Political Connection Types and Corporate Tax Avoidance: Evidence from Malaysia

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Abstract: This study examines whether dissimilar types of politically connected firms (PCFs) are related to corporate tax avoidance. Additionally, it investigates whether this association is moderated by chief executive officer (CEO) shareholding and institutional ownership. Using the dataset of Malaysian public listed companies from 2002 till 2018, our findings suggest that PCFs are associated with higher corporate tax avoidance which is largely driven by older PCFs and government-linked companies (GLCs). Further analyses reveal that the association between older PCFs and GLCs and higher corporate tax avoidance is stronger in firms with higher CEO shareholding and institutional ownership.

Keywords: Corporate tax avoidance, political connections, institutional investor, CEO
JEL classification: G2, G3

1. Introduction

A survey by *The Economist* (2016) found that crony capitalism and political patronage is prevalent not only in emerging markets (for example, Bahrain, Brazil, Indonesia, India, Malaysia, Russia and South Korea), but in developed markets as well (for example, France, Japan, US and UK). As such, political connection is a key institutional feature in many countries as businessmen sought to establish close ties with the ruling elites, aimed at extracting business concessions, namely tax concession, lucrative government contracts, subsidies, and monopoly licenses from the government (Boubakri et al., 2012; Johnson & Mitton, 2003; Kim & Zhang, 2016).

In Malaysia, crony capitalism leads to the emergence of large and well-known politically connected firms (PCFs) in the past thirty years (Bliss & Gul, 2012; Gomez & Jomo, 1999; Johnson & Mitton, 2003; Tee, 2018; Tee et al., 2017). Meanwhile, prior

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taxation literature (Adhikari et al., 2006) found that PCFs incur lower effective tax rate in Malaysia, and are more tax aggressive than non-PCFs in the US (Kim & Zhang, 2016) and Malaysia (Abdul Wahab et al., 2017). However, these studies only consider PCFs as a homogenous group of firms which are connected to politicians. Thus, the effect of heterogeneous political connections may not be captured in their analysis. This conjecture is supported by recent evidence which suggests that dissimilar forms of political connections are associated with unique firm outcomes. For example, firms which have longer political connections are associated with higher corporate investments (Phan et al., 2020), stronger earning persistence (Tee & Rasiah, 2020) and are expected to smooth income (Tee, 2020).

Further, previous literature suggested that the chief executive officer's (CEO) shareholding and institutional investors' monitoring do significantly influence various firm outcomes. First, the CEO is the most important person in the firm as the executive power vested in his/her hands enables him/her to determine the direction of the firm (Bebchuk et al., 2011; Tee, 2019). However, agency theory posits that the CEO (manager) can either act in the best interests of the shareholders (owners) or cause a severe agency problem to the firm (Jensen & Meckling, 1976; Jensen & Murphy, 1990). Second, past studies have shown that institutional global equity ownership is growing at a rapid pace. For example, IMF (2015) reports that institutional investors manage funds more than $40 trillion. Furthermore, their role is also growing rapidly in emerging markets (Tee, 2018). Therefore, international regulators like OECD (2009) argues that institutional investors play an important role in effective monitoring of their portfolio firms due to their large shareholding which permits them to exploit the economies of scale, expertise, and networking (Aggarwal et al., 2011; Cronqvist & Fahlenbrach, 2009; Ferreira & Matos, 2008).

In this study, corporate tax avoidance is selected to understand how it can be influenced by dissimilar forms of political connections. Corporate tax avoidance is intricately linked to government policies. Particularly in East Asian economies, business and politics are closely intertwined (Gomez, 2002). For instance, previous studies found that through lobbying, businessmen can obtain generous tax breaks and incentives from the government (Adhikari et al., 2006; Bunkanwanicha & Wiwattanakantang, 2009). In Malaysia, the ruling government plays the role of political patron in distributing business concessions and privileges to connected firms. Among these privileges are tax concessions, tax exemptions and tax-free government bailouts (Adhikari et al., 2006; Johnson & Mitton, 2003). This government assistance results in lower effective tax rates; and thus, can be regarded as an explicit and implicit subsides to the connected firms.

Following Dyreng et al. (2008, 2010), this study defines corporate tax avoidance as any legal business transactions that lead to a reduction in the firm's taxes. Dyreng et al. (2008, 2010) introduced two measures to compute corporate tax avoidance. The first is the firm's effective tax rate; while the second is cash taxes paid divided by pre-tax accounting income. Both measures are used to capture the extent that a firm can reduce its tax liabilities over long periods of time, e.g., ten years. Adhikari et al. (2006) adopted effective tax rates to examine its relationship with PCFs in Malaysia over a long period of time (e.g., 1990–1999). In our study, it is argued that firms which have established longer ties with top politicians and are controlled by the government are

likely to extract higher tax privileges from the government. Therefore, both measures of effective tax rate and cash taxes paid proposed by Dyreng et al. (2008, 2010) are suitable to capture the influence of length of political connections and ownership structure on corporate tax avoidance in Malaysia.

However, this study excludes tax aggressiveness or tax sheltering measures.[1] On one hand, tax aggressiveness or tax sheltering is considered as a legal tax-planning strategy.[2] On the other hand, tax aggressiveness or tax sheltering is skewed towards the risk of being regarded as tax evasion, particularly on tax laws which are subject to multiple interpretations (Hanlon & Heitzman, 2010). However, Kim and Zhang (2016) suggested that the detection risk of tax shelters or tax aggressiveness is lower, if the firm is connected in the US. They argued that due to career concerns, federal employees are more cautious in dealing with tax aggressiveness in connected firms.[3]

Motivated by the above issues, this study attempts to extend the literature on political connections and corporate tax avoidance. First, this study explores whether corporate tax avoidance is influenced by dissimilar forms of political connections. Specifically, in this study, dissimilar forms of political connections are examined i.e., the length of political connections and ownership structure (i.e., GLC compared to firms connected via family or informal business ties). This study's approach differs significantly from prior studies which assume that PCFs are a homogeneous group linked to politicians and government, thus should produce the same outcomes with respect to effective tax rate (Adhikari et al., 2006) and tax aggressiveness (Kim & Zhang, 2016; Abdul Wahab et al., 2017).

Second, our study examines whether the association between different types of PCFs and corporate tax avoidance is moderated by the CEO's shareholding and institutional ownership. Although the monitoring effect by institutional ownership on tax aggressiveness in Malaysian PCFs has been investigated by Abdul Wahab et al. (2017), it only regards PCFs as a homogeneous group of connected firms. By doing so, the analysis may not be able to capture the confounding effects that may exists in certain types of PCFs. Not surprisingly, Abdul Wahab et al. (2017) found no significant moderating effect by institutional investors in Malaysia. To fill this gap, this study seeks to investigate whether institutional monitoring is influenced by different types of political connections, with respect to corporate tax avoidance. Moreover, there is no empirical evidence on the influence of the CEO's shareholding on different types of political connections with respect to corporate tax avoidance.

This study uses the Malaysian dataset for the period of 2002 to 2018 to investigate these research objectives. Malaysia is chosen because of the existence of large and well-documented PCFs. Additionally, the Malaysian government actively participates in

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[1] In their studies, Dyreng et al. (2008, 2010) clearly distinguished the difference between corporate tax avoidance with tax aggressiveness or tax shelter. The authors argued that both of their effective tax rates measures broadly capture all legal activities to reduce the firm's tax liabilities. This includes grey-area interpretation of the tax laws.

[2] However, aggressive tax planning is also being associated with opacity and lack of disclosure in financial reporting standards in PCFs (Kim & Zhang, 2016).

[3] Young et al. (2001) found that US PCFs are associated with lower audit rates by Internal Revenue Services (IRS).

the economy and capital markets through its controlling stakes in GLCs. Therefore, it is not surprising that Malaysia ranks second in the *Economist* 2016 crony capitalism index. Based on the overall findings, the contributions of this study to the extant literature are underlined as follows. First, our results suggest that different types of political connections produce different firm outcomes when it comes to taxation. Although the PCFs are associated with higher corporate tax avoidance; only older PCFs and GLCs are significantly associated with higher corporate tax avoidance. This suggests that the strength of political connections, namely the length of connections and ownership structure are crucial in lobbying government for favourable tax concessions. Second, the results indicate that CEO shareholding plays an important moderating role. Specifically, the study shows that the association between the older PCFs and GLCs and higher corporate tax avoidance is stronger in firms with higher CEO shareholding. Third, this study suggests that the association between older PCFs and GLCs and higher corporate tax avoidance is exacerbated in connected firms with higher institutional ownership.[4] Overall, our empirical findings offer new insights into the relationship between political connections and corporate tax avoidance that is currently not available in the extant literature.

The paper is organised as follows. Section 2 reviews the literature and the hypotheses development. The sample and research methodology are described in section 3. Section 4 reports and discusses the empirical results. Finally, section 5 concludes this study.

2. Literature Review and Hypotheses Development

2.1 Length of Political Connections and Corporate Tax Avoidance

Olson (1965, 1982) suggested that business is inextricably linked to politics. Under crony capitalism and political patronage theory, resources are channeled to politically favoured firms (Shleifer & Vishny, 1993, 1994). In return, political patronage theory posits that key politicians receive political contributions, bribes and support (Kroszner & Stratmann, 1998; Shefter, 1977; Tahoun, 2014). However, this theory also argues that the timespan of political connections strengthens the ties between businessmen and chief politicians. A longer political tie allows PCFs to build stability, trust and support networks with main politicians, thus shoring up their political capital (Fung et al., 2015; Phan et al., 2020). Higher political capital facilitates efforts by PCFs to extract business concessions from the government (Krueger, 1974). Therefore, those with longer and stable political ties with top politicians' lobby for generous tax concessions from the government.

In Malaysia, the government started to adopt an interventionist approach on the economy and capital markets with the implementation of the New Economic Policy (NEP) in 1970. The NEP's primary objective is to ensure a fair wealth distribution among all the different ethnic groups in Malaysia. While these aims are noble, it frequently creates opportunities for fostering of political patronage. Therefore, Malaysia experiences a phenomenal growth in firms connected to the ruling elites or better known as PCFs (Bliss & Gul, 2012; Gomez & Jomo, 1999; Tee et al., 2017).

[4] In contrast with Abdul Wahab et al. (2017), this study's findings suggest that the significant moderating effect of institutional investors can only be seen in certain types of PCFs.

Past Malaysian studies have shown that extensive initiatives, funds and patience are the key prerequisites in establishing connections with top Malaysian politicians (Gomez & Jomo, 1999; Johnson & Mitton, 2003; Phan et al., 2020; Tee, 2018). From their long-term interactions with Malaysian top political leaders, older PCFs have an in-depth understanding of the political systems and institutions. Therefore, long-standing political ties allow them to exercise greater influence over politicians, namely over tax-related policies and to ensure continued government financial support, regardless of the ruling party. As a result, the first hypothesis is propositioned as follows:

H1. Older politically connected firms are related to higher corporate tax-avoidance, *ceteris paribus*.

2.2 Government Linked Companies and Corporate Tax Avoidance

Extant literature suggests that in a thriving political patronage and crony capitalism system, political ties are more influential if their source is directly traced to government ownership (Gomez et al., 2017; Liu et al., 2018). Like China's state-owned enterprises (SOEs), Malaysian government-linked companies (GLCs) are created through government-controlling stakes. The neoclassical theory of political patronage argues that politicians ensure their re-elections and tighten their grip on power by using government machinery, namely state-owned enterprises (SOEs) or government-linked companies (GLCs) to distribute collective benefits, that is, jobs, higher wages and generous welfare benefits to their supporters (Ben-Nasr & Cosset, 2014; Gomez et al., 2017; Shefter, 1977). This implies that politicians tend to use SOEs or GLCs to produce goods which are desirable to them, but not to consumers (Ben-Nasr & Cosset, 2014; Shleifer & Vishny, 1994).

In Malaysia, GLCs are established to implement the incumbent government's economic agenda or foster the political ambition of top politicians (Gomez et al., 2017; Tee et al., 2017). In its capacity as the dominant controlling shareholder, the Malaysian government hand-picks GLCs' Chairman and CEOs who are usually willing to implement government's orders. Malaysian GLCs must support the government's socio-economic and nation-building plan, irrespective of its commercial viability (Gomez et al., 2017). In return, these GLCs are granted privileges, and one of them is huge tax concessions. As an example, Heavy Industries Corporation of Malaysia (HICOM) was set up as a GLC by the Malaysian government in 1980. To lead Malaysia's drive to be an industrialised nation, HICOM was given generous tax incentives by the Malaysian government (Adhikari et al., 2006; Johnson & Mitton, 2003). Thus, the second hypothesis predicts the following relationship:

H2. Government-linked companies are related to higher corporate tax-avoidance, *ceteris paribus*.

2.3 Corporate Tax Avoidance, Political Connections, and the Influence of CEO Shareholding

The influence of CEO attributes such as shareholding, overconfidence, talent, age, tenure, founder and duality is well documented to be associated with various firm outcomes in previous studies (Bebchuk et al., 2011; Busenbark et al., 2016; Galema

et al., 2012; Tee, 2019). In this study, the focus is only on CEO shareholding. From the perspective of agency theory, higher shareholding creates an incentive for the CEO to implement corporate decisions which are aligned to the interests of the shareholders, that is, maximising the shareholders' value (Jensen & Meckling, 1976; Jensen & Murphy, 1990). In addition, Finkelstein's (1992) ownership power theory argues that certainty in decision-making is assured when a CEO holds a significant shareholding. Past studies have shown that CEO shareholding is positively associated with firm performance (Busenbark et al., 2016; Fahlenbrach & Stulz, 2009; Tee, 2019), and one of the main strategies to boost financial performance is by reducing tax liabilities paid by the firm. This is reported in previous studies where firms with higher CEO shareholding have been shown to be related to higher corporate tax avoidance, which is an effort to increase the firms' profitability, share price, and eventually the CEOs' compensation (Desai & Dharmapala, 2006, 2009). On this basis, the third hypothesis is written as follows:

H3a. The relationship between older PCFs and higher corporate tax avoidance is intensified by higher CEO shareholding, *ceteris paribus*.

H3b. The relationship between GLCs and higher corporate tax avoidance is intensified by higher CEO shareholding, *ceteris paribus*.

2.4 Corporate Tax Avoidance, Political Connections, and the Influence of Institutional Investors

Shleifer and Vishny (1986) assumed that large shareholders can mitigate the potential conflict of interests between managers and shareholders, namely the institutional investors. Due to their large shareholding, institutional investors have the expertise, network and most importantly, economies of scale to monitor their portfolio firms (Cronqvist & Fahlenbrach, 2009). Moreover, Del Guercio and Hawkins' (1999) fiduciary duty hypothesis argued that institutional investors are concerned of their reputation as effective monitors. The authors also suggested that institutional investors can be sued by their investors over incompetent investment decision. Furthermore, Hartzell et al. (2014) found that investors tend to withdraw funds from institutional investors with weak reputations with regards to monitoring.

There are two ways in which institutional investors can monitor a firm. First, institutional investors promote shareholders' activism through voting rights. In this way, they influence the appointment of capable and ethical directors into the board of directors and audit committees (Shin & Seo, 2011; Tee et al., 2018). Second, institutional investors have been documented to employ governance through exit where they sell their shares in the open market to pressure underperforming CEOs to resign (Admati & Pfleiderer, 2009). Previous studies show that institutional investments are link to higher financial performance (Ferreira & Matos, 2008; Tee et al., 2018). In addition, corporate tax avoidance activities only entail business transactions that legally reduce tax liabilities. Therefore, the risk that the firm may face legal action by tax authorities, which adversely affects its reputation, is low (Schlank, 2011). More importantly, corporate tax avoidance has been shown to be associated with higher profitability and firm valuation, which is consistent with the objective of institutional

investors (Khurana & Moser, 2013). Thus, this study hypothesises that institutional investors are likely to encourage efforts to reduce tax liabilities in their investee firms.

H4a. The relationship between older PCFs and higher corporate tax avoidance is intensified by higher institutional ownership, *ceteris paribus*.

H4b. The relationship between GLCs and higher corporate tax avoidance is intensified by higher institutional ownership, *ceteris paribus*.

3. Research Design

3.1 Data Sources and Sample Selection

This study uses 691 sample firms listed in Bursa Malaysia (Malaysian Stock Exchange) for the period between 2002 till 2018. All sectors (except financial and ACE market firms) are included. Table 1 provides a sample distribution according to various sectors. The financial data are obtained from the S&P Capital IQ database, while data on PCFs, CEO shareholding and institutional ownership are hand-collected from the company annual reports.

Table 1. Sample firms' distribution according to industry

Industry	Total	%
Consumer	162	23.44
Industrial	301	43.56
Utilities	6	0.87
Construction	20	2.89
Technology	31	4.49
Plantation	35	5.07
Property	78	11.29
Telecommunication and media	10	1.45
Transportation and logistics	23	3.33
Energy	17	2.46
Healthcare	8	1.16
Total	691	100.00

3.2 Corporate Tax Avoidance

Consistent with Dyreng et al. (2008, 2010) and the availability of Malaysian data, this study employs two measures of corporate tax avoidance, namely the generally accepted accounting principles (GAAP) effective tax rate and cash effective tax rate. The GAAP effective tax rate (GAAP ETR) is defined as total tax expense divided by book profits before tax less special items. The cash effective tax rate (CASH ETR) is measured as cash tax paid divided by pre-tax book income less special items. Dyreng et al. (2008, 2010) define corporate tax avoidance as any business transaction that reduces the company's taxes, relative to the accounting profits before tax, as permitted by laws.

3.3 Politically Connected Firms (PCFs)

First, corresponding to Faccio's (2006) definition, a company is defined as having political connections, if at least one controlling shareholder or senior management has a close relationship with any of the following parties: (i) a head of state, (ii) a minister, senior cabinet minister or a senior politician, and (iii) a member of parliament. Dummy variable is used to denote PCF, one if the firm is deemed to be connected to politicians, and zero otherwise. PCF SHR is the aggregate shareholding of politically connected controlling shareholders and executive directors.

Next, this study classifies PCFs into the long-term and short-term politically connected firms. To be classified as an old PCF (PCF OLD), the firm must have maintained an association to the ruling government for a period of at least ten continuous years. For example, a firm is categorised as PCF OLD if it meets both requirements: (i) politically connected for that particular year i.e., 2018, and (ii) maintain its political connections for at least ten years prior to the year of connection (i.e., 2008–2018).[5] Conversely, PCF is classified as new PCF (PCF NEW) if it fails to meet both conditions.

The identification of a Malaysian PCF and the computation of its length of political connection is based on Gomez and Jomo (1999). To ensure that the list is continuously updated to reflect the changing political environment in Malaysia, this study refers to subsequent studies on Malaysian PCFs (Johnson & Mitton, 2003; Phan et al., 2020; Tee, 2020; Tee et al., 2017). Further, these sources are verified with each firm's annual reports. The names of controlling shareholders either as individual, family or company, and their shareholding are listed under substantial shareholders' section.

Second, political connections in Malaysia can be viewed from the perspective of ownership structure. In the first case, this study includes firms controlled by the government through investment holding companies such as Khazanah Nasional, Ministry of Finance Incorporated (MoF) and Permodalan Nasional Berhad. The percentage shareholding held by the government is tabulated from each GLC's annual report (PCF GLC). The primary source to identify GLCs is acquired from Gomez et al. (2017). In the second case, we compute either the individual or private investment company shareholding ratio in percentage (excluding government-linked investment holding company) who is connected to Malaysian politicians based on family or casual business relationships (PCF PERSONAL). Annual reports and prior studies (Johnson & Mitton, 2003; Phan et al., 2020; Tee, 2020; Tee et al., 2017) are two primary sources of information.

3.4 CEO Shareholding

CEO shareholding (CEO) is computed as the shareholding held by the CEO of the firm as a percentage of total outstanding shares. The data is hand-collected from the company's annual reports.

3.5 Institutional Ownership

Institutional ownership (IO) is calculated as the sum of all institutional investor's equity holding as a percentage of the company's total outstanding shares. The four main

[5] This study adopts Fung et al.'s (2015) criterion of classifying Malaysian old and new PCFs.

groups of institutional investors operating in Malaysia are funds controlled by the government, banking groups, insurance companies and mutual funds. For this study, only the largest thirty shareholding of the institutional shareholders in the firm is computed. The data is extracted from the company's annual report respectively.

3.6 Control Variables

The control variables are selected based on past corporate tax avoidance research. The control variables are firm size (ASSET), capital expenditure (CAPEX), cash holdings (CASH), inventory (INV), cash flows (CF), return on asset (ROA), intangible assets (INTAN), research and development (RD) and standard deviation of accruals quality (σAQ). CAPEX is measured by the firm's capital expenditure scaled by total assets. Firms can claim higher tax credits from the government for higher capital tax expenditure, thus they incur lower effective tax rate (ETR) (Dyreng 2008, 2010). INV is computed as the firm's power, plant and equipment scaled by total assets. Due to depreciation charges relative to asset lives, INV is projected to be negatively related to ETR (Khurana & Moser, 2013). Firm size is measured by the natural log of total assets (ASSET) (Dyreng et al., 2008, 2010). CASH is computed as the total firm's cash holding adjusted by total assets (Khurana et al., 2018). Financial leverage is the ratio of total assets to total debts (Lim, 2011). CF is computed as the firm's cash flows and sales scaled by total assets (Hasan et al., 2014). Financial performance is measured by return on asset (ROA) (Chyz et al., 2013). INTAN is computed as ratio of intangible assets to the total assets; while RD is research and development expenses scaled by total assets (Chyz et al., 2013; Dyreng et al., 2008, 2010). RD is expected to be negatively related to ETR since tax exemption may be granted by the government in order to encourage more research and development activities. Abnormal accrual is computed as the standard deviation of accruals quality (σAQ) as proposed by Francis et al. (2005). Finally, Firm age (AGE) is computed as the total years of the firm listed in Bursa Malaysia stock exchange. However, no prediction is given for other control variables such as firm size (ASSET), cash holdings (CASH), cash flows (CF), intangible assets (INTAN), ROA, firm age (AGE) and accruals quality (σAQ) because of inconsistent findings in prior studies. See Appendix A for a definition of the variables.

3.7 Regression Model

This study uses ordinary least square (OLS) model to test all the hypotheses. ETR represents the effective tax rates which include the GAAP (GAAP ETR) and cash effective tax rate (CASH ETR). The industry dummy (IND) is introduced to control the industry's hetero-geneity, while the year dummy (YEAR) is used to control the sample period's yearly variation. The influence of extreme outliers is minimised by winsorizing the top and bottom 1% of all dependent and independent variables. Standard errors are clustered at firm and year level. All the regression models are presented as follows:

Models 1 and 2 examine hypotheses 1 and 2.

$$ETR_{i,t} = \alpha + \beta_1 PCF\ OLD_{i,t} + \beta_2 PCF\ NEW_{i,t} + \beta_3 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (1)$$

$$ETR_{i,t} = \alpha + \beta_1 PCF\ GLC_{i,t} + \beta_2 PCF\ PERSONAL_{i,t} + \beta_3 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (2)$$

The moderating effects of the CEO's shareholding and institutional ownership on different types of PCFs are examined by models 3 and 4, respectively.

$$ETR_{i,t} = \alpha + \beta_1 PCF\ OLD_{i,t} + \beta_2 PCF\ NEW_{i,t} + \beta_3 CEO_{i,t} + \beta_4 IO_{i,t} + \beta_5 PCF\ OLD_{i,t} * CEO_{i,t} + \beta_6 PCF\ NEW_{i,t} * CEO_{i,t} + \beta_7 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (3a)$$

$$ETR_{i,t} = \alpha + \beta_1 PCF\ GLC_{i,t} + \beta_2 PCF\ PERSONAL_{i,t} + \beta_3 CEO_{i,t} + \beta_4 IO_{i,t} + \beta_5 PCF\ GLC_{i,t} * CEO_{i,t} + \beta_6 PCF\ PERSONAL_{i,t} * CEO_{i,t} + \beta_7 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (3b)$$

$$ETR_{i,t} = \alpha + \beta_1 PCF\ OLD_{i,t} + \beta_2 PCF\ NEW_{i,t} + \beta_3 IO_{i,t} + \beta_4 CEO_{i,t} + \beta_5 PCF\ OLD_{i,t} * IO_{i,t} + \beta_6 PCF\ NEW_{i,t} * IO_{i,t} + \beta_7 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (4a)$$

$$ETR_{i,t} = \alpha + \beta_1 PCF\ GLC_{i,t} + \beta_2 PCF\ PERSONAL_{i,t} + \beta_3 IO_{i,t} + \beta_4 CEO_{i,t} + \beta_5 PCF\ GLC_{i,t} * IO_{i,t} + \beta_6 PCF\ PERSONAL_{i,t} * IO_{i,t} + \beta_7 Control\ variables_{i,t} + YEAR_{i,t} + IND_{i,t} + e_{i,t} \quad (4b)$$

4. Empirical Results

4.1 Descriptive Statistics

The descriptive statistics for this study are shown in Table 2. The mean for GAAP ETR is 0.180 and lower than its median of 0.203, while the mean for CASH ETR of 0.138 is higher than its median of 0.103. In the full sample, 11.7% of the firms are deemed to be connected to politicians (PCF). The average shareholding ratio of politically connected controlling shareholders and directors is 12.44% (PCF SHR). 7.9% from the full sample firms are classified as old PCF, while 3.8% are classified as new PCF. The means for shareholding held by GLCs and those companies connected through family or informal relationships (PCF PERSONAL) are 8.0% and 4.44%, respectively. The means for CEO shareholding (25.68%) and institutional ownership (9.48%) are higher than the medians of 25.45 and 3.25%, respectively.

4.2 Regression Results

4.2.1 Length of Political Connections and Corporate Tax Avoidance

The baseline regression results for hypothesis 1 are reported in Tables 3 and 4. Table 3 shows the results for GAAP ETR, while Table 4 reports CASH ETR. In both Tables 3 and 4, columns 1 and 2 show a negative association between PCF and lower effective tax rates (GAAP ETR and CASH ETR). This indicates that PCFs are related with higher corporate tax avoidance. However, results in column 3 (Tables 3 and 4) suggest that the results in columns 1 and 2 are mostly driven by PCF OLD. Only older PCFs are associated with higher corporate tax avoidance, but not for new PCF. These results are consistent with the prediction in hypothesis 1.

In columns 4 and 5 of both Tables 3 and 4, evidence shows that CEO shareholding and institutional ownership significantly moderate the relationship between PCFs and corporate tax avoidance. In column 4 of Tables 3 and 4, the significant negative interaction coefficient implies that the association between PCF OLD and higher

Table 2. Descriptive statistics

Variable	Observations	Mean	Standard deviation	25%	50%	75%	95%
Dependent variables							
GAAP ETR	10061	0.180	0.429	0.046	0.203	0.280	0.599
CASH ETR	10061	0.138	0.369	0.001	0.103	0.252	0.603
Experimental variables							
PCF	10589	0.117	0.322	0.000	0.000	0.000	1.000
PCF SHR	10589	12.440	16.480	0.000	0.000	0.000	60.230
PCF OLD	10589	0.079	0.270	0.000	0.000	0.000	1.000
PCF NEW	10589	0.038	0.186	0.000	0.000	0.000	1.000
PCF GLC	10589	8.004	11.140	0.000	0.000	0.000	21.480
PCF PERSONAL	10589	4.436	15.090	0.000	0.000	0.000	50.040
CEO	10589	25.680	22.600	0.320	25.450	44.810	63.550
IO	10589	9.484	14.620	0.000	3.250	13.840	37.380
Control variables							
ASSET (LOG)	10074	5.978	1.391	4.956	5.799	6.752	8.620
CAPEX	10074	0.036	0.072	0.004	0.019	0.048	0.126
CASH	10074	0.077	0.099	0.014	0.042	0.100	0.287
INV	10074	0.151	0.139	0.042	0.123	0.219	0.413
LEV	10074	13.940	11.510	5.372	17.850	31.240	51.550
CF	10074	0.015	2.446	0.001	0.039	0.091	0.187
ROA	9922	1.356	12.790	-0.442	2.874	6.868	15.690
ROE	10101	4.383	21.370	0.745	5.900	11.700	23.560
INTAN	9922	4.501	10.090	0.000	0.208	3.195	27.810
RD	9922	0.191	0.834	0.000	0.000	0.000	1.043
σAQ	10588	40.850	82.800	4.013	12.370	35.990	512.300
COD	10101	4.488	7.218	0.001	3.797	5.830	10.970
AUDITOR	10589	0.565	0.495	0.000	1.000	1.000	1.000

Notes: GAAP effective tax rate (GAAP ETR) is defined as total tax expense divided by book profits before tax less special items. Cash effective tax rate (CASH ETR) is measured as cash tax paid divided by pre-tax book income less special items. PCF is a dummy variable, indicated as one if it is defined to be connected to politicians, and zero otherwise. PCF SHR is the aggregate shareholding of politically connected controlling shareholders and executive directors. PCF OLD is a dummy variable, indicated as one if the firm is classified as an old politically connected firm, and zero otherwise. PCF NEW is a dummy variable, indicated as one if the firm is classified as a new politically connected firm, and zero otherwise. PCF PERSONAL is a dummy variable, indicated as one if the firm is connected to Malaysian politicians based on family or informal business relationships, and zero otherwise. PCF GLC is a dummy variable, indicated as one if the firm is classified as a government-linked company (GLC), and zero otherwise. CEO shareholding (CEO) is figured as shareholding held by the CEO of the firm as a percentage of total outstanding shares. Institutional ownership (IO) is calculated as the sum of all institutional investor's equity holding as a percentage of the company's total outstanding shares. Capital expenditure (CAPEX) is measured by the firm's capital expenditure scaled by total assets. INV is computed as the firm's power, plant and equipment scaled by total assets. Firm size is measured by the natural log of total assets (ASSET). CASH is computed as the total firm's cash holding adjusted by total assets. Financial leverage (LEV) is the ratio of total assets and total debts. CF is computed as the firm's cash flows and sales scaled by total assets. Financial performance is measured by return on asset (ROA). INTAN is computed as ratio of intangible assets to total assets. RD is research and development expenses scaled by total assets. Abnormal accrual is computed as the standard deviation of accruals quality (σAQ). COD is cost of debt computed as interest expense scaled by short-term and long-term debt. AUDITOR is a dummy variable if the firm is audited by a big four audit firm, and zero otherwise.

Table 3. The length of political connections and GAAP ETR

	GAAP ETR coefficient (1)	T-Stats.	GAAP ETR coefficient (2)	T-Stats.	GAAP ETR coefficient (3)	T-Stats.	GAAP ETR coefficient (4)	T-Stats.	GAAP ETR coefficient (5)	T-Stats.
PCF	-0.033**	-2.03								
PCF SHR			-0.062**	-2.27						
PCF OLD					-0.040**	-1.96	-0.043*	-1.68	-0.044*	-1.77
PCF NEW					-0.010	-0.50	0.015	0.64	-0.039	-1.53
CEO					-0.047**	-2.31	-0.050**	-2.36	-0.048**	-2.40
IO					-0.049*	-1.83	0.017	0.47	-0.006	-0.15
PCF OLD*CEO							-0.014*	-1.86		
PCF NEW*CEO							-0.005	-0.83		
PCF OLD*II									-0.182**	-2.05
PCF NEW*II									0.040	0.53
ASSET	0.020***	4.52	0.021***	4.57	0.020***	4.23	0.019***	4.16	0.020***	4.26
CAPEX	-0.051	-0.49	-0.050	-0.48	-0.059	-0.57	-0.056	-0.54	-0.064	-0.62
CASH	0.054	1.13	0.054	1.13	0.052	1.10	0.052	1.09	0.059	0.56
INV	-0.058***	-3.95	-0.057***	-3.94	-0.057***	-3.90	-0.057***	-3.93	-0.056***	-3.90
LEV	-0.212***	-7.50	-0.213***	-7.53	-0.213***	-7.48	-0.213***	-7.50	-0.210***	-7.41
CF	0.102*	1.73	0.101*	1.72	0.097*	1.65	0.097*	1.67	0.099*	1.68
ROA	-0.000	-0.59	-0.000	-0.62	-0.000	-0.65	-0.000	-0.65	-0.000	-0.63
INTAN	-0.000	-1.06	-0.000	-1.02	-0.000	-0.59	-0.000	-1.05	-0.000	-1.07
RD	0.002	0.41	0.002	0.39	-0.002	-1.12	0.002	0.49	0.002	0.49
σAQ	0.000	0.16	0.000	0.09	0.000	0.88	0.000	0.16	0.000	0.02
AGE	-0.000	-0.12	-0.000	-0.20	0.000	0.25	0.000	0.29	0.000	0.36
Industry dummy	Included		Included		Included		Included		Included	
Year dummy	Included		Included		Included		Included		Included	
Adj. R^2	0.325		0.325		0.326		0.326		0.326	
Firm-year obs.	9792		9792		9792		9792		9792	

Notes: This table estimates the relation between GAAP ETR, the length of political connections, CEO shareholding, institutional ownership, and other control variables. For a definition of the variables, see Table 2 notes. Institutional investor's ownership (II) is calculated as the sum of all institutional investor's equity holding as a percentage of the company's total outstanding shares. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

Table 4. The length of political connections and CASH ETR

Panel A	CASH ETR coefficient (1)	T-Stats.	CASH ETR coefficient (2)	T-Stats.	CASH ETR coefficient (3)	T-Stats.	CASH ETR coefficient (4)	T-Stats.	CASH ETR coefficient (5)	T-Stats.
PCF	-0.030**	-2.23								
PCF SHR			-0.032*	-1.84						
PCF OLD					-0.038**	-2.37	-0.034*	-1.74	-0.035*	-1.78
PCF NEW					-0.009	-0.51	0.004	0.18	-0.020	-0.78
CEO					-0.047**	-2.67	-0.052***	-2.76	-0.048***	-2.70
IO					-0.055*	-1.88	-0.022*	-1.79	-0.053*	-1.80
PCF OLD*CEO							-0.016**	-2.00		
PCF NEW*CEO							-0.006	-0.14		
PCF OLD*IO									-0.014**	-1.95
PCF NEW*IO									0.059	0.74
ASSET	0.013***	3.46	0.013***	3.32	0.011***	2.95	0.011***	2.90	0.011***	2.92
CAPEX	-0.260**	-2.67	-0.244**	-2.57	-0.249**	-2.56	-0.250**	-2.57	-0.244**	-2.53
CASH	0.218***	4.95	0.217***	4.92	0.212***	4.80	0.212***	4.78	0.249**	2.56
INV	-0.044***	-3.63	-0.044***	-3.67	-0.044***	-3.66	-0.044***	-3.68	-0.044***	-3.66
LEV	-0.131***	-5.38	-0.131***	-5.37	-0.130***	-5.33	-0.130***	-5.27	-0.129***	-5.28
CF	0.205***	3.89	0.207***	3.93	0.200***	3.78	0.200***	3.78	0.200**	3.78
ROA	0.000	0.79	0.000	0.72	0.000	0.75	0.000	0.74	0.000	0.75
INTAN	-0.000	-0.56	-0.000	-0.59	-0.000	-0.59	-0.000	-0.53	-0.000	-0.58
RD	-0.010**	-2.04	-0.010**	-2.07	-0.010**	-2.16	-0.010**	-2.16	-0.010**	-2.17
σAQ	-0.000	-0.43	-0.000	-0.60	-0.000	-0.58	-0.000	-0.58	-0.000	-0.58
AGE	0.000	0.07	-0.000	-0.13	0.000	0.53	0.000	0.57	0.000	0.57
Industry dummy	Included		Included		Included		Included		Included	
Year dummy	Included		Included		Included		Included		Included	
Adj. R^2	0.336		0.336		0.337		0.337		0.337	
Firm-year obs.	9792		9792		9792		9792		9792	

Notes: This table estimates the relation between CASH ETR, the length of political connections, CEO shareholding, institutional ownership, and other control variables. For a definition of the variables, see Table 2 notes. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

corporate tax avoidance is exacerbated by higher CEO shareholding (-0.014, p<0.10; -0.016, p<0.05). This is followed by another significant negative interaction coefficient in column 5, indicating the relationship between PCF OLD and higher corporate tax avoidance is exacerbated by higher institutional ownership (-0.182, p<0.05; -0.014, p<0.05). The results for both interaction terms in columns 4 and 5 in Tables 3 and 4 support hypotheses 3 and 4.

4.2.2 The Effects of Different Types of Ownership Structure in PCFs and Corporate Tax Avoidance

Tables 5 and 6 report the results on the effects of different types of ownership structure in PCFs on GAAP ETR and CASH ETR. In Malaysia, there are two main types of PCFs, namely, GLCs (Gomez et al., 2017), and those companies that have connections

Table 5. GLCs, firms connected through family or business informal ties and GAAP ETR

	GAAP ETR coefficient (1)	T-Stats.	GAAP ETR coefficient (2)	T-Stats.	GAAP ETR coefficient (3)	T-Stats.
PCF PERSONAL	-0.020	-0.64	0.019	0.46	-0.038	-0.98
PCF GLC	-0.168***	-4.03	-0.157***	-3.68	-0.330***	-5.24
CEO	-0.039**	-1.92	-0.047**	-2.22	-0.036*	-1.74
IO	-0.038**	-2.21	0.035	0.98	-0.026	-0.61
PCF PERSONAL*CEO			-0.121	-1.26		
PCF GLC*CEO			-0.241**	-2.20		
PCF PERSONAL*IO					0.206	0.90
PCF GLC*IO					-0.494***	-3.88
ASSET	0.021***	4.48	0.021***	4.42	0.022***	4.79
CAPEX	-0.052	-0.50	-0.050	-0.48	-0.051	-0.49
CASH	0.051	1.06	0.048	1.02	0.054	1.14
INV	-0.056***	-3.83	-0.056***	-3.85	-0.055***	-3.80
LEV	-0.218***	-7.67	-0.217***	-7.63	-0.219***	-7.70
CF	0.092	1.57	0.092	1.56	0.094	1.60
ROA	-0.000	-0.66	-0.000	-0.67	-0.000	-0.63
INTAN	-0.000	-1.18	-0.000	-1.12	-0.000	-1.10
RD	0.002	0.51	0.002	0.52	0.002	0.47
σAQ	0.000	0.25	0.000	0.22	0.000	0.01
AGE	-0.000	-0.14	-0.000	-0.03	-0.000	-0.11
Industry dummy	Included		Included		Included	
Year dummy	Included		Included		Included	
Adj. R^2	0.327		0.327		0.327	
Firm-year obs.	9792		9792		9792	

Notes: This table estimates the relation between GAAP ETR, GLCs, firms connected through family or business informal ties, CEO shareholding, institutional ownership, and other control variables. For a definition of the variables, see Table 2 notes. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

Table 6. GLCs, firms connected through family or business informal ties and CASH ETR

	CASH ETR coefficient (1)	T-Stats.	CASH ETR coefficient (2)	T-Stats.	CASH ETR coefficient (3)	T-Stats.
PCF PERSONAL	-0.021	-0.81	0.023	0.58	-0.033	-0.97
PCF GLC	-0.070**	-2.07	-0.059*	-1.73	-0.132***	-2.91
CEO	-0.044**	-2.47	-0.053***	-2.82	-0.043**	-2.39
IO	-0.059**	-2.03	-0.057**	-1.98	0.032	0.97
PCF PERSONAL∗CEO			-0.134	-1.52		
PCF GLC∗CEO			-0.160**	-2.00		
PCF PERSONAL∗IO					0.123	0.85
PCF GLC∗IO					-0.193*	-1.85
ASSET	0.012***	2.93	0.011***	2.85	0.012***	3.07
CAPEX	-0.255**	-2.63	-0.257***	-2.64	0.256**	2.63
CASH	0.211***	4.78	0.209***	4.72	0.204***	4.67
INV	-0.044***	-3.66	-0.045***	-3.71	-0.044***	-3.65
LEV	-0.132***	-5.38	-0.131***	-5.33	-0.132***	-5.39
CF	0.200***	3.79	0.200***	3.78	0.201***	3.80
ROA	0.000	0.74	0.000	0.72	0.000	0.75
INTAN	-0.000	-0.66	-0.000	-0.58	-0.000	-0.22
RD	-0.011**	-2.20	-0.011**	-2.21	-0.011**	-2.18
σAQ	-0.000	-0.69	-0.000	-0.74	-0.000	-0.89
AGE	0.000	0.07	0.000	0.19	0.000	0.10
Industry dummy	Included		Included		Included	
Year dummy	Included		Included		Included	
Adj. R^2	0.337		0.337		0.337	
Firm-year obs.	9792		9792		9792	

Notes: This table estimates the relation between CASH ETR, GLCs, firms connected through family or business informal ties, CEO shareholding, institutional ownership, and other control variables. For a definition of the variables, see Table 2 notes. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

to top politicians through family or casual business relationship (Gomez & Jomo, 1999; Johnson & Mitton, 2003; Tee et al., 2017). Column 1 reports that only PCF GLC coefficient is negative and significant, indicating that earlier results in columns 1 and 2 (Tables 3 and 4) are mainly driven by GLCs. In comparison with PCF PERSONAL, only GLCs are significantly associated with higher corporate tax avoidance, in line with the prediction in hypothesis 2. Prior studies show evidence that GLCs in Malaysia are given huge tax breaks as incentives to carry out non-viable projects to meet the social agenda of the government. In addition, these projects increase votes, thus fulfilling the political ambition of the Malaysian top politicians (Gomez et al., 2017; Tee et al., 2017). In columns 2 and 3 of Tables 5 and 6, both interaction coefficients PCF GLC∗CEO (-0.241, $p<0.05$; -0.160, $p<0.05$) and PCF GLC∗IO (-0.494, $p<0.01$; -0.193, $p<0.10$) are significant and negative, suggesting that higher CEO and institutional shareholdings lead to higher corporate tax avoidance in GLCs, but not for PCF PERSONAL.

4.2.3 Endogeneity

First, this study employs Heckman two-stage model to alleviate the concern that establishing political ties may be an endogenous choice. Kim and Zhang (2016) adopted this model, and we closely follow their procedures. In the first-stage probit regression, the factors which influence a company to be connected are identified. Based on prior evidence, connected firms are reported to have higher financial performance,[6] lower cost of debt[7] and are more likely to be audited by big four auditor.[8] Thus, the three selected variables are return on equity (ROE), cost of debt (COD)[9] and big four auditor (AUDITOR). The first-stage results are documented in column 1 of Table 7. The consistent results with prior findings show that firms that have higher financial performance, lower cost of debt and being audited by big four auditor, are more probable to be connected to top politicians. Based on the results of first-stage regression, inverse Mills ratio (IMR) is computed and included in the second-stage regression to control for the endogenous choice of political connections. The second-stage results suggest that PCFs are significantly related to lower effective tax rates or higher corporate tax avoidance (see columns 2 and 3 of Table 7).

Second, propensity score matching model is used to match a sample of PCF and non-PCF firms. Following prior studies (Boubakri et al., 2012; Rosenbaum & Rubin, 1983) on propensity score matching procedure, the optimal match using the nearest neighbour technique is selected in this study. To mitigate the problem of self-selection bias (endogeneity), this procedure is used to control for characteristic differences between PCFs and non-PCFs. The probability of a firm being connected is captured by the identification of some specific firm characteristics. The final matched sample comprises of 2350 firm year observations equally distributed between PCFs (1175) and non-PCFs (1175).[10] In Table 8 (see columns 1 and 2), the reported results are similar in outcome with results in column 1 of Tables 3 and 4. Thus, the potential endogeneity of political connections on corporate tax avoidance is mitigated.

5. Conclusion

In contrast to past studies which tend to focus on the adverse consequences of tax avoidance such as stock price crash risks (Kim et al., 2011) or managerial opportunism

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[6] PCFs face less competitive market pressure as they receive commercial privileges such as contracts, subsidies, monopoly licenses and tariff protection from the government (Boubakri et al., 2012).

[7] Lenders assign lower credit risk to PCFs as prior studies report that connected firms are more likely to receive government bailout money in the event of a financial distress (Duchin & Sosyura, 2012; Houston et al., 2014).

[8] Guedhami et al. (2014) indicated that PCFs stand a higher chance to engage the services of a big four audit firm to promise other shareholders of their aim to refrain from engaging in self-serving and opportunistic managerial behaviour.

[9] Following prior studies and data availability, the cost of debt is computed as interest expenses scaled by total debt (Bliss & Gul, 2012; Tee, 2018).

[10] When constructing a matching sample, the treatment and control group should show insignificant differences across firm characteristics to ensure that the statistical model is not subject to endogeneity problems arising from observable firm characteristics (Li, 2013). In this study, the untabulated results show that the statistical differences of firm characteristics between treatment and control sample is insignificant.

Table 7. Heckman self-selection

	PCF coefficient (1)	T-Stats.	GAAP ETR coefficient (2)	T-Stats.	CASH ETR coefficient (3)	T-Stats.
ROE	0.398***	2.90				
COD	-0.635**	-2.37				
AUDITOR	0.258***	5.66				
PCF			-0.033**	-2.05	-0.031**	-2.25
IMR			0.059*	1.89	0.055**	2.06
ASSET	0.409***	16.48	0.041***	3.44	0.033***	3.13
CAPEX	-1.983***	-3.10	-0.158	-1.35	0.158	1.45
CASH	0.544**	2.35	0.086*	1.74	0.249***	5.41
INV	0.256***	3.55	-0.043***	-2.64	-0.029	-2.14
LEV	-0.154	-1.18	-0.221***	-7.58	-0.139***	-5.61
CF	-0.818**	-2.46	0.053	0.84	0.160***	2.78
ROA	0.01	1.19	-0.000	-0.21	0.000	1.16
INTAN	0.806**	4.57	-0.000	-0.18	0.000	0.35
RD	-0.155***	-4.11	-0.007	-0.79	0.002	0.45
σAQ	0.113***	4.02	0.000	0.62	0.000	0.22
AGE	1.982***	11.52	0.000	1.27	0.001*	1.66
Industry dummy	Included		Included		Included	
Year dummy	Included		Included		Included	
Adj. R^2	0.342		0.325		0.337	
Firm-year obs.	9829		9792		9792	

Notes: Column 1 of this table estimates the first-stage regression between PCF and selected variables and other control variables. Column 2 estimates the second-stage regression between GAAP ETR and PCF, IMR, and other control variables. Column 3 estimates the second-stage regression between CASH ETR and PCF, IMR, and other control variables. For a definition of the variables, see Table 2 notes. IMR is inverse Mills ratio. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

Table 8. Propensity score matching

	GAAP ETR coefficient (1)	T-Stats.	CASH ETR coefficient (2)	T-Stats.
PCF	-0.038*	-1.70	-0.044**	-2.19
ASSET	0.021***	2.73	0.004	0.52
CAPEX	0.059	0.24	0.512***	2.18
CASH	0.072	0.87	0.204**	2.58
INV	-0.005	-0.17	-0.032	-1.29
LEV	-0.254***	-4.71	-0.140***	-2.82
CF	0.129	1.17	0.329***	3.44
ROA	0.000	0.12	0.000	1.08
INTAN	-0.000	-0.79	-0.000	-0.20
RD	0.001	0.10	0.020**	2.17
σAQ	0.000	0.86	0.000	1.48
AGE	0.000	-0.03	0.000	0.08
Industry dummy	Included		Included	
Year dummy	Included		Included	
Adj. R^2	0.341		0.363	
Firm-year obs.	2350		2350	

Notes: This table estimates the results of propensity score matched sample of PCF and non-PCF based on optimal match using the nearest neighbour technique. For a definition of the variables, see Table 2 notes. The asterisks ***, ** and * denote 1%, 5% and 10% levels of significance, respectively.

(Desai & Dharmapala, 2006; Kim & Zhang, 2016), this study views corporate tax avoidance as a legal attempt to reduce tax liabilities. Implicitly, it is preventing the wealth transfer from the shareholders to the government. Dyreng et al. (2008, 2010) proposed effective tax rate to measure the ability of firms to legally reduce its tax liabilities, thus passing on the benefits to all shareholders in the form of higher profits and valuation in the long run. This can be achieved through tax concessions or incentives from the government. However, in a country such as Malaysia where crony capitalism is embedded in the economic system, such privileges or competitive advantages can be obtained only through strong connections to the ruling elites.

This study contributes to the current literature by exploring whether dissimilar types of political connections can affect the ability of connected firms to reduce its effective tax rates (higher corporate tax avoidance). We argue that PCFs should not be treated as a homogenous group. This conjecture is supported by recent evidence that different PCFs produce different outcomes when it is related to corporate investments (Phan et al., 2020) and income smoothing practices (Tee, 2020). Furthermore, this study examines whether CEO shareholding and institutional ownership have any moderating influence on the association between dissimilar types of political connections and corporate tax avoidance.

Using a firm-level dataset of 691 Malaysian listed firms for the period 2002–2018, our findings show the ability to reduce effective tax rates is only significant in political connection firms and GLCs with longer span. No evidence is reported for firms with shorter span of political connections and companies with connection through family or casual business ties. Additionally, the association between the older PCFs and GLCs and higher corporate tax avoidance is shown to be stronger in firms with higher CEO shareholding and institutional shareholding. In line with crony capitalism and political patronage theory, this study suggests that the efficacy of political connections is largely influenced by the span of political connections and government ownership in the firm. Therefore, one can expect misallocation of economic resources which ultimately lead to an inefficient economy if tax concessions or policies are determined by political connections.

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Appendix A. Variable definition

Variables	Definition
Dependent variables	
GAAP ETR	Total tax expense scaled by pre-tax book income less special items.
CASH ETR	Cash tax paid scaled by pre-tax book income less special items.
Experimental variables	
PCF	A dummy variable indicated as one, if the firm is identified as a politically connected firm, and zero otherwise.
PCF SHR	Shareholding of politically connected directors or controlling shareholders scaled by total outstanding shares and expressed in percentage.
PCF OLD	A dummy variable indicated as one, if the connected firm maintains a minimum ten years of connections with the government or top politicians, and zero otherwise.
PCF NEW	A dummy variable indicated as one, if the connected firm has less than ten years of connections with the government or top politicians, and zero otherwise.
PCF PERSONAL	Shareholding of politically connected directors or family members of top politicians controlling shareholders scaled by total outstanding shares and expressed in percentage.
PCF GLC	Shareholding of government ownership scaled by total outstanding shares and expressed in percentage.
IO	Total shares held by institutional investor scaled by total outstanding shares and expressed in percentage.
CEO	Computed as the CEO's shareholding of the firm scaled by total outstanding shares and expressed in percentage.
Control variables	
ASSET (LOG)	Log of total assets.
ROA	Net income scaled by total assets.
INTAN	Intangible assets scaled by total assets.
RD	Research and development expenses scaled by total assets.
CAPEX	Capital expenditures scaled by total assets.
LEV	Total debts scaled by total assets.
CASH	Cash scaled by total assets.
INV	Gross property, plant, and equipment scaled by total assets.
CF	Cash flows scaled by total assets.
σAQ	Standard deviation of accruals quality.
AGE	The number of years the firm is listed in Bursa Malaysia stock exchange.
ROE	Net income scaled by shareholders equity.
COD	Interest expenses scaled by total debt.
AUDITOR	A dummy variable indicated as one, if the firm is audited by big four auditor, and zero otherwise.
IMR	Inverse Mills ratio