursa Malaysia Kuala Lumpur Composite Index (FBMKLCI). The following regression model is used to examine the effectiveness of the high-tech industry firms and the GLICs' monitoring of company value:

$$CAR_{i,\,t1\text{-}t2} = \beta_0 + \beta_1 BACTGLIC_i + \beta_2 BPSVGLIC_i + \beta_3 BLIDACT_i + \beta_4 BLIDPSV_i + \beta_5 FAM_i + \beta_6 D4WOMEN_i + \beta_7 BOARDSIZE_i + \beta_8 EXECOWN_i + \beta_9 FRACEXEC_i + \beta_{10} INEDOWN_i + \beta_{11} FRACINED_i + \beta_{12} NINEDOWN_i + \beta_{13} FRACNINED_i + \beta_{14} D4CROSS_i + \beta_{15} D4PUBLIC_i + \beta_{16} DEALSIZE_i$$

Market Reaction on High-Tech Company

The price reaction of high-tech acquirers on the announcement dates was measured using the market model (MM). The estimation period in MM started from day –241 to day 20. The sample was categorised into three groups: all, clean and unclean. Clean announcements refer to those made without concurrent announcements, whilst unclean announcements are those that include concurrent announcements. The "All" sample group includes both clean and unclean announcements. Overall, there were 68 clean announcements and 53 unclean announcements.

Table 2 presents the average abnormal returns (AARs) for "All", "Clean" and "Unclean" announcements made over days –5 to 5 following the acquisition announcement. The acquirers' returns in the "All" sample group were found to be significant for days –4 and –1. The AARs were 0.008% (p-value = 0.034) for pre-announcement day –4, and 0.008% (p-value = 0.062) for pre-announcement day –1.

Table 2
Result of AAR in "All", "Clean" and "Not Clean" sample group using Market Model (MM)

Event day (t)	All group (n = 121)		Clean group (n = 68)		Not clean group (n = 53)	
	AAR (%)	p-value	AAR (%)	p-value	AAR (%)	p-value
–5	0.002	0.500	0.004	0.282	–0.001	0.828
–4	0.008	0.034**	0.009	0.075*	0.006	0.250
–3	–0.002	0.525	–0.005	0.295	0.001	0.846
–2	–0.002	0.521	–0.001	0.847	–0.003	0.501
–1	0.008	0.062*	0.011	0.114	0.004	0.319
0	0.013	0.133	0.001	0.808	0.028	0.130
1	0.009	0.114	0.002	0.694	0.018	0.096*
2	–0.002	0.557	0.002	0.529	–0.007	0.276
3	–0.003	0.341	–0.002	0.518	–0.003	0.486
4	0.004	0.237	0.003	0.597	0.007	0.232
5	–0.004	0.112	–0.004	0.394	–0.005	0.082*

All the returns were at a 5% to 10% significance level. As for the "Clean" sample group, the high-tech acquirers gained a positive AAR of 0.009% (p-value = 0.075) on pre-announcement day –4 at a 10% significance level. These results are consistent with that of Lusyana and Sherif (2016) who indicated that high-tech acquisitions can generate shareholder wealth returns in the short term. Meanwhile, the "Unclean" sample group demonstrated significantly positive and negative

returns on post-announcement day –1 and day –5, with AARs of 0.018% (p-value = 0.096) and –0.005% (p-value = 0.082), respectively, both at a 10% significance level.

Table 3 shows the CAAR for the high-tech acquirers using MM. For the "All" sample group, the returns range from 0.022% for a two-day event window (0, 1) to 0.031% for an 11-day event window (–5, +5), all at a 5% to 10% significance level. Table 3 indicates that the returns in the "All" sample group are greater than that of the "Clean" group as the former are influenced by concurrent or "unclean" announcements.

Table 3
Result of CAAR for "All" and "Clean" sample groups using Market Model (MM)

Event window	All (n = 121)		Clean (n = 68)		Unclean (n = 53)	
	CAAR (%)	p-value	CAAR (%)	p-value	CAAR (%)	p-value
CAAR (0, +1)	0.022	0.075*	0.004	0.623	0.046	0.084*
CAAR (–1, +1)	0.030	0.020**	0.014	0.096*	0.051	0.064*
CAAR (–2, +2)	0.027	0.034**	0.015	0.054*	0.041	0.126
CAAR (–3, +1)	0.026	0.038**	0.009	0.409	0.049	0.055*
CAAR (–3, +3)	0.022	0.089*	0.008	0.359	0.039	0.144
CAAR (–5, +5)	0.031	0.027**	0.020	0.072*	0.045	0.116
CAAR (–10, +10)	0.024	0.140	0.013	0.331	0.038	0.247

For the "Clean" group, the CAARs for the high-tech acquirers were 0.014% (p-value = 0.096) for the three-day event window (–1, +1), 0.015% (p-value = 0.054) for the five-day event window (–2, +2), and 0.020% (p-value = 0.072) for the 11-day event window. These results are consistent with that of Dranev et al. (2019), Thraya et al. (2019), and André et al. (2014). Cho et al. (2022) who found favourable investor reactions to high-tech acquisitions in the short-term. Thus, this is in agreement with the synergy theory proposed by Bradley et al. (1983) and Ishak et al. (2020a). As for the "Unclean" group, the CAARs were significant and positive at 0.046% (p-value = 0.084) for the two-day event window (0, +1), 0.051% (p-value = 0.064) for the three-day event window (–1, +1), and 0.049% (p-value = 0.055) for the five-day event window (–3, +1).

Descriptive Analyses

Table 4 summarises the descriptive statistics for all the variables of the 121 sampled firms. Seven or 2.41% of the 121 sampled firms were found to have active institutional GLICs with a maximum ownership of 69.14% recorded by UEM

Edgenta Berhad of which majority shares are held by Khazanah Nasional Berhad. Meanwhile, the maximum percentage ownership of a passive institutional GLIC was 63% recorded by Affin Bank Berhad of which shares are held by Lembaga Tabung Angkatan Tentera (LTAT) and the Employees Provident Fund Board. In terms of average ownerships, 12.45% were individual active blockholders (BLIDACT) and 6.4% were individual passive blockholders (BLIDPSV).

Table 4
Independent variables descriptive statistics

Variable	Mean	S. D.	Minimum	Maximum
BACTGLIC	0.0241	0.1143	0.0000	0.6914
BPSVGLIC	0.0184	0.0675	0.0000	0.6267
BLIDACT	0.1245	0.1523	0.0000	0.5844
BLIDPSV	0.0640	0.1109	0.0000	0.4748
FAM	0.0385	0.1323	0.0000	0.5886
D4WOMEN	0.4959	0.5021	0.0000	1.0000
BOARDSIZE	6.7686	2.0687	0.0000	13.0000
EXECOWN	0.0211	0.0170	0.0000	0.0800
FRACEXEC	0.3036	0.1888	0.0000	0.8600
INEDOWN	0.0343	0.0122	0.0000	0.0900
FRACINED	0.5150	0.1484	0.0000	1.0000
NINEDOWN	0.0127	0.0146	0.0000	0.0800
FRACNINED	0.1878	0.2114	0.0000	1.0000
D4CROSS	0.2231	0.4180	0.0000	1.0000
D4PUBLIC	0.2314	0.4234	0.0000	1.0000
DEALSIZE	0.3876	1.2817	0.0900	11.0000

Notes: BACTGLIC is defined as a percentage of an institutional, corporations and non-family which is affiliated to GLIC owned holding 5% of voting rights represented on board. BPSVGLIC is defined as a percentage of an institutional, corporations and non-family which is affiliated to government links investment company (GLIC) owned holding 5% of voting rights not represented on boards. BLIDACT is defined as a percentage of number of blockholders of an individual and non-family companies holding at least 5% of voting rights represented on board. BLIDPSV is defined as a percentage of number of blockholders of an individual and non-family companies holding at least 5% of voting rights not represented on boards. FAM relates to the percentage of voting rights an individual or family holds, either directly or indirectly (at least 10%), while the aggregate shareholdings of other major shareholders are not greater than 10%. D4WOMEN is defined as 1 if women represented on boards; 0 otherwise. BOARDSIZE constitutes the number of board members. EXECOWN is defined as a percentage (%) of professional CEOs involved in the board's day to day operations. FRACEXEC denotes the fraction of professional CEOs involved in the board's day to day operations. INEDOWN shows the percentage of independence directors to total directors. FRACINED represents the fraction of independent directors to total directors. NINEDOWN shows the percentage of non-independent non-executive to total directors. FRACNINED represents the fraction of non-independent non-executive to total directors. D4CROSS is defined as 1 if the target is a cross-country; 0 otherwise. DEALSIZE is defined by dividing the dollar amount of the deal value by the market value of the acquiring firm. D4PUBLIC is defined as 1 if the target is a listed company; 0 otherwise.

The maximum percentage for BLIDACT was 58.44% and BLIDPSV was 47.48%. Family ownership is defined when the members of the same family own at least 10% of the shares. OSK Holdings Berhad recorded the maximum percentage of family ownership (FAM) whereby 58.86% of its shares are held by OSK Equity Holdings Sdn Bhd., Land Management Sdn Bhd. and Dindings Consolidated Sdn Bhd. Meanwhile, 49.59% or 60 of the companies were identified to have the presence of women on their board of directors (D4WOMEN). The average board size (BOARDSIZE) for the 121 sample firms was 6 with the numbers ranging from three to 13. The average ownership percentage by executive directors (EXECDIROWN) was 2.11% whilst the proportion of executives on the board (FRACEXEC) was 30.36%. The average percentage of independent non-executive director ownership (INEDOWN) was 3.43% i.e., ranging between 0% and 9%. The average proportion of independent directors on the board (FRACINED) was 51.50%. Next, the average percentage of non-independent non-executives on the board (NINEDOWN) was 1.27% i.e., ranging between 0% to 8%. The proportion of non-independent non-executives (FRACNINED) is 18.78%. Lastly, the average cross-border (D4CROSS) target firms was 22.31% with 28 public (D4PUBLIC) target companies out of the total sampled firms. The minimum and maximum deal sizes (DEALSIZE) paid by the acquirers to the targets were 9% and 128%, respectively.

Multivariate Analysis and Discussion

In this study, the multicollinearity and heteroscedasticity diagnostics tests were carried out. The multicollinearity test recorded a VIF value of 6.35, whilst the heteroscedasticity test recorded a Bruesch-Pagan/Cook-Weisberg value of 14.88 at a 1% significance level. Table 5 shows the regression results using ordinary least squares (OLS). CAR i.e., the dependent variable is the cumulative abnormal returns of the firm over a five-day event window (–3, 1). Models 1 and 2 attained different regression results as different measures were used. Model 1 recorded F-statistics of 4.51 at a 1% significance level. The regression equation justified 4.45% and 1.39% of the variations in the dependent variable in Model 1 and Model 2. The adjusted R^2 is 1.16% and it is consistent with those in previous studies. Gleason et al. (2012) should be 6.56% to 8.34% for event window (–1, 1) while Thraya et al. (2019) and Cho et al. (2022) argue that the adjusted R^2 for a three-day event window to be between 1.8% and 5.7%.

Table 5
Multiple regressions for variables on return to acquirers

Variable	Model 1	Model 2
BACTGLIC	0.0340 (0.4800)	0.0382 (0.4680)
BPSVGLIC	–0.1163* (0.087)	–0.1765** (0.0340)
BLIDACT	–0.0047 (0.9490)	-0.0130 (0.8580)
BLIDPSV	0.1037 (0.2070)	0.1170 (0.1450)
FAM	0.1133 (0.7600)	0.1168 (0.6800)
D4WOMEN	–0.0138 (0.1670)	–0.0126 (0.2210)
BOARDSIZE	0.0076 (0.7630)	–0.0055 (0.2930)
EXECOWN	–1.2734** (0.033)	-
FRACEXEC	-	–0.0714* (0.0550)
INEDOWN	–0.2662 (0.9200)	-
FRACINED	-	–0.0257 (0.8810)
NINEDOWN	–1.7701 (0.3640)	-
FRACNINED	-	–0.1662 (0.1930)
D4CROSS	0.0196 (0.4280)	0.0234 (0.3370)
DEAL SIZE	0.0081* (0.076)	0.0073 (0.1850)
D4PUBLIC	–0.0365* (0.091)	–0.0222 (0.3160)
D4PUBLIC	–0.0365* (0.091)	–0.0222 (0.3160)
CONSTANT	0.0605 (0.0310)	0.0512 (0.0140)

(*Continued on next page*)

Table 5 (*Continued*)

Variable	Model 1	Model 2
No. of observation	121	121
F-stat	4.51	2.79
Sign F-stat	0.0002	0.0656
R^2	0.0445	0.0139
Adj. R^2	0.0116	–0.0028

Notes: ***, **, * denotes significance level at 1%, 5% and 10% level, respectively. BACTGLIC is defined as a percentage of an institutional, corporations and non-family which is affiliated to government links investment company (GLIC) owned holding 5% of voting rights represented on board. BPSVGLIC is defined as a percentage of an institutional, corporations and non-family which is affiliated to government links investment company (GLIC) owned holding 5% of voting rights not represented on boards. BLIDACT is defined as a percentage of number of blockholders of an individual and non-family companies holding at least 5% of voting rights represented on board. BLIDPSV is defined as a percentage of number of blockholders of an individual and non-family companies holding at least 5% of voting rights not represented on boards. FAM relates to the percentage of voting rights an individual or family holds, either directly or indirectly (at least 10%), while the aggregate shareholdings of other major shareholders are not greater than 10%. D4WOMEN is defined as 1 if women represented on boards; 0 otherwise. BOARDSIZE constitutes the number of board members. EXECOWN is defined as a percentage (%) of professional CEOs involved in the board 's day to day operations. FRACEXEC denotes the fraction of professional CEOs involved in the board 's day to day operations. INEDOWN shows that percentage of independence directors to total directors. FRACINED represents the fraction of independent directors to total directors. NINEDOWN shows that percentage of non-independent non-executive to total directors. FRACNINED represents the fraction of non-independent non-executive to total directors. D4CROSS is defined as 1 if the target is a cross-country; 0 otherwise. DEALSIZE is defined by dividing the dollar amount of the deal value by the market value of the acquiring firm. D4PUBLIC is defined as 1 if the target is a listed company; 0 otherwise.

Government Ownership and High-tech Companies Response

The finding indicates that passive institutional GLICs (BPSVGLIC) in Model 1 result in acquirers' value-decreasing returns. Similarly, the presence of passive institutional blockholders means that a standard deviation of one reduces abnormal returns by 0.79%. This result is consistent with that of study by Ishak et al. (2020a) asserted that passive institutional blockholder would only aim to diversify their investment in order to reduce the overall risk without any involvement in the firm's management. Model 2 show that BPSVGLIC significantly and negatively affect abnormal returns. BPSVGLIC recorded a coefficient of –0.1765 (p-value = 0.05) indicating that one standard deviation increase of BPSVGLIC on board leads to a 1.19% decrease in abnormal return. These blockholders institutional GLICs' passive consistently significant in justifying returns irrespective of the model employed. The negative returns could possibly be explained by the fact that blockholder passive institutional GLICs invest in multiple companies and hold diverse portfolios, rendering their non-participation in decision-making and causing less effective monitoring of the companies' management. They can choose to sell their holdings if they are unsatisfied with the company's performance. This finding is in line with that of Bauguess et al. (2009) who asserted that

passive blockholders can establish the management and lessen firm value. Next, shareholders show a negative reaction to BPSVGLIC if they believe that the GLIC holds a bigger share in the firm or has legal power to decide who should run the firm (via the appointment of board members); in such a case, the GLIC is deemed to have control over the firm. Furthermore, these finding inconsistent or opposed with the study by Taufil Mohd et al. (2013) and Rahman et al. (2019) who argue that role of GLIC provide better monitoring and could lessen the managerial opportunism.

Managers' Role and High-Tech Companies Response

On the other hand, the executive directors (EXEROWN) were found to have a significant and negative effect on shareholders' wealth at 5%. Another interesting finding is the involvement of professional CEOs on the board resulting in a 2.16% reduction in abnormal returns, which indicates that executive director's ownership lead to agency problems and higher innovation overlap (André et al., 2014; Saboo et al., 2017). Next, FRACEXEC recorded a coefficient of –0.0714 (p-value = 0.10) indicating that a one standard deviation increase of fraction of executive director on board leads to a 1.35% decrease in abnormal returns. With their substantial capability, knowledge and experience, executive directors are anticipated to monitor managerial actions and offer relevant advice. In the context of this study, the executive directors were found to negatively affect acquisition performance. This finding is consistent with that of Boubakri et al. (2008), Afza and Nazir (2012), and Kapil and Kumar (2021) who indicated that CEO-ownership is in line with the entrenchment hypothesis and agency problem whereby CEOs may abuse their power to achieve self-serving objectives.

Control Variables and High-Tech Company Response

Next, it was found that public listed target (D4PUBLIC) created value-destruction to shareholder wealth and was statistically significant at 10% level and unlisted companies is more profitable in terms of value creation (Thraya et al., 2019; André et al., 2014). Furthermore, deal size (DEALSIZE) caused a 0.81% increase in abnormal returns and was statistically significant (p-value = 0.10). This finding is consistent with that of Mulherin and Boone (2000), and Barbopoulos et al. (2020).

CONCLUSION AND RECOMMENDATION

Government ownership and managers' role in high-technology company acquisitions were conclusively found to provide insight into the recreation of shareholders' wealth and value over the period from 2011 to 2018, as evidenced

from the finding of this study using the market model (MM) and multivariate analyses. The findings can be concluded from three viewpoints: First, the market performance findings for the "Clean" group revealed that investors prefer high-tech acquisitions in the short-term and this is aligned with the synergy. Second, based on the literature review, high-tech company acquisitions and GLICs ownership resulted in the creation of shareholder value. This demonstrates to the unit holders or depositors in the GLICs that the government is striving to ensure attractive returns for their investments. Third, the findings in this study evidently demonstrated significant and negative effects of the institutional blockholders of GLICs (BPSVGLIC) on abnormal returns. This means that passive institutional blockholders cause high-tech companies to experience a decrease in value. Thus, the findings are indeed comparable with the suggestion of Taufil Mohd et al. (2013), that is when the federal government intends to lessen the investments of GLICs and offer greater openings for domestic and foreign investors to invest in Malaysia to increase liquidity and trading in Bursa Malaysia. In addition, variables such as managers (FRACEXEC) were found to negatively affect acquisition performance as argued by André et al. (2014) and Saboo et al. (2017).

This result on managers is consistent with the entrenchment hypothesis, whereby managers might abuse their power to achieve their objective. As for practical implications especially for investors and the public at large, this study enriches the existing body of knowledge in this field by revealing that, high-tech companies controlled by GLICs are seen to have preferential access to government contracts and benefit from favourable government regulations. Hence, GLICs find it easier and more profitable to increase investment in sectors where they already have a significant presence. Nevertheless, in this study found that companies with high ownership in GLICs experience value destruction. As Menon and Ng (2013) found in their study when GLC are dominant in an industry, investment by private firms is significantly negative impacted and otherwise the impact on private investment is not seen. Future studies may be extended by including two scopes: first, by investigating the relationship between high-tech acquisitions in long-term performance (Sun et al., 2020), and second, further study on the comprehensive selections of variables such as return on assets (ROA), return on equity (ROE), earning per share (EPS), return on investment (ROI) and economic value added (EVA) on shareholders' value.

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NOTES

1. The data chosen during this period is due to massive high-tech companies' involvement in acquisition. Furthermore, this period provides a more complete data relative to other periods.
2. Classified as clean announcement of acquisitions with no other announcement made up by the acquirers.
3. Consists of other announcements made up by the acquirer that affect share prices.

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