



Article

# The Influence of Government Shareholding on Dividend Policy in Malaysia

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**Abstract:** We investigate the association between dividend policy and government shareholding, using Malaysian data. We hypothesize a positive association. We contribute to the literature about dividend policy. Unique features of our study include adaptations to the Malaysian institutional setting, with respect to usage of dividend relevance theory, research methodology, and data collection. The methodology entails two-stage least squares regressions. Dividend payout and dividend yield are the dependent variables in tests of the research hypothesis. The independent variable of interest measures ownership by government-related institutional investors. The sample comprises 1190 company-years, over the investigation period 2006–2013. The results support our hypothesis. The evidence suggests that this support principally emanates from companies with low-quality corporate governance.

**Keywords:** dividend policy; government shareholding; Malaysia

**JEL Classification:** G35; G34



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## 1. Introduction

Using Malaysian data, we investigate the association between dividend policy and shareholding by government-related institutional investors. We contribute to the body of literature on determinants of dividend policy. This stream of literature continues to emerge as there is still no consensus on factors determining dividend payout at the firm level (Baker et al. 2019; Driver et al. 2020; Tran 2020). Our principal contribution emanates from examining the institutional context of an emerging economy, Malaysia. This study also provides an alternative explanation for the dividend payout policy driven by its socio-political and economic setting.

Malaysia provides an interesting context. The Malaysian corporate landscape includes an important corporate ownership type (i.e., government linked investment companies (GLICs)). It consists of seven investment funds that are considered “government-linked”, with government oversight and participation on their board, usually through the Ministry of Finance, and directly hold about 30 percent of total market capitalisation. They control several companies—known as government linked companies (GLCs)—and have minority stakes in dozens more (Gomez et al. 2018).

A novelty of our paper is adaptations to the Malaysian institutional setting, with respect to use of dividend relevance theory, research design, and data collection. In Malaysia, government-related institutional investors may constitute a shareholder clientele (Baker and Wurgler 2004). We use a Malaysia-specific operationalisation of “corporate governance quality” (Sinnadurai 2018). Consistent with Phan et al. (2020), our measure of investment efficiency reflects a Malaysia-specific adaptation of the standard methodology from the

literature (García-Lara et al. 2016). We also use data from a leading Malaysian analyst, *Dynaquest Sendirian Berhad* (*Dynaquest* Proprietary Limited, henceforth “*Dynaquest*”), the largest independent firm of investment consultants in Malaysia (*Dynaquest Sendirian Berhad* 2021). The *Dynaquest* metrics are reliable proxies for theoretical constructs and created with specific regard for the Malaysian institutional environment. The principal data we use from *Dynaquest* are their stock quality ratings. Each stock is awarded a sub-rating on the scale (0.0, 3.0) for each of the following attributes: management strength, financial strength, earnings and dividend stability, and earnings and dividend growth. There are seven possible scores for each sub-rating, and the aggregate ratings are out of 12.0. Higher ratings indicate more favourable assessments. Our evidence suggests that our Malaysia-specific proxies for theoretical constructs are more accurate, within the Malaysian setting, than generic proxies from the journal literature.

The results support our hypothesis of a positive association between dividend policy and government ownership, driven by companies with low-quality corporate governance. This is consistent with heightened demand for government-related investors to implement agency mechanisms, to curb dysfunctional managerial behaviour, in companies with low-quality corporate governance.

The remainder of this paper is structured as follows. Section 2 discusses the theoretical and institutional background. This section also locates the article within the extant literature. Section 3 develops the research hypothesis. Section 4 discusses the research methodology and data collection. Section 5 discusses the sample selection and presents descriptive statistics. Section 6 presents the empirical results. Section 7 discusses the robustness checks and Section 8 concludes.

## 2. Theoretical and Institutional Background and Literature Review

### 2.1. Socio-Political Background of Malaysia and Our Framework for Identifying Government-Related Institutional Investors

Historically, Malaysia has been characterised by an association between ethnicity and economic function. There are three distinct ethnic groups, the Malays/*Bumiputera* (a Malay word meaning “sons of the soil”, denoting Malays and indigenous Malaysians), the Chinese, and the Indians. These ethnic groups have maintained separate identities and preserved distinct cultures and economic functions. In particular, the *Bumiputera* have traditionally been poor, rural dwellers. The ethnic Chinese have principally been urban dwellers, with control over most of the country’s businesses. Catalysed by race riots in 1969, the New Economic Policy (NEP) was launched in 1971. One goal of the NEP (and its successor policies) was to end the association between ethnicity and economic function. Hence, the government established several trusts, to manage corporate investments for *Bumiputera*, to enhance their participation in the corporate sector. These trusts, the forerunners of the GLICs, are among the principal government-related institutional investors in Malaysia. They continue to play a pivotal role in the development of the Malaysian economy and stock market (Eng 2004; Gomez and de Micheaux 2017).

Naturally, these government-related investors are also involved in implementing economic and social development goals unrelated to ethnicity. Poverty eradication is another goal, featured in the NEP and its successors (Sinnadurai 2018). Another goal has been to promote urbanisation and industrialisation, across the entire country and all of its ethnic groups (Eng 2004). Ownership patterns by the GLICs and other government-related investors tend to cluster by economic sector. Some of these investors have sector-specific economic development objectives. The following economic sectors have particularly high rates of ownership and participation by the GLICs: utilities, plantations, construction and development, oil and gas, banking, and healthcare (Gomez et al. 2018, pp. 99–148).

It is evident that the policy approaches taken by the Malaysian Government involve marriage between two different economic ideologies: *laissez-faire* economics and the developmental state. The relative emphasis placed on each of these ideologies has differed over time and among different policy areas (Gomez 2009). Hence, corporate Malaysia is an

environment of blurred boundaries between the public and private sectors. Government ownership of listed companies is a prevalent feature of this inter-sectoral co-operation.

Prior studies have adopted different approaches to identifying government-related institutional investors in Malaysia. Fraser et al. (2006) recognise two categories: investors with an economic policy mission and investors with a social policy mission. Mitchell and Joseph (2010) distinguish two categories: GLCs and investees of *Khazanah Nasional Berhad*, the Malaysian Ministry of Finance's investment arm. Abdul Wahab et al. (2007) and Benjamin et al. (2016) do not recognise separate categories of government-related investors. They focus on five of the GLICs and a provider of social security. We do not distinguish investors according to the nature of their public policy missions. We include, as government-related investors, a broader range of entities than any of these studies.

We classify five types of entities as government-related investors. The first category comprises the seven GLICs. In most of these active trusts, the beneficiaries are section(s) of society related to the trusts' missions. The second category comprises *Bank Negara Malaysia* (the Central Bank of Malaysia) and Development Financial Institutions (DFI). Mostly owned by the GLICs, each DFI has a mandate to promote economic development in a particular sector. The third category comprises the State Economic Development Corporations, responsible for economic development within a specific Malaysian state (Gomez et al. 2018). The fourth category encompasses investors associated with political parties. The final category includes government-related institutional investors that do not readily fit into any of the other types.

Corporate policies (including dividend policy) of Malaysian companies are formulated within this framework. Given their involvement in public policy implementation, Malaysian companies subject to ownership by the aforementioned institutional investors have a dual mission: shareholder wealth maximisation and implementation of public policy (Boycko et al. 1996). It follows that dividend relevance theories, developed within the Anglo-American world, may not fully generalise to Malaysia.

## 2.2. Ability of Dividend Relevance Theories to Explain Dividend Policy in Malaysia

At least three dividend relevance theories may explain dividend policy in Malaysia. The first is the "signaling theory" that dividend policy may be a means of communicating beliefs about future earnings (La Porta et al. 2000; Floyd et al. 2015). Evidence from a range of countries, including Malaysia, suggests that this theory has some explanatory power (La Porta et al. 2000; Mitton 2004). However, the findings of Aivazian et al. (2003) suggest that compared to companies in the United States, dividend policies in eight developing countries, including Malaysia, are less predictable from company fundamentals. This indicates that the signaling theory, in isolation, is insufficient to explain dividend policy in Malaysia. The second dividend relevance theory is the "catering" theory, positing that management designs dividend policies to attract one "clientele" of investors, homogeneous for dividend policy preferences (Baker and Wurgler 2004). Evidence from the United States is mixed regarding the clientele theory (Baker and Wurgler 2004; De Angelo et al. 2004). The third theory, the life cycle theory, predicts that a company's cash flow patterns change as it moves between life cycle phases. In the introductory stage, a company has insufficient internal funds and cannot afford to pay dividends. As the company matures, it generates positive cash flows from operations and has sufficient free cash flow for dividends (Dickinson 2011). Evidence from the United States is consistent with the life cycle theory (De Angelo et al. 2004). We contribute to this body of evidence by making more use of the clientele and life cycle theories, to explain the dividend policies of Malaysian companies, than has been made in the prior literature. In particular, we consider the government-related shareholders as a shareholder clientele.

There is limited prior Malaysian evidence of the association between dividend policy and government ownership. One exception is Ramli (2010). This study documents a positive association between dividend policy and ownership concentration. We build on Ramli (2010) by focusing on one particular mode of large shareholders—government-related

investors. Benjamin et al. (2016) are another exception. They posit that government-related investors function to improve corporate governance quality, via curbing two types of dysfunctional managerial behaviour, catalysed by the presence of an informal political connection. The first is overinvestment; the second is demanding low dividend policy to compensate for wealth extraction. Consistent with these mechanisms, Benjamin et al. (2016) document a positive association between dividend policy and government ownership. Our study complements Benjamin et al. (2016). We examine different constructs of dividend policy. (We examine dividend payout and dividend yield; they examine dividends, deflated by assets and sales.) We consider a broader range of government-related institutional investors. We also consider other potential explanations for a positive association between dividend policy and ownership by government-related institutional investors.

### 2.3. Operationalisation of “Corporate Governance Quality” in the Malaysian Setting

We define “corporate governance quality” as the extent to which agency mechanisms successfully reduce the agency costs of equity. Typical Anglo-American approaches to operationalising this definition refer to the board of directors (Sinnadurai 2018). However, this operationalisation may be sub-optimal for Malaysia because boards are likely to be “captured” by management, particularly in family companies (Coles et al. 2014; Sinnadurai 2018).

We concur with Sinnadurai (2018) that a more suitable operationalisation in Malaysia would consider management strength and auditor quality. In Malaysia, family domination may insulate controlling families from the markets’ disciplinary forces for corporate control and executive labour. Hence, shareholders may place increased reliance on substitute agency mechanisms that use audited financial statements, generating higher quality audits. “Strong” management would be less inclined to act in its self-interest, to the detriment of shareholders (Hu and Kumar 2004). Our approach of focusing on management strength responds to the call to acknowledge unobservable dynamics within corporate leadership, in addition to observable characteristics, as key determinants of corporate governance quality (Rioux 2012).<sup>1</sup>

### 3. Hypothesis Development

Government-related institutional investors may be regarded as an investor clientele, according to the clientele theory of dividend relevance (Baker and Wurgler 2004). Their principal unifying feature is subjugation to the Ministry of Finance. The Ministries corresponding to the domain of each GLIC have broad powers to direct GLICs’ activities, including the authority to demand specific information from the GLICs’ boards of directors and appointments to the GLICs’ boards of directors and investment panels (Gomez et al. 2018, pp. 150–64). Similarly, the Minister of Finance has high-level influence over the other categories of government-related investors. The Ministry of Finance owns five of the six major DFIs. The remaining DFIs fall under the jurisdiction of another Federal Ministry (Gomez et al. 2018, p. 115). The Minister of Finance played a pivotal role in establishing the State Economic Development Corporations (Gomez et al. 2018, p. 21). Shareholdings by investors related to political parties are primarily limited to the media sector (Gomez et al. 2018, p. 119). One of the fifth category investors, *Petroleum Nasional Berhad* (PETRONAS), is fully government owned. Another company in the fifth category, *Koperasi Permodalan FELDA Berhad*, is a statutory body.

We acknowledge that our usage of the clientele theory is slightly different from the traditional usage. The latter posits that companies design dividend policy with a view to attracting a particular clientele of shareholders (Baker and Wurgler 2004). In the context of government-related shareholders in Malaysia, the direction of causation is the reverse (i.e., after becoming shareholders in politically connected companies, government-related investors demand a particular type of dividend policy). However, we argue that the clientele theory is still appropriate; the government-related investors are a category of investors, homogeneous with respect to demand for high-dividend policy.



At least four mechanisms may affect government-related institutional investors' preferences regarding dividend policy as a shareholder clientele. Government-related investors in Malaysia subsidise their investee companies (Boycko et al. 1996; Gomez et al. 2018). One form of subsidisation is government-directed consolidation of industry structure to reduce product market competition faced by the politically connected companies (Ali et al. 2014; Gomez and de Micheaux 2017). Another mode is the award of lucrative economic development projects. A third mode is the availability of extra debt sources (Fraser et al. 2006). As compensation, government-related institutional investors may demand high-dividend payouts for fiscal revenue. The availability of "bail-out" packages would enable politically connected companies to afford high-dividend policies, irrespective of business fundamentals.

The second mechanism relates to the role of government-related institutional investors as monitors of management. In Malaysian companies, managers may engage in overinvestment. This may be a particular concern for companies with an informal (adviser) political connection. These companies might overinvest in the political connection's "pet" projects to ensure continuity of support (Phan et al. 2020). Government-related institutional investors may use their authority to demand higher dividends to combat over-investment (Benjamin et al. 2016).

A third mechanism relates to signaling theory (La Porta et al. 2000; Floyd et al. 2015). Private sector shareholders, in companies subject to shareholding by government-related investors, are aware that management has a dual mission of shareholder wealth maximisation and public policy implementation. Private sector shareholders are also aware of the potential for these missions to conflict (Boycko et al. 1996). Hence, management of companies subject to government shareholding may appropriate high payouts, to signal to these shareholders that shareholder wealth is being maximised, notwithstanding this potential goal conflict (Zainudin and Khaw 2021).

A possible counter-mechanism relates to the possibility for "tunnelling", the extraction of private benefits (Gama 2012). Some Malaysian companies have informal, non-shareholder political connections. These are advisers who guide the company to developing its business model, to be favourable to the government's policies for economic and social development (Fraser et al. 2006). Consistent with the "grabbing hand" theory (Yu and Wang 2020), the political connection may concede to accepting lower payout to compensate for shareholder wealth expropriation. Benjamin et al. (2016) provide evidence consistent with this mechanism. Many companies with informal political connections are also subject to government share ownership (Benjamin et al. 2016), auguring for a negative ownership between dividend policy and government share ownership.

However, in the aftermath of the Asian Financial Crisis, country-level accountability mechanisms have been implemented in Malaysia, to reduce the "grabbing hand" effect. These accountability mechanisms include implementation of the Malaysian Code of Corporate Governance in 2000, the commencement of operations of the Malaysian Anti-Corruption Commission in 2009, and the launch of the Government Transformation Program in 2010, with the goal of combatting corruption (Vithiatharan and Gomez 2014). The findings of Benjamin et al. (2016) also indicate that the presence of government-related institutional investors attenuates the negative association between dividend policy and having an informal political connection. This supports the conclusion that government-related institutional investors, in Malaysia, function as an agency mechanism, to ameliorate the "grabbing hand" impact. Hence, it is unsurprising that there is also evidence that in Malaysia, GLCs pursue higher dividend policies than other companies (Zainudin and Khaw 2021).

These four mechanisms are mutually reinforcing. They all augur for a positive association between appropriation policy and the level of government shareholding. Naturally, the magnitude of the mechanisms would be positively associated with the level of government input into the company's governance.

The research hypothesis follows.

**Hypothesis 1.** In Malaysia, dividend policy is positively associated with government-related institutional investors' level of ownership.

#### 4. Research Methodology and Data Collection

##### 4.1. Overview—Use of Two-Stage Least Squares Regressions

In Malaysia, some government-related institutional investors are actively managed funds, with the goal of maximising portfolio returns (Gomez et al. 2018, pp. 28–33). It follows that they may choose to invest in companies due to corporate fundamentals (including dividend policy). This may cause their level of shareholdings to vary temporally and be partially endogenous to firm performance. Hence, we use Two-Stage Least Squares (2SLS) regression for our empirical testing (Gama 2012).

The first stage entails estimation of Equation (1), on a pooled basis.

$$\text{GOVSH}_{i,t} = \delta_0 + \delta_1 \text{HH}_{j,t} + \delta_2 \text{Company size}_{i,t} + \delta_3 \text{HiDQGDEDum}_{i,t} + \delta_4 \Delta \text{LEADCAPEX}_{i,t} + \delta_5 \text{ROE}_{i,t} + \delta_6 \text{AltmanZ}_{i,t} + \delta_7 \text{HiDQSDEDEum}_{i,t} + \delta_8 \text{DE}_{i,t} + \delta_9 \text{FlycDum}_{i,t} + \delta_{10} \text{HiCGQDum}_{i,t} + \varepsilon_{i,t} \quad (1)$$

where:

All variables defined in the Appendix A.  $\delta_j$  are regression parameters.  $\varepsilon_{i,t}$  is a stochastic disturbance term.

Fitted  $\text{GovSh}_{i,t}$  is the predicted values from estimates of Equation (1). In cases where Fitted  $\text{GovSh}_{i,t}$  was negative, we set this variable to zero.

Equation (1) is similar to a model estimated in Yu and Wang (2020) to capture the effect of the government choosing to invest in companies because of corporate fundamentals.

The second stage entails estimation of Equation (2), on a pooled basis, to test the research hypothesis.

$$\text{Dividend policy}_{j,i,t} = \gamma_0 + \gamma_1 \text{Fitted GovSh}_{i,t} + \lambda_1 \text{HH}_{i,t} + \lambda_2 \text{Company Size}_{i,t} + \lambda_3 \text{HiDQGDEDum}_{i,t} + \lambda_4 \text{ROE}_{i,t} + \lambda_5 \text{AltmanZ}_{i,t} + \lambda_6 \text{HiDQSDEDEum}_{i,t} + \lambda_7 \text{DE}_{i,t} + \lambda_8 \text{FlycDum}_{i,t} + \lambda_9 \text{HICGQ}_{i,t} + \lambda_{10} \text{LSInfPCDum}_{i,t} + \lambda_{11} \text{Expectoverinv}_{i,t} + \varepsilon^*_{i,t} \quad (2)$$

where:

All variables defined in Appendix A.  $\gamma_j$  and  $\lambda_j$  are regression parameters.  $\varepsilon^*_{i,t}$  is a stochastic disturbance term.

##### 4.2. Stage 1—Estimating the Level of Government Shareholding in a Company due to Its Fundamentals

The dependent variable in Equation (1) is  $\text{GovSh}$ , the total percentage of shares held by government-related institutional investors. In cases where an observation was subject to ownership by more than one government-related investor, we aggregated each investor's shareholdings. Even though the policy mandates differ somewhat among government-related investors, their overall objective of increasing national well-being would be unifying (Fraser et al. 2006). Data for  $\text{GovSh}$  were hand-collected from the annual reports, accessed from Bursa Malaysia Berhad (2021).

Industry membership is a possible determinant of government shareholding. *Lembaga Tabung Haji* (Pilgrims' Fund Board), one of the GLICs, is restricted to invest in *Shari'ah*-approved industries (Gomez et al. 2018, p. 32). Government shareholding is concentrated in industries with output amenable to achieving public policy. For example, in Malaysia, the GLICs have high shareholdings in the companies from the following industries: banking, utilities, plantations, property development and construction, and media (Gomez et al. 2018, pp. 99–139). We capture industry membership via fixed industry effects, in addition to  $\text{HH}$ , a proxy for product market concentration.  $\text{HH}$  is a Herfindahl–Hirschmann index, calculated on an industry-year basis. Industry boundaries are identified using the narrow industry categories of Dynaquest Sendirian Berhad (Dynaquest Sendirian Berhad 2006–2014). Use of the narrow *Dynaquest* industry boundaries represents a research design adaptation to the Malaysian setting. This may result in product market competition being captured more accurately due to greater intra-industry homogeneity of business models

(Ali et al. 2014). Data for *HH* were hand-collected from [Dynaquest Sendirian Berhad \(Dynaquest Sendirian Berhad 2006–2014\)](#).<sup>2</sup> Sixty-two industries are represented. Sign expectations regarding the coefficient of *HH* are unclear.

Company size may capture stock selection criteria by government-related investors. Economic development projects have long horizons and affect a substantial cross-section of Malaysian society (Lai 2012). For example, in 2008, *Telekom Malaysia Berhad* was awarded the contract to be involved in a public–private partnership for the roll-out of high-speed broadband. The project duration was ten years ([Dynaquest Sendirian Berhad 2021](#)). Naturally, larger companies are more likely to have the resources needed to implement and sustain projects of such magnitude and horizon. Company size is proxied via the natural logarithm of sales revenue. Data were hand-collected from [Dynaquest Sendirian Berhad \(Dynaquest Sendirian Berhad 2006–2014\)](#). A positive coefficient is anticipated.

The investment opportunity set is another potential determinant of government shareholding. Since capital investment projects, related to public policy implementation, generally have long time horizons (Lai 2012), government-related investors may be more attracted to companies at early life-cycle stages (Dickinson 2011). *HiDQGDEdum*, a variable constructed from the *Dynaquest* sub-rating for earnings and dividend growth, is the proxy for growth opportunities, consistent with Sinnadurai (2016). This is a research design adaptation to the Malaysian setting. Data were provided directly by *Dynaquest*. A positive coefficient is anticipated.

Hence, anticipated capital expenditure adjustment is another potential determinant of government shareholding. The capital investment outlays for economic development projects are substantial. For example, the total amount of funds raised by *Khazanah Nasional Berhad* for the *Iskandar Malaysia* project was RM63 billion (Lai 2012). *LEADCAPEX* measures the actual capital expenditure of a company in the year following the year of interest, scaled by operating revenue during year *t*. This is treated as a measure of the capital expenditure that management had committed at the end of year *t*, to outlay during year *t* + 1 (Adam and Goyal 2008). It follows that  $\Delta LEADCAPEX$  measures anticipated capital expenditure adjustment.<sup>3</sup> Data for cash outflow from acquisition of property, plant, and equipment were mostly sourced from Datastream. For observations lacking the requisite data from Datastream, data were hand-collected from the annual reports, sourced from Mergent Online or [Bursa Malaysia Berhad \(2021\)](#). A positive coefficient is anticipated. Anticipated capital expenditure adjustment is a distinct determinant from the investment opportunity set. The former captures the actual expenditure budgeted by management. The latter reflects growth opportunities perceived by the market (Adam and Goyal 2008).

Naturally, any investor with the goal of maximising portfolio returns would be more attracted to financially healthy companies. Equation (1) includes two measures of financial health. The first is *ROE*, the company's return on equity in the year of interest, a metric of current-year profitability. The second metric is *AltmanZ*, an inverse measure of the probability of corporate failure (Altman 1968), capturing overall financial health. Both metrics were calculated by *Dynaquest*. Data were hand-collected from [Dynaquest Sendirian Berhad \(Dynaquest Sendirian Berhad 2006–2014\)](#). Positive coefficients are anticipated.

Government-related investors, seeking to maximise portfolio returns, may be more attracted to investing in companies with more sustainable earnings streams. Earnings stability may capture the extent to which a company has been operationally successful within its industr(ies). Hence, companies with more penetrating earnings streams may have lower operational risk (Casey et al. 1986). Earnings stability is captured by *HiDQSDEdum*, a variable constructed from the *Dynaquest* sub-rating for earnings and dividend stability. Data were provided directly by *Dynaquest*. We anticipate a positive coefficient.

Similarly, investors with the goal of maximising portfolio returns would be attracted to stocks carrying lower financial risk. *DE*, a company's debt-to-equity ratio, is our measure of financial risk. These financial leverage ratios were calculated by *Dynaquest*. Data were hand-collected from [Dynaquest Sendirian Berhad \(Dynaquest Sendirian Berhad 2006–2014\)](#). A negative coefficient is expected.

Government-related investors may be disinclined to purchase shares in family companies. Ownership by the controlling family is likely to be sufficiently high to “crowd out” the voting power of non-family investors (including government-related investors) (Gomez 2009). We define “family members” as first cousins or closer, by blood or marriage. The variable *FlycDum* takes the value of one if any family members were present on the board of directors and the equity ownership by the controlling family was at least 20%. Otherwise, *FlycDum* assumes the value of zero. Data were hand-collected from annual reports, sourced from Bursa Malaysia Berhad (2021). For every company-year, data were collected for 2012. It is assumed that family company status did not change during the investigation period, based on evidence that this variable is temporally stable (Claessens and Yurtoglu 2013). A negative coefficient is anticipated.

The Malaysian Government may be inclined to invest in companies with higher-quality corporate governance. Government investors may regard high corporate governance quality as being associated with better performance. This position is argued separately, with reference to the two dimensions of our Malaysia-specific operationalisation of “corporate governance quality”. Higher quality auditors may be concerned by the prospect of real earnings management. The latter practice may indicate high inherent audit risk and greater probability of a going concern problem. There is evidence of a positive association between the auditor resignation and real earnings management (Kim and Park 2014). Hence, government investors seeking to maximise portfolio returns may regard companies with higher quality auditors as having more penetrating earnings streams and lower operational risk. Similarly, government investors are likely to regard companies with stronger management as sounder investment candidates. Strong management may have the business acumen and integrity to successfully implement the dual mission of implementing public policy and maximising shareholder wealth (Boycko et al. 1996; Hu and Kumar 2004).

Company-level corporate governance quality is controlled for via *HiCGQDum*. Auditor quality is proxied by a dummy flagging observations with “Big N” for auditors. Data were obtained from annual reports, sourced from Bursa Malaysia Berhad (2021). Management strength is proxied via the *Dynaquest* sub-ratings for this construct. Data were provided directly by *Dynaquest*. We assigned an observation to the “high” management strength stratum if its *Dynaquest* sub-rating exceeds 1.5. A company-year was allotted to the high corporate governance quality sub-sample if it had both a “Big N” auditor and was in the “high” management strength stratum. Other company-years were allocated to the low corporate governance quality stratum. *HiCGQDum* is a binary variable that assumes the value of 1 (0) for observations in the high (low) corporate governance quality stratum. We anticipate a positive coefficient attaching to *HiCGQDum*.

Equation (1) includes yearly fixed effects. These controls capture the impact of the Global Financial Crisis (GFC) on government share ownership. For example, during recessions, the Malaysian Government may implement policies based on the ideology of the developmental state, rather than *laissez-faire* economics, to facilitate corporate recovery (Gomez 2009; Mitchell and Joseph 2010). Furthermore, the yearly fixed effects would capture the impact, on government investment, of changing macroeconomic and political conditions, such as the degree of restriction on inbound and outbound capital flows (Johnson and Mitton 2003). The yearly fixed effects would also capture the effect of regular portfolio re-balancing, by actively managed government-related investment funds. Expectations regarding the coefficient signs are unclear.

#### 4.3. Stage 2—Models to Test the Research Hypothesis

The dependent variables, in the Stage (2) regressions, capture two dimensions of dividend policy: dividend payout and dividend yield. Data were obtained from metrics in *Dynaquest Sendirian Berhad* (Dynaquest Sendirian Berhad 2006–2014).

The independent variables in Equation (2) are *Fitted GovSh*, the predicted values of *GovSh* from Stage (1). Naturally, government shareholding cannot be negative. Hence, in



cases where estimates of Equation (2) produced negative predicted values, *Fitted GovSh* was set to zero. Positive coefficients of *Fitted GovSh* would support our research hypothesis.

Equation (2) controls for product market competition, to acknowledge evidence of inter-industry variation in dividend policy (De Angelo et al. 2004). There are two categories of controls. The first category comprises industry fixed effects. The second category is *HH*. Sign expectations regarding the coefficient of these control variables are unclear.

Equation (2) controls for firm size, as a measure of propensity to pay dividends. Evidence suggests that dividend payers are usually concentrated among companies that pay large dividends (De Angelo et al. 2004). The two measures of financial health, *ROE* and *AltmanZ*, are included as further measures of the propensity to pay dividends. Positive coefficients are anticipated for all three variables.

Equation (1) includes *HiDQGDEDum*, as a control for the investment opportunity set. Companies with higher growth options are likely to be at pre-maturity life cycle stages. Hence, they may require larger capital expenditure adjustments and would likely retain free cash flow for initial outlays, rather than paying dividends (Dickinson 2011). Growth options are proxied via the *Dynaquest* sub-ratings for earnings and dividend growth, provided by *Dynaquest*. We foresee a negative coefficient.

Earning stability may be associated with dividend policy. Evidence indicates that dividend payers engage in accruals-based and real earnings management to maintain smooth dividend policies. Income smoothing may entail net upwards or downwards earnings management (Liu and Espahbodi 2014). Hence, *HiDQSDEDum* is included in Equation (2). Expectations regarding the coefficient's sign are ambiguous.

Debt financing may be used as an agency mechanism. When management is regularly committed to service debt, there may be less scope for over-investment (Farinha 2003). Under this scenario, more significant debt financing would mean that over-investment is combatted to a greater extent, resulting in lower free cash flow available to pay dividends. Hence, *DE* is included as a control in Equation (2). We anticipate a negative coefficient of *DE*.

We control for family company status in recognition of evidence that inside ownership may be a determinant of dividend policy (La Porta et al. 2000; Aivazian et al. 2003; Mitton 2004). In family companies, management is shareholders, reducing motivation to use dividend policy as a signaling device or to design dividend policy to attract a particular shareholder clientele. Sign expectations, regarding the coefficient of *FlycDum*, are unclear. A limitation of our study is that we cannot observe the group dynamics within the controlling family (Rioux 2012).

Equation (2) acknowledges that dividend policy may be a monitoring mechanism to curb over-investment (La Porta et al. 2000). High payout policies commit managers to appropriating free cash flow rather than overinvesting. Whether dividend policy is used for this purpose depends on anticipated over-investment and the efficacy of other mechanisms to curb the practice (Mitton 2004). *Expectoverinv*, the residuals from Equation (A1), measures the expected over- or under-investment, based on business fundamentals. We expect the coefficient to be positive. Appendix B depicts Equation (A1) and the results from estimating this equation.

A company with high governance quality would have mechanisms (other than dividend policy) to reduce over-investment (La Porta et al. 2000). Furthermore, there are inconsistencies in the theory and evidence on whether dividend policy complements or substitutes for these other mechanisms. In the former (latter) scenario, dividend policy would be positively (negatively) associated with corporate governance quality. Hence, *HiCGQDum* is included as a control variable, in Equation (2). Expectations, regarding the sign of the coefficient, are mixed.

Equation (2) controls for the existence of an informal, non-shareholder political connection. The rationale is to acknowledge the possibility that the "grabbing hand" mechanism may affect dividend policy in companies with an informal political connection and that government-related shareholders may ameliorate this effect. Data for *LSInfPCDum* were

collected as follows. We identified companies with an informal political connection in 1997/1998 from Appendix A of [Fung et al. \(2015\)](#). We perused the directors' and managers' biographies in the year of interest's annual reports for each of these companies in our sample. If the directors, owners, and/or managers still had a connection, we classified them as having a longstanding informal political relationship at the balance date of the year of interest. Expectations regarding the sign of the coefficient are unclear.

The yearly fixed effects in Equation (2) have regard for evidence that in Malaysia, dividend policies exhibit low temporal stability ([Aivazian et al. 2003](#)). Sign expectations for the coefficient are unclear.

## 5. Sample Selection and Descriptive Statistics

The initial sample comprises non-financial company-years followed by *Dynaquest* during the period 2006–2013. In recognition of evidence that dividend payers are concentrated in healthy companies ([De Angelo et al. 2004](#)), we eliminated company-years with aggregate ratings less than 5.0. We removed loss-incurring companies since they are less likely to pay dividends ([De Angelo et al. 2004](#); [Floyd et al. 2015](#)) and because their payout ratios are impossible to interpret. We eliminated companies in their “shake out” or decline life cycle phases. The life cycle theory has ambiguous predictions about these companies' dividend policies ([Dickinson 2011](#)). Companies in these life cycle phases may pay terminal dividends; however, this type of dividend is not the focus on our study. These companies were identified using Altman's Z-score ([Altman 1968](#)) calculated by *Dynaquest*. The analyst clarifies that companies with Altman's Z-scores less than 2.00 have questionable health; these observations were deleted. Data to implement these filters were sourced from *Dynaquest Sendirian Berhad* (*Dynaquest Sendirian Berhad 2006–2014*). Further, we deleted company-years with uncomputable free cash flow and observations for which sub-ratings were not provided. The final sample comprises 1190 company-year observations. Table 1 presents univariate descriptive statistics for the continuous variables.

**Table 1.** Univariate descriptive statistics—continuous variables.

Variable	Min	First Percent	Lower Quartile	Median	Mean	Upper Quartile	Ninety-Fifth Percentile	Ninety-Ninth Percentile	Max	Std Dev.
Payout ratio	3.0	5.0	25.0	40.0	47.0	62.0	116.0	116.0	116.0	29.10
Dividend yield	0.12	0.42	2.28	3.62	4.09	5.26	8.85	18.53	18.53	2.81
GovSh	0.00	0.00	0.00	0.00	9.98	12.17	60.02	78.53	95.76	18.37
HH	0.08	0.08	0.28	0.37	0.46	0.56	1.00	1.00	1.00	0.26
Company size	1.73	3.53	5.30	6.13	6.51	7.02	9.05	9.91	9.91	1.36
DQGDE	0.0	0.05	1.0	1.5	1.3	1.5	2.0	2.0	2.5	0.4
$\Delta$ LEADCAPEX	0.00	0.00	0.02	0.05	0.08	0.10	0.27	0.46	1.19	0.10
ROE	0.06	1.98	8.83	12.80	15.50	17.29	34.26	95.92	95.92	13.34
AltmanZ	2.00	2.06	3.09	4.26	5.24	6.23	13.36	13.36	13.36	3.02
DE	0.0	0.0	0.0	12.0	33.9	34.0	87.0	151.0	413.0	33.9
FCFLRev	−112.41	−112.41	−1.02	6.23	11.20	17.09	58.25	238.09	238.09	37.08
DQMS	0.5	1.0	1.5	1.5	1.6	2.0	2.0	2.5	3.0	0.4
DQSDE	0.0	0.00	1.0	1.5	1.3	1.5	2.0	2.0	3.0	0.5

The statistics are calculated using the entire 1190 observations in the sample. All of the variables were defined in Appendix A.

Table 1 reveals substantial variation in *GovSh*, indicating that the sample is suitable for testing the hypothesis. Table 1 suggests that product markets are concentrated in Malaysia. The 95th percentile of *HH* is 1.00, indicating that five percent of the sample observations are monopoly players. This would be partially due to product market intervention by government-related institutional investors ([Gomez and de Micheaux 2017](#)). The minimum value of  $\Delta$ LEADCAPEX is zero, indicating that nearly all of the sample observations

increased their capital expenditure over the investigation period, possibly due to the Malaysian Government's active public policy agenda (Gomez and de Micheaux 2017).

Table 1 highlights noteworthy features of the *Dynaquest* sub-ratings. *DQGDE* has an upper quartile of 1.50 out of 3.00, whereas *DQMS* has an upper quartile of 2.0 out of 3.0. Similarly, for both *DQSDE* and *DQGDE*, the median and upper quartile are both 1.50 out of 3.00. Hence, for the empirical analyses, each of these continuous variables is replaced with a dichotomous variable, flagging observations for which the relevant sub-rating exceeds 1.50.

Table 1 indicates the presence of outliers. The following continuous variables have a distribution with a massive difference between the 99th percentile and the maximum, consistent with a gigantic right skew: *Payout ratio*, *Dividend yield*, *Company size*, *ROE*, *AltmanZ*, and *FCFLRev*. Most of these variables are ratios. The extreme values may be artifacts, driven by low denominators. Hence, *Payout ratio*, *Dividend yield*, and *ROE* were winsorized at the 99th percentile, and *FCFLRev* are winsorized at 99th and 1st percentiles, respectively. *AltmanZ* was winsorized at the 95th percentile.

Table 2 presents univariate descriptive statistics related to the categorical variables.

**Table 2.** Univariate descriptive statistics: categorical variables.

<b>Panel (a)—Family Company Status</b>	
Category	Number (percentage) of sample observations in the category
Number (percentage) of observations with family company status	458 (38)
Number (percentage) of observations without family company status	732 (62)
Total	1190 (100)
<b>Panel (b)—Informal Political Connection Status</b>	
Category	Number (percentage) of sample observations in the category
Number (percentage) of observations with a longstanding informal political connection	106 (9)
Number (percentage) of observations without a longstanding informal political connection	1084 (91)
Total	1190 (100)
<b>Panel (c)—Auditor Quality</b>	
Category	Number (percentage) of sample observations in the category
Number (percentage) of companies audited by a "Big N" auditor	892 (75)
Number (percentage) of companies audited by a non-"Big N" auditor	298 (25)
Total	1190 (100)
<b>Panel (d)—Industry Distribution of Final Sample</b>	
Category	Number (percentage) of sample observations in the category
Number (percentage) of company-years in the consumer products industry	285 (24)
Number (percentage) of company-years in the construction industry	42 (4)
Number (percentage) of company-years in the industrial products industry	354 (30)
Number (percentage) of company-years in the hotels industry	6 (1)
Number (percentage) of company-years in the infrastructure project companies industry	7 (1)
Number (percentage) of company-years in the mining industry	1 (0)
Number (percentage) of company-years in the plantations industry	113 (9)
Number (percentage) of company-years in the properties industry	84 (7)
Number (percentage) of company-years in the technology industry	34 (3)
Number (percentage) of company-years in the trading and services industry	264 (22)
Total	1190 (100)

Table 2. Cont.

Panel (e)—Temporal Distribution of Sample Observations	
Category	Number (percentage) of sample observations in the category
Number (percentage) of company-years sampled from 2006	135 (11)
Number (percentage) of company-years sampled from 2007	144 (12)
Number (percentage) of company-years sampled from 2008	142 (12)
Number (percentage) of company-years sampled from 2009	141 (12)
Number (percentage) of company-years sampled from 2010	165 (14)
Number (percentage) of company-years sampled from 2011	159 (13)
Number (percentage) of company-years sampled from 2012	156 (13)
Number (percentage) of company-years sampled from 2013	148 (12)
Total	1190 (100)

These univariate descriptive statistics were calculated for the entire sample of 1190 company-year observations.

Panel (a) of Table 2 indicates that almost 40% of the sample observations were family companies. This is consistent with previous evidence of the prevalence of family companies in Malaysia (Sinnadurai 2016). Panel (b) suggests that only 9% of the sample observations had a longstanding informal political connection, consistent with prior evidence that this is relatively uncommon in Malaysia (Fung et al. 2015). Panel (c) reveals that “Big N” auditors audited three-quarters of the sample companies. Panel (d) displays the industry composition of the final sample. The industry distribution highlights institutional features of Malaysia. For example, the industries with the largest representations are industrial products, consumer products, and trading and services. This may partially reflect policies to increase *Bumiputera* involvement in industry and commerce, including the *Bumiputera* Economic Empowerment Policy and the *Bumiputera* Commercial and Industrial Community (Gomez et al. 2018, pp. 60–61, 150). The presence of the plantations industry reflects the historical prevalence of ethnic Chinese in cultivating the estates and their aptitude for adapting their business models (the products cultivated) to changes in global demand (Eng 2004). Panel (e) displays the temporal distribution of the sample. The sample is evenly distributed across the investigation period. This is a strength of the study, due to evidence that dividend policies of Malaysian companies lack temporal stability (Aivazian et al. 2003).

Table 3 presents the bivariate correlations of continuous variables. The two dividend policy metrics, dividend payout ratio and dividend yield, are positively correlated ( $p < 0.01$ , two-tailed), indicating that they are capturing a similar underlying construct.

*GovSh* is positively correlated with *HH*, the measure of industry concentration ( $p < 0.01$ , two-tailed), possibly due to government-directed product market intervention (Gomez and de Micheaux 2017). *GovSh* is also positively correlated with company size, possibly due to the extensive resource requirements needed for public policy capital expenditure projects (Lai 2012). Furthermore, *GovSh* is positive and correlated with management strength ( $p < 0.01$ , two-tailed), potentially due to the GLC Transformation Programme (Gomez et al. 2018, p. 56). These mechanisms may also explain the positive correlations of *HH* with  $\Delta LEADCAPEX$  and management strength ( $p < 0.01$ , two-tailed).



**Table 3.** Pearson correlations between pairs of continuous variables.

	Div. Yield	GOV SH	HH	Co. Size	DQ GDE	ΔLEAD CAP.	ROE	ALT.Z	DE	FCFL Rev	DQ MS	DQ SDE
Payout Ratio	0.60 ***	0.15 ***	0.05 *	0.05	−0.20 ***	−0.05 *	0.14 ***	0.21 ***	−0.03	−0.02	0.08 ***	0.00
Dividend yield		0.04	0.04	−0.14 ***	−0.28 ***	−0.11 ***	0.07 **	0.10 ***	−0.11 ***	−0.01	0.00	−0.07 **
GovSh			0.17 ***	0.34 ***	−0.07 **	0.17 ***	−0.05 *	−0.05 *	0.03	0.00	0.13 ***	0.05
HH				0.03	0.02	0.14 ***	0.04	−0.01	0.01	0.02	0.10 ***	0.05
Company size					0.18 ***	−0.03	0.27 ***	−0.11 ***	0.41 ***	−0.09 ***	0.48 ***	0.28 ***
DQGDE						0.12 ***	0.08 ***	−0.08 ***	0.16 ***	−0.06 **	0.06 **	0.01
ΔLEAD							−0.06 **	−0.06 *	0.05 *	−0.05 *	0.00	−0.01
CAPEX									0.21 ***	0.37 ***	0.05 *	0.26 ***
ROE										0.03	0.04	0.07 **
ALT. Z									−0.25 ***	0.03	0.04	0.07 **
DE										−0.02	0.23 ***	0.13 ***
FCFLRev											−0.04	−0.01
DQMS												0.29 ***

\* denotes significance at the ten-percent level (two-tailed). \*\* denotes significance at the five-percent level (two-tailed). \*\*\* indicates significance at the one-percent level (two-tailed). All of the correlations are calculated using the entire sample of 1190 company-years. All of the variables are defined in Appendix A.

$\Delta LEADCAPEX$ , the measure of anticipated capital expenditure adjustment, is significantly correlated with almost every other continuous variable.  $\Delta LEADCAPEX$  is positively associated with the following variables ( $p < 0.10$ , two-tailed): *GovSh*, *HH*, *DQGDE*, *DE*, and *DQMS*. The positive correlation with government shareholding likely reflects that companies subject to shareholding by a government-related institutional investor incur large capital expenditure outlays, due to their public policy projects (Lai 2012). The positive correlation between capital expenditure adjustment and growth opportunities is likely to reflect that large capital outlays are required to service these growth options. The positive correlation between capital expenditure adjustment and financial leverage indicates some use of debt funding to service the outlays. The positive correlation with management strength may reflect that high-level managerial integrity and acumen are needed to manage a corporation to successfully achieve both shareholder wealth maximisation and public policy (Gomez and de Micheaux 2017).

$\Delta LEADCAPEX$  is correlated negatively with the following variables ( $p < 0.10$ , two-tailed): dividend yield, *ROE*, *AltmanZ*, and free cash flow. All four negative correlations are consistent with substantial time lags from a capital budgeting project's commencement before it delivers positive inflows. The negative correlation with dividend yield likely indicates that capital expenditure outlays were partially funded from internal finance sources, resulting in dividend cuts. The negative correlation between capital expenditure adjustment and free cash flow would also reflect that large cash outlays are needed to service the public policy capital projects (Lai 2012).

*Company size* is positively correlated with five variables ( $p < 0.01$ , two-tailed): *DQGDE*, *DQMS*, *DQSDE*, *DE*, and *ROE*. *Company size* is negatively correlated with three independent variables ( $p < 0.05$ , two-tailed): *CAPEX*, *AltmanZ*, and free cash flow. The fact that company size is correlated with many variables highlights the appropriateness of controlling for company size. The positive correlations of size with *DE* and *DQMS* ( $p < 0.01$ , two-tailed) suggest that larger companies can afford more debt and have more vital management. The positive correlation between *Company size* and *DQGDE* ( $p < 0.01$ , two-tailed) may be due to larger companies experiencing a regression in the life cycle phase due to changes in product mix (Dickinson 2011).

*ROE* is positively correlated with *AltmanZ*, *DQGDE*, and *DQMS* ( $p < 0.01$ , two-tailed). Unsurprisingly, these statistics suggest that more profitable companies have better overall health, higher growth prospects, and more robust management. *ROE* is positively correlated with both dividend policy measures ( $p < 0.05$ ), indicating that healthier companies can afford larger appropriations. The positive correlation between *ROE* and *DE* ( $p < 0.01$ , two-tailed) suggests that more profitable companies can afford more debt financing. *ROE* is negatively correlated with  $\Delta LEADCAPEX$  ( $p < 0.05$ ). These correlations are likely due to capital investment projects requiring large outlays taking more than one year to deliver positive cash flows.

Three variables, *Company size*, *DQGDE*, and *DE*, are each significantly correlated with *AltmanZ* and *ROE* ( $p < 0.05$ , two-tailed), in opposite directions. Two variables, *DQMS* and free cash flow, are positively correlated *ROE* ( $p < 0.10$ , two-tailed) and uncorrelated with *AltmanZ*. These statistics suggest that analysts distinguish current year and overall profitability. *DE* is positive and correlated with management strength, growth, and anticipated change in capital expenditure ( $p < 0.10$ , two-tailed). These correlations suggest that growth companies use some debt financing and that lenders are more willing to extend credit to soundly managed companies.

Earnings stability is correlated positively with company size, *AltmanZ* and *ROE* ( $p < 0.05$ , two-tailed). A possible explanation is that some industries may become oligopolistic due to a small number of dominant players capturing the product market (Ali et al. 2014). Earnings stability is positively correlated with financial leverage ( $p < 0.01$ , two-tailed), possibly due to some highly levered companies using debt policy to curb over-investment (Farinha 2003). They would hence channel more of shareholders' resources into value-adding projects, enhancing earnings power. Earnings stability is positively associated with

management strength ( $p < 0.01$ , two-tailed), possibly because “strong” management has the skill and discipline to select shareholder wealth-maximising projects, even when these choices do not maximize management’s wealth utility (Hu and Kumar 2004).

## 6. Empirical Results

Table 4 reports estimates of the models for testing the research hypotheses.

**Table 4.** Estimation of models for testing the research hypothesis.

Panel (a)—Full Sample						
Variable	Model (1)		Model (2)		Model (3)	
	Stage 1—Government Shareholding as Dependent Variable		Stage 2—Dividend Payout as the Dependent Variable		Stage 2—Dividend Yield as the Dependent Variable	
Fitted GovSh				1.40 (1.11)		0.11 (0.88)
HH	7.52 (3.58) ***			−5.61 (−0.53)		−0.66 (−0.65)
Company size	0.14 (1.42) *			−0.24 (−1.07)		−0.05 (−2.20) ++
HiDQGDEDum	−1.73 (−1.01)			−11.80 (−3.95) ***		−1.73 (−5.96) ***
ΔLEADCAPEX	0.16 (3.18) ***					
ROE	−0.14 (−3.13) +++			0.51 (2.85) ***		0.04 (2.45) ***
AltmanZ	−0.14 (−0.41)			0.58 (3.35) ***		0.01 (0.73)
HiDQSDedum	−0.29 (−0.18)			−3.39 (−1.56)		−0.64 (−2.57) **
DE	0.0 (0.00)			−1.10 (−3.51) ***		−0.01 (−3.74) ***
FlycDum	−6.48 (−5.99) ***			5.19 (0.65)		0.82 (1.07)
HiCGQDum	6.08 (5.23) ***			−4.05 (−0.52)		−0.64 (−0.84)
LSInfPCDum				14.91 (4.81) ***		0.35 (1.16)
Expectoverinv				−0.41 (−1.89) +		−0.04 (−1.73) +
Industry fixed effects	Yes			Yes		Yes
Year fixed effects	Yes			Yes		Yes
R <sup>2</sup>	0.17 ***			0.15 ***		0.14 ***
Number of observations				1190		
Panel (b)—Stratified Sub-Samples						
Variable	Sub-Sample of Observations with High Corporate Governance Quality			Sub-Sample of Observations with Low Corporate Governance Quality		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
	Stage 1—Government Shareholding as Dependent Variable	Stage 2—Dividend Payout as the Dependent Variable	Stage 2—Dividend Yield as the Dependent Variable	Stage 1—Government Shareholding as Dependent Variable	Stage 2—Dividend Payout as the Dependent Variable	Stage 2—Dividend Yield as the Dependent Variable
Fitted GovSh		0.97 (0.96)	0.04 (0.52)		8.15 (3.47) ***	0.47 (3.39) ***
HH	19.32 (4.25) ***	−22.01 (−0.92)	−1.39 (−0.71)	0.63 (0.27)	−0.50 (−0.12)	−0.06 (−0.13)
Company size	−0.03 (−0.13)	−0.11 (−0.39)	−0.05 (−1.98) +	0.15 (1.33) *	−0.94 (−2.57) ++	−0.09 (−3.19) +++
HiDQGDEDum	−6.65 (−1.95) +	1.93 (0.28)	−1.11 (−1.95) **	1.21 (0.62)	−25.20 (−5.28) ***	−2.64 (−6.58) ***

Table 4. Cont.

Panel (b)—Stratified Sub-Samples						
Variable	Sub-Sample of Observations with High Corporate Governance Quality			Sub-Sample of Observations with Low Corporate Governance Quality		
	Model (1)	Model (2)	Model (3)	Model (4)	Model (5)	Model (6)
	Stage 1—Government Shareholding as Dependent Variable	Stage 2—Dividend Payout as the Dependent Variable	Stage 2—Dividend Yield as the Dependent Variable	Stage 1—Government Shareholding as Dependent Variable	Stage 2—Dividend Payout as the Dependent Variable	Stage 2—Dividend Yield as the Dependent Variable
$\Delta$ LEADCAPEX	0.36 (3.27) ***			0.08 (1.40) *		
ROE	−0.06 (−0.18)	0.51 (4.05) ***	0.03 (3.79) ***	−0.17 (−2.76) ***	1.22 (3.35) ***	0.01 (4.24) ***
AltmanZ	−0.09 (−0.51)	0.57 (1.98) **	0.03 (1.28)	−0.06 (−0.47)	1.19 (4.57) ***	0.03 (1.21)
HiDQSDEDum	−5.27 (−1.90) +	5.23 (0.83)	−0.39 (−0.75)	3.48 (1.79) **	−36.43 (−4.30) ***	−2.39 (−4.09) ***
DE	−0.02 (−0.86)	−0.06 (−1.51) *	−0.01 (−2.31) **	0.02 (0.74)	−0.33 (−5.48) ***	−0.02 (−4.29) ***
FlycDum	−16.80 (−6.70) ***	10.03 (0.60)	1.13 (0.82)	−2.86 (−2.35) ***	22.77 (3.34) ***	1.37 (3.12) ***
LSInfPCDum		13.27 (2.34) **	−0.21 (−0.44)		18.92 (4.74) ***	0.78 (1.94) *
Expectoverinv		−0.42 (−1.04)	−0.03 (−0.87)		−0.77 (−3.76) ***	−0.05 (−3.74) ***
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
R <sup>2</sup>	0.32 ***	0.24 ***	0.26 ***	0.14 ***	0.18 ***	0.15 ***
Number of observations		333			857	

Equations (1) and (2) were estimated via OLS regressions.  $\gamma_j$ ,  $\lambda_{jt}$ , and  $\delta_j$  are regression parameters. Intercepts were estimated. However, these coefficients are not reported. Similarly, industry and year fixed effects are included, although the coefficients are not reported.  $\varepsilon_{i,t}$  and  $\varepsilon_{i,t}^*$  are stochastic disturbance terms.  $t$ -ratios are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the ten-, five-, and one-percent levels, respectively, in the direction anticipated. +, ++, and +++ denote significance at the ten-, five-, and one-percent levels, respectively, in the opposite direction from anticipation (two-tailed). One-tailed significance tests are used for coefficients for which there are *a priori* sign expectations. Two-tailed tests are used for other coefficients. All of the variables are defined in Appendix A.

The Stage 1 regressions report estimates of Equation (1). The results are documented in Model (1) in Panel (a) and Models (1) and (4) in Panel (b). The models report determinants of the level of shareholding, by government-related investors. All three of these models are significant overall ( $p < 0.01$ ), indicating that they have reasonable explanatory power.

Some of the coefficients conform to expectations. The coefficient of *HH* is positive and significant ( $p < 0.01$ , two-tailed) in Model (1) in Panel (a) and Model (1) of Panel (b). However, the coefficient of *HH* is not significant in Model (4) of Panel (b). This suggests that for companies with high corporate governance quality, there is a positive association between the level of government shareholding and the degree of product market concentration. One possible explanation is that in industries with output amenable to public policy, the government-related investors have facilitated intra-industry horizontal integration, causing product markets to become more concentrated (Gomez and de Micheaux 2017). The lack of correlation between government shareholding and product market concentration, for the stratum of companies with low corporate governance quality, may be due to the government being disinclined to intervene in product markets, for which the



players lack quality governance mechanisms. The government may be concerned that the low corporate governance quality may inhibit their intervention from achieving its public policy objectives.

Similarly, the coefficients of *HiDQSDEEDum*, the measure of earnings stability, display mixed conformity with expectations. This coefficient is not significant in Model (1) of Panel (a), estimated using the pooled sample. Contrary to expectations, the coefficient of *HiDQSDEEDum* is negative and significant ( $p < 0.10$ , one-tailed) in Model (1) of Panel (b). Consistent with expectations, the coefficient of *HiDQSDEEDum* is positive and significant ( $p < 0.05$ , one-tailed) in Model (4) of Panel (b), estimated using the sub-sample of observations with low corporate governance quality. This suggests that for government-related investors, high earnings stability is only attractive for companies with low corporate governance quality. A possible explanation is that the government-related investors regard a company's innate ability to sustain earnings (e.g., from operating in an industry with high product demand) as complementary to agency mechanisms instituted by management (Francis et al. 2005).

The coefficients of  $\Delta LEADCAPEX$  are uniformly positive and significant ( $p < 0.10$ , one-tailed) in all three models. This suggests that, as expected, the Malaysian Government is more attracted to investing in companies that plan to increase their capital expenditure outlays (Lai 2012). The coefficients of *Company size* weakly conform with expectations. The coefficient of *Company size* is positive and (very marginally) significant ( $p < 0.10$ , one-tailed) in two models out of three. The coefficient of the size proxy is not significant in the third model. There are at least two possible explanations for the lack of strong coefficients related to company size. Firstly, company size may proxy for many other corporate attributes, in addition to the resource base. Secondly,  $\Delta LEADCAPEX$  may be a superior proxy to company size for capital expenditure resources. This interpretation is supported by the fact that the coefficients of  $\Delta LEADCAPEX$  are all significant.

The coefficients of *FlycDum* are all negative and significant ( $p < 0.01$ , one-tailed). This is consistent with our expectation that the government would be disinclined to invest in family companies due to its inability to thwart the domination of the controlling family (Gomez 2009).

In Model (1) of Table 4, Panel (a), the coefficient of *HiCGQDum* is positive and significant ( $p < 0.01$ , one-tailed). This conforms with our expectation that the Malaysian Government may be more inclined to invest in soundly governed companies. These companies may be better equipped to jointly implement public policy and maximise shareholder wealth (Boycko et al. 1996; Hu and Kumar 2004).

Conversely, some of the other coefficients, in estimates of Equation (1), do not conform to expectations. Contrary to our anticipation, the coefficients of *HiDQGDEEDum* are insignificant in Model (1) of Panel (a) and Model (4) of Panel (b). The coefficient of *HiDQGDEEDum* is negative and significant ( $p < 0.01$ , two-tailed) in Model (1) of Panel (b), contrary to expectations. A possible interpretation of these results follows. The Malaysian Government is likely to be attracted to companies with large growth opportunities. However, as a consequence of involvement in public policy, some of these companies may introduce younger products and services into their output mix, causing the company as a whole to regress in life cycle stage (Dickinson 2011; Lai 2012).<sup>4</sup>

The coefficients of *ROE* defy expectations. In Model (1) of Panel (a) and Model (4) of Panel (b), this coefficient is negative and significant ( $p < 0.01$ , two-tailed). The coefficient of *ROE* in Model (1) of Panel (b) is not significant. One possible explanation is that while government investors may be attracted to healthy companies, involvement in public policy may compel corporate management to sometimes select projects that are sub-optimal from the viewpoint of maximising shareholder wealth (Boycko et al. 1996). This explanation may also account for the coefficients of *AltmanZ* (the measure of overall financial health) being uniformly insignificant.

Contrary to expectations, the coefficients of *DE*, the measure of financial leverage, are uniformly insignificant and close to zero (i.e., the evidence suggests that an increase

in debt (versus equity) financing does not bear any relation to the level of investment by government-related shareholders). A possible explanation follows. After the companies have been subjected to government shareholding, extra sources of debt, such as “bail-out” packages may become available (Fraser et al. 2006). The government-related investors are confident that these resources will enable a company to service its debt, reducing financial risk.

The Stage (2) regressions report estimates of Equation (2), the model used to test the research hypothesis. There are two sets of Stage (2) regressions—models using dividend payout as the dependent variable and models using dividend yield as the dependent variable.

Estimates of Equation (2), in Table 4, provide modified support for the hypothesis. The coefficient of *Fitted GovSh* is not significant in either of the Stage (2) models reported in Panel (a), estimated using the entire sample. Similarly, in Panel (b) (estimated using the sub-samples), the coefficients of *Fitted GovSh* are not significant in Models (2) and (3), estimated using the sub-sample of observations with high-quality corporate governance. However, the coefficients of *Fitted GovSh* are positive and significant ( $p < 0.01$ , one-tailed) in Models (5) and (6), estimated using the sub-sample of observations with low-quality corporate governance, consistent with expectations. This indicates that the research hypothesis, of a positive association between dividend policy and government shareholding, is only supported for companies with low-quality corporate governance.

A possible explanation for this result follows. We identify four mechanisms, auguring for a positive association between dividend policy and government shareholding. For three of these, the government-related investors are functioning as a corporate governance mechanism, to reduce the agency costs of equity. Hence, demand for government investors to function in this manner would be higher in companies with lower-quality company-level corporate governance. For example, companies with weaker management may have ineffective internal resources to curb overinvestment (Hu and Kumar 2004; Phan et al. 2020). This would increase demand for monitoring by government-related shareholders for this purpose (Benjamin et al. 2016). Furthermore, for companies with weaker management, shareholders may be less confident in management’s ability to jointly maximise shareholder wealth and implement public policy. This would accentuate demand to use dividend policy, as a mechanism to signal to shareholders that management is able to do so (Boycko et al. 1996; La Porta et al. 2000; Floyd et al. 2015). Similarly, companies with weaker management may have reduced internal resources to curtail the “grabbing hand” of informal non-shareholding political connections. This would heighten demand for government-related shareholders to do so via demanding higher dividends (Benjamin et al. 2016; Boubakri et al. 2020; Yu and Wang 2020).

Table 4 reveals that only two of the control variables have signs and significance levels uniformly consistent with expectations in estimates of Equation (2). The coefficients of *ROE* are positive and significant ( $p < 0.01$ , one-tailed) in all six models. This strongly suggests that dividend policy is positively associated with current year profitability. Similarly, the coefficients of *DE* are uniformly negative and significant ( $p < 0.10$ , one-tailed). This supports the conclusion that Malaysian companies use debt financing as a mechanism to combat overinvestment (Farinha 2003). The coefficients of *HiDQGDEDum* are positive and significant ( $p < 0.05$ , one-tailed) in five models out of six. This strongly supports the existence of a negative association between dividend policy and investment opportunity set (Dickinson 2011).

There are only two control variables, in estimates of Equation (2), with coefficients that are consistently insignificant. The coefficients of *HH* are uniformly insignificant. This indicates that factors auguring for a positive association between dividend policy and product market concentration are of similar magnitude to counter factors, auguring for a negative association. Similarly, the coefficient of *HiCGQDum* is not significant in Models (2) and (3) of Table 4, Panel (a), estimated using the entire sample. This result defies explanation.

Some of the evidence in Table 4 differs systematically between the models using dividend payout as the metric of dividend policy and the models using dividend yield. For example, the coefficients of *Company size* are insignificant in two of the models with dividend payout as the dependent variable (Model (2) in Panel (a) and Model (2) in Panel (b)). Contrary to expectations, the counterpart coefficients are uniformly negative and significant ( $p < 0.10$ , two-tailed) in the models using dividend yield as the dependent variable. Consistent with expectations, the coefficients of *AltmanZ* are uniformly positive and significant ( $p < 0.05$ , one-tailed) in the models using dividend payout as the dependent variable. The counterpart coefficients of *AltmanZ* are uniformly insignificant in the models using dividend yield as the dependent variable. Similarly, the coefficients of *LSInfPCDum* are uniformly positive and significant ( $p < 0.05$ , two-tailed) in the models using dividend payout as the dependent variable. Conversely, the counterpart coefficients are insignificant in the two out of three models using dividend yield as the dependent variable (Model (3) in Panel (a) and Model (3) in Panel (b)). The coefficient of *LSInfPCDum* is only marginally significant in the third model, using dividend yield as the dependent variable (Model (6) of Panel (b)). A possible explanation is that some Malaysian companies may frame dividend policy with reference to dividend payout, while others may frame dividend policy with reference to dividend yield.

Some of the variables have coefficients that differ systematically between the low- and high-corporate governance quality strata. Consistent with expectations, the coefficients of *HiDQSDEEDum*, the proxy for earnings stability, are significant in Models (5) and (6) in Panel (b) ( $p < 0.01$ , two-tailed). The coefficients of *HiDQSDEEDum* are not significant in either of the Stage (2) models, estimated using the sub-sample of observations with high-quality corporate governance (Models (2) and (3) of Panel (b)). A possible explanation relates to the use, by Malaysian companies, of dividend policy to signal their handling of operating risk. When corporate governance quality is high, management may have more confidence in using other (non-dividend policy) signaling devices to communicate with shareholders (La Porta et al. 2000; Floyd et al. 2015).

Similarly, the coefficients of *FlycDum*, the flag for family company status, are positive and significant ( $p < 0.01$ , two-tailed), in the two Stage (2) models estimated using the sub-sample of observations with low-quality corporate governance. (These are Models (5) and (6) of Panel (b).) The coefficients of *FlycDum* are not significant in any of the other Stage (2) models. A possible reason is that family companies with high corporate governance quality may be able to use agency mechanisms (other than dividend policy) to curb overinvestment (Benjamin et al. 2016).

The coefficients of *Expectoverinv* are negative and significant ( $p < 0.01$ , two-tailed) in Models (5) and (6) of Panel (b), estimated using the sub-sample of observations with low-quality corporate governance. The coefficients of *Expectover* are insignificant in Models (2) and (3) of Panel (b), estimated using the sub-sample of observations with high-quality corporate governance. These results defy the expectation for positive coefficients of *Expectover*. A possible explanation is that companies with low-quality corporate governance may be unsuccessful at using dividend policy to curb overinvestment. Conversely, companies with high-quality corporate governance may be able to effectively curtail overinvestment via complementary agency mechanisms.

## 7. Robustness Checks

The sub-ratings for management strength are subjective. Hence, we re-worked the analyses using an Anglo-American measure of corporate governance quality. We classified an observation as having high corporate governance quality if at least two of three criteria were satisfied: a majority of independent directors on the board, the audit committee comprising only independent directors, and having a “Big N” auditor (Sinnadurai 2018). The board and audit committee composition data were collected manually from the annual reports, sourced from Bursa Malaysia Berhad (2021). The results in the sensitivity analysis (unreported) are partially congruent with those in the body of the paper; both sets of

results support the hypothesis. However, the two sets of results differ in one important regard. In the sensitivity analyses results, the hypothesis is supported only in the stratum of observations with high corporate governance quality. Conversely, the results in the body of the paper are only supported in the low corporate governance quality. We regard the results in the body of the paper as more credible since they use a corporate governance quality metric befitting the Malaysian environment (Sinnadurai 2018). This suggests that it is important for researchers from non-Anglo-American environments to use approaches fitting their countries' institutional environments, rather than simply assuming that an Anglo-American approach is suitable.

The use of the *Dynaquest* metric for Altman's Z-score is unconventional. Hence, we re-worked the analysis, using the following measure of overall financial health. Each company-year was assigned one point for each of the following criteria that were met: current ratio greater than one, asset turnover higher than the industry median (using the narrow *Dynaquest* industry groupings), and no losses (consolidated net profit after tax attributable to ordinary shareholders) during the past three years (Altman 1968). The aggregate, out of 3.00, is the alternative measure of financial health. Data were hand-collected from *Dynaquest Sendirian Berhad* (*Dynaquest Sendirian Berhad 2006–2014*). The results of the sensitivity analyses (unreported) are essentially consistent with those in the paper's body. Both sets of results indicate that the research hypothesis is strongly supported for the observations with low-quality corporate governance and not supported for those with high-quality corporate governance. Hence, the results in the body of the paper do not appear to be driven by the use of a Malaysia-specific metric of overall financial health. It is noteworthy that none of the coefficients, of our conventional measure of financial health are both positive and significant in the results of the sensitivity analyses. This suggests that the use of a Malaysia-specific metric is a more accurate proxy for overall financial health.

Our measure of the investment opportunity set is also unconventional. Hence, we repeated the analyses, measuring the investment opportunity set via the ratios of market-to-book value of equity and assets. In the regressions, we used dummy variables, flagging whether each of these ratios exceeds 1.00. The data were hand-collected from *Dynaquest Sendirian Berhad* (*Dynaquest Sendirian Berhad 2006–2014*). The results from the two sets of sensitivity analyses (unreported) are not substantially different from each other. Hence, we only discuss the results from using the market-to-book value of equity. These results support the research hypothesis. However, unlike the results in the body of this paper, the results in the sensitivity analysis indicate that this support is primarily from companies with high-quality corporate governance. We regard the results reported in the body of the paper to be more credible because they use a proxy specifically designed for the Malaysian institutional environment. It is also noteworthy that in the sensitivity analyses, the coefficients of the proxy for investment opportunity set, in estimates of the Stage (2) regressions, do not uniformly accord with expectations. In the sensitivity analyses, the coefficients of the proxy derived from market-to-book value of equity are negative and significant ( $p < 0.05$ , one-tailed) in only three models out of six. Conversely, in Table 4 of the paper, the counterpart coefficients of *HiDQGDEDum* are negative and significant ( $p < 0.05$ , one-tailed) in five models out of six. This suggests that our Malaysia-specific proxy is superior in the Malaysian setting.

It is also possible that the *Dynaquest* sub-ratings for earnings stability produce different assessments than metrics from the journal literature. However, previous evidence from Malaysia (Ismail and Sinnadurai 2012) has documented a positive and significant correlation ( $p < 0.05$ , two-tailed) between the *Dynaquest* sub-ratings for earnings stability and a traditional metric of earnings stability, the ratio of temporal standard deviations (calculated over the past five years) of operating earnings to operating cash flows.

Another limitation is that our sample is limited to companies followed by *Dynaquest*. However, this is a necessary research design choice, to enable us to improve the research design, via using *Dynaquest* metrics.



## 8. Conclusions

Using data from Malaysia, we investigate the association between dividend policy and government shareholding in listed companies. Government ownership is a proxy for the extent to which a listed company has public policy objectives, in addition to shareholders' wealth maximisation (Gomez et al. 2018). The results support a positive association, driven by companies with low-quality corporate governance. A possible explanation is that in companies with lower management strength (Hu and Kumar 2004), demand by government-related investors for higher dividends, as an agency mechanism, is higher.

The results of this paper have a practical implication for fund managers seeking to maximise portfolio returns. The results suggest that for investor clientele with a preference for dividends over capital gains, companies with low-quality corporate governance, subject to government share ownership, would be suitable candidates.

Overall support for the hypothesis is robust for a battery of sensitivity analyses. However, the results of the sensitivity analyses do not unanimously support the conclusion that this support is limited to companies with low-quality corporate governance. We regard the results documented in the paper to be more credible; they use research design adaptations for the Malaysian institutional setting. A corollary is that researchers using data from non-Anglo-American environments should consider using proxies (for theoretical constructs), tailored for the applicable institutional settings, rather than generic Anglo-American constructs.

There are also other secondary findings of our paper. The results suggest a possible interpretation of prior evidence that dividend policies of Malaysian companies lack temporal stability (Aivazian et al. 2003). Some Malaysian companies may define their dividend policies with reference to dividend payout; others may define their dividend policies with reference to dividend yield. Further research could investigate this explanation. We contribute to the literature on investment efficiency (Benjamin et al. 2016; García-Lara et al. 2016). Our evidence is congruent with the finding of Phan et al. (2020) that in Malaysia, anticipated capital expenditure is associated positively with government shareholding. However, other inconsistencies between our results and those of Phan et al. (2020) may be due to the existence of correlated omitted variables from the seminal models of determinants of capital expenditure (García-Lara et al. 2016). Hence, further analytical research could identify possible determinants.

**Author Contributions:** P.S. is the principal author, responsible for most of the execution. Naturally, the other two authors made essential contributions. The paper has been developed from the doctoral dissertation of R.S., completed at the University of Malaya. S.D. was one of his supervisors. R.S. contributed substantially to the data collection, for the post-doctoral paper. S.D. was a liaison to the Malaysian Institute of Corporate Governance. She was involved in embellishing and polishing the discussion of the Malaysian institutional environment. All authors have read and agreed to the published version of the manuscript.

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**Conflicts of Interest:** The authors declare no conflict of interest.

## Appendix A. Variable Definitions

Variable	Definition
Dividend policy	Measure $j$ of dividend policy. The two constituents of $j$ are <i>Payout ratio</i> and <i>Dividend yield</i> .
Payout Ratio	Dividend per share of company $i$ , for year $t$ /Earning of company $i$ , for year $t$ .
Dividend yield	Dividend yield of the company-year, deflated by end-of-year share price.
Fitted GovSh	The fitted values of <i>GovSh</i> , from estimates of Equation (A1).
GovSh	The percentage of shares held by government-related investors.
Company size	Natural logarithm of sales revenue of the company-year.
ROE	Return on equity of the company-year, calculated by <i>Dynaquest</i> .
AltmanZ	The Altman's Z metric of financial health for the company-year, calculated by <i>Dynaquest</i> .
FCFLRev	The leveraged free cash flow of the company-year scaled by operating revenue.
HiDQGDEDum	One if <i>DQGDE</i> exceeds the median of this variable and 0 otherwise.
DQGDE	<i>Dynaquest</i> sub-rating for earnings and dividend stability for a company-year.
FlycDum	One if for company $i$ , during year $t$ , there was at least one member of the CEO's family on the board of directors and if the family-owned at least 20% of the company's equity. Otherwise, <i>FlycDum</i> = 0.
HH	$\Sigma_i$ (Sales revenue of company $i$ during year $t$ /Total sales of all companies in industry during year $t$ ) <sup>2</sup> .
INDDum <sub><math>j</math></sub>	=1 (0) if the relevant company year was (was not) in industry $j$ , according to the classifications of the Malaysian stock exchange.
HiDQSDEDEDum	One if <i>DQSDE</i> exceeds the median of this variable and zeroes otherwise.
DQSDE	<i>Dynaquest</i> sub-rating for earnings and dividend stability for a company-year.
LSInfPCDum	=1 (0) if, during year $t$ , company $i$ had (did not have) an informal political connection.
Expectoverinv	The estimated disturbances from Equation (2), as outlined in the captions for Table A1.
$\Delta$ LEADCAPEX	LEADCAPEX—CAPEX.
LEADCAPEX	Capital expenditure of the company during the year $t + 1$ , scaled by operating revenue of year $t$ .
CAPEX	Capital expenditure of the company during the year $t$ , scaled by operating revenue of year $t$ .
HiCGQDum	1 if <i>BigNDum</i> = 1 and <i>HiDQMSDum</i> = 1. Otherwise, <i>HiCGQDum</i> = 0.
HiDQMSDum	If <i>DQMS</i> > 1.5 and 0 otherwise.
DQMS	<i>Dynaquest</i> sub-rating for management strength for company-year.
BigNDum	One if the company-year was audited by a Big N auditor and 0 otherwise.
DE	Debt-to-equity ratio of the company-year

## Appendix B. Methodology for Estimating Anticipated Over-Or Underinvestment

Anticipated over- or under-investment is modeled via Equation (A1), estimated on a pooled basis, via OLS.

$$\begin{aligned} \Delta LEADCAPEX_{i,t} = & \alpha_0 + \beta_1 DE_{i,t} + \beta_2 HiDQSDEdum_{i,t} + \beta_3 HiDQGDEdum_{i,t} + \beta_4 HH_{j,t} \\ & + \beta_5 FCFLRev_{i,t} + \beta_6 Company\ size_{i,t} + \beta_7 HiCGQDum_{i,t} + \beta_8 GOVSH_{i,t} \\ & + \beta_9 LSInfPCDum_{i,t} + \mu_{i,t} \end{aligned} \quad (A1)$$

where:

All variables are defined in Appendix A.

$\alpha_0$ ,  $\beta_j$ , and  $\delta_j$  are regression parameters.

$\mu_{i,t}$ , the stochastic disturbance terms, are estimates of *EXPOVERINV*.

Our model for estimating anticipated over- or under-investment is an adaptation of the models from [García-Lara et al. \(2016\)](#) and [Phan et al. \(2020\)](#). The latter also used data from Malaysia; these approaches are from Richardson's theory and methodology (2006) ([Gao and Yu 2020](#)).

The dependent variable,  $\Delta LEADCAPEX$ , measures anticipated capital expenditure adjustment. The purpose of Equation (A1) is to separate this variable into two components. The first component is the predicted values from Equation (A1). These represent the level of capital expenditure adjustment that shareholders anticipate, due to corporate fundamentals. The residuals, of principal interest to this study, measure anticipated over- or under-investment by shareholders ([García-Lara et al. 2016](#)).

Financial leverage, proxied by *DE*, is an independent variable in Equation (A1). Companies subject to government shareholding have access to additional debt sources to fund capital investment projects related to public policy implementation ([Fraser et al. 2006](#)). Hence, a positive coefficient is expected.

Earnings quality is likely to be associated with anticipated capital expenditure. Evidence suggests that earnings are managed upwards in the year before, but not during, over-investment ([McNichols and Stubben 2008](#)). Hence, the degree of opportunistic earnings management is likely to be positively associated with the anticipated degree of adjustment to capital expenditure. Opportunistic earnings management would result in higher subsequent-period accrual reversals, reducing earnings stability. Hence, we use *HiDQSDEdum* as a proxy for earnings quality. We expect a negative coefficient.<sup>5</sup>

Naturally, *HiDQGDEdum*, our proxy for growth opportunities, is included as an independent variable in Equation (A1). Companies at the growth stage of their life cycle would require larger capital expenditure increases to realise these opportunities. Hence, a positive coefficient is anticipated.

There is a high probability that product market concentration is associated with anticipated capital expenditure adjustment. Some industries may become concentrated because a small number of dominant players have successfully taken the first-mover advantage. These players are likely at the maturity life cycle stage and would not have growth opportunities requiring large capital outlays ([Ali et al. 2014](#)). The anticipation of a negative association follows. An adaptation from [García-Lara et al. \(2016\)](#) is that our model is estimated on a pooled basis, rather than an industry basis, a necessary consequence of our narrow industry categories. We use two sets of proxies for product market competition: *HH* and the industry fixed effects. We envisage a negative coefficient for *HH*. Sign expectations, regarding the coefficients of the industry fixed effects, are unclear.

We anticipate that capital expenditure adjustment is positively related to a company's resource base ([Officer 2011](#); [John et al. 2015](#)). The principal proxy for the resource base is company size. A positive coefficient of company size is expected. We include free cash flow as another proxy. However, free cash flow in year *t* captures two offsetting determinants of anticipated capital expenditure adjustment. The first component, cash flow from operations, an internal resource available to fund outlays, is expected to be positively associated with expected adjustment to capital expenditure commitments in year *t* + 1 ([Richardson 2006](#)). The other component of the current year's free cash flow is current-year capital expenditure

commitments. Positively autocorrelated capital expenditure commitments augur for a negative association with free cash flow (Dickinson 2011). It is unclear which of these two associations would be more robust, generating ambiguous sign expectations regarding the coefficient.

Over- and under-investment constitute dysfunctional managerial behavior (Jensen 1986; Richardson 2006; García-Lara et al. 2016). Hence, the quality of corporate governance mechanisms for curbing these practices may be a determinant of anticipated capital expenditure adjustment. Strong management is likely to act in shareholders' interests, even when divergent from their own self-interest (Hu and Kumar 2004). Financial statements are used in monitoring mechanisms that curb over- and under-investment (García-Lara et al. 2016), causing a positive association between financial statement quality and the extent to which inefficient capital expenditure is constrained. *HiCGQDum* proxies corporate governance quality. Since high-quality corporate governance would curb both over- and under-investment, the sign of its anticipated association with capital expenditure is ambiguous.

The level of government shareholding may be a determinant of anticipated capital expenditure adjustment. Companies subject to higher government shareholding levels would have more involvement in nation-building projects, requiring enormous outlays (Boycko et al. 1996; Lai 2012). The expectation of a positive association follows.

Equation (A1) controls for the existence of an informal political connection. Companies with an informal political connection may have large capital expenditure in order to invest in the political connection's "pet" projects (Phan et al. 2020). Hence, a positive association is anticipated.

Capital expenditure may vary temporally. A firm's capital expenditure commitments may be partially autocorrelated, due to a firm typically spending more than one year in its growth phase and several years in the maturity phase (Dickinson 2011). This mechanism augurs for positive autocorrelation of anticipated capital expenditure adjustment. Another tool may be the curtailment of capital expenditure by Malaysian companies during recessions. It is unclear which of these mechanisms would dominate, generating ambiguous expectations regarding the temporal trend of capital expenditure adjustment. Yearly fixed effects are included in Equation (A1), to capture the impact on capital expenditure adjustment of changing macroeconomic conditions. Expectations are mixed regarding the coefficients' signs.

Table A1 reports Equation (A1) estimates to obtain the measure of anticipated over- or under-investment. All three models are significant overall ( $p < 0.01$ ). The intercepts are positive and significant ( $p < 0.01$ , two-tailed) in two models out of three. A possible interpretation is that there is a fundamental level of adjustment to capital expenditure policy that must occur, irrespective of business fundamentals, due to changes in the macroeconomic environment. However, this interpretation cannot explain the insignificant intercept in Model (3), estimated using the sub-sample of observations with low corporate governance quality.

As anticipated, the coefficients of *GovSh* are uniformly positive and significant ( $p < 0.05$ , one-tailed). The coefficients range from 0.04 to 0.08. This indicates that an extra one percent of government input into a company's decision-making accounts for an extra capital expenditure adjustment of approximately four to eight percent of sales. This higher capital expenditure would be due to increased involvement in nation-building projects, requiring larger initial outlays than private sector projects (Boycko et al. 1996; Fraser et al. 2006).

Table A1. OLS estimation of determinants of  $\Delta LEADCAPEX$ .

	Expected Sign	Model (1)—Full Sample	Model (2)—Sub-Sample of Observations with High Corporate Governance Quality	Model (3)—Sub-Sample of Observations with Low Corporate Governance Quality
Intercept	?	5.42 (3.13) ***	10.28 (3.54) ***	1.27 (0.59)
DE	>0	0.01 (1.52) *	0.00 (0.00)	0.03 (2.38) ***
HiDQSDEDum	<0	0.08 (0.09)	0.54 (0.40)	-0.77 (-0.63)
HiDQGDEDum	>0	3.63 (3.68) ***	1.73 (0.99)	4.63 (3.86) ***
HH	<0	4.64 (3.79) ***	9.40 (4.04) ***	2.06 (1.43)
FCFLRev	?	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Company size	>0	-0.08 (-1.45)	-0.03 (-0.25)	-0.12 (-1.68) +
HiCGQDum	?	0.72 (1.06)		
GovSh	>0	0.06 (3.71) ***	0.08 (3.10) ***	0.04 (1.88) **
LSInfPCDum	>0	-2.23 (-2.25) ++	-1.49 (-0.79)	-4.47 (-3.22) ***
Industry fixed effects	?	Yes	Yes	Yes
Yes fixed effects	?	Yes	Yes	Yes
R <sup>2</sup>		0.11 ***	0.28 ***	0.10 ***
Number of observations		1190	333	857

where:  $\alpha_0$ ,  $\beta_j$ , and  $\delta_j$  are regression parameters.  $\mu_{i,t}$ , the stochastic disturbance terms, are estimates of *EXPOVERINV*. All other variables are defined in Appendix A. Intercepts were estimated; however, these parameters are not reported. Industry dummies are included as independent variables; however, their coefficients are not reported. *t*-ratios are reported in parentheses. \*, \*\*, and \*\*\* denote significance at the ten-, five-, and one-percent levels, respectively, in the direction anticipated (one-tailed). +, ++ and \*\*\* represent significance at the ten-, five- and one-percent levels, respectively, in the opposite direction from anticipation (two-tailed). One-tailed significance tests are used for coefficients for which there are *a priori* sign expectations. Two-tailed significance tests are used in other cases.

The coefficients of *HiDQGDEDum* are positive and significant ( $p < 0.01$ , one-tailed) in two out of three models. These are the model estimated using the full sample and the model estimated using the sub-sample of observations with low corporate governance quality. The coefficient, in Model (3), is 4.63. This indicates that growth companies, with low-quality corporate governance, adjust capital expenditure (relative to sales) by nearly five times the adjustment of their counterpart mature companies.

The coefficients of *FCFLRev* are uniformly equal to zero and insignificant. Similarly, the coefficients of *DE* are uniformly close to zero.<sup>6</sup> A possible explanation for these results follows. Approximately 40% of the sample observations are subject to some mode of government share ownership. Government-related sources of finance are available to assist these companies (Fraser et al. 2006). Hence, management may be less concerned about the company's capacity to fund capital expenditure outlays from internal sources of finance and corporate debt.

The coefficients of *HiDQSDEDum*, the proxy for earning stability, are uniformly insignificant. A potential explanation is that the degree of upwards earnings management, prior to increases in capital expenditure, may be insufficient to offset investors' perception of the stability of the innate earnings stream (Francis et al. 2005).

Contrary to expectations, the coefficients of *HH*, the proxy for product market concentration, are positive and significant ( $p < 0.01$ , two-tailed) in two models out of three. A possible explanation is that concentrated industries may comprise a kernel of large, successful players (Ali et al. 2014). In order to remain competitive, these companies may regularly adjust their product mix, to include newer products, at earlier life cycle phases (Dickinson 2011). These projects would require larger outlays.

Contrary to expectations, the coefficients of *Company size* are negative in all three models. These coefficients are insignificant in two models out of three. This suggests that the positive association between size and capital expenditure (due to company size being a proxy for economies of scale) is of similar magnitude to the negative association (due to company size proxying for life cycle phase) (Dickinson 2011).



The coefficient of *HiCGQDum* in Model (3) is insignificant. A plausible explanation is that in Malaysia, corporate governance mechanisms are used to curb over- and under-investment to a similar extent (Jensen 1986; Richardson 2006; García-Lara et al. 2016).

The coefficients of *LSInfPCDum* defy expectations. The coefficient is negative and significant ( $p < 0.05$ , two-tailed) in Models (1) and (3), respectively, estimated using the full sample and the sub-sample of observations with low corporate governance quality. Hence, the negative association between capital expenditure adjustment and the existence of a longstanding, informal political connection appears to be driven by companies with low corporate governance quality. This may partially reflect the presence of a “grabbing hand” effect in Malaysia (i.e., the informal political connection may expropriate corporate resources, leaving a diminished resource base available, for appropriation of dividends (Boubakri et al. 2020; Yu and Wang 2020)). “Grabbing hand” mechanisms, in Malaysia, may be facilitated by regulators being partially “captured” by powerful businessmen and politicians (Vithiatharan and Gomez 2014). This conclusion is supported by the recent occurrence of high-profile corporate scandals, including the Port Klang Free Zone Scandal, the National Feedlot Corporation Scandal, and the 1Malaysia Development *Berhad* scandal (Sinnadurai et al. 2021).

The insignificant coefficient of *LSInfPCDum* in Model (2) may be due to companies with higher quality corporate governance being better able to curb the “grabbing hand”. This conclusion is supported by the fact that there has been a degree of accountability following the aforementioned corporate scandals. For example, the Port Klang Free Zone scandal was followed by a joint investigation, conducted by the police and Malaysian Anti-Corruption Commission. A Federal audit, following the National Feedlot Corporation Scandal, exposed several business irregularities. There was high-level public dissatisfaction with the handling of the 1Malaysian Development *Berhad* scandal by the Najib Government. This was a key factor why the coalition that had ruled Malaysian since independence, *Barisan Nasional*, was ousted in the fourteenth General Election in 2018 (Nadzri 2018). These country-level corporate governance mechanisms would facilitate the functionality of company-level mechanisms in curbing the “grabbing hand” (Rioux 2012).

The results in Table A1 display mixed consistency with the results of Phan et al. (2020). The results in Table A1 are congruent with those in Phan et al. (2020) in supporting a positive association between capital expenditure adjustment and level of government shareholding. However, unlike the findings of Phan et al. (2020), the evidence in Table A1 suggests that Malaysian companies with an informal political connection have lower capital expenditure adjustments than other companies. One possible explanation for the differences in findings is differences in the focus of the studies. The purpose of Phan et al. (2020) is to investigate whether capital expenditure policy differs according to a company’s type of political connection(s) (having a government investor as a controlling shareholder, having a government investor as a non-controlling shareholder, having GLC status, and the extent to which an informal political connection is longstanding). Conversely, the current study is focused on dividend policy and only models determinants of capital expenditure as an intermediate step. Another possible explanation for the differences is correlated omitted variables from the seminal models in the literature for estimating the degree of anticipated over- or under-investment (García-Lara et al. 2016).

## Notes

- <sup>1</sup> Rioux (2012) makes this argument with reference to boards of directors. Naturally, it extends to the management team.
- <sup>2</sup> In cases where *Dynaquest* had not assigned observations to a unique industry, we allocated the observations to a single industry, based on the discussion in *Dynaquest Sendirian Berhad* (Dynaquest Sendirian Berhad 2006–2014), statement of principal activities (from the annual report) and segment revenue.
- <sup>3</sup> This approach assumes a coefficient of adaptive expectation of 1.00 (Gujarati 1988, p. 517).
- <sup>4</sup> Two examples follow. Firstly, in 2007, *Permodalan Nasional Berhad* oversaw substantial consolidation within the plantations industry. Three plantation companies, *Sime Darby Berhad*, *Golden Hope Berhad*, and *Kumuplan Guthrie Berhad*, were merged into a single entity. The new entity retained the name “*Sime Darby Berhad*” and substantial ownership by *Permodalan Nasional Berhad*.

The new Sime Darby Berhad is a conglomerate with international interests (Gomez et al. 2018, p. 57). Secondly, Telekom Malaysia Berhad is a GLC, subject to substantial share ownership by Khazanah Nasional Berhad (among other GLICs). In April, 2008, Telekom Malaysia Berhad divested one of its organisational sub-units, responsible for local mobile operations and international operations. The divested entity, Axiata Group Berhad, is also listed and subject to substantial ownership by the same GLICs as its former parent (Dynaquest Sendirian Berhad, March 2010, p. 198). Naturally, after re-structuring, both Sime Darby Berhad and Telekom Malaysia Berhad experienced a substantial change in product mix. Hence, they may have regressed in life cycle phase.

<sup>5</sup> García-Lara et al. (2016) define “earnings quality” differently as conservative earnings. Phan et al. (2020) do not control for earnings quality at all.

<sup>6</sup> The fact that two of these coefficients are significant ( $p < 0.01$ , one-tailed) may be spurious.

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