Types of politically connected firms and analysts' earnings forecast

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Abstract

Purpose – This study examined the effect of different types of politically connected (PCON) Malaysian firms on analysts' forecast accuracy and dispersion.

Design/methodology/approach – The study identified different types of PCON firms according to Wong and Hooy's (2018) classification, which divided political connections into government-linked companies (GLCs), boards of directors, business owners and family members of government leaders. The sample covered the period 2007–2016, for which earnings forecast data were obtained from the Institutional Brokers' Estimate System (IBES) database and financial data were extracted from Thomson Reuters Fundamentals. We deleted any market consensus estimates made by less than three analysts and/or firms with less than three years of analyst forecast information to control for the impact of individual analysts' personal attributes.

Findings – The study found that PCON firms were associated with lower analyst forecast accuracy and higher forecast dispersion. The effect was more salient in GLCs than in other PCON firms, either through families, business ties or boards of directors. Further analyses showed that PCON firms—in particular GLCs—were associated with more aggressive reporting of earnings and poorer quality of accruals, hence providing inadequate information for analysts to produce accurate and less dispersed earnings forecasts. The results were robust even after addressing endogeneity issues.

Research limitations/implications – This study found new evidence of the impact of different types of PCON firms in exacerbating information asymmetry, which was not addressed in prior studies.

Practical implications – This study has a significant practical implication for investors that they should be mindful of high information asymmetry in politically connected firms, particularly government-linked companies.

Originality/value – This is the first study to provide evidence of the impact of different types of PCON firms on analysts' earnings forecasts.

Keywords Corporate governance, Political connection, Forecast accuracy, Forecast dispersion, Government linked companies

Paper type Research paper

1. Introduction

The issue of political ties between politicians and businesspeople has attracted the attention of scholars around the world for more than two decades. Generally, prior studies (Bliss and

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Gul, 2012b; Claessens *et al.*, 2008) argued that politically connected (PCON) firms have special privileges compared to their unconnected counterparts due to the involvement of politicians in business. This encourages the abuse of power and subsequently increases corruption (Gomez, 1990) and preferential treatment (Faccio, 2006), resulting in misappropriation of benefits by the state that is not in the best interests of society. This can be seen in the case of low-quality financial reporting; for instance, prior studies showed that PCON firms had low transparency (Bushman *et al.*, 2004), more aggressive accounting (Bushman and Piotroski, 2006) and low accounting quality (Chaney *et al.*, 2011). However, the studies did not distinguish between types of political connections, despite the possibility that different types of political connections may affect financial reporting quality differently.

Recently, in a Malaysian context, Phan *et al.* (2020) and Wong and Hooy (2018) examined different types of PCON firms. Instead of analyzing financial reporting quality, they examined the effect of different types of PCON firms on corporate investments and firms' performance. Wong and Hooy (2018) revealed the different effects of various types of PCON firms on their performance. Furthermore, Phan *et al.* (2020) found that corporate investments were influenced by different types of PCON firms. This highlighted the importance of analytically distinguishing between different types of PCON firms in research. Failure to do so can cause serious problems for the analysis of PCON firms. Indeed, each type of political connection should be clearly defined based on the "intrinsic" criteria of a firm, because different types of PCON firms have a different business–political nexuses. Government-linked companies (GLCs) are firms owned by the government rather than owned by, or linked to, politicians. In this study, we postulated that political connection variances could have significant implications for analysts' forecasts; hence, ignoring these variables would lead to biased results and interpretations.

A recent study in Malaysia by Tee and Rasiah (2020) produced evidence to differentiate between PCON firms based on their types. The results indicated that PCON firms with established political ties had stronger earnings persistence due to the fact that they were efficient and profitable in the long term, hence increasing their reputation and prestige. These results showed that PCON firms should not be treated as an analytically homogenous group of firms (Tee and Rasiah, 2020). In other words, it is necessary to examine different types of PCON firms to provide insights into their effect on various accounting and finance measurements. One type of PCON may have a negative effect, but another type may have a positive effect. The way they affect accounting or non-accounting measurements depends on the unique characteristics of firms, which can have different results; therefore, it is important to examine the different types of PCON firms, rather than defining them as a single category, which will give rise to incorrect results and implications.

Three studies of types of PCON firms (Phan *et al.*, 2020; Tee and Rasiah, 2020; Wong and Hooy, 2018) were carried out in Malaysia. As a country with a large percentage of PCON firms, Malaysia provides an appropriate opportunity for researchers to examine different types of PCON firms based on their characteristics (Wong and Hooy, 2018). The Malaysian context is also recognized as very significant for its prevalence of "crony capitalism" (Gul, 2006). One of the early studies of PCON firms, carried out by Gomez and Jomo (1997) and using a Malaysian setting, has been extended to other countries. Gomez and Jomo (1997) provided ideas and platforms for other researchers around the world to examine PCON firms' various aspects, such as the effect of political connections on the cost of equity (Boubakri *et al.*, 2012), debt (Fraser *et al.*, 2006), beneficial tax rates (Adhikari *et al.*, 2006), audit fees (Abdul-Wahab *et al.*, 2011), auditor choice (Guedhami *et al.*, 2014) and performance (Faccio *et al.*, 2006).

The research trend has shown that researchers are continually interested in examining PCON firms; for example, a recent study by Sharma *et al.* (2020) focused on the effects of political connections on Chinese export firms' performance. Political connection studies have

been extended to various global topics, including that of earnings quality; however, most of the studies on earnings quality have focused on earnings management, such as the management of accruals. Few studies have utilized analysts' earnings forecasts, especially in the case of Malaysia (e.g. Abdul-Wahab *et al.*, 2015), although earnings forecasts provide a better proxy for examining earnings quality because they require financial analysts to utilize independent information or resources to examine firms' operations (Abdul-Wahab *et al.*, 2015).

Due to the importance and significance of the Malaysian context, this study added to the nascent research by examining the effects of different types of political connections on earnings quality in a Malaysian setting. It was interesting to examine these effects on PCON firms' earnings quality, rather than combining them into a single group. The literature gap provided an opportunity to further examine recent developments in research. Taken together, only a few recent studies have examined earnings forecasts in Malaysia (Abdul-Wahab *et al.*, 2018; Gist and Abdul-Wahab, 2020), and they have failed to investigate the effects of the different types of PCON firms on earnings forecasts; hence, the purpose of this study was to examine the effect of the different types of political connections on earnings quality through analysts' earnings forecasts. Using a sample of 876 firm-year observations over the period 2017–2016, we found that PCON firms had lower financial reporting quality than non-PCON firms. Specifically, PCON firms had lower analyst forecast accuracy and higher dispersion than non-PCON firms. The results were more salient for GLCs than for other types of PCON firms. Further tests, using different measurements of financial reporting quality as a proxy for conservatism and earnings management, also showed that PCON firms (especially GLCs) were less conservative and had poor-quality accruals; hence, the results were robust.

This study contributes to the literature by providing new insights into the effect of PCON firms on earnings quality. First, this study explicitly contributes to studies of Malaysian PCON firms, which have not previously distinguished between different types of PCON firms. To the best of the authors' knowledge, the previous studies have been limited and inconclusive regarding the effects of different types of political connections on earnings quality; for example, Mohamad *et al.* (2012) only focused on the earnings quality of GLCs and ignored other types of PCON firms. Second, this study offers empirical evidence of forecast accuracy and dispersion to address the lack of studies examining forecast variables in Malaysia. A recent work by Tee and Rasiah (2020) found that strong earnings persistence was associated with PCON firms that had established political ties, and our results provided further validation of this by using different proxies for earnings quality. We focused on analysts' behaviors—specifically, their ability to make accurate earnings forecasts—because analysts play important roles as information intermediaries in global capital markets, reducing the information asymmetry between management and investors. The credibility and precision of analysts' earnings forecasts and stock recommendations help investors to make investment decisions and can affect cross-border capital flows (Brown *et al.*, 2015; Jegadeesh *et al.*, 2004). Third, this study produced results comparing the forecast attributes of GLCs and non-PCON firms, which were not investigated by prior studies. We found that GLCs behaved differently from non-PCON firms, providing better results and a clearer picture of the consequences of different types of PCON firms than previous studies. Finally, this study supports investors, academics, and policymakers who are concerned about the effects of PCON firms on their decision-making. In particular, the Malaysian government needs to develop new strategies to improve the performance of GLCs, particularly regarding financial reporting quality.

The remainder of this paper is organized as follows: Section 2 reviews the previous literature and develops hypotheses. Section 3 explains and illustrates the research design. Section 4 presents the descriptive and empirical results, and Section 5 explains our conclusions.

2. Literature review and hypotheses development

The dynamic changes in the global political power map make PCON firms an interesting topic for research, hotly debated by regulators, practitioners and the public, despite being studied by scholars across countries for 20 years. A great deal of research has examined the financial consequences for PCON firms, especially for firms' performance (e.g. Li *et al.*, 2008; Sharma *et al.*, 2020; Tihanyi *et al.*, 2019), cost of debt or capital (e.g. Bliss and Gul, 2012a; Chen *et al.*, 2014; Cull *et al.*, 2015; Joni *et al.*, 2020), leverage (e.g. Bliss and Gul, 2012b), financial constraints (Chan *et al.*, 2012), stock returns (e.g. Civilize *et al.*, 2015), stock price crash risks (Harymawan *et al.*, 2019) and corporate philanthropy (Li *et al.*, 2015).

Another important recent stream has examined financial reporting quality, considering earnings quality (Abdul-Wahab *et al.*, 2020; Chaney *et al.*, 2011; Kang and Zhang, 2018; Shin *et al.*, 2018), corporate social responsibility disclosure (Muttakin *et al.*, 2018), environmental information disclosure (Cheng *et al.*, 2017), related party transactions (Habib *et al.*, 2017) and fraudulent financial reporting (Wang *et al.*, 2017); however, we found limited evidence for associations between PCON firms and analysts' earnings forecasts. In China, He and Ma (2019) discovered that political connections in Chinese state-owned enterprises encouraged analysts to be optimistic, thus generating misleading recommendations. In addition, Chen *et al.* (2010) highlighted that earnings were harder to predict in PCON firms. Although some progress has been made, further research is still warranted to examine the effects of different types of political connections on analysts' earnings forecasts.

2.1 Hypotheses development

Investors' demands for information can influence analysts' estimates (Barth *et al.*, 2001). PCON firms are subject to high agency costs, which leads to a poor information environment. This was supported by evidence from the work of Chaney *et al.* (2011) showing that the quality of accounting information was significantly lower for PCON firms than for non-PCON firms. Additionally, companies with strong political connections had the worst quality accounting information, because they had less need to respond to market pressure for high-quality accounting information due to the protection received from their political connections (Chaney *et al.*, 2011). Moreover, they tended to mislead investors by providing lower-quality accounting information in order to obtain benefits. An important implication of this literature is that political connections can influence analysts' earnings forecasts, especially regarding accuracy and dispersion estimates. Previous literature also discovered that the appointment of directors with political connections in Malaysian companies was likely to lead to poor monitoring of management, thus resulting in low earnings quality (Abdul-Wahab *et al.*, 2020). We therefore expected that analysts would tend to make less accurate and more dispersed future earnings estimates for PCON firms and formulated our first hypothesis as follows:

H1. PCON firms are associated with less accurate and more dispersed analysts' earnings forecasts compared to non-PCON firms.

In Malaysia, GLCs have various types of political connections. GLCs are companies that have government involvement. Firms are considered to be GLCs when the government holds direct controlling shares in them through government-related investment companies. Although described as "connected with the government", they in fact belong to the government. In Malaysia, political relations in GLCs were driven by the government's initiative to privatize government entities under the Seventh Malaysian Plan introduced in 1991. The Plan aimed to facilitate the country's economic growth, alleviate its financial burden, reduce government administration, decrease the government's intervention in the economy and enable market forces regulating economic activities and increase efficiency and productivity (Wong and Hooy, 2018).

The political connections of GLCs can generate costs for the companies, since political connections lead to low-quality accounting information and offer opportunities to obtain financial benefits (Chaney *et al.*, 2011). A company can be classified as high risk when it reveals little clear information and causes market panic, since poor disclosure increases risk perceptions and lowers the confidence of investors (Kravet and Muslu, 2013). Low-quality accounting information is likely to lead to inaccurate estimates and increase information uncertainty and risk, which in turn affect the accuracy of analysts' estimates of future cash flow (Campbell *et al.*, 2014). Furthermore, the costs associated with political connections emerge from hiding the revenue-seeking activities of politicians, managers and controlling shareholders, or concealing the benefits gained by companies through their connections (Chen *et al.*, 2010). We therefore expected less accurate and more dispersed earnings forecasts for GLCs and established the second hypothesis as follows:

H2. GLCs are associated with less accurate and more dispersed analysts' earnings forecasts compared to non-PCON firms.

The connections between business leaders and politicians in Malaysia existed prior to Malaysia's independence (White, 2004). After independence, prominent businessmen recognized the importance of political connections to business success (White, 2004), and Malaysian entrepreneurs were encouraged to establish good relations with politicians to secure government contracts. Some findings have shown weak corporate monitoring by directors with political connections (Kang and Zhang, 2018; Shin *et al.*, 2018; Ye and Li, 2017).

Agency theory has explained the lower monitoring activities of politically-connected directors (Aggarwal *et al.*, 2012). Chen *et al.* (2010) documented that financial analysts have considerable difficulty in predicting revenues for PCON firms due to their lack of financial reporting transparency. In addition, in jurisdictions with high levels of corruption, political connections can further reduce the accuracy of earnings estimates. Alfonso (2016) claimed that analysts predict lower profitability for firms with political connections due to high earnings uncertainty; therefore, we expected that analysts would estimate less accurate and more dispersed earnings for PCON firms and formulated the third hypothesis as follows:

H3. Firms with connections between business leaders and politicians (BUS) are associated with less accurate and more dispersed analysts' earnings forecasts compared to non-PCON firms.

The next type of PCON firm is politically connected through its board of directors and is defined as a company that has appointed former government employees or politicians to its board of directors. There are two opinions about how such connections were established. First, this type of connection was driven by the 1969 race riots, resulting in sizable Chinese businesses designating prominent Malay civil servants or Malays with political backgrounds as company directors to secure access to the state or reduce bureaucracy (Gomez, 2003). Second, the privatization policy launched in 1982 encouraged the participation of politicians and bureaucrats in the business world (White, 2004).

Two streams of literature have documented the benefits and disadvantages of political connections. Political connections in companies can encourage their boards of directors to selectively disclose information in annual reports and manipulate financial statements (Watts and Zimmerman, 1990). Agency conflicts in PCON firms can also lead to the reporting of poor-quality financial information (Al-dhamari and Ismail, 2015; Chen *et al.*, 2014; Ramanna and Roychowdhury, 2010) and reduce financial information disclosure.

Riahi-Belkaoui (2004) showed that firms dominated by political influence are more likely to report low-quality earnings. Because there is no unanimous agreement on political influences on boards of directors, we referred to arguments about agency conflicts that occur on boards of directors affecting the quality of financial statements. Low-quality financial

information can reduce the accuracy of analysts' estimates (Campbell *et al.*, 2014); therefore, we expected that political connections would influence analysts' estimates of earnings, particularly their forecast accuracy and dispersion. The fourth hypothesis was therefore formulated as follows:

H4. Firms with political connections through their boards of directors (BODs) are associated with less accurate and more dispersed analysts' earnings forecasts compared to non-PCON firms.

The last type of PCON firm is politically connected through family members of government leaders. Using Indonesian data developed by Castle Asia (a consulting firm), Fisman (2001) discovered that firms with the closest connections to Suharto (the former president of Indonesia) experienced the worst negative stock prices when Suharto had health issues. The data maps of political connections through family ties ranked the relationships highest (weight = 5) for firms with the closest connection to Suharto. Furthermore, Leuz and Oberholzer-Gee (2006) examined the financial strategy of Suharto-connected firms in the period prior to and following Suharto's unexpected ousting from power and found that firms connected to Suharto started to access global financing after the president fell from power. In Malaysia, family members of government leaders are often involved in businesses or hold directorships in publicly listed firms; for example, the former Prime Minister of Malaysia, Najib Razak, has immediate family members who sit on the boards of several firms. His brother, Johari Razak, sits on the board of three firms: Ancom Berhad, Nylex Berhad and Daiman Development Berhad. Political connections through family members have, however, seldom been researched in Malaysia.

In the context of family firms, Wang (2006) argued that demand and supply of quality earnings depend on two competing theories: management entrenchment theory and agency theory. Agency theorists hold that family ownership concentration has a positive association with financial reporting quality (Cascino *et al.*, 2010), while management entrenchment theorists posit that concentrated family ownership relates to the expropriation of business wealth by family members at the expense of minority shareholders (Wang, 2006; Yang, 2010). The expropriation of resources by family members is possible because they dominate management positions within family firms, directly and indirectly (Wang, 2006; Yang, 2010). Bertrand and Schoar (2006) identified several factors that cause inefficiency in family firms. First, family ties lead to nepotism, which hampers growth because firms are unable to obtain financial assistance and external human resources. Second, the founder of a family business insures, through inheritance, that the business remains in family control, hence causing low-quality earnings supply. Many empirical studies have documented a negative association between PCON firms and their quality of financial reporting (Al-dhamari and Ismail, 2015; Braam *et al.*, 2015; Campbell *et al.*, 2014; Pan *et al.*, 2014); hence, we formulated the final hypothesis as follows:

H5. Firms connected through family members to a government leader (FAM) are associated with less accurate and more dispersed analysts' earnings forecasts compared to non-PCON firms.

3. Research design

3.1 Sample selection

This study focused on Malaysian firms during 2007–2016; that is, before the Barisan Nasional Party was ousted from power after ruling for over six decades. We excluded 2017 because Mahathir Mohamed, who served as prime minister during 1981–2003, made a political comeback and led the opposition (Pakatan Harapan) in the 2018 general election, later regaining control of the country [1]. This minimized PCON firms' identification bias

caused by Mahathir being linked with many corporations, as reported by Johnson and Mitton (2003).

In the sampling process, we first collected earnings forecast data from the Institutional Brokers' Estimate System (IBES) Thomson database. Although 904 firms were listed on Bursa Malaysia on December 31, 2016, the analysts' forecast coverage was very limited. During the period under study, we only found 935 firm-year forecast data. To further control the impact of individual analysts' personal attributes, we deleted 107 firm-year estimates made by less than three analysts and/or firms with less than three years of analyst forecast information, resulting in a final sample of 876 firm-year observations and an unbalanced sample [2]. We then matched the analyst data with financial data extracted from Thomson Reuters Fundamentals and corporate board data collected from corporate reports. Finally, we mitigated the influence of outliers by winsorizing observations in the top and bottom 1% of all continuous variables. The definitions and descriptions of the variables are reported in Appendix.

3.2 Measurement of PCON firms

Various measures of political connections have been used in prior studies, most commonly based on government control through patronage (Hillman, 2005; Lester *et al.*, 2008; Leuz and Oberholzer-Gee, 2006; Mitchell and Joseph, 2010; Yeh *et al.*, 2013). Other studies (e.g. Pascual-Fuster and Crespí-Cladera, 2018) evaluated the close connection of businesses with the government and top politicians. In a Malaysian context, the most recent study by Wong and Hooy (2018) categorized PCON firms using both elements: government control and connections.

Following Wong and Hooy (2018), instead of using a single variable for classification of PCON firms (ALLPCON), we categorized PCON firms (*PC_CAT*) based on their government connections through a GLC, a board of directors (BOD), business owners (BUS) or family members of a government leader (FAM). For the first category, we identified GLCs as firms in which the Malaysian government had a direct controlling stake through shares held by government-linked investment companies, in particular Khazanah Nasional Berhad (KNB), Kumpulan Wang Simpanan Pekerja (KWSP), Lembaga Tabung Angkatan Tentera (LTAT), Lembaga Tabung Haji (LTH), Permodalan Nasional Berhad (PNB) and the Ministry of Finance (MOF). For the second category of PCON firms, BOD was determined by connections through at least one former government servant or politician serving on a firm's board of directors, if the firm was not categorized previously as a GLC. Former government servants had to have held at least a director position in a government entity before retiring from or otherwise quitting government service, including service in the military or police force. Third, we identified BUS as a firm with a long-standing relationship between business leaders and politicians, which existed prior to Malaysia's independence (White, 2004) [3]. We used data from Gomez and Jomo (1997) to determine whether the connected business tycoon still held shares or a directorship in the firm; for instance, Yeoh Tiong Lay from YTL Power International Berhad and Vincent Tan from Berjaya Sports Toto Berhad. Finally, we identified FAM as a firm connected via immediate family members to a government leader who served on its board of directors or owned a substantial number of its shares. Using the data disclosed by Wong and Hooy (2018), we categorized a few firms as FAM, such as Malaysian Resources Corporation Berhad and British American Tobacco (Malaysia) Berhad.

3.3 Measurement of forecast accuracy and dispersion

Following previous studies (e.g. Kanagaretnam *et al.*, 2012; Liu, 2017; Yu *et al.*, 2020), we examined two analyst forecast variables: forecast accuracy (*ACCURACY*) and forecast dispersion (*DISPERSION*). We computed *ACCURACY* as the negative one multiplies the

absolute value of a consensus earnings forecast, less actual earnings per share, and scaled by actual earnings per share, similar to measures used in prior research (Duru and Reeb, 2002; Lang and Lundholm, 1996; Yu *et al.*, 2020). We calculated *DISPERSION* as the absolute value for the difference between the highest estimate and the lowest estimate contained in consensus forecasts, scaled by the stock price at the beginning of the year. The formulae for calculating *ACCURACY* and *DISPERSION* are as stated in equations (1) and (2):

$$ACCURACY_{i,t} = (-1)^{*}\left|FEPS_{i,t-1} - AEPS_{i,t}\right| / Price_{i,t-1}{}^{*}100\% \tag{1}$$

$$DISPERSION_{t,i} = \left|Forecast_{H,t,i} - Forecast_{L,t,i}\right| / Price_{t-1,i} \tag{2}$$

where $FEPS_{i,t-1}$ is the mean earnings per share forecast one year ahead for year t, $AEPS_{i,t}$ is the actual earnings per share for year t, $Forecast_{H,t,i}$ is the highest estimate contained in consensus forecasts, $Forecast_{L,t,i}$ is the lowest estimate contained in consensus forecasts and $Price_{i,t-1}$ is the stock price at the beginning of year t.

3.4 Regression models

To investigate the effects of different types of political connections (*PC_CAT*) on analysts' forecasts, we estimated equations (3) and (4) using *ACCURACY* and *DISPERSION* as the dependent variables, respectively. We included *PC_CAT* as the explanatory variable together with other control variables, with the former substituted with *ALLPCON*, *GLC*, *BOD*, *BUS* and *FAM* in turn. The multivariate regressions are presented as follows:

$$\begin{aligned} ACCURACY_{it} = {} & \beta_0 + \beta_1 PC\_CAT_{it} + \beta_2 SIZE_{it-1} + \beta_3 FOLLOWING_{it} + \beta_4 MKTBK_{it} + \\ & \beta_5 LOSS_{it} + \beta_6 VOLATILITY_{it} + \beta_7 SURPRISE_{it} + \beta_8 BDSIZE_{it} + \\ & \beta_9 OUTDIR_{it} + \beta_{10} ACIND_{it} + \beta_{11} CRISIS_{it} + \psi_{1-n} Fixed\_Effects + e_{it} \end{aligned} \tag{3}$$

$$\begin{aligned} DISPERSION_{it} = {} & \beta_0 + \beta_1 PC\_CAT_{it} + \beta_2 SIZE_{it-1} + \beta_3 FOLLOWING_{it} + \beta_4 MKTBK_{it} + \\ & \beta_5 LOSS_{it} + \beta_6 VOLATILITY_{it} + \beta_7 SURPRISE_{it} + \beta_8 BDSIZE_{it} + \\ & \beta_9 OUTDIR_{it} + \beta_{10} ACIND_{it} + \beta_{11} CRISIS_{it} + \psi_{1-n} Fixed\_Effects + e_{it} \end{aligned} \tag{4}$$

where *ACCURACY* is computed as negative; the negative one multiplies the absolute value of a consensus earnings forecast, less actual earnings per share, scaled by actual earnings per share; *DISPERSION* is the absolute value of the difference between the highest estimate and the lowest estimate contained in consensus forecasts, scaled by the stock price at the beginning of the year; *PC_CAT* is the PCON firm category comprising *ALLPCON*, *GLC*, *BUS*, *BOD* or *FAM*; *ALLPCON* is a dummy variable that takes the value of 1 if the firm has political connections through government ownership and/or control (*GLC*), business connections (*BUS*), its board of directors (*BOD*) or family members (*FAM*), and 0 otherwise; *GLC* is a dummy variable that takes the value of 1 if the firm is a GLC, and 0 otherwise; *BUS* is a dummy variable that takes value of 1 if the firm's business leader has a connection with political leader, and 0 otherwise; *BOD* is a dummy variable that takes the value of 1 if the firm has a political connection through its board of directors, and 0 otherwise; *FAM* is a dummy variable that takes the value one if the firm has political connections through the family members of a government leader, and 0 otherwise; *SIZE* is the natural logarithm of total assets at the beginning of the year; *FOLLOWING* is the number of analysts following the firm; *MKTBK* is the ratio of market to book value; *LOSS* is a dummy variable equal to 1 if the earnings are negative and 0 otherwise; *VOLATILITY* is the standard deviation of return on assets for a previous five-year period; SURPRISE is earnings surprises, defined as the differences in earnings per share at the

beginning and the end of the year; *BDSIZE* is the number of directors on the board; *OUTDIR* is the proportion of non-executive directors relative to the total number of directors; *ACIND* is the proportion of independent audit committee members relative to the total number of audit committee members; *CRISIS* is a dummy variable that takes the value of 1 if the financial year fell during the 2007–2010 global financial crisis, and 0 otherwise; and fixed effects are vectors for industry and year fixed effects.

Following previous research (Almeida and Dalmácio, 2015; Bhat *et al.*, 2006; García-Meca and Sánchez-Ballesta, 2011; Jaggi and Jain, 1998; Lang and Lundholm, 1996; Lys and Soo, 1995; Wiedman, 1996; Yu *et al.*, 2020), we incorporated several control variables to explain analysts' forecast accuracy and dispersion. First, we included firms' size (*SIZE*), since large firms are likely to be more transparent, disclose more reliable information, and provide financial analysts with access to certain private information, leading to more accurate and less dispersed forecasts. Second, the number of analysts' forecasts (*FOLLOWING*) was included to capture oversight of the firm by the analyst community and their competition to forecast accurately, contributing to high analyst forecast accuracy. Third, we included firms' growth (*MKTBK*), because firms with significant growth prospects are likely to have different forecasting outcomes than firms with weaker growth prospects. Fourth, loss-making firms (*LOSS*) have been shown to have negative associations with forecast accuracy. Fifth, the variability of earnings (*VOLATILITY*) is associated with difficulty in predicting future earnings and undermining analysts' incentives to collect information. Sixth, large earnings surprises (*SURPRISE*) are associated with less accurate forecasts. Seventh, the models included corporate governance variables, in particular board size (*BDSIZE*), the proportion of non-executive directors on the board (*OUTDIR*), and audit committee independence (*ACIND*), consistent with Byard *et al.* (2006). Eighth, we included *CRISIS* in the equation to control for the impact of the 2007–2010 global financial crisis, which had a material impact on the quality of earnings, investment behavior, and firms' value (Ghosh and He, 2015). Finally, we included industry and year fixed effects to control for industry levels and time periods that could affect overall estimation.

4. Discussion of results

4.1 Descriptive statistics

Table 1 reports the descriptive statistics for all the variables. The results in Panel A of Table 1 indicated that average forecast accuracy was −0.207, with values ranging from −3.009 to −0.001. For forecast dispersion, the average value was 0.494, showing that PCON firms constituted 49.4% of the total sample. For the control variables, the mean for *SIZE* (the natural logarithm for total assets) was 13.385 with a range of 9.732–16.725, while *FOLLOWING* (the number of analysts following a firm) had a mean value of 9.683, with a minimum of 3 analysts and a maximum of 29 analysts following firms. The *MKTBK* (market to book ratio) had a mean value of 2.552, with values ranging from 0.279 to 18.041. The dummy variable (*LOSS*) had a mean value of 0.039, indicating that 3.9% of the sample consisted of loss firms. We found that the mean values for the standard deviations of return on asset (*VOLATILITY*) and the differences of the earnings per share at the beginning and end of the year (*SURPRISE*) were 6.720 and 0.003, respectively. The average number of directors on boards (*BDSIZE*) was 8.463 people, while non-executive directors constituted 71% of boards. For *ACIND*, the results showed that 89.9% of audit committee members were independent directors and 34.6% of the sample came under the global financial crisis period. Table 1 reports the descriptive statistics for the variables used in the additional analyses.

Panel B of Table 1 presents the descriptive statistics for the dummy variables. All PCON firms (*ALLPCON*) constituted 52.28% of the total sample of 876 firm-year observations, (i.e. 458 firm-year observations). Specifically, the results produced 112 observations (21.13%) for GLCs, while PCON firms connected through their boards of directors constituted a higher

Table 1. Descriptive statistics

Panel A: Summary statistics

	Mean	St.Dev.	p25	Median	p75	Min	Max
ACCURACY	−0.190	0.357	−0.181	−0.086	−0.038	−3.009	−0.001
DISPERSION	0.024	0.025	0.009	0.018	0.029	0.001	0.180
SIZE	13.484	1.405	12.369	13.395	14.498	10.245	16.501
FOLLOWING	10.043	6.872	5.000	8.000	15.000	3.000	28.000
MKTBK	2.583	3.459	0.955	1.494	2.498	0.279	18.041
LOSS	0.033	0.179	0.000	0.000	0.000	0.000	1.000
VOLATILITY	5.759	7.114	2.261	3.685	6.247	0.267	47.272
SURPRISE	0.000	0.075	−0.017	−0.000	0.017	−0.331	0.360
BDSIZE	8.463	2.218	7.000	8.000	10.000	4.000	14.000
OUTDIR	0.710	0.178	0.571	0.714	0.857	0.308	1.000
ACIND	0.899	0.143	0.750	1.000	1.000	0.500	1.000
CRISIS	0.346	0.476	0.000	0.000	1.000	0.000	1.000
E	0.041	0.211	0.000	0.056	0.118	−3.000	1.250
RET	0.050	0.476	−0.231	−0.040	0.202	−0.924	5.000
RD	0.524	0.500	0.000	1.000	1.000	0.000	1.000
ABSDACC	0.009	0.162	−0.059	0.002	0.067	−1.189	1.478
BIG4	0.500	0.500	0.000	0.000	1.000	0.000	1.000
AGE	2.962	0.733	2.485	2.944	3.555	0.000	4.682
$SIZE^2$	140.838	40.152	112.508	133.908	161.686	60.363	285.503
$SIZE^3$	1720.645	762.692	1193.371	1549.566	2055.938	468.985	4824.106
FMGROW	0.070	0.847	−0.150	−0.012	0.143	−0.971	26.403
INDGROW	1.651	2.170	0.531	0.774	2.345	−0.351	12.114
CFO	0.053	0.096	0.005	0.051	0.103	−0.550	0.587
CAPINT	0.323	0.206	0.157	0.307	0.466	0.001	0.947
ININT	0.001	0.007	0.000	0.000	0.000	0.000	0.226
SVAR	0.151	0.147	0.070	0.112	0.184	0.002	2.292
CFVAR	0.067	0.106	0.033	0.052	0.081	0.001	3.083

(*continued*)

Panel B: Firms classification

	Yes (1)		No (0)		Total
	N	Pct	*N*	Pct	*N*
ALLPCON	458	(52.28)	418	(47.72)	876
GLC	112	(21.13)	418	(78.87)	530
BUS	35	(7.73)	418	(92.27)	453
BOD	291	(41.04)	418	(58.96)	709
FAM	20	(4.57)	418	(95.43)	438
GLCVSPCON	112	(24.45)	346	(75.55)	458

Panel C: Mean differences between groups

	ALLPCON vs Non-PCON			GLC vs Non-PCON		
Variable	Mean for *ALLPCON* = 1 (*N* = 458)	Mean for *ALLPCON* = 0 (*N* = 418)	Difference (*t*-stat)/X^2	Mean for GLC = 1 (*N* = 112)	Mean for *ALLPCON* = 0 (*N* = 418)	Difference (*t*-stat)/X^2
ACCURACY	−0.206	−0.173	0.033	−0.193	−0.173	0.021
DISPERSION	0.027	0.022	−0.005***	0.027	0.022	−0.006**
SIZE	13.850	13.080	−0.768***	14.360	13.080	−1.280***
FOLLOWING	11.520	8.426	−3.094***	14.210	8.426	−5.780***
MKTBK	2.648	2.512	−0.137	1.885	2.512	0.627**
VOLATILITY	6.653	4.780	−1.873***	4.313	4.780	0.467
SURPRISE	0.002	−0.001	−0.003	−0.002	−0.001	0.001
BDSIZE	8.766	8.132	−4.317***	9.982	8.373	−7.286***
OUTDIR	0.708	0.712	0.337	0.782	0.782	−5.474***
ACIND	0.911	0.885	−2.659***	0.856	0.929	4.812***

Note(s): Asterisks denote statistical significance at the 1% (***) and 5% (**) levels, respectively. See Appendix for definitions of variables

Table 1.

percentage (41.04%), with 291 observations falling into this category. For firms connected through business (*BUS*) and family (*FAM*), the results provided 35 observations (7.73%t) and 20 observations (4.57%), respectively. We found that the proportion of GLCs compared to other PCON firms was 24.45%.

Panel C of Table 1 reports the test of the mean differences in the continuous variables between groups. Compared to non-PCON firms, we observed that PCON firms had significantly higher values for forecast dispersion, firm size, number of followings, volatility, board size and the proportion of independent directors on their audit committees. We also compared the mean differences between GLCs and non-PCON firms, finding that GLCs had significantly higher values for forecast dispersion, firm size, number of followings and market-to-book ratio compared to non-PCON firms. For the governance variables, the results showed that GLCs had significantly larger board sizes and proportions of non-executive directors on their boards, but a lower proportion of independent directors on the audit committees compared to non-PCON firms.

We also performed correlation analysis of the variables. The untabulated results, for the brevity purpose, show that the correlations between the variables were relatively low. The highest correlation was between *SIZE* and *FOLLOWING*, with a value of 0.735, and was unlikely to be an issue for the multivariate regression analyses because it did not exceed the 0.80 limit (Gujarati, 1995). The result showed that *ACCURACY* was negatively correlated with *ALLPCON*, indicating that analysts' forecasts were less accurate in PCON firms. *ACCURACY* was also found to be positively correlated with *SIZE* and *FOLLOWING*, suggesting high forecast accuracy for large firms and firms with significant numbers of following analysts, consistent with Jiao *et al.* (2012), Lang and Lundholm (1996), and Lys and Soo (1995). *LOSS* and *VOLATILITY* were negatively correlated with forecast accuracy, showing that analysts' forecasts were more accurate when firms recorded positive earnings and had less volatile earnings. We also observed that *MKTBK* and *SURPRISE* were positively correlated with *ACCURACY*.

We found an opposite correlation of *DISPERSION* with other variables. *DISPERSION* was negatively correlated with *SIZE* and *MKTBK*, but positively correlated with *FOLLOWING*, showing that forecast dispersion was low in large- and high-growth firms, but high when the number of analyst followings increased. *LOSS*, *VOLATILITY* and *SURPRISE* were positively correlated with forecast dispersion, showing that forecast dispersion was greater in firms that reported losses, had highly volatile earnings, and large earnings surprises. We found no significant correlation between *DISPERSION, ALLPCON* and *FOLLOWING*.

4.2 Empirical regression results

4.2.1 Main analysis: analysts' earnings forecasts. Panels A and B of Table 2 present the regression estimates for the effect of various types of PCON firms (*PC_CAT*) on analysts' forecast accuracy and dispersion, respectively. For column (1) of Panel A, we first estimated the effect of *ALLPCON* on analysts' forecast accuracy, with results showing that *ALLPCON* had a significant coefficient of −0.057, suggesting that PCON firms exhibited lower analyst accuracy by 5.7% of the stock price, which supported Hypothesis 1. We then estimated each type of *PC_CAT,* and the results are presented in columns (2) to (5). In column (2), we observed a significant negative coefficient of *GLC*, supporting the prediction that analysts would have lower earnings forecast accuracy for GLCs than for non-PCON firms. For columns (3) and (4), we performed similar estimations of *BUS* and *BOD,* respectively, finding no significant coefficients for either variable, and no evidence of differences in the level of forecast accuracy for PCON firms connected through business ties or their boards of directors. In column (5), the coefficient for *FAM* was negative, demonstrating lower forecast accuracy in *FAM* firms

Table 2. Regression estimates for different types of politically connected firms and analysts' forecast accuracy and dispersion

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*
Panel A: DV = Analyst forecast accuracy					
Intercept	−0.850***	−1.155**	−1.146**	−0.844**	−1.003
	(−2.789)	(−2.438)	(−2.052)	(−2.131)	(−1.622)
ALLPCON	−0.057**				
	(−2.130)				
GLC		−0.062*			
		(−1.738)			
BUS			−0.076		
			(−1.033)		
BOD				−0.048	
				(−1.477)	
FAM					−0.188**
					(−2.519)
SIZE	0.050**	0.069**	0.073*	0.057**	0.061
	(2.505)	(2.150)	(1.945)	(2.107)	(1.369)
FOLLOWING	−0.002	−0.006	−0.006	−0.002	−0.003
	(−0.613)	(−1.447)	(−1.108)	(−0.607)	(−0.429)
MKTBK	0.015***	0.012*	0.014**	0.014**	0.015**
	(3.182)	(1.942)	(2.259)	(2.397)	(2.551)
LOSS	−0.572***	−0.644**	−0.391**	−0.421**	−0.463**
	(−3.191)	(−2.437)	(−1.990)	(−2.339)	(−2.547)
VOLATILITY	−0.008***	−0.005	−0.007*	−0.010***	−0.006
	(−2.726)	(−1.208)	(−1.766)	(−2.897)	(−1.552)
SURPRISE	0.815**	0.943*	1.166**	0.944***	1.133**
	(2.545)	(1.864)	(2.157)	(2.876)	(2.076)
BDSIZE	−0.001	0.007	−0.000	−0.002	0.004
	(−0.156)	(0.884)	(−0.011)	(−0.259)	(0.431)
OUTDIR	−0.163***	−0.180*	−0.111	−0.164**	−0.162*
	(−2.613)	(−1.867)	(−1.166)	(−2.456)	(−1.802)
ACIND	0.129	0.154	0.107	0.057	0.099
	(1.395)	(1.215)	(0.778)	(0.555)	(0.685)

(*continued*)

Table 2.

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*
CRISIS	0.088**	0.112**	0.062	0.063	0.089*
	(2.074)	(2.261)	(1.326)	(1.396)	(1.845)
Fixed effect	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.26	0.31	0.29	0.23	0.31
N	876	530	453	709	438
Wald χ^2	115.625	92.481	118.140	105.275	113.801
Panel B: DV = Analyst forecast dispersion					
Intercept	0.087***	0.118***	0.102***	0.094***	0.119***
	(5.100)	(5.967)	(4.646)	(4.753)	(5.163)
ALLPCON	0.005**				
	(2.246)				
GLC		0.007**			
		(2.365)			
BUS			0.010*		
			(1.721)		
BOD				0.003	
				(1.296)	
FAM					−0.006
					(−1.572)
SIZE	−0.005***	−0.007***	−0.005***	−0.005***	−0.006***
	(−3.559)	(−4.808)	(−2.900)	(−3.216)	(−3.722)
FOLLOWING	0.001***	0.002***	0.001***	0.001***	0.002***
	(3.993)	(5.333)	(3.598)	(3.385)	(4.269)
MKTBK	−0.002***	−0.001**	−0.001***	−0.001***	−0.001**
	(−4.207)	(−2.256)	(−2.866)	(−3.000)	(−2.559)
LOSS	0.028***	0.028**	0.031**	0.029***	0.032***
	(3.300)	(2.327)	(2.122)	(2.750)	(2.605)
VOLATILITY	0.001***	0.000	0.000	0.001***	0.000
	(2.982)	(0.674)	(0.476)	(3.661)	(0.806)

(*continued*)

Table 2.

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*
SURPRISE	0.060***	0.036	0.044	0.065***	0.042
	(3.447)	(1.449)	(1.556)	(3.610)	(1.506)
BDSIZE	−0.000	−0.001	−0.001	−0.001	−0.001
	(−0.482)	(−0.845)	(−1.486)	(−1.457)	(−1.451)
OUTDIR	−0.008	−0.009	−0.018***	−0.009	−0.018***
	(−1.286)	(−1.183)	(−2.683)	(−1.539)	(−2.815)
ACIND	−0.004	−0.010	−0.006	0.000	−0.008
	(−0.656)	(−1.370)	(−0.835)	(0.009)	(−1.001)
CRISIS	0.003	0.004	0.003	0.002	0.002
	(0.881)	(0.788)	(0.726)	(0.544)	(0.552)
Fixed effect	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.21	0.26	0.26	0.23	0.28
N	876	530	453	709	438
Wald χ^2	104.404	109.030	83.932	119.161	94.183

Note(s): The reported *t*-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. See Appendix for definitions of variables

compared to non-PCON firms; hence, we accepted hypotheses 2 and 5 expecting significantly lower forecast accuracy in firms with political connections through government control (*GLC*) and family ties (*FAM*) compared to non-PCON firms.

Panel B of Table 2 reports the estimation results for analysts' forecast dispersion (*DISPERSION*). Column (1) presents our results for Hypothesis 1, and the coefficients for *ALLPCON* were all significantly positive, showing that, on average, analysts' forecast dispersion was higher by 0.3% of the stock price for PCON firms, strongly supporting the hypothesis. The results are presented in columns (2) to (5) for each type of PCON firm. The results for models (2) and (3) showed that GLCs and firms connected through business ties were associated with higher forecast dispersion compared to non-PCON firms; hence, we accepted hypotheses 2 and 3. In columns (4) and (5), we found no significant coefficients for *BOD* and *FAM*, implying no evidence of differences in the levels of forecast dispersion for PCON firms connected through their boards of directors or family ties compared to other non-PCON firms. These results supported our hypothesis that PCON firms have higher agency costs, leading to a poor information environment characterized by increased forecast dispersion and reduced forecast accuracy, and the results varied between different types of PCON firms.

For the control variables, the results in Panel A of Table 2 report that firm size (*SIZE*), the number of analysts following a firm (*FOLLOWING*) and firm growth (*MKTBK*) had positive relationships with analysts' forecast accuracy, while loss firms (*LOSS*) and variable earnings (*VOLATILITY*) were found to be negatively associated with the accuracy of analysts' forecasts, consistent with prior studies (García-Meca and Sánchez-Ballesta, 2011; Lang and Lundholm, 1996; Lys and Soo, 1995; Wiedman, 1996). Panel B of Table 2 also reports similar findings, in the opposite direction, with *DISPERSION* negatively associated with firm size (*SIZE*) and firm growth (*MKTBK*), but positively associated with the number of analysts following a firm (*FOLLOWING*), loss firm (*LOSS*), volatility (*VOLATILITY*) and earnings surprise (*SURPRISE*), in line with prior studies.

The results showed that although, in general, PCON firms exhibited lower forecast accuracy and higher dispersion than non-PCON firms, this result was not generalizable to every type of PCON firm and was probably driven by the results of GLCs.

4.2.2 GLCs versus other PCON firms. In the main analysis, we found that GLCs exhibited lower analyst forecast accuracy and higher dispersion than non-PCON firms. We restricted the sample to only PCON firms, then regressed equations (3) and (4) to further test whether the GLCs had lower analyst forecast accuracy and higher dispersion compared to other PCON firms. As shown in columns (1) and (2) of Table 3, the regression estimates for analysts' forecast accuracy showed that the coefficients for *GLCVSPCON* were insignificant, indicating no evidence that GLCs had higher or lower analyst accuracy and dispersion compared to other PCON firms. In short, the differences in forecast accuracy and dispersion between GLCs and other non-PCON firms were obviously significant, but there was no evidence to support differences between GLCs and other non-PCON firms.

4.3 Endogeneity: Heckman two-stage regression

The main analyses indicated that PCON firms were associated with lower analyst forecast accuracy and higher dispersion; however, these results could have suffered from self-selection bias. We therefore controlled for the possibility that PCON firms and analysts' forecasts were endogenously determined by employing a two-stage estimation procedure proposed by Heckman (1979). The model uses the inverse Mills ratio (*IMR*) to correct for selection bias. In the first stage, using probit regression, we estimated equation (5). In the second stage, we incorporated the *IMR* as an additional explanatory variable in equations (3) and (4). The results for the first and second stage estimations are presented in Table 4.

	(1) *ACCURACY*	(2) *DISPERSION*
Intercept	−0.832***	0.074***
	(−2.771)	(3.116)
GLCVSPCON	0.024	0.000
	(0.670)	(0.075)
SIZE	0.039**	−0.004**
	(2.101)	(−2.274)
FOLLOWING	0.000	0.001***
	(0.166)	(2.862)
MKTBK	0.017***	−0.002***
	(2.973)	(−3.413)
LOSS	−0.671***	0.026**
	(−2.646)	(2.565)
VOLATILITY	−0.009**	0.001***
	(−2.413)	(2.844)
SURPRISE	0.574	0.068***
	(1.341)	(3.005)
BDSIZE	−0.005	0.000
	(−0.684)	(0.049)
OUTDIR	−0.156*	−0.001
	(−1.880)	(−0.095)
ACIND	0.200*	−0.005
	(1.692)	(−0.490)
CRISIS	0.103	0.006
	(1.378)	(0.887)
Fixed effect	Yes	Yes
Adj. R^2	0.26	0.19
N	458	458
Wald χ^2	87.856	103.304

Note(s): The reported *t*-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. See Appendix for definitions of variables

Table 3. Regression Estimates on (Between GLC and other Types of PCON)

$$ALLPCON = \beta_0 + \beta_1 SIZE + \beta_2 MKTBK + \beta_3 LOSS + \beta_4 BDSIZE_{it} + \beta_5 OUTDIR_{it} + \beta_6 ACIND_{it} + \varepsilon \quad (5)$$

The definitions of the variables are shown in Appendix.

For the first stage, the results reported in column (1) showed that PCON firms were larger, had higher volatility and experienced greater surprises than non-PCON firms, with the coefficients for *SIZE*, *VOLATILITY* and *SURPRISE* being positively significant ($p < 0.01$). The PCON firms, however, exhibited lower growth compared to non-PCON firms, and the coefficient for *MKTBK* was negatively significant ($p < 0.01$). From the results of the probit regression, we calculated the *IMR* by dividing the ratio of the probability density function by the cumulative distribution function.

The results for the second stage, as reported in columns (2) and (3), showed that our inferences remained unchanged for both the forecast accuracy and dispersion models. In column (2), the coefficient for *ALLPCON* was negatively significant, indicating lower analyst forecast accuracy in PCON firms than in non-PCON firms. In column (3), PCON firms had higher forecast dispersion than non-PCON firms, as shown by a positively significant coefficient for *ALLPCON*. We found that the coefficients for *IMR* were insignificant in the

	Stage 1	Stage 2	
	DV = ALLPCON	*DV = ACCURACY*	*DV = DISPERSION*
Intercept	−4.563***	−1.585	−0.032
	(−7.891)	(−0.936)	(−0.293)
ALLPCON		−0.056**	0.005**
		(−2.117)	(2.270)
SIZE	0.284***	0.092	0.002
	(7.808)	(0.929)	(0.346)
MKTBK	−0.026*	0.006	−0.003**
	(−1.955)	(0.272)	(−2.368)
LOSS	0.455*	−0.517**	0.036***
	(1.843)	(−2.195)	(3.189)
FOLLOWING		−0.002	0.001***
		(−0.595)	(4.047)
VOLATILITY		−0.004	0.001*
		(−0.338)	(1.731)
SURPRISE		1.035**	0.095***
		(2.084)	(3.107)
CRISIS		0.086**	0.003
		(1.988)	(0.758)
BDSIZE	0.042**	−0.001	−0.000
	(2.026)	(−0.124)	(−0.434)
OUTDIR	−0.263	−0.162***	−0.007
	(−0.976)	(−2.628)	(−1.239)
ACIND	0.755**	0.127	−0.004
	(2.360)	(1.350)	(−0.693)
CRISIS		0.086**	0.003
		(1.988)	(0.758)
IMR		0.207	0.034
		(0.408)	(1.101)
Fixed effect	Yes	Yes	Yes
Pseudo R^2	0.075	0.263	0.2126
N	876	876	876
LR χ^2	90.75	116.61	112.16

Note(s): The reported *t*-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. See Appendix for definitions of variables

Table 4. Heckman (1979) two-stage estimation procedure

second-stage regression estimates, thus corroborating our main findings and suggesting that the results of our main analysis were not driven by endogeneity problems.

4.4 Additional analyses

Based on the main findings, we tried to further determine whether low forecast accuracy and high dispersion were linked with the low quality of financial reporting. We examined two proxies for financial reporting quality: earnings conservatism and accruals quality.

4.4.1 Political connections and earnings conservatism. We further employed Basu's (1997) asymmetric timeliness of earnings model to examine whether PCON firms had different earnings conservatism levels. To measure differences in earnings conservatism levels between *PC_CAT* and non-PCON, we extended Basu's (1997) model by interacting a dummy variable *PC_CAT* (either *ALLPCON*, *GLC*, *BOD*, *BUS* or *FAM*) with stock returns (*RET*), bad news (*RD*) and the interaction variable (*RET***RD*), incorporating these variables as shown in equation (6) [4]:

$$E_{it} = \alpha_0 + \beta_1 RET_{it} + \beta_2 RD_{it} + \beta_3 RET_{it}{*}RD_{it} + \beta_4 PC\_CAT_{it} + \beta_5 PC\_CAT_{it}{*}RET_{it} + \beta_6 PC\_CAT_{it}{*}RD_{it} + \beta_7 PC\_CAT_{it}{*}RET_{it}{*}RD_{it} + \psi_{1-n} Fixed\_Effects + \varepsilon \quad (6)$$

where E is earnings per share deflated by the stock price at the beginning of the fiscal year; *RET* is the annual stock return and *RD* is a dummy variable equal to one if *RET* is negative (0 otherwise). Other variables are as previously defined.

Table 5 reports the regression estimates for the extended Basu (1997) model, which assessed the levels of earnings conservatism between different types of PCON firms (*PC_CAT*) and non-PCON firms. The results in column (1) showed that the coefficient for *ALLPCON***RET***RD* was negative and significant, providing evidence of aggressive (or less conservative) earnings reporting by PCON firms. We also discovered in columns (2) and (4) that the coefficients for *GLC***RET***RD* and *BOD***RET***RD* were negative and significant, suggesting that GLCs and firms connected through their boards of directors had lower earnings quality—in particular, less timely reporting of economic losses. We found no differential earnings conservatism levels in PCON firms either through business or family ties, as shown by the insignificant coefficients of *BUS***RET***RD* and *FAM***RET***RD* reported in columns (3) and (5). In column (6), we reduced the sample to only PCON firms and found evidence of more aggressive reporting of earnings in GLCs than in other PCON firms.

4.4.2 Political connections and accruals reporting quality. We further analyzed whether poor analysts' earnings forecasts (in terms of accuracy and dispersion) were associated with PCON firms and explained by accruals quality. We used the absolute value of discretionary accruals (*ABSDACC*) to capture the combined effect of income-increasing and income-decreasing earnings management decisions (Myers *et al.*, 2003; Warfield *et al.*, 1995) [5]. We estimated equation (7) to test whether *PC_CAT* was associated with lower accruals quality [6]:

$$\begin{aligned} ABSDACC = {} & \beta_0 + \beta_1 PC\_CAT_{it} + \beta_2 BIG4_{it} + \beta_3 AGE_{it} + \beta_4 SIZE_{it} + \beta_5 SIZE_{it}^2 + \\ & \beta_6 SIZE_{it}^3 + \beta_7 FMGROW_{it} + \beta_8 INDGROW_{it} + \beta_9 CFO_{it} + \beta_{10} CAPINT_{it} + \\ & \beta_{11} ININT_{it} + \beta_{12} SVAR_{it} + \beta_{13} CFVAR_{it} + \psi_{1-n} Fixed\_Effects + \varepsilon_{it} \end{aligned} \quad (7)$$

where *ABSDACC* is the absolute value of the residual generated by the modified Jones (1991) model; *BIG4* is a dummy variable that equals one if the firm appoints a Big Four auditor, and 0 otherwise; *AGE* is the natural logarithm of the number of years since the year of incorporation; $SIZE^2$ and $SIZE^3$ are powers two and three of the *SIZE*, respectively; *FMGROW* is the firm-specific growth, measured by changes in sales compared to the previous year; *INDGROW* is the industry growth, calculated according to Fama and French's (1997) 48 industry groups; *CFO* is the firm's cash flow from operations divided by total assets; *CAPINT* is the ratio of the net book value of property, plant, and equipment to total assets; *ININT* is the ratio of research and development (R&D) expenditure to total sales; *SVAR* is the standard deviation for sales revenue to total assets over a six-year lag period and *CFVAR* is the standard deviation for cash flow from operations to total assets over a six-year lag period. Other variables are as previously defined.

Table 6 reports the effects of PCON firms on managers' tendency to manage earnings compared to non-PCON firms. Consistent with our expectations, the results in columns (1) and (2) showed significant positive coefficients for *ALLPCON* and *GLC,* respectively, indicating that PCON firms and GLCs had a greater tendency to manage earnings than non-PCON firms. We found no evidence for the effects of PCON firms' though business or family on analyst forecast accuracy and dispersions, as indicated by the insignificant coefficients for BUS and FAM in columns (3) and (5), respectively. In column (4), we found that the coefficient for BOD

Table 5.
Regression estimates for different types of politically connected firms and earnings conservatism

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*	(6) *PC_CAT = GLCVSPCON*
Intercept	0.098***	0.089***	0.106***	0.099***	0.091***	0.089***
	(5.206)	(3.986)	(5.766)	(5.286)	(3.862)	(3.986)
RET	0.055***	0.058***	0.071***	0.065***	0.058***	0.058***
	(3.012)	(3.083)	(4.246)	(3.668)	(3.076)	(3.083)
RD	−0.022*	−0.025**	−0.017*	−0.016	−0.025**	−0.025**
	(−1.844)	(−2.103)	(−1.793)	(−1.414)	(−2.100)	(−2.103)
*RET*RD*	0.116***	0.101**	0.097***	0.107***	0.106**	0.101**
	(2.894)	(2.454)	(2.842)	(2.823)	(2.528)	(2.454)
PC_CAT	−0.005	−0.003	−0.040	0.006	0.014	−0.003
	(−0.317)	(−0.232)	(−1.145)	(0.333)	(0.471)	(−0.232)
*PC_CAT*RET*	0.087***	0.039	0.147***	0.073**	−0.049	0.039
	(2.914)	(1.165)	(2.761)	(2.050)	(−1.086)	(1.165)
*PC_CAT*RD*	0.026	0.027	0.065	0.012	−0.015	0.027
	(1.382)	(1.219)	(1.080)	(0.572)	(−0.315)	(1.219)
*PC_CAT*RET*RD*	−0.113**	−0.124*	−0.086	−0.096*	−0.037	−0.124*
	(−2.299)	(−1.648)	(−0.545)	(−1.837)	(−0.219)	(−1.648)
Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.11	0.09	0.11	0.11	0.09	0.09
N	2,895	2,105	2,895	2,895	2038	2,105
F-stat	228.223	173.074	254.807	212.651	180.287	173.074

Note(s): The reported *t*-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. See Appendix for definitions of variables

Table 6. Regression estimates for different types of politically connected firms and accrual quality

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*	(6) *PC_CAT = GLCVSPCON*
Intercept	−0.902	−0.682	−0.555		−0.753	−3.534**
	(−1.202)	(−0.802)	(−0.648)		(−0.805)	(−2.058)
ALLPCON	0.019**					
	(2.290)					
GLC		0.028*				
		(1.658)				
BUS			0.015			
			(1.245)			
BOD				0.017**		
				(1.969)		
FAM					0.056	
					(0.944)	
GLCVSPCON						0.040*
						(1.901)
BIG4	−0.010	−0.010	−0.009	−0.010	−0.010	−0.015
	(−1.212)	(−1.006)	(−0.963)	(−1.099)	(−1.020)	(−1.067)
AGE	0.009	0.004	0.004	0.005	0.005	0.036***
	(1.497)	(0.723)	(0.634)	(0.900)	(0.817)	(3.071)
SIZE	0.259	0.219	0.180	0.194	0.233	0.820**
	(1.404)	(1.033)	(0.844)	(0.966)	(0.989)	(2.021)
$SIZE^2$	−0.023	−0.021	−0.017	−0.018	−0.022	−0.064**
	(−1.573)	(−1.207)	(−0.974)	(−1.112)	(−1.113)	(−2.035)
$SIZE^3$	0.001*	0.001	0.000	0.001	0.001	0.002**
	(1.671)	(1.321)	(1.038)	(1.191)	(1.175)	(2.024)
FMGROW	0.014	0.028	0.028	0.014	0.027	0.006
	(1.147)	(1.105)	(1.115)	(1.146)	(1.050)	(1.078)
INDGROW	−0.001	−0.004**	−0.004**	−0.002	−0.003*	0.003
	(−0.841)	(−2.148)	(−2.289)	(−1.397)	(−1.810)	(1.050)

(*continued*)

Table 6.

	(1) *PC_CAT = ALLPCON*	(2) *PC_CAT = GLC*	(3) *PC_CAT = BUS*	(4) *PC_CAT = BOD*	(5) *PC_CAT = FAM*	(6) *PC_CAT = GLCVSPCON*
CFO	−0.149**	−0.112	−0.101	−0.130*	−0.130	−0.309***
	(−2.149)	(−1.399)	(−1.236)	(−1.861)	(−1.532)	(−3.942)
CAPINT	0.076***	0.055**	0.051*	0.072***	0.046*	0.153***
	(3.184)	(2.063)	(1.917)	(2.860)	(1.703)	(4.662)
ININT	0.557**	0.400**	0.386**	0.488**	0.392**	4.497*
	(2.469)	(2.014)	(1.973)	(2.344)	(2.026)	(1.686)
SVAR	0.006	0.004	0.005	0.009	−0.003	−0.015
	(0.250)	(0.158)	(0.187)	(0.381)	(−0.128)	(−0.283)
CFVAR	−0.001	−0.005	−0.007	−0.010	−0.004	0.155
	(−0.014)	(−0.104)	(−0.142)	(−0.212)	(−0.082)	(0.820)
Fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Adj. R^2	0.04	0.04	0.04	0.04	0.04	0.04
N	1804	1302	1302	1652	1265	560
Wald χ^2	78.851	53.657	61.121	71.17	55.097	35.99

Note(s): The reported *t*-statistics are in parentheses. Asterisks denote statistical significance at the 1% (***), 5% (**), or 10% (*) levels, respectively. See Appendix for definitions of variables

was positive, suggesting that firms with political connections through their board members had stronger earnings management than other non-PCON firms. For the reduced sample of PCON firms, as reported in column (6), we discovered that the coefficient for *GLCVSPCON* positively and significantly supported the notion that GLCs are associated with stronger earnings management than other PCON firms.

The results in Table 6 indicated that PCON firms—particularly *GLC* and *FAM* firms—had lower earnings quality compared to the other types of PCON firms, providing an explanation for the negative (positive) relationships between PCON firms and analysts' forecast accuracy (dispersion). Based on our results, a plausible explanation was that PCON firms were subject to high agency costs and tended to pursue an earnings-increasing strategy, or engage in more aggressive earnings reporting, which we regarded as opportunistic earnings management (Ashbaugh *et al.*, 2003) that caused difficulties for analysts in producing accurate earnings forecasts.

The analysis of PCON firms revealed similar inferences using different measurements of earnings quality: accounting conservatism and accruals quality. This was consistent with previous studies, such as Chaney *et al.* (2011) and Tee and Rasiah (2020), which showed that, in general, PCON firms have lower earnings quality than non-PCON firms. Interestingly, it was noteworthy that a specific type of PCON firm (GLCs) had lower earnings quality compared to the other types of PCON firms. The analysis provided further validation of this finding by using different measurements of earnings quality. Consistent with Mohamad *et al.* (2012), even the GLC transformation program launched by the Malaysian government in 2004 did not improve the earnings quality of GLCs. Indeed, earnings management activities increased in GLCs due to post-transformation policy (Mohamad *et al.*, 2012). This result may have been due to the fact that GLCs lacked the incentive to improve their earnings quality compared to other types of PCON firms. GLCs have stronger direct political connections than other types of PCON firms (Wong and Hooy, 2018) because they are owned by the government; therefore, there is no motivation to report high-quality earnings.

5. Conclusions

This study aimed to examine the effects of different types of PCON firms on analysts' forecast accuracy and dispersion. It provided empirical evidence for lower analyst forecast accuracy and higher dispersion in Malaysian PCON firms, and the findings were more apparent in GLCs. It is important to note that the effects varied for other categories of PCON firms connected through business, their boards of directors, or family members. The study also provided evidence that a plausible explanation is the poor quality of reporting, due to aggressive earnings and high earnings management. PCON firms—in particular GLCs—were associated with aggressive reporting of earnings and poor-quality accruals, leading to a poor information environment hindering analysts in producing accurate and less dispersed earnings forecasts. Further analyses also indicated that GLCs report more aggressive earnings and have a greater tendency to pursue earnings management strategies compared to other non-PCON firms, thus indicating robust results.

The importance of our study is that it highlights the need to be mindful of high information asymmetry in PCON firms, particularly GLCs. High information asymmetry distorts the decision-making of the relevant parties, such as investors and the public, in GLCs. Despite government efforts since 2004 to boost the role of GLCs in the Malaysian economy, the results produced little evidence of high-quality financial reporting in GLCs, thus raising questions about the effectiveness of the government transformation agenda for GLCs. Our results provided further evidence that GLCs have lower earnings quality than other types of PCON firms, corroborating the findings of Mohamad *et al.* (2012). This highlights the need for greater effort and incentives to enhance the quality of earnings in GLCs with the aim of

reducing information asymmetry and supporting shareholders' and stakeholders' decision-making.

Our results should be interpreted with caution despite the use of various analyses. Our sample was limited to the availability of forecast accuracy data from the IBES database. Despite this limitation, our study provides useful insights for investors and policymakers to develop strong institutional environments that can provide incentives and governance mechanisms for both PCON firms and non-PCON firms. The results were robust due to the use of different measures of earnings quality, including for GLCs. Going forward, we encourage more research on the impact of the different types of PCON firms at regional levels and the incorporation of other institutional variables, such as politics and culture, to determine the different effects of various types of PCON firms across countries. In summary, this study provides avenues for other researchers to examine different types of PCON firms, since it offers a new perspective on the uniqueness of business–political nexuses.

Notes

1. Johnson and Mitton (2003) identified significant numbers of PCON firms connected with Mahathir.
2. Financial analysts may not be completely independent and unbiased, and individual analysts' competence/expertise can also affect the accuracy of their forecasts (Liu, 2017).
3. More detailed information can be found in the work of White (2004). *The beginnings of crony capitalism: Business, politics and economic development in Malaysia, c. 1955–70*, Modern Asian Studies. In the years following independence, prominent businessmen in Malaysia, such as Tan Thong Hye, Nik Kamil, Robert Kuok, and Tengku Razaleigh, demonstrated the importance of political connections for business success (White, 2004).
4. In this model, annual stock returns (*RET*) was a proxy for economic earnings, which immediately captured all available information reaching the market. Accounting earnings (*E*), however, required a higher degree of verification to differentiate good news from bad news. Good news related to an increase of future cash inflow for the firm, but only recognized when it met the recognition criteria of accounting standards; otherwise the recognition would be delayed. For bad news, accounting earnings (*E*) recognized losses in a timely manner and with sufficient provision. This situation created bias for the asymmetric timeliness of earnings. To test differences in the timeliness of earnings recognition following bad news and good news sample, Basu (1997) introduced a dummy variable (*RD*) and incorporated an interaction variable (*RET***RD*). In this equation, the coefficient of *RET***RD* (β_3) tests the difference in coefficients for RET between good news and bad news samples.
5. We measured earnings management using abnormal accruals, in which a higher value indicated a greater likelihood that firms would engage in earnings management and thus have lower-quality earnings reporting. Abnormal accruals— also known as discretionary accruals—were measured as the difference between total accruals and estimated normal accruals according to the modified Jones model (Dechow *et al.*, 1995).
6. The equation includes various controls: *AGE* is used to control for differences in the discretionary accruals of firms with different life cycles (Anthony and Ramesh, 1992); *BIG4* captures the effect of Big Four auditors on discretionary accruals; *SIZE* controls for differences in the accrual behavior of managers of large and small firms (Ashbaugh *et al.*, 2003; Dechow and Dichev, 2002; Van Tendeloo and Vanstrelen, 2005); *FMGROW* is firm-specific growth in sales, capturing possible differences in the accruals behavior between firms with high and low growth unrelated to earnings management (Gul *et al.*, 2009); *INDGROW* is industry growth, calculated based on Fama and French's (1997) 48 industry groups, which may cause firms to report systematically different levels of accruals (Myers *et al.*, 2003); *LEV* controls for the impact of firms' leverage (*LEV*), catering to the argument that highly leveraged firms try to avoid debt covenant violations by managing earnings upwards (Van Tendeloo and Vanstrelen, 2005); CFO captures the negative associations between accruals and cash flow (Dechow, 1994); *CAPINT* controls for the potential influence of capital intensity on a firm's accruals (Dechow and Dichev, 2002; Francis *et al.*, 2004); *ININT* controls for the strength of intangible

assets (Dechow and Dichev, 2002; Francis *et al.*, 2004); and fixed effects control for the potential effect of these variables.

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Appendix

Variable	Definition
ACCURACY	The absolute value of consensus earnings forecast less actual earnings per share, scaled by actual earnings per share multiplied by negative one
DISPERSION	The absolute value for the difference between the highest estimate and the lowest estimate contained in consensus forecasts scaled by the stock price at the end of year $t-1$
ALLPCON	A dummy variable that takes value one if the firm is politically connected including all categories either GLC, BUS, BOD, and FAM, and 0 otherwise
GLC	A dummy variable that takes value one if the firm is government-linked company, and 0 otherwise
BUS	A dummy variable that takes value one if the firm is politically connected between business leaders and politicians, and 0 otherwise
BOD	A dummy variable that takes value one if the firm is politically connected through board of directors, and 0 otherwise
FAM	A dummy variable that takes value one if the firm is politically connected through family members of a government leader, and 0 otherwise
GLCVSPCON	A dummy variable that takes value one if the firm is a government-linked company, and 0 for other types of politically connected firms
SIZE	The natural logarithm of firm *i*'s total market capitalisation at the beginning of year *t*
FOLLOWING	The number of analyst followings for firm *i* in year *t*
MKTBK	The ratio of market to book value
LOSS	A dummy variable equals to one if EPS is negative and 0 otherwise
VOLATILITY	The standard deviation of return on assets for previous 5-year period
SURPRISE	The earnings surprises which are the differences of the earnings per share at the beginning of year *t* and at the end of year *t*
BDSIZE	The total number of directors on the board
OUTDIR	The proportion of non-executive directors to total number of directors
ACIND	The proportion of independent audit committee members to total number of audit committee members
CRISIS	CRISIS is a dummy variable that takes value 1 for the global financial crisis period 2007–2010, and 0 otherwise
IMR	The inverse Mills ratio equals to the ratio of the probability density function with the cumulative distribution function from the first stage model
Additional analysis: earnings conservatism model	
E	The earnings per share deflated by the stock price at the beginning of the fiscal year
RET	The annual stock return
RD	A dummy variable equals to one if RET is negative, and 0 otherwise
Additional analysis: accruals quality model	
ABSDACC	The absolute value of residual generated from the modified Jones (1991)
BIG4	A dummy variable that equals one if the firm appoints a Big Four auditor, and 0 otherwise
AGE	The natural logarithm of the number of years since the year of incorporation
$SIZE^2$, $SIZE^3$	The power two and three of the SIZE, respectively
FMGROW	Firm-specific growth, measured the changes in the sales compared to the previous year
INDGROW	Industry growth, calculated based on Fama and French's (1997) 48 industry groups
CFO	The firm's cash flow from the operations divided by the total assets
CAPINT	Capital intensity, measured as the ratio of the net book value of the property, plant and equipment to the total assets
ININT	Intangible intensity, measured as the ratio of the research and development expenditure to the total sales
SVAR	Sales variability, measured as the standard deviation of the sales revenue per the total assets over a lag of a six-year period
CFVAR	Cash flow variability, measured as the standard deviation of the cash flow from the operations per total assets over a lag of a six-year period

Table A1.
Variable description

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