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POLITICAL CONNECTIONS, CORPORATE GOVERNANCE AND INVESTMENT EFFICIENCY: EVIDENCE FROM MALAYSIAN FIRMS

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ABSTRACT

This study investigates the moderating role of corporate governance in the relationship between political connections and investment efficiency. Using a sample of Malaysian publicly listed firms from 2001-2017, we find that political connections are negatively correlated with firm investment efficiency. Moreover, the relationship is robust with the inclusion of corporate governance mechanisms, which moderated the potential consequences of agency problems in politically connected firms. The evidence suggests that corporate governance appears to be an effective mechanism to improve investment efficiency in politically connected firms. Consistent with the agency costs of free cash flow theory, we also discover that political connections have a more significant detrimental impact on overinvestment compared to their positive influence on underinvestment. Nevertheless, the interaction

results in corporate governance hold regardless of overinvestment or underinvestment. Further analysis reveals that domestic institutional ownership, Big Four auditors, and audit committees are effective governance mechanisms, whereas similar observations do not hold for foreign institutional ownership, board size, board independence, and director ownership. Resultantly, high direct policy relevance is provided for governance practitioners and policymakers in monitoring the investment activities of PCFs.

Keywords: Political connections, corporate governance, investment efficiency, Malaysia.

INTRODUCTION

Corporate finance is considered the most crucial element of macroeconomic output growth, wherein most governments worldwide concentrate on improving the efficiency of capital allocation and the productivity of firms (Porter & Scully, 1987; Sexton & Iskow, 1993). However, a large body of literature highlights that firms genuinely display suboptimal investment behaviour due to various frictions (Chen et al., 2011; Stein, 2003). One line of research shows that firms with government ownership commonly tend to make less efficient investment decisions, leading to a value-destructive consequence (Du et al., 2018; Fonseka et al., 2021; Ghazali et al., 2022; O'Toole et al., 2016; Tan et al., 2018). In fact, political connections are widely acknowledged to be particularly crucial for firms operating in emerging markets, as they wield a more substantial influence over investment decisions and operational strategies (An et al., 2016; Pan & Tian, 2020). From a practical perspective, political connections serve both as a "helping hand" to facilitate connected firms obtaining more government assistance and subsidies for investment as well as a "grabbing hand" forcing them to heavily overinvest in order to accomplish their political agendas, which goes against the objective of maximising shareholder value (Bonaime et al., 2018; Cao et al., 2016; Lee et al., 2017; Xu et al., 2016).

Another strand of research finds that corporate governance mechanisms are effective in improving firm investment efficiency (Agyei-Mensah, 2020; Bechir & Jouirouc, 2021; Chen & Chen, 2017; Yi, 2023). Based

on the agency cost explanation, the role of monitoring within a good corporate governance system helps to prevent firm managers from investing in projects with free cash flow that are beneficial from a management standpoint (Richardson, 2006). Cai (2013) utilises the principle of control hypothesis and finds that the monitoring mechanism of corporate governance can significantly reduce the free cash flow at the discretion of managers when firms face heavy debt burdens. In particular, the inside board of supervisors and outside investors are responsible for ratifying and monitoring vital investment decisions to minimise agency costs (Chen et al., 2016). Meanwhile, the information asymmetry explanation holds that corporate governance can reduce the agency conflicts and contract enforcement problems between management and shareholders as a result of the disparity in cost of capital for both internal and external financing (Elberry & Hussainey, 2021). Taken together, the establishment of a robust corporate governance framework within firms, coupled with tighter regulations and supervision to curb managers' investment impulses, can effectively improve investment efficiency and promote high-quality information disclosure (Kashani & Shiri, 2022).

Nevertheless, scholars have argued that politically connected firms (PCFs) are plagued by severe agency problems (Boubakri et al., 2012; Chaney et al., 2011; Domadenik et al., 2016; Piotroski et al., 2015). Their key explanation is that firm managers and the alleged connected parties prefer to maintain an inefficient corporate governance framework to facilitate shareholders' wealth expropriation. In the literature, political connections are manifested in weak governance, absence of transparency, opaque financial reporting, and low corporate disclosure (Biddle et al., 2009; Chen et al., 2017b; Lee & Wang, 2017; Tee et al., 2021a). All these factors are the primary reasons PCFs make less efficient investment decisions. Despite past studies suggesting a positive relationship between corporate governance and firm investment efficiency, the question of whether it remains matter for PCFs deserves exploration. Against this backdrop, it is important to consider how corporate governance mechanisms moderate the relationship between political connections and firm investment efficiency.

Therefore, our research objectives are motivated by the aforementioned agency perspective of political connections, the monitoring role of corporate governance, and firm investment inefficiency. Based on

these premises, our study aims to examine the relationship between political connections and firm investment efficiency, as well as the moderating effect of corporate governance. Malaysia provides a unique setting for studying these issues. According to The Economist (2023), Malaysia is ranked third in the latest crony-capitalism index. This rating implies that Malaysia has an extensive network of well-established and documented PCFs. Further, the Malaysian government has played a significant role in the country's economy and capital market since the implementation of the New Economic Policy (NEP) in the 1970s (Gomez et al., 2017). Through the Ministry of Finance Incorporated, the legacies of NEP, which include the formation of government-linked companies, have led to the perpetuation of the political patronage network in Malaysia. Having said that, the detailed datasets on PCFs and the rich institutional settings provide an ideal framework for exploring the association between political connections, corporate governance, and investment efficiency.

Based on 8,390 firm-year observations for 2001-2017, we discover that PCFs are associated with investment inefficiency after including corporate governance measures and other control variables. More importantly, we find that corporate governance can reduce the detrimental effect of political connections on firm investment efficiency. The results indicate that corporate governance plays a relatively significant role in improving the investment efficiency of PCFs. Moreover, we partition our sample into two groups: overinvestment and underinvestment. We then re-estimate our models in each subsample and find that the negative effect of political connections is more pronounced in the context of the overinvestment problem compared to their beneficial influence on the underinvestment problem. Regarding the moderating role of corporate governance, we report evidence that the interaction results hold irrespective of overinvestment or underinvestment. When we re-estimate the regression with individual measures of governance items, we discover that domestic institutional ownership, Big Four auditors and audit committees are effective governance mechanisms which could be designed to curtail the investment inefficiency problem in PCFs. To address the concern with the endogeneity of political connections, we employ propensity score matching (PSM) to account for the potential disparities in attributes between PCFs and non-PCFs, and our results remain qualitatively similar.

Our study makes contributions in several ways. First, it adds to the broad literature on the moderating role of corporate governance in the association between political connections and firm investment efficiency. Prior researchers evaluated the effectiveness of corporate governance in attenuating adverse firm outcomes and the risk of conflict of interest arising from PCFs, including audit fees (Tee, 2018a), diversification discounts (Lee & Hooy, 2018), cost of debt (Tee, 2018b), weaker earning persistence, (Tee & Rasiah, 2020) and stock price crash risk (Tee et al., 2021a). However, the debate on whether corporate governance mechanisms can improve investment efficiency in PCFs has been ignored by previous studies, and such a relationship is scarcely documented in the literature. To the best of our knowledge, this is the first-ever study that examines the linkage between political connections, corporate governance, and investment efficiency. Our analysis focuses on the portion of whether increasing corporate governance to a more favourable level would reduce or replace the agency costs that arise from political connections when overinvesting or underinvesting.

Second, we employ scaled principal component analysis (sPCA) to construct a unique corporate governance index from the aspects of both internal and external governance mechanisms to capture the corporate governance strength of Malaysian PCFs. This corporate governance index, as a single yet comprehensive measure, stands in stark contrast to prior measures, which is a more extreme situation than existing corporate governance literature. One major advantage of this empirical approach is that the corporate governance index makes use of any intensity structure that may exist between corporate governance items and, thus, enables us to highlight the importance of different strengths and roles of corporate governance mechanisms in improving firm investment efficiency in Malaysian PCFs. Finally, our study has implications for practice as it can enlighten policymakers about the investment inefficiency in PCFs and the significance of an effective corporate governance framework in mitigating potential inefficiency issues.

LITERATURE REVIEW

Substantial scholarly attention has been devoted to investigating the determinants of investment inefficiency. Recently, political

connections have been highlighted. Past studies, such as Chen et al. (2017a), Du et al. (2018), Tan et al. (2018), and Ghazali et al. (2022), demonstrated that government ownership have a significant negative adverse on firm investment efficiency. Under the political patronage networks, political connections are regarded as double-edged swords: they can serve as a "helping hand" for firms to obtain government funding, and they can also serve as a "grabbing hand" for firms to overinvest heavily in order to support politicians (Li et al., 2019). In terms of the "helping hand" effect, a long and influential research stream points out that government stimulus policies not only mitigate the underinvestment problem and lead to an oversupply of government subsidies but also serve as one of the spark plugs for the overinvestment problem (Lee et al., 2017; Price et al., 2011; Yu et al., 2020). Focusing on the "grabbing hand" effect, PCFs are often enforced to conduct surplus investments for political and social objectives with the intention of persuading voters (Gropper et al., 2013; Phan et al., 2020).

On the other hand of the spectrum, monitoring and inducement mechanisms in PCFs are at the centre of most academic and policy debates on corporate governance. Most of the empirical studies have analysed the effects of control mechanisms on PCFs that go beyond simple rule-of-thumb guides, albeit with mixed results (Abdul Wahab et al., 2011; Dicko, 2017; Haris et al., 2019; Liedong & Rajwani, 2018; Mohammed et al., 2017; Peranginangin et al., 2021; Tee et al., 2021a; Tee & Rasiah, 2020). Such empirical evidence reflects the challenges encountered by the majority of PCFs, including diminished accounting conservatism, poor earning quality, lower transparency in corporate dealings, increased financial leverage, and heightened crash risk probability, all of which exacerbate agency problems. Nonetheless, all these studies represent a significant advancement in the empirical research of agency theory and, more concretely, the effects of governance mechanisms on the outcomes of PCFs.

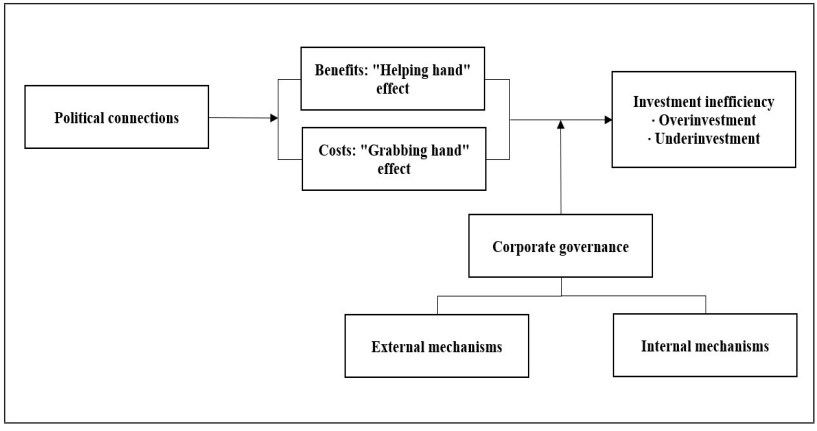
In fact, the link between political connections and investment efficiency can be better explained in conjunction with corporate governance mechanisms. However, no research has looked into this link so far. As previously outlined, the probability of overinvestment increases with free cash flow under the control of firm managers

because they have various political incentives to expand their firm beyond the optimal size. Notably, corporate governance luminaries claim that firm investment efficiency could be improved if firms exhibited good corporate governance practices (Chen et al., 2016; Kashani & Shiri, 2022). Therefore, corporate governance could play a significant moderating role in positively influencing investment behaviour and decisions of PCFs. Figure 1 illustrates the link.

Agency theory predicts that both external and internal mechanisms perform a role as monitors of investment management (Jensen & Meckling, 1976). While there is conflicting evidence that corporate governance mechanisms fulfil this role, it is strong enough to imply that the motivations of corporate governance mechanisms are more complex than initially anticipated. They may generate value-decreasing consequences, and while several studies seek to explain this, the link between corporate governance and investment efficiency, as well as the link between political connections and corporate governance, are not well understood. Yet, all this evidence that exists in corporate governance literature points to one of the persistent debates about the monitoring efforts of corporate governance monitors in mitigating investment cash flow sensitivity and investment inefficiency in PCFs.

Figure 1

Summary of the Association between Political Connections, Investment Inefficiency and Corporate Governance



METHODOLOGY

The Measure of Investment Efficiency

We employ Richardson's (2006) residual measurement model to estimate the firm's abnormal investment expenditure as follows:

$$INV_{i,t} = \alpha + \beta_1 Q_{i,t-1} + \beta_2 SIZE_{i,t-1} + \beta_3 AGE_{i,t-1} + \beta_4 LEVERAGE_{i,t-1} + \beta_5 ROA_{i,t-1} + \beta_6 CFO_{i,t-1} + \beta_7 INV_{i,t-1} + Industry \times Year\ FE + \varepsilon_{i,t} \quad (1)$$

$\varepsilon_{i,t}$ is the deviation between actual and expected investment levels. Following Chen et al. (2018) and Ghazali et al. (2022), we multiply the absolute value of $\varepsilon_{i,t}$ by -1 to proxy for investment efficiency, *INVEFF*. A larger $-|\varepsilon_{i,t}|$ indicates greater investment efficiency as the deviation from the expected investment is lower (Gomariz & Ballesta, 2014).

The Measure of Political Connection

In accordance with the general definition of political connections proposed by Johnson and Mitton (2003) and Faccio (2006), a firm is deemed politically connected if at least one of its controlling shareholders or top executives (i.e., CEO, executive directors, and chairperson) maintains a relationship with the Malaysian government or politicians. The connections established through family and informal business were also considered in the process of determining PCFs. We hand-collected the political connection data by reviewing the names of controlling shareholders and top executives listed under the sections on substantial shareholders, board of directors and profile of key senior management in the annual reports. To verify the continued significance of the allegedly connected person linked to the ruling elites, the list of PCFs was cross-checked with prior studies, including Fung et al. (2015), Wong and Hooy (2018), Perangingan et al. (2021), Tee et al. (2017) and Tee et al. (2021b), with data covering the years 2001 to 2017 that hand-collected. The list of PCFs is presented in Appendix A. We operationalised this variable as an indicator variable, equals to one if the firm is identified as PCF and zero otherwise.

The Measure of Corporate Governance

In line with the most cutting-edge corporate governance literature (Ammann et al., 2011; Chow et al., 2018; Dey, 2008; Martynova & Renneboog, 2013; Tarchouna et al., 2017), we propose a composite index for measuring corporate governance quality in order to explore the strength of governance mechanisms in Malaysian firms using the sPCA approach. This index is intended to be an even better interpretation of the effectiveness of corporate governance because it captures all cases where different governance mechanisms could have played a role in mitigating corporate overinvestment within a single firm. To ensure the relevance of our selection process, we selected a comprehensive assortment of items from the recent literature on corporate governance practices of Malaysian PCFs, such as Mohd Ghazali and Weetman (2006), Abdul Wahab et al. (2011, 2017), Peranginangin et al. (2021), and Tee et al. (2021a). In this study, both external and internal governance mechanisms are taken into consideration.

External mechanisms focus on institutional ownership and Big Four auditors as potential mechanisms to mitigate agency problems. Previous studies have demonstrated that the fiduciary duties of institutional investors are important in monitoring firm managers (Boubakri et al., 2012; Chowdhury & Wang, 2009). Based on the theoretical background, institutional investors have been shown to be held accountable by their investors for the investments they make. As the media and regulators are keeping a careful eye on PCFs, any unfavourable news regarding the firms would badly affect the reputation of those institutional investors (Benjamin et al., 2016). Hence, their monitoring role is essential to ensure management prioritises the best interest of the firms and shareholders and even protects their invested wealth (Tee et al., 2018). Further, a recent stream of literature points out that the domicile of institutional investors is significantly related to monitoring effectiveness. For example, domestic institutional investor has a comparative advantage when it comes to influencing firms on governance issues (Kim et al., 2016), whereas foreign institutional investors are better at investing, are less influenced by local politics, and have a greater tendency to improve firm governance (Liu et al., 2018).

Meanwhile, the audit engagement conducted by the Big Four audit firms (i.e., Deloitte, Ernst and Young, KPMG, and PwC) enables them to assure shareholders that the PCFs would maintain transparency in respective corporate dealings and financial reporting (Al-Dhamari & Ismail, 2015; Peranginangin et al., 2021; Tee & Rasiah, 2020; Xu et al., 2016). The supply of high-quality audits contributes to enhancing reputational management for PCFs and reducing litigation risks (Chung et al., 2003). In particular, a considerable number of scholarly articles on corporate governance assert that the Big Four auditors serve as external monitors and are probable to increase the level of scrutiny they apply to those PCFs (Chaney et al., 2004; Fan et al., 2007). Generally speaking, the reputation of Big Four auditors contributes to the assurance that transactions conducted by PCFs are above board.

The internal mechanisms are defined in board size, independence, audit committee, and director ownership. The first internal mechanism, namely the board size, has been shown to influence corporate governance effectiveness in both favourable and unfavourable ways. Larger boards are more capable of distributing the oversight burden across a greater number of observers, which increases the likelihood that top management will be effectively monitored (Ebaid, 2011). However, the board of directors may become more divided with more members, resulting in lengthy and prolonged debates over policies that may compromise the efficacy of decisions (Abdul Wahab et al., 2015; Florackis, 2008). Mixed empirical evidence is also demonstrated on the relationship between board size and corporate outcomes, which reflects divergent perspectives and employing board size as a proxy for governance has yielded contradictory results.

The second internal mechanism, namely board independence, suggests that the roles of independent directors in monitoring the board effectively mitigate the negative outcomes of PCFs. Huang et al. (2011) discovered that independent directors would more effectively monitor firm managers, thereby mitigating agency conflicts. As they adopt a more independent stance, Kim et al. (2016) further corroborated that independent directors can objectively monitor managers' performance and assess their decisions in PCFs. From the perspective of controlling shareholders, Cao et al. (2019) posit that the presence of independent directors on the boards assisted in

safeguarding the interests of shareholders and stakeholders to ensure equitable treatment and protection.

The third internal mechanism, the audit committee, is a powerful tool as they lack affiliation with management and thus has the ability query it if necessary (Nahar Abdullah & Ku Ismail, 1999). Abdul Wahab et al. (2011) reveal that audit committees are associated with greater transparency and are less likely associated with the financial reporting opacity. For this reason, Bliss et al. (2011) highlight that audit committees exhibit greater independence and are more inclined to engage Big Four auditors as a means to address agency problems and demand a higher quality audit. Throughout the high audit quality and information disclosure, the investment decision behaviour of PCFs is relatively dependent on the needs of the firm's development and the return on investment projects (Langberg & Rothenberg, 2021). This overwhelming evidence shows that audit committee can effectively monitor PCFs.

Finally, director ownership is considered. This mechanism is designed to align the interests of management with those of shareholders (Firth et al., 2006). The alignment effect, proposed by Jensen (1993), holds that managers are strongly motivated to perform if they have a sizable portion of the equity stakes in the firm. Nevertheless, the efficacy of director ownership in mitigating agency conflicts can be challenged. In fact, the entrenchment effect indicates that insider domination could lead to lower performance when there is a high concentration of director ownership (Chobpichien et al., 2008; Florackis, 2008). Table 1 presents the details of the measures of corporate governance mechanisms.

Table 1

Corporate Governance Measures

Mechanism	Variable	Measure
External mechanism	Domestic institutional investors (*IIDOM*)	Percentage of shares held by the top five largest domestic institutional shareholders.
	Foreign institutional investors (*IIFOR*)	Percentage of shares held by the top five largest foreign institutional shareholders.

(continued)

Mechanism	Variable	Measure
	Big Four auditors (*BIG4*)	Dummy measure of Big Four auditors, one if the firm is audited by one of the Big Four auditors, and zero otherwise.
Internal mechanism	Board size (*BSIZE*)	Dummy measure of board size, one if the board size is larger than the sample mean, and zero otherwise.
	Board independence (*INDDIR*)	Percentage of independent directors to total number of directors on the board.
	Audit committee (*AUDITCOM*)	Percentage of audit committee to total number of directors on the board.
	Director ownership (*DOWN*)	Percentage of shares held by directors.

The corporate governance index (*CGINDEX*) is constructed based on both internal and external mechanisms identified in Table 1. A linear combination of the corporate governance mechanism yields the corporate governance index as follows:

$$CGINDEX_{i,t} = \sum_{m=1}^{n} Loading_{i,m} Governance_{i,t,m}$$

where $Governance_{i,t,m}$ denotes the individual governance mechanism m of firm i in year t, whereas $Loading_{i,m}$ is the loading for the individual governance mechanism m of firm i. Implicitly, this index enables the identification of a non-linear specification.

Despite the principal component analysis (PCA) can assign equal weights to each of the constituents in the index and restrict the importance of each measure, it is an unsupervised learning technique that ignores the target (Vasal, 2006). In other words, if some corporate governance items are noisier than others, their influence on the index will be disproportionate (He et al., 2021). As a result, the presence of irrelevant corporate governance items would only muddy the index construction forecast, making it ineffective. To address such an issue, a novel dimension reduction technique – scaled PCA (sPCA) is employed to construct the corporate governance index. Instead of assigning equal weightage to all the corporate governance items, sPCA corrects this deficiency by removing these noisy items and assigning smaller weights to them (Huang et al., 2022). With this

approach, corporate governance items with strong forecasting power are given greater weight.

Following Huang et al. (2022), predictive regression is conducted on each of the corporate governance items to scale them with the regression slope. Scaled corporate governance items are then analysed with PCA to obtain sPCA factors. Notice that the sPCA would downweigh corporate governance items with weak forecasting power while overweighting those with strong forecasting power. Therefore, it is more likely that sPCA factors will outperform PCA factors.

Regression Models

In this study, we follow Naeem and Li (2019), Pellicani and Kalatzis (2019), Akron et al. (2022) and Ghazali et al. (2022) in employing the dynamic Generalized Method of Moments (GMM) methodology to address potential sources of bias. These include (1) auto correlated and heteroskedastic disturbances, (2) endogeneity problems arising from the dependent variable that remains persistent over time, and (3) an unbalanced short panel dataset. We also incorporate a set of control variables that are commonly observed to have a significant impact on investment efficiency. These variables are Tobin's Q, firm size, age, leverage, and return on assets, operating cash flows, and tangibility. The description of the variables is listed in Appendix B. To mitigate the possibility of reverse causality bias, we apply a one-period latency to all independent variables in our models.

Model 1 incorporates the investment efficiency, political connections, and related control variables as follows:

$$INVEFF_{i,t} = \beta_0 + \beta_1 INVEFF_{i,t-1} + \beta_2 PCF_{i,t-1} + \beta_k \sum_{\cdot} Control^{k}_{i,t-1} + Industry \times Year\ FE + \gamma_{i,t} \quad (3)$$

Model 2 includes the corporate governance index variable to assess the potential effect of corporate governance factors on the investment efficiency of PCFs as follows:

$$INVEFF_{i,t} = \beta_0 + \beta_1 INVEFF_{t-1} + \beta_2 PCF_{i,t-1} + \beta_3 CGINDEX_{i,t-1} + \beta_k \sum_{k} Control^{k}_{i,t-1} + Industry \times Year\ FE + \gamma_{i,t} \quad (4)$$

Model 3 examines the role of corporate governance in moderating the relationship between political connections and investment efficiency as follows:

$$INVEFF_{i,t} = \beta_0 + \beta_1 INVEFF_{t-1} + \beta_2 PCF_{i,t-1} + \beta_3 (CGINDEX_{i,t-1} \times PCF_{i,t-1}) \quad (5)$$
$$+ \beta_4 CGINDEX_{i,t-1} + \beta_k \sum_k Control^k_{i,t-1} + Industry \times Year\ FE + \gamma_{i,t}$$

where $INVEFF_{i,t}$ is the investment efficiency for firm i of the current year. $PCF_{i,t-1}$ is a dummy variable used to identify whether a firm is politically connected, where $CGINDEX_{i,t-1}$ represents the corporate governance index. $Control_{i,t-1}$ denotes a set of control variables in the previous year. We also include *Industry* × *Year* fixed effect in the models to account for any unobserved differences among industries and potential macroeconomic fluctuations, while $Y_{i,t}$ is the unspecified random factors. The standard errors are clustered at the firm level to address the correlation of residuals within a firm (Petersen, 2009). Following common practice, all continuous variables are winsorized annually at the first and 99th percentiles to expel the effect of extreme outliers (Chung et al., 2003; Duchin et al., 2010; Luo et al., 2016; Tee et al., 2021a).

Data Sources and Sample Selection

We employ a panel dataset of firms listed on the Bursa Malaysia (Malaysian Stock Exchange) over the period 2001-2017. The year 2017 was selected as the endpoint due to the Malaysian constitutional crisis that followed the 14th general election (GE14) in 2018. We are unable to identify the political connections in the post-GE14 timeframe because the regime change may have led to the dissolution of connections between certain PCFs and their alleged connected individuals, as well as the emergence of new PCFs with unique benefit exchange arrangements pertaining to the new government or prime minister. Following Cella (2020) and Khaw et al. (2023), we exclude (1) firms that have less than five consecutive observations and (2) financial and utility firms. After deleting missing values of variables, a panel of 8,390 firm-year observations on 578 firms were derived as the full sample. The dataset comprised financial data from the Datastream database with the remaining political connections and corporate governance data extracted from firms' annual reports.

RESULTS

Descriptive Statistics

Table 2 contains descriptive statistics for the entire sample. The mean value of investment efficiency is -0.088, which is considerably lower than that observed in developed economies such as the United States, where it was zero (Verdi, 2006). This discrepancy suggests that emerging countries, such as Malaysia, exhibit a higher prevalence of investment inefficiency than developed countries. On average, the prevalence of political connections is relatively high, as 40.3 percent of firm-year observations are classified as PCFs.

Looking at the governance variables, the corporate governance index has a mean value of -0.016. By further examining the corporate governance measures, the mean percentage shareholding of domestic institutional investors is 16.3 percent, compared to 2.1 percent for foreign institutional investors. These results show that Malaysian firms are better governed by domestic institutional ownership. Besides, 41.5 percent of the firms in the sample are audited by Big Four auditors. With regard to the internal mechanisms, 57.6 percent of firm-year observations across the sample show a larger board size. On average, Malaysian firms have 42.8 percent and 42.4 percent of independent directors and audit committees on their boards, respectively. The equity ownership of these directors is stated as an average of 3.5 percent of total common equity, indicating a low level of ownership interest among the directors in the sample. The average values for the corporate governance variables reported here are similar to those presented in other studies (Chow et al., 2018; Peranginangin et al., 2021).

Correlation

Table 3 demonstrates the correlation matrix of the variables. Political connections and investment efficiency are negatively correlated. All variables in the estimated model have correlation coefficients below the threshold of 0.8. Furthermore, the VIF values for all variables were consistently below 10 in all regressions, indicating that they are not highly correlated. Overall, it is safe to conclude that significant multicollinearity does not exist in the models.

Table 2

Descriptive Statistics of Variables

Variables	Mean	S.D.	5%	25%	Median	75%	95%
Dependent variable							
INVEFF	-0.088	0.098	-0.300	-0.108	-0.058	-0.027	-0.006
Experimental variables							
PCF_{t-1}	0.403	0.491	0.000	0.000	0.000	1.000	1.000
$CGINDEX_{t-1}$	-0.016	0.974	-1.772	-0.639	0.035	0.691	1.491
CGINDEX index components							
$IIDOM_{t-1}$	0.163	0.165	0.000	0.050	0.106	0.223	0.552
$IIFOR_{t-1}$	0.021	0.043	0.000	0.000	0.000	0.026	0.101
BIG_{t-1}	0.415	0.494	0.000	0.000	0.000	1.000	1.000
$BSIZE_{t-1}$	0.576	1.931	0.000	0.000	1.000	1.000	1.000
$INDDIR_{t-1}$	0.428	0.121	0.250	0.333	0.417	0.500	0.667
$AUDITCOM_{t-1}$	0.423	0.111	0.273	0.333	0.429	0.500	0.600
$DOWN_{t-1}$	0.035	0.032	0.000	0.012	0.025	0.047	0.107
Control variables							
Q_{t-1}	0.656	0.760	0.090	0.258	0.445	0.763	1.956
$SIZE_{t-1}$	5.565	0.589	4.739	5.131	5.500	5.910	6.645
AGE_{t-1}	1.310	0.268	0.845	1.146	1.322	1.531	1.700
$LEVERAGE_{t-1}$	0.392	0.222	0.082	0.231	0.375	0.524	0.754
ROA_{t-1}	0.057	0.095	-0.082	0.019	0.058	0.100	0.199
CFO_{t-1}	0.053	0.088	-0.080	0.003	0.045	0.098	0.205
$TANGIBILITY_{t-1}$	0.366	0.217	0.028	0.200	0.351	0.516	0.750

Note. This table presents the summary statistics of the variables. The sample covers firm-year observations with non-missing values for all variables for the fiscal years 2001 to 2017.

Table 3

Correlation Matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) $INVEFF$	1.000									
(2) PCF_{t-1}	-0.018***	1.000								
(3) $CGINDEX_{t-1}$	0.165***	-0.023**	1.000							
(4) Q_{t-1}	-0.051***	-0.040***	-0.134***	1.000						
(5) $SIZE_{t-1}$	-0.016	0.351***	-0.046***	-0.004	1.000					
(6) AGE_{t-1}	0.077***	0.136***	0.450***	-0.012	0.201***	1.000				
(7) $LEVERAGE_{t-1}$	-0.044***	0.055***	-0.305***	-0.164***	0.174***	-0.043***	1.000			
(8) ROA_{t-1}	-0.023***	-0.011	0.267***	0.390***	0.140***	-0.001	-0.210***	1.000		
(9) CFO_{t-1}	0.029**	0.014*	-0.094***	0.386***	0.069**	-0.149	-0.185***	0.485***	1.000	
(10) $TANGIBILITY_{t-1}$	-0.129***	0.004	-0.077***	-0.094***	0.037***	-0.063***	0.040***	-0.088***	0.089***	1.000

Note. One, two and three stars denote statistical significance at a level of 10%, 5% and 1%, respectively.

Main Findings

Table 4 reports the results of the three models. The first two models demonstrate a significant negative relationship between political connections and investment efficiency. In model 2, the results are robust by controlling for corporate governance mechanisms. Our findings are consistent with the rent-seeking hypothesis, in which strong and enduring relationships with ruling elites are associated with firm's investment inefficiency (Chen et al., 2017a; Ghazali et al., 2022; Vo, 2019). The significant and positive coefficient with respect to $CGINDEX_{t-1}$ is consistent with the agency theory, implying that corporate governance mechanisms improve the firm's investment efficiency. Regarding the control variables, the coefficients of AGE_{t-1} and CFO_{t-1} are significantly positive, indicating that greater firm age and higher operating cash flow lead to higher investment efficiency. In contrast, the coefficients of $SIZE_{t-1}$, $LEVERAGE_{t-1}$, ROA_{t-1} and $TANGIBILITY_{t-1}$ are significantly negative, showing that large-sized firms and firms with high leverage, profitability and tangibility are associated with lower investment efficiency.

Model 3 incorporates the moderating variable $PCF_{t-1} \times CGINDEX_{t-1}$ to investigate whether the association between political connections and investment efficiency is conditional upon the strength of corporate governance mechanisms. The coefficient estimates of the interaction terms between political connections and governance variable is significantly negative. These results suggest that the corporate governance mechanisms are more inclined to exert a positive effect on the investment efficiency of PCFs. Our findings support the agency theory, which posits that corporate governance mechanisms, via effective monitoring, can mitigate agency conflicts between shareholders and management in PCFs.

Following Desai and Dharmapala (2006), we tested the influence of corporate governance by splitting the sample into two subsamples based on corporate governance effectiveness: high and low. Since higher *CGINDEX* is associated with better corporate governance, we assigned the subsample based on the median value of *CGINDEX*. Columns (4) and (5) of Table 4 show the results for firms with "high" and "low" governance, respectively. Both subsamples showed significant differences in the coefficient of PCF_{t-1}. In particular,

political connections and investment efficiency are reported as non-significantly correlated in estimations under firms with "high" governance. At the same time, they are significantly negatively correlated under firms with "low" governance. The results suggest that the problem of investment inefficiency is more prevalent in firms with "low" governance but not in those with "high" governance. Consistent with the agency cost hypothesis, this additional analysis adds to the evidence that a strong governance framework appears to boost investment efficiency.

To sum up the outcomes in Table 4, the findings highlight that corporate governance frameworks can improve the firm's investment efficiency of Malaysian PCFs. It can be inferred that the emergence of crony capitalism, political instability and the government's failed effort to shift the corporate governance landscape in Malaysia have exacerbated pre-existing challenges in corporate governance practices, including the presence of political appointees in government-linked companies, low free float, increased government equity ownership, inadequately qualified board members, and the ineffectiveness of shareholder activism. In general, however, the efforts of the Securities Commission Malaysia to revise Malaysian Code on Corporate Governance, as well as concerns of PCFs about future performance and growth opportunities, have improved corporate governance frameworks. For that reason, the monitoring role of overall governance mechanisms is found to be effective in improving the investment efficiency of PCFs.

Table 4

Regression Estimations

	Model 1	Model 2	Model 3	Model 1 "High" governance	Model 1 "Low" governance
	(1)	(2)	(3)	(4)	(5)
$INVEFF_{t-1}$	0.104*** (0.155)	0.015*** (0.159)	0.116*** (0.188)	0.305*** (0.431)	0.204*** (0.259)
PCF_{t-1}	-0.070** (0.045)	-0.085** (0.052)	0.001 (0.057)	-0.050 (0.124)	-0.004** (0.076)
$CGINDEX_{t-1}$		0.156** (0.152)	0.222* (0.130)		
$PCF_{t-1} \times CGINDEX_{t-1}$			0.168** (0.054)		

(continued)

	Model 1	Model 2	Model 3	Model 1 "High" governance	Model 1 "Low" governance
	(1)	(2)	(3)	(4)	(5)
Q_{t-1}	-15.515 (2.418)	28.759 (62.056)	56.818 (56.226)	26.463 (46.049)	-20.137 (12.417)
$SIZE_{t-1}$	-0.026* (0.015)	-0.006** (0.025)	-0.022 (0.028)	-0.012* (0.020)	-0.003* (0.035)
AGE_{t-1}	0.014** (0.013)	0.233** (0.225)	0.188*** (0.182)	0.044** (0.084)	0.036*** (0.018)
$LEVERAGE_{t-1}$	-0.006** (0.017)	-0.165* (0.169)	-0.151** (0.137)	-0.018* (0.086)	-0.021* (0.035)
ROA_{t-1}	-0.068** (0.110)	-0.572* (0.559)	-0.724 (0.482)	0.261 (0.332)	-0.034** (0.250)
CFO_{t-1}	0.225** (0.097)	0.348** (0.160)	0.448*** (0.139)	0.027** (0.345)	0.537*** (0.262)
$TANGIBILITY_{t-1}$	-0.075*** (0.018)	-0.428*** (0.492)	-0.425*** (0.403)	-0.084*** (0.117)	-0.103*** (0.041)
Constant	0.095*** (0.002)	0.006*** (0.125)	-0.183*** (0.141)	-0.096*** (0.264)	-0.063*** (0.159)
Industry × Year FE	✓	✓	✓	✓	✓
Observations	8,390	8,390	8,390	4,376	4,014
AR(1) test statistics	-3.40 [0.001]	-3.00 [0.003]	-3.03 [0.002]	-1.37 [0.005]	-2.19 [0.029]
AR(2) test statistics	0.42 [0.676]	-0.13 [0.896]	0.13 [0.900]	0.05 [0.964]	0.57 [0.568]
Hansen test	50.25 [0.379]	35.11 [0.386]	21.70 [0.597]	43.98 [0.319]	20.82 [0.751]

Note. Robust standard errors are reported in parentheses, whereas p-values are reported in square brackets. One, two and three stars denote statistical significance at a level of 10%, 5% and 1%, respectively.

Overinvestment vs. Underinvestment

In this subsection, we sort the firms into overinvestment (*OVERINV*) and underinvestment (*UNDERINV*) based on the residual values from Equation (1). A positive residual value represents overinvestment, whereas a negative residual value denotes underinvestment. Given that both overinvestment and underinvestment problems are considered value-distorting activities that hurt investment efficiency (Gomariz & Ballesta, 2014), this investigation is to test whether the corporate governance mechanisms and their interaction with political connections would impact the overinvestment and underinvestment. We repeat the tests in Table 5 using the variables *OVERINV* and *UNDERINV*.

Table 5 Panel A provides the results for overinvestment, while Panel B reports the results for underinvestment. In column 1, we find that political connections are positively related to both overinvestment and underinvestment. The results support the agency costs of free cash flow and political patronage theories that PCFs are linked to higher corporate investment (Ling et al., 2016; Phan et al., 2020; Xu et al., 2013; Yu et al., 2020), which could alleviate the underinvestment problems faced by firms but is also observed to exacerbate their overinvestment problems. In terms of economic significance, PCFs experience a more pronounced adverse effect of overinvestment, which surpasses the benefits of mitigating underinvestment; specifically, a 1 percent increase in political connections exacerbates overinvestment by 1.30 percent (0.114/0.088), in contrast to underinvestment, which is reduced by 0.76 percent (0.067/0.088).

For Model 2, we find that corporate governance mechanisms reduce underinvestment but no evidence of mitigating overinvestment. More importantly, the interaction results in column 3 hold irrespective of overinvestment or underinvestment. These findings further strengthen the above analysis, stating that corporate governance mechanisms are an effective mechanism to improve investment efficiency in PCFs. When we partition the sample based on "high" and "low" corporate governance effectiveness, the results in columns 4 and 5 indicate that overinvestment problems are a significant concern in PCFs with "low" governance compared to those with "high" governance. We also find that political connections are more effective in reducing underinvestment problems in firms with "low governance".

Table 5

Over-and Underinvestment

	Model 1	Model 2	Model 3	Model 1 "High" governance	Model 1 "Low" governance
	(1)	(2)	(3)	(4)	(5)
Panel A: Overinvestment					
$OVERINV_{t-1}$	0.439***	0.351***	0.392**	-0.479***	0.113***
	(0.304)	(0.280)	(0.304)	(0.268)	(0.480)
PCF_{t-1}	0.114**	0.074*	0.050**	0.121	0.084**
	(0.158)	(0.064)	(0.090)	(0.060)	(0.090)

(continued)

	Model 1	Model 2	Model 3	Model 1 "High" governance	Model 1 "Low" governance
	(1)	(2)	(3)	(4)	(5)
$CGINDEX_{t-1}$		0.122	0.099		
		(0.114)	(0.155)		
$PCF_{t-1} \times CGINDEX_{t-1}$			-0.019*		
			(0.136)		
Constant	-0.136***	-0.160***	-0.079**	-0.139***	0.085***
	(0.216)	(0.347)	(0.266)	(0.392)	(0.825)
Control variables	✓	✓	✓	✓	✓
Industry × Year FE	✓	✓	✓	✓	✓
Observations	3,475	3,475	3,475	1,514	1,961
AR(1) test statistics	-3.36	-2.33	-1.87	11.60	2.08
	[0.005]	[0.020]	[0.062]	[0.000]	[0.000]
AR(2) test statistics	-0.79	0.44	0.87	-1.13	1.08
	[0.428]	[0.661]	[0.383]	[0.258]	[0.281]
Hansen test	20.01	21.01	20.45	11.54	31.91
	[0.791]	[0.692]	[0.671]	[0.985]	[0.296]
Panel B: Underinvestment					
$UNDERINV_{t-1}$	-0.243***	-0.050***	-0.023***	-0.046***	0.122***
	(0.279)	(0.224)	(0.223)	(0.492)	(0.338)
PCF_{t-1}	0.067***	0.047***	0.064**	0.134	0.032***
	(0.077)	(0.064)	(0.078)	(0.624)	(0.054)
$CGINDEX_{t-1}$		0.200**	0.254*		
		(0.141)	(0.139)		
$PCF_{t-1} \times CGINDEX_{t-1}$			0.066***		
			(0.126)		
Constant	0.003***	-0.156**	-0.174***	0.045*	-0.015***
	(0.135)	(0.161)	(0.150)	(0.106)	(0.038)
Control variables	✓	✓	✓	✓	✓
Industry × Year FE	✓	✓	✓	✓	✓
Observations	4,915	4,915	4,915	2,861	2,054
AR(1) test statistics	-1.57	-2.55	-2.71	6.73	3.14
	[0.007]	[0.011]	[0.007]	[0.000]	[0.005]
AR(2) test statistics	-0.95	-1.28	-1.36	-0.64	-0.58
	[0.340]	[0.292]	[0.173]	[0.552]	[0.799]
Hansen test	22.78	15.70	14.20	44.47	52.44
	[0.645]	[0.923]	[0.942]	[0.621]	[0.596]

Note. Robust standard errors are reported in parentheses, whereas p-values are reported in square brackets. One, two and three stars denote statistical significance at a level of 10%, 5% and 1%, respectively.

Individual Measures of Governance Quality

As an extended analysis, we re-estimate model 3 based on individual measures of governance items. For the purpose of assessing whether corporate governance plays a role in explaining investment efficiency

to connected firms, the regressions are independent of the corporate governance variables as well as including the interaction term of corporate governance variables with PCF_{t-1}.

Table 6 presents the results for both external and internal corporate governance mechanisms. Focusing on the interaction terms between political connections and governance variables, the results show that the interaction variables of $PCF_{t-1} \times 11DOM_{t-1}$, $PCF_{t-1} \times BIG4_{t-1}$ and $PCF_{t-1} \times AUDITCOM_{t-1}$ are significantly positive, while the interaction variables of $PCF_{t-1} \times 11FOR_{t-1}$, $PCF_{t-1} \times BSIZE_{t-1}$, $PCF_{t-1} \times INDDIR_{t-1}$ and $PCF_{t-1} \times DOWN_{t-1}$ are insignificant. These findings indicate that domestic institutional ownership, Big Four auditors, and audit committees serve as effective governance mechanisms to improve the investment efficiency of PCFs. There are two possible explanations for these findings. The first is the risk-averse nature of domestic institutional investors, who are more meticulous about assessing investment prospects and managers' investment decisions, which could reduce the inclination towards excessive risk-taking and foster enduring financial stability (Panicker et al., 2019). The second is that both the Big Four auditors and audit committees have the potential to improve transparency, mitigate conflicts of interest, and cultivate an environment that is favourable to optimal investment strategies by attending to agency concerns (Bae et al., 2017; Park, 2023). Overall, our findings imply that PCFs can strengthen their corporate governance mechanisms by increasing domestic institutional ownership, appointing Big Four auditors, and improving the proportion of audit committees to constrain the overinvestment and underinvestment behaviour of firm managers.

Table 6

Analysis Using Individual Governance Mechanisms

	$IIDOM_t$	*IIFOR*	*BIG4*	*BSIZE*	*INDDIR*	*AUDITCOM*	*DOWN*
$INVEFF_{t-1}$	-0.033**	0.162***	0.258***	0.153**	0.181***	0.060***	0.029***
	(0.185)	(0.192)	(0.200)	(0.176)	(0.201)	(0.188)	(0.189)
PCF_{t-1}	0.087	0.049	-0.109*	-0.079*	0.196	-0.288	-0.070**
	(0.096)	(0.064)	(0.086)	(0.187)	(0.204)	(0.278)	(0.103)
$IIDOM_{t-1}$	-0.655**						
	(0.328)						

(continued)

	$IIDOM_t$	$IIFOR$	$BIG4$	$BSIZE$	$INDDIR$	$AUDITCOM$	$DOWN$
$IIFOR_{t-1}$		-0.169 (1.059)					
$BIG4_{t-1}$			-0.282** (0.113)				
$BSIZE_{t-1}$				-0.177*** (0.089)			
$INDDIR_{t-1}$					-0.131 (0.472)		
$AUDITCOM_{t-1}$						-0.080* (0.415)	
$DOWN_{t-1}$							-2.855** (1.436)
$PCF_{t-1} \times IIDOM_{t-1}$	0.422* (0.440)						
$PCF_{t-1} \times IIFOR_{t-1}$		0.664 (1.834)					
$PCF_{t-1} \times BIG4_{t-1}$			0.610*** (0.212)				
$PCF_{t-1} \times BSIZE_{t-1}$				0.221 (0.147)			
$PCF_{t-1} \times INDDIR_{t-1}$					-0.306 (0.472)		
$PCF_{t-1} \times AUDITCOM_{t-1}$						0.512* (0.647)	
$PCF_{t-1} \times DOWN_{t-1}$							1.853 (2.311)
Constant	0.171*** (0.172)	0.101 (0.107)	0.558** (0.249)	0.154* (0.112)	0.166** (0.277)	0.161*** (0.236)	0.149* (0.173)
Control variables	✓	✓	✓	✓	✓	✓	✓
Industry × *Year FE*	✓	✓	✓	✓	✓	✓	✓
Observations	8,390	8,390	8,390	8,390	8,390	8,390	8,390
AR(1) test statistics	-2.38 [0.007]	-3.04 [0.002]	-3.26 [0.001]	-3.47 [0.001]	-2.97 [0.003]	-2.68 [0.007]	-2.57 [0.010]
AR(2) test statistics	-0.28 [0.780]	0.59 [0.557]	0.99 [0.323]	0.26 [0.795]	0.62 [0.534]	0.16 [0.870]	-0.69 [0.491]
Hansen test	28.61 [0.578]	34.43 [0.630]	20.13 [0.689]	31.29 [0.229]	34.19 [0.331]	31.83 [0.439]	29.34 [0.208]

Note. Robust standard errors are reported in parentheses, whereas p-values are reported in square brackets. One, two and three stars denote statistical significance at a level of 10%, 5% and 1%, respectively.

Robustness Tests

To address the problem of self-selection bias, we employ PSM to match the PCFs in the treated sample with non-PCFs in the control sample. We compute the propensity score using the nearest-neighbourhood

technique and based on firm characteristics that accurately represent the likelihood of a firm developing political relationships with the ruling elites (Boubakri et al., 2012; Rosenbaum & Rubin, 1983). Following Bliss and Gul (2012), Tee (2019) and Tee et al. (2022), the selected firm characteristics are *SIZE*, *LEVERAGE*, *ROA*, and *BIG4*. Table 7 Panel A depicts the mean differences of the variables, in which the mean values of the variables do not differ significantly between PCFs and non-PCFs, except for *BIG4*. We contend that the matched sample accomplishes its intended objectives. We then repeat the analyses in Table 4 utilising the matched sample and found that the results in Table 7 Panel B remain robust and significant.

Table 7

Propensity Score Matching

		SIZE	*LEVERAGE*	*ROA*	*BIG4*
Panel A: Descriptive statistics of 3,782 observations of PCFS and non-PCFs					
PCFs		5.828	0.406	0.055	0.558
Non-PCFs		5.409	0.381	0.056	0.316
Diff.		0.418	0.025	0.001	0.242
p-value		0.191	0.386	0.265	0.000
	Model 1	Model 2	Model 3	Model 1 "High" governance	Model 1 "Low" governance
Panel B: The impact of political connections and corporate governance on investment efficiency					
$INVEFF_{t-1}$	0.634***	0.050***	0.053**	0.698***	0.601***
	(0.179)	(0.171)	(0.202)	(0.184)	(0.141)
PCF_{t-1}	-0.018***	-0.034**	-0.007	0.010	-0.043***
	(0.029)	(0.027)	(0.040)	(0.023)	(0.030)
$CGINDEX_{t-1}$		0.017***	0.063***		
		(0.004)	(0.017)		
$PCF_{t-1} \times CGINDEX_{t-1}$			0.114***		
			(0.041)		
Constant	0.020***	-0.123***	-0.056***	0.009**	0.077**
	(0.042)	(0.049)	(0.064)	(0.041)	(0.044)
Control variables	✓	✓	✓	✓	✓
Industery × Year FE	✓	✓	✓	✓	✓
Observations	3,782	3,782	3,782	2,016	1,766
AR(1) test statistics	-5.04	-2.89	-2.55	-5.15	-5.93
	[0.000]	[0.004]	[0.001]	[0.000]	[0.000]
AR(2) test statistics	0.79	0.18	0.04	2.91	3.14
	[0.429]	[0.857]	[0.971]	[0.407]	[0.373]
Hansen test	55.99	50.35	40.06	18.24	20.66
	[0.299]	[0.308]	[0.650]	[0.196]	[0.340]

Note. Robust standard errors are reported in parentheses, whereas p-values are reported in square brackets. One, two and three stars denote statistical significance at a level of 10%, 5% and 1%, respectively.

CONCLUSIONS

This study explores the investment efficiency of Malaysian publicly listed firms through the lens of political connections and how corporate governance moderates this relationship. Our findings, using panel data for over 8,000 observations during the period 2001-2017, contribute to the literature in several ways. First, we document a significant negative relationship between political connections and firm investment efficiency, which remains robust across various specifications and controls. Second, we find that corporate governance mechanisms can moderate the agency costs associated with investment inefficiency in PCFs. Third, we discover that the negative effect of political connections on exacerbating the overinvestment problem is more pronounced than their positive effect on alleviating the underinvestment problem. Our evidence also suggests that corporate governance is an effective mechanism to curb both the over and underinvestment problems in PCFs. Lastly, further analysis reveals that domestic institutional ownership, Big Four auditor, and audit committees are effective governance mechanisms, whereas similar observations do not hold for foreign institutional ownership, board size, board independence, and director ownership.

Since PCFs can be found in advanced markets as well as in emerging markets such as Malaysia, our findings remain relevant to capital markets around the globe. It is again worth emphasising that the findings have several implications for policymakers and governance practitioners. In light of the threat that powerful executives may undermine the corporate governance framework and affect the monitoring roles of governance mechanisms, policymakers might consider redesigning regulations and assessing the effectiveness of different governance items in improving the investment efficiency of PCFs. Also, authorities in other jurisdictions could take cues from Malaysia for guidance when revising or enacting their corporate governance framework. If our findings hold in other nations, authorities in those countries may consider pursuing governance reforms to ensure the investment decision-making of PCFs meets the goal of maximising shareholders' wealth.

Altogether, our results highlight the importance of corporate governance in producing variations to moderate the association between political connections and investment efficiency. A number

of studies have noted that debt can discipline managers by forcing them to pay out surplus cash, which in turn reduces their discretionary funds for investments and earnings management (D'Mello & Miranda, 2010; Gomariz & Ballesta, 2014; Jeon & Oh, 2020). Our research design, however, does not consider the moderating effect of debt constraint on the investment efficiency of PCFs. Notwithstanding the limitation, this study serves as the first step in comprehending how heterogeneity of corporate governance mechanisms may impact the investment behaviour of PCFs in different ways. Thus, future research can investigate whether corporate governance and debt constraint differ in their moderating effects on the investment efficiency of PCFs.

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APPENDIX

Appendix A

List of Politically Connected Firms

ADVANCE SYNERGY BERHAD
AHB HOLDINGS BERHAD
AHMAD ZAKI RESOURCES BERHAD
AMCORP PROPERTIES BERHAD
AMVERTON BERHAD
ANCOM LOGISTICS BERHAD
ANCOM NYLEX BERHAD
ANN JOO RESOURCES BERHAD
APM AUTOMOTIVE BERHAD
APOLLO FOOD HOLDINGS BERHAD
AVILLION BERHAD
AXIATA GROUP BERHAD
AXTERIA GROUP BERHAD
AYER HOLDINGS BERHAD
BATU KAWAN BERHAD
BCB BERHAD
BERJAYA ASSETS BERHAD
BERJAYA CORPORATION BERHAD
BERJAYA LAND BERHAD
BERJAYA MEDIA BERHAD
BESHOM HOLDINGS BERHAD
BINA PURI HOLDINGS BERHAD
BINTULU PORT BERHAD
BONIA CORPORATION BERHAD
BOUSTEAD HEAVY INDUSTRIES CORPORTATION BERHAD
BOUSTEAD HOLDINGS BERHAD
BOUSTEAD PLANTATIONS BERHAD
BREM HOLDING BERHAD
BRITISH AMERICAN TOBACCO (M) BERHAD
BTM RESOURCES BERHAD
C.I. HOLDINGS BERHAD

CCK CONSOLIDATED HOLDINGS BERHAD
CELCOMDIGI BERHAD
CENTRAL GLOBAL BERHAD
CHEMICAL COMPANY OF MALAYSIA BERHAD
CJ CENTURY LOGISTICS HOLDINGS BERHAD
CN ASIA CORPORATION BERHAD
COMPUTER FORMS (M) BERHAD
COUNTRY HEIGHTS HOLDINGS BERHAD
CYCLE & CARRIAGE BINTANG BERHAD
DAGANG NEXCHANGE BERHAD
DAIMAN DEVELOPMENT BERHAD
DAMANSARA HOLDINGS BERHAD
DIALOG GROUP BERHAD
DKLS INDUSTRIES BERHAD
DRB-HICOM BERHAD
DUOPHAMA BIOTECH BERHAD
DUTALAND BERHAD
EASTERN & ORIENTAL BERHAD
ECO WORLD DEVELOPMENT GROUP BERHAD
EDARAN BERHAD
ENCORP BERHAD
FACB INDUSTRIES INCORPORATED BERHAD
FAJARBARU BUILDER GROUP BERHAD
FGV HOLDINGS BERHAD
FIAMMA HOLDINGS BERHAD
FRASER & NEAVE HOLDINGS BERHAD
GAMUDA BERHAD
GENTING BERHAD
GENTING PLANTATIONS BERHAD
GLOMAC BERHAD
GOPENG BERHAD
GRAND CENTRAL ENTERPRISES BERHAD
GUOCOLAND (M) BERHAD
HAP SENG CONSOLIDATED BERHAD
HARBOUR-LINK GROUP BERHAD
HEINEKEN MALAYSIA BERHAD

HEITECH PADU BERHAD
HO HUP CONSTRUCTION COMPANY BERHAD
HONG LEONG INDUSTRIES BERHAD
HUA YANG BERHAD
HUME CEMENT INDUSTRIES BERHAD
HUNZA PROPERTIES BERHAD
HWA TAI INDUSTRIES BERHAD
IGB BERHAD
IJM CORPORATION BERHAD
IJM PLANTATIONS BERHAD
INTEGRAX BERHAD
IOI PROPERTIES GROUP BERHAD
ISKANDER WATERFRONT CITY BERHAD
JASA KITA BERHAD
JAYA TIASA HLDGS BERHAD
JAYCORP BERHAD
JENTAYU SUSTAINABLES BERHAD
JOE HOLDING BERHAD
KECK SENG (M) BERHAD
KEN HOLDINGS BERHAD
KESM INDUSTRIES BERHAD
KFC HLDGS BERHAD
KHIND HOLDINGS BERHAD
KIAN JOO CAN FACTORY BERHAD
KINSTEEL BERHAD
KOMARKCORP BERHAD
KONSORTIUM TRANSNASIONAL BERHAD
KPJ HEALTHCARE BERHAD
KUALA LUMPUR KEPONG BERHAD
KUMPULAN FIMA BERHAD
KWANTAS CORPORATION BERHAD
LAND & GENERAL BERHAD
LANDMARKS BERHAD
LBI CAPITAL BERHAD
LBS BINA GROUP BERHAD
LEADER STEEL HOLDINGS BERHAD

LINGKARAN TRANS KOTA HOLDINGS BERHAD
LION INDUSTRIES CORPORATION BERHAD
LION POSIM BERHAD
LYSAGHT GALVANIZED STEEL BERHAD
MAGNUM BERHAD
MAH SING GROUP BERHAD
MALAYAN CEMENT BERHAD
MALAYAN FLOUR MILLS BERHAD
MALAYAN UNITED INDUSTRIES BERHAD
MALAYSIA AIRPORTS HOLDINGS BERHAD
MALAYSIA BUILDING SOCIETY BERHAD
MALAYSIA MARINE AND HEAVY ENGINEERING HOLDINGS BERHAD
MALAYSIA PACIFIC CORPORATION BERHAD
MALAYSIAN AIRLINE SYSTEM BERHAD
MBM RESOURCES BERHAD
MCE HOLDINGS BERHAD
MEDIA PRIMA BERHAD
MELEWAR INDUSTRIAL GROUP BERHAD
MERCURY INDUSTRIES BERHAD
MIECO CHIPBOARD BERHAD
MINHO (M) BERHAD
MISC BERHAD
MITRAJAYA HOLDINGS BERHAD
MK LAND HOLDINGS BERHAD
MMC CORPORATION BERHAD
MTD ACPI ENGINEERING BERHAD
MUI PROPERTIES BHD
MULPHA INTERNATIONAL BERHAD
MYCRON STEEL BERHAD
NAIM HOLDINGS BERHAD
NCB HOLDINGS BERHAD
NYLEX (M) BERHAD
OLYMPIA INDUSTRIES BERHAD
OMESTI BERHAD
OPCOM HOLDINGS BERHAD

ORIENTAL FOOD INDUSTRIES BERHAD
ORIENTAL HOLDINGS BERHAD
ORIENTAL INTEREST BERHAD
OSK HOLDINGS BERHAD
PADINI HOLDINGS BERHAD
PAN MALAYSIA CORPORATION BERHAD
PAN MALAYSIA HOLDINGS BERHAD
PANASONIC MANUFACTURING MALAYSIA BERHAD
PARAGON GLOBE BERHAD
PARAMOUNT CORPORATION BERHAD
PARKSON HOLDINGS BERHAD
PASDEC HOLDINGS BERHAD
PERMAJU INDUSTRIES BERHAD
PETRONAS DAGANGAN BERHAD
PHARMANIAGA BERHAD
PJ DEVELOPMENT HOLDINGS BERHAD
PLB ENGINEERING BERHAD
POH HUAT RESOURCES HOLDINGS BERHAD
POS MALAYSIA BERHAD
PPB GROUP BERHAD
PRICEWORTH INTERNATIONAL BERHAD
RESORTS WORLD BERHAD
REX INDUSTRY BERHAD
RHONG KHEN INTERNATIONAL BERHAD
S P SETIA BERHAD
SAPURA ENERGY BERHAD
SAPURA INDUSTRIAL BERHAD
SAPURA RESOURCES BERHAD
SARAWAK CONSOLIDATED INDUSTRIES BERHAD
SBC CORPORATION BERHAD
SCOMI ENERGY SERVICES BERHAD
SCOMI ENGINEERING BERHAD
SCOMI GROUP BERHAD
SEACERA TILES BERHAD
SEAL INCORPORATED BERHAD
SEE HUP CONSOLIDATED BERHAD

SHH RESOURCES HOLDINGS BERHAD
SHL CONSOLIDATED BERHAD
SIME DARBY BERHAD
SINMAH CAPITAL BERHAD
SKB SHUTTERS CORPORATION BERHAD
SPORTS TOTO BERHAD
SPRITZER BERHAD
STAR MEDIA GROUP BERHAD
SUBUR TIASA HOLDINGS BERHAD
SUIWAH CORPORATION BERHAD
SUMATEC RESOURCES BERHAD
SUNWAY CONSTRUCTION BERHAD
SUPER ENTERPRISE HOLDINGS BERHAD
SURIA CAPITAL HOLDINGS BERHAD
SYMPHONY LIFE BERHAD
TAN CHONG MOTOR HOLDINGS BERHAD
TECHNA-X BERHAD
TELEKOM MALAYSIA BERHAD
TH HEAVY ENGINEERING BERHAD
TH PLANTATIONS BERHAD
TIEN WAH PRESS HOLDINGS BERHAD
TIMBERWELL BERHAD
TIME DOTCOM BERHAD
TIONG NAM LOG HOLDINGS BERHAD
TOMYPAK HOLDINGS BERHAD
TSR CAPITAL BERHAD
UEM EDGENTA BERHAD
UMW HOLDINGS BERHAD
UNISEM (M) BERHAD
UNITED MALACCA BERHAD
UNITED PLANTATIONS BERHAD
UTUSAN MELAYU MALAYSIA BERHAD
WARISAN TC HOLDINGS BERHAD
WCE HOLDINGS BERHAD
XL HOLDINGS BERHAD
YEE LEE CORPORATION BERHAD
YONG TAI BERHAD
ZELAN BHD

Appendix B

Variables Description

Variables	Description
INV	Sum of the change in property, plant and equipment, intangible assets, and long-term investments over total assets.
INVEFF	Absolute value of $\varepsilon_{i,t}$ from Equation (1) multiplied by -1.
OVERINV	Positive $\varepsilon_{i,t}$ from Equation (1).
UNDERINV	Negative $\varepsilon_{i,t}$ from Equation (1).
PCF	A dummy variable equals to one if the firm is politically connected, and zero otherwise.
CGINDEX	Corporate governance index derived from Equation (2).
Q	Market value of equity over total assets.
SIZE	Natural logarithm of total assets.
AGE	Natural logarithm of firm age listed in the stock exchange.
LAVERAGE	Total liabilities over total assets.
ROA	Net income scaled by total assets.
CFO	Operating cash flows over total assets.
TANGIBILITY	Net property, plant and equipment scaled by total assets.