



# Do political connections reduce earnings management?

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Accepted: 19 January 2022

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## Abstract

This study examines whether political connections are associated with earnings management (both accrual-based and real) and whether the association is influenced by corporate governance and external auditing qualities. Empirical evidence on the association between political connections and earnings management remains unclear and offers mixed results. Using a sample of Indonesian firms, we find that political connections are negatively related to accrual-based (AEM) and real (REM) earnings management. In addition, the negative relationship between political connections and earnings management is more pronounced in better-governed firms and those audited by one of the Big 4 auditors. The results are robust to alternative measures of earnings management, endogeneity, and subsample tests. Our results extend the literature by shedding additional light on the governance role and benefits of political connections.

**Keywords** Political connections · Accrual-based earnings management · Real earnings management · Corporate governance · Audit quality · Indonesia

**JEL Classification** G30 · M4

## 1 Introduction

This study examines the relationship between political connections and accrual-based and real earnings management. The benefits of political connections for the firms are well established in the literature. Prior research finds that politically connected firms have better

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access to bank loans and equity markets (e.g., Liu et al. 2013; Shen and Lin 2016), cheap financing from state-owned banks (e.g., Dinç 2005), lower cost of debt (e.g., Chaney et al. 2011), and lower cost of equity (e.g., Boubakri et al. 2012). Prior research also finds that politically connected firms have higher firm performance and value (e.g., Fisman 2001), receive government contracts (e.g., Agrawal and Knoeber 2001; Schoenherr 2019), receive corporate bailouts when facing financial distress (e.g., Faccio et al. 2006), receive a higher allocation of government investment during financial crises (e.g., Duchin and Sosyura 2012), and have higher levels of tax aggressiveness (Kim and Zhang 2016). Our study extends the literature on the economic consequences of political connections by examining whether they provide additional benefits in terms of reducing opportunistic earnings management.

Prior empirical work on earnings management shows that managers can inflate reported earnings through accruals by choosing accounting methods that delay the recognition of expenses and advance the recognition of revenues to increase earnings. Prior research has also provided evidence that firms deliberately alter real operations to manage earnings (e.g., Graham et al. 2005; Roychowdhury 2006) by, for instance, cutting discretionary expenditures, such as R&D, advertising, and maintenance (Graham et al. 2005), delaying essential equipment maintenance, accelerating sales, and modifying shipment schedules (Roychowdhury 2006).

While an emerging research stream examines the relationship between political connectedness and earnings management, the empirical evidence is thus far mixed. Extant studies mostly support the argument that insiders enjoy private control benefits, mainly at outsiders' expense (Graham et al. 2005). Other research, however, suggests that managers (Davis et al. 1997) and politicians (Djankov et al. 2010) may act responsibly as safeguards of a firm's long-term interests and align their interests with those of shareholders.

Although ample research has been devoted to understanding managers' and politicians' opportunistic behavior, the governance role that politicians play within the firm remains largely not well understood. Our study focuses on the following two closely related issues. First, we extend the nascent research on the governance role of political connections by testing whether political connections curb earnings management. Studying this link is of particular interest to understand how political connections affect the quality of accounting outcomes and how this effect responds to institutional reforms. We expect a negative relation between political connections and accrual and real earnings management. This expectation is based on the premise that politicians acting as board members are former politicians/civil servants who are subject to stringent selection and are selected for their unique attributes rather than preferential treatment from the government. Therefore, they have greater incentives to oppose managerial opportunism to protect their reputation in the labor market. Second, we test the influence of external auditing and corporate governance qualities on the link between political connections and earnings management. Specifically, we examine whether this link is more pronounced in firms audited by high-quality external auditors and firms with stronger governance.

To provide evidence on this issue, we examine Indonesian firms. Indonesia presents a unique setting to examine the relationship between political connections and real earnings management for three reasons. First, Indonesia has hybrid corporate governance, which combines the characteristics of a market-based system, characterized by two-tier boards and inferior rights for minority shareholders, and the characteristics of a relationship-based system, characterized by these inferior rights. Second, despite the institutional reforms, Indonesia still has relatively weak legal enforcement, high ownership concentration, and an inadequate investor protection system (Carney and Hamilton-Hart

2015; Enomoto et al. 2015; Leuz and Oberholzer-Gee 2006). These characteristics may leave minority shareholders vulnerable to significant expropriation risks by insiders and, consequently, increase aggressive accounting practices. Third, politically connected board members are appointed based on their reputation, technical expertise, and unique attributes gained from serving as politicians (Bona-Sanchez et al. 2014; González-Bailon et al. 2013; Pascual-Fuster and Crespí-Caldera 2018). Thus, they are likely to add value and bring monitoring and advising benefits to boardrooms. Therefore Indonesia is an interesting setting in which to explore the relationship between political connections and earnings management.

Drawing on prior studies, we measure accrual earnings management by estimating the value of discretionary accruals using Jones model, as implemented by Kothari et al. (2005). We measure real earnings management by estimating abnormal levels of cash flow from operations, discretionary expenses, and production costs (e.g., Choi et al. 2018; Cohen and Zarowin 2010; Roychowdhury 2006; Zang 2012). We also combine these individual metrics into an aggregate measure to capture real earnings management activities.

A firm's decision to be politically connected is not random, and it could be argued that the lower level of earnings management of politically connected firms could be due to some fundamental differences between politically and non-politically connected firms. To address the potential selection bias from the endogenous choice of being a politically connected firm, we employ the Heckman two-stage model to control for the selection on unobservables and a propensity score matching (PSM) procedure to mitigate selection bias due to observables.

Using a dataset from Indonesia over 2010–2015 and employing the Heckman two-step model, the results confirm our prediction that political connections are associated with lower accrual and real earnings management. This result is more consistent with the notion that politicians appointed as board members reduce the level of earnings management than the view that they facilitate earnings management. This finding is robust to employing a matched-pair research design and robust to several sensitivity tests and alternative specifications. Further, we find that the relation between political connections and earnings management is more pronounced in firms with stronger corporate governance and firms audited by one of the Big 4 auditors. In a robustness test, we find that political connections effectively constrain real earnings manipulation when the incentives to avoid reporting losses and reduced earnings are high.

Our study contributes to the political connections literature by showing the role of political connections in reducing earnings management in an emerging country. Despite the well-recognized benefits of political connections, relatively little attention has been paid to their role in improving accounting outcomes. This study provides evidence that supports the notion that political ties serve as a governance mechanism that reduces both real and accruals earnings management. As a result, our study complements prior work on the accountable behavior view of political connections (Niessen and Ruenzi 2010). Our research also contributes to the literature on earnings management by examining the role of political connections in reducing earnings management. Since studying a sole earning management strategy cannot fully capture earnings management activities within the firm (Braam et al. 2015; Kothari et al. 2016; Zang 2012), we examine the association between political connections and real and accrual earnings management. Therefore, the findings of this study could be of interest to other countries that can have similar institutional settings as Indonesia.

The remainder of the paper proceeds as follows. Section 2 provides a brief discussion of the institutional setting in Indonesia. Section 3 develops hypotheses. Section 4 describes

the data and methodology. Section 5 presents empirical results, while Sect. 6 provides additional analyses. Section 7 concludes the paper.

## 2 Institutional setting

The long-lived Suharto regime (1966–1998) was similar to the authoritarian regimes in other countries where the general election was just a formality, the military controlled every aspect of life, critics of the government were banned, the House of Representatives had minimal authority and was not able to be critical of government policy, and the Supreme Court was not independent, with their *de facto* power placed below executive power. Indonesia had the lowest score for judicial efficiency, a high level of corruption, and inadequate investor protection (Johnson et al. 2000). Well-connected firms with the Suharto regime received preferential financing “memo-lending” (Leuz and Oberholzer-Gee 2006).

The crony capitalism, the weak legal system, and lax corporate governance led to the abuse of the banking sector by conglomerates and resulted in Indonesia suffering the most during the 1997 Asian financial crisis. As a result, Indonesia agreed with the International Monetary Fund (IMF) in October 1997 to overcome this adverse effect. IMF aid packages for Indonesia entailed further significant institutional economic and financial reforms, including implementing proper corporate governance and improving corporate transparency and disclosure, which inadvertently ended Suharto’s reign in Indonesia (Indrawati 2002).

These changes are reflected in the adoption of international financial reporting standards and global auditing standards (Maradona and Chand 2018) and the establishment of a national corporate governance body responsible for mandating the corporate governance manual. The manual requires public listed firms to publish transparent annual reports with corporate governance, ownership, and social responsibility disclosures, bringing managers to further public scrutiny (International Finance Corporation and Indonesia Financial Services Authority 2014). Listed firms must also submit annual reports to the Indonesian Capital Market Authority and publish an online version of these reports on its website a maximum of four months after the fiscal year-end. Listed firms must also adopt a two-tier board system that is similar to that in some continental European (e.g., the Netherlands, France, Germany, and Denmark) and Asian (e.g., China and Taiwan) countries (Belot et al. 2014).

In Indonesia, the board of commissioners and board of directors cannot be held by the same personnel, mitigating the potential CEO duality problem permitted in the one-tier board system. The board of commissioners acts as a supervisory board and consists solely of non-executive directors. In contrast, the board of directors consists of executive directors in charge of the firm’s day-to-day operations. Members of both boards are appointed by annual general shareholders meeting, with a maximum period of appointment of five years per term of tenure. The regulation requires at least 30% of the board of commissioners members to be independent commissioner(s). Their main task is to monitor the management (board of directors), ensuring that they act in the best interest of shareholders, particularly those with minority stakes. Moreover, high-ranking officers must disclose their wealth when serving as civil servants/public officials and update the wealth report every two years or after the promotion or appointment in governmental institutions (Corruption Eradication Commission 2005). These regulations helped elect responsible personnel with

clean track records and ensure a working principle of checks and balances in governmental institutions (Schütte 2011).

### 3 Hypothesis development

#### 3.1 Political connections and earnings management

Despite the documented benefits of political connections to the firm, empirical evidence on the association between political connections and accounting quality remains unclear and offers mixed results. The widely held view in the earnings management literature is that insiders divert corporate resources and manipulate accounting numbers to maximize their wealth and conceal the firm's underlying economic performance (Williamson 1993). Insiders may abuse political connections by managing reported earnings to hide managerial rent-seeking derived from these connections (Guedhami et al. 2014).

Consistent with this view, Batta et al. (2014) find that politically oriented firms have higher information asymmetry and inhibit information to mask the expropriation stemming from political cronyism. Managers of firms with political ties can also use preferential access to lending or government subsidies for unnecessary business expansions and engage in unprofitable investment projects (Ling et al. 2016). More recently, Tawiah et al. (2021) have found political connections to increase firm performance in Nigeria, but only if the political party of the connected person is in government. In contrast, they have shown that the connection with the opposition reduced firm value. Leuz and Oberholzer-Gee (2006) show that Indonesian politically connected firms prefer not to cross-list on the US markets, despite the external finance opportunities associated with such cross-listing, to avoid stringent monitoring that reduces managerial rent-seeking and private welfares.

Aggarwal et al. (2012) find a negative association between political expenditures and future stock returns. In a similar spirit, Fan et al. (2007) demonstrate that long-term post-IPO stock returns for Chinese firms with politically connected CEOs are significantly worse than their peers without such connections. Using cross-country data, Chen et al. (2010) find that analyst forecasts for politically connected firms are less accurate than for non-connected firms. In a related study, Fan et al. (2014) report that firms connected to political bureaucrats have a lower level of accounting informativeness relative to their matched control unconnected firms.

Some empirical studies have provided supporting evidence that the quality of earnings for connected firms is lower than that of non-connected firms (e.g., Chaney et al. 2011; Harymawan and Nowland 2016; Ramanna and Roychowdhury 2010). For example, Belghitar et al. (2019) find that politically connected firms have low quality financial reporting compared to non-connected firms in Pakistan. Similarly, Aggarwal et al. (2012) show that top managers use political donations as an unobservable tool of perquisites consumption to enjoy personal gains at the expense of shareholders.

In contrast, other studies find that well-connected firms have higher accounting quality than non-connected counterparts. For example, Batta et al. (2014) find better accounting quality for Venezuelan firms with political connections, especially firms vulnerable to expropriation risk. More recently, Jennings et al. (2021) have found evidence that firms connected to SEC-influential politicians are less likely to report more opportunistically. In contrast, they have shown that political connections encourage firms to report less opportunistically, suggesting heightened scrutiny of politically connected firms. Using a Spanish

sample, Bona-Sanchez et al. (2014) indicate that controlling shareholders act as stewards and choose politicians on the board to improve the firm's reputation and earnings informativeness. Ding et al. (2015) find that firms with political connections through owners instead of managers use politically connected board members as a tool to mitigate managerial entrenchment activities. A recent study by Farag and Dickinson (2020) has provided evidence that the government and regulatory bodies' connections, though not necessarily improving stock abnormal performance, are negatively associated with company risk in financial companies. Analytically, Bleibtreu et al. (2021) investigate the influences of the accounting regime on the value of political connections. They show that political connections have an unclear effect on reporting manipulation. Specifically, they find that, for low (high) policy salience, connected firms are more (less) likely to manipulate their financial reports than non-connected firms.

Although some studies examine the effect of incumbent politicians, the role of former politicians on earnings management has not been documented. Thus, the study seeks to fill that gap. Moreover, while previous studies focus largely on the opportunistic behaviour of managers when examining the relationship between political connections and accrual earnings management, we examine the governance role of political connections on both accrual and real earnings management. Our study also informs the convergence debate on the value provided to boardrooms by former politicians serving as board directors. For example, Pascual-Fuster and Crespí-Cladera (2018) find that former Spanish politicians have no role in reducing earnings management. In a similar vein, Gray et al. (2013) provide evidence that the market reaction to the appointment of former politicians is significantly lower than non-politicians, indicating that shareholders do not value the expertise that former politicians bring to corporate boards in Australia.<sup>1</sup>

We expect politically connected firms to engage less in earnings management, and hence, predict a negative relationship between political connectedness and the level of earnings management. This expectation is based on two premises. First, prior studies claim that politicians may help shield firms from legal intervention, market penalties, and scrutiny (Chaney et al. 2011; Chen et al. 2010). Given that politicians appointed as board members in Indonesia are former politicians, they are unlikely to facilitate corporate diversion and are more likely to act responsibly to secure esteemed directorship positions. Second, the majority of connected board members are independent commissioners and subject to rigorous selection. Given these strict selection requirements and political and legal reforms, political connections are likely to be an integral part of improved corporate governance and a possible signaling device to ensure the capital market that insiders refrain from engaging in self-interest activities. Thus, we formulate our first hypothesis as follows:

**H1:** Political connections are negatively related to real and accrual-based earnings management.

<sup>1</sup> Law No. 2/2002, Law No. 34/2008, and Law No. 25/2009 prevent incumbent politicians (except members of parliament) from holding a board membership position in publicly listed firms. As a result, out of 265 firm samples in our data, only three firms have connections with active members of parliament. We do not have sufficient data to expand the sample into close relationships with incumbent politicians. Based on our observations, incumbent politicians, especially members of parliament, prefer to be involved in business in private rather than public listed firms because private firms would allow these incumbent politicians more secrecy and avoid public scrutiny.

### 3.2 Firm characteristics, political connections, and earnings management

Extant literature suggests that Big 4 auditors are perceived to provide high audit quality and require a high earnings quality to avoid reputation risks arising from misreporting (Francis and Wang 2008; Gul et al. 2009). Prior research finds that big audit firms with brand names are associated with higher-quality audits (Becker et al. 1998; DeAngelo 1981). However, prior research also finds that auditing quality depends largely on investor protection and the probability of legal exposure risk (Choi et al. 2018; Francis and Wang 2008). The research suggests that Big 4 effectively reduces earnings management activities only in countries with a strict regulatory system and finds no significant difference in earnings management activities between firms with and without Big 4 auditors in countries with weak legal and investor protection systems (Choi et al. 2018; Francis and Wang 2008). Therefore, well-connected firms may appoint non-Big 4 auditors to camouflage tunneling activities associated with related party transactions (Habib et al. 2017a) and suppress minority shareholders' expropriation activities resulting from political cronyism (Piotroski et al. 2015). Liu et al. (2017) document an inverse U-shaped relationship between political connections and auditor choice in China. Recently, Elemes and Chen (2020) have found that clients of auditors with political ties are less likely to restate earnings and that this negative relation is weaker for politically connected clients, indicating that connected auditors are unlikely to have the same level of audit quality for their connected clients. Specifically, they show that if the degree of political ties is strong, connected firms are more likely to appoint high-quality auditors than non-connected firms do; the opposite holds if the degree of political connections is weak.

There are other sensible reasons to believe that Big 4 auditors are likely to provide high audit quality globally. Big 4 have standardized staff training, knowledge practices, and uniform audit methodologies that they share worldwide (Francis and Wang 2008). As a result, they are less likely to accept misreporting and have greater incentives to reduce litigation risks (Van Tendeloo and Vanstraelen 2008). Furthermore, since Big 4 auditors aim to attract capital from international markets, it is reasonable to expect them to provide high audit quality level across countries to protect their reputations (Guedhami et al. 2014; Humphrey et al. 2009; Van Tendeloo and Vanstraelen 2008). In line with this conjecture, Fan and Wong (2005) find that Big 4 auditors increase the credibility of financial reports in emerging countries. We posit that the role of audit quality in reducing earnings management is more valuable and needed in politically connected firms, especially in countries with weak institutional environments. This conjuncture accords with Guedhami et al. (2014) who find that politically connected firms audited by Big 4 are generally associated with a lower level of earnings management and that this association is stronger for firms in weak legal and investor protection systems. Thus, managers are less likely to misreport due to the high audit fees associated with behavior (Gul 2006).

Given that politically connected firms are more prone to the expropriation of minority investors (Qian et al. 2011), insiders may have incentives to reassure minority shareholders and use Big 4 as a further credible and effective control device which signals that they refrain from rent-seeking activities (Guedhami et al. 2014). Under this argument, Big 4 auditors are likely to further reduce earnings management in politically connected firms, hence predicting a stronger negative relationship between political connectedness and earnings management for firms audited by one of the Big 4 auditors. We then state our second hypothesis as follows:

**H2:** The negative relationship between political connections and real and accrual-based earnings management is more pronounced in firms audited by one of the Big 4 auditors.

Extant literature shows that political ties may increase the expropriation risk and information asymmetry, particularly in emerging countries with inadequate minority shareholder protection. Habib et al. (2017b) show that connected firms inflate earnings compared to non-connected firms to disguise opportunistic related party transaction activities. Likewise, Chen et al. (2011) find evidence that political connections help controlling shareholders to maintain a concentrated control structure that facilitates rent-seeking. Faccio (2006) reports that political connections are more widespread in countries with a high level of corruption and insufficient legal protection. Therefore, minority investors may be left more vulnerable to controlling shareholders' expropriation, particularly in firms with weak corporate governance. Managers of politically-favored firms may assume that they are well protected and may thus have incentives to misappropriate corporate resources for personal use. In turn, it is sensible to assume that shareholders of poorly governed firms would suffer more from such expropriation.

Given that shareholders may expect this behavior, managers of well-governed firms may have countervailing incentives to reduce earnings management. First, since the number of directorships available is limited, managers may act responsibly (Dahya et al. 2008) to signal their commitment to abstain from value-destroying activities, which helps build their reputation. In line with this view, Bona-Sanchez et al. (2014) argue that controlling shareholders may hire politicians as board members to improve firms' earnings quality and reputation. Second, corporate governance can also substitute for the weak legal protection of minority shareholders. Further, the two-tier board system is assumed to protect minority shareholders due to the separation of duties between controlling bodies and managing bodies (Jungmann 2006). Politicians also serve on the board of commissioners as independent commissioners. Accordingly, we expect the effects of political connections on reducing earnings management strategies are pronounced in well-governed firms. Therefore, our third hypothesis is formulated as follows:

**H3:** The negative relationship between political connections and real and accrual-based earnings management is more pronounced in firms with strong corporate governance.

## 4 Sample and methodology

### 4.1 Sample and data

Our initial sample consists of non-financial publicly listed firms in the Indonesian Stock Exchange over 2010–2015. Following prior studies, we exclude financial firms because they are subject to fundamentally different regulatory and disclosure requirements. We also exclude utilities because reporting incentives and opportunities to manage earnings in these firms are different. We restrict our sample to firms with book values of equity and available financial data and industry groups per year to estimate earnings management proxies with at least ten observations. We use the Bloomberg database to collect financial data, with any missing data supplemented from the annual reports, and the



**Table 1** Sample selection and descriptive statistics

Panel A: sample selection									
	Firms				Firm-years				
IDX listed companies	413				2478				
Excluded									
Financial firms	68				408				
Firms with missing/incomplete data	61				366				
Firms with negative equities	17				102				
Utilities	2				12				
Final sample	265				1590				
Panel B: descriptive statistics									
	Full sample ( <i>N</i> = 1590)			Connected firm- years ( <i>N</i> = 809)		Non-connected firm-years ( <i>N</i> = 781)		Difference tests	
	Mean	Median	St. Dev	Mean	Median	Mean	Median	Mean	Median
<i>AEM</i>	0.000	-0.001	0.084	-0.003	-0.003	0.002	0.001	1.104	0.984
<i>REM</i>	0.008	0.039	0.379	-0.002	0.042	0.018	0.035	0.028	0.721
<i>Size</i>	7.880	2.205	17.900	12.200	5.176	3.433	0.978	-10.005***	-18.039***
<i>Leverage</i>	0.470	0.473	0.203	0.484	0.488	0.455	0.461	-2.858***	-2.581***
<i>Loss</i>	0.174	0.000	0.379	0.172	0.000	0.175	0.000	0.189	0.189
<i>ROA</i>	0.052	0.039	0.088	0.058	0.041	0.046	0.035	-2.616***	-1.790***
<i>Age</i>	32.319	30.000	19.599	34.036	29.000	30.540	31.000	-3.568***	-0.974
<i>MTB</i>	1.681	1.111	1.676	1.786	1.236	1.573	1.029	-2.538**	-4.647***
<i>Capital</i>	0.601	0.561	0.400	0.585	0.515	0.617	0.617	1.547	-2.542***
<i>CashhHold</i>	0.107	0.070	0.110	0.112	0.079	0.103	0.057	-1.741***	-4.039***
<i>Divid</i>	0.194	0.000	0.320	0.229	0.098	0.158	0.000	-4.425***	-5.157***
<i>Asym</i>	5.583	1.593	8.921	3.958	1.255	7.266	2.143	7.521***	8.227***
<i>OpCycle</i>	4.979	4.856	1.028	5.023	4.839	4.934	4.869	-1.725*	-0.737
<i>OwnCon- cen</i>	0.721	0.739	0.173	0.706	0.726	0.736	0.750	3.462***	3.525***
<i>Big4</i>	0.399	0.000	0.499	0.465	0.000	0.330	0.000	-5.522***	-5.471***
<i>CG</i>	0.453	0.416	0.119	0.490	0.456	0.415	0.384	-13.088***	-12.864***

This table reports the descriptive statistics for the variables used in the analysis as well as mean and median comparisons of real and accrual-based earnings management and other firm characteristics of politically versus non-connected firms; mean differences between the two groups and *p*-values for means and medians differences based on *t*-statistics and Mann–Whitney *z*-statistics. See Appendix A for complete variable definitions

\*\*\*, \*\*, \*Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed)

Capital IQ database to collect ownership data. The data for political connections and corporate governance are hand-collected from annual reports. The selection procedures, shown in panel A of Table 1, left us with a final sample of 1590 firm-year observations representing 265 unique firms.

## 4.2 Measurement of accruals based-earnings management

Following earlier work, we estimate the normal accruals using Jones model, as implemented by Kothari et al. (2005), as follows:

$$\frac{TAC_{it}}{Assets_{it-1}} = \alpha_0 + \alpha_1 \left( \frac{1}{Assets_{it-1}} \right) + \alpha_2 \left( \frac{\Delta Sales_{it} - \Delta REC}{Assets_{it-1}} \right) + \alpha_3 \left( \frac{PPE_{it}}{Assets_{it-1}} \right) + \alpha_4 ROA_{it} + \epsilon_{it} \quad (1)$$

where, for each firm  $i$  and year  $t$ ,  $TAC$  is total accruals, calculated as net income before extraordinary and discontinued operations items minus cash flow from operating activities as reported in the statement of cash flows (Hribar and Collins 2002)<sup>2</sup>;  $Assets$  is the total assets;  $\delta Sales$  is the change in sales from the previous year;  $PPE$  is the gross property, plant and equipment;  $\Delta REC$  is the change in accounts receivable from the previous year, and  $ROA$  is the return on assets, measured as the ratio of net income to total assets. We estimate Eq. (1) cross-sectionally for each industry-year to allow the estimated coefficients to vary over time (Cohen et al. 2008; Cohen and Zarowin 2010). We use signed discretionary (abnormal) accruals, defined as the difference between total accruals and the normal (i.e., fitted value) accruals using the estimated coefficients in Eq. (1), as the primary proxy for accrual-based earnings management. Higher values of abnormal accruals imply a higher level of accrual-based earnings management.

One advantage of Kothari's modified Jones model is its ability to control performance.<sup>3</sup> It is found that because the magnitude of normal accruals is correlated with firm performance, discretionary accruals models that ignore performance are seriously misspecified. Accordingly, the failure to control for performance may result in a spurious classification of normal accruals as abnormal when performance is unusual (McNichols 2000). This model is widely employed in the literature (see, e.g., Batta et al. 2014; Braam et al. 2015; Chaney et al. 2011; Cohen et al. 2008; Cohen and Zarowin 2010; Gul 2006; Harymawan and Nowland 2016; Ramanna and Roychowdhury 2010, among others).

## 4.3 Measurement of real earnings management

Following Roychowdhury (2006), we derive real earnings management measures considering three real operating activities manipulations. In particular, we use abnormal levels of cash flow from operations, abnormal production costs, and abnormal discretionary expenses. Several subsequent studies provide evidence on the construct validity of these metrics and show that these measures capture real earnings management activities (e.g., Achleitner et al. 2014; Braam et al. 2015; Cohen et al. 2008; Cohen and Zarowin 2010; Zang 2012).

<sup>2</sup> Although current accruals could be a superior proxy for earnings because managers may have more discretion over current accruals than total accruals, we follow Choi et al. (2018) and Sohn (2016) and use total accruals to measure AEM. Sohn (2016) explains that the aggregate REM proxy includes R&D expenses, which is an investment in intangible assets, as one component. Since amortization expense is directly related to intangible assets and R&D, incorporating depreciation and amortization expenses when measuring AEM more closely matches the method used to measure REM. Unreported results are qualitatively similar when current accruals are employed.

<sup>3</sup> Almost identical results are obtained when modified Jones model of Dechow et al. (1995) is employed.

Managers can overstate reported earnings by accelerating sales through price discounts, lenient credit terms, and accelerating the timing of sales, leading to lower levels of cash flow from operations (Roychowdhury 2006). Overproduction can also increase earnings by reducing the cost of goods sold by increasing production to spread the production costs over many units, resulting in unusually low production costs (Cohen and Zarowin 2010; Roychowdhury 2006). In addition, reducing discretionary expenditures, including R&D, advertising, and selling, general, and administrative (SG&A), is another way that can be employed to increase abnormal CFO in the current period, albeit at the expense of future cash flows (Roychowdhury 2006). For each industry-year, we estimate the normal level of cash flows from operations, production costs, and discretionary expenses using the model developed by Dechow et al. (1998) and implemented by Roychowdhury (2006) using the following models<sup>4</sup>:

$$\frac{CFO_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{Assets_{it-1}} \right) + \beta_2 \left( \frac{Sales_{it}}{Assets_{it-1}} \right) + \beta_3 \left( \frac{\Delta Sales_{it}}{Assets_{it-1}} \right) + \varepsilon_{it} \quad (2)$$

$$\frac{PROD_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{Assets_{it-1}} \right) + \beta_2 \left( \frac{Sales_{it}}{Assets_{it-1}} \right) + \beta_3 \left( \frac{\Delta Sales_{it}}{Assets_{it-1}} \right) + \beta_4 \left( \frac{\Delta Sales_{it-1}}{Assets_{it-1}} \right) + \varepsilon_{it} \quad (3)$$

$$\frac{DISEXP_{it}}{Assets_{it-1}} = \beta_0 + \beta_1 \left( \frac{1}{Assets_{it-1}} \right) + \beta_2 \left( \frac{Sales_{it-1}}{Assets_{it-1}} \right) + \varepsilon_{it} \quad (4)$$

where, for each firm  $i$  and year  $t$ ,  $CFO$  is the cash flow from operations;  $PROD$  is the sum of the cost of goods sold ( $COGS$ ) and the change in inventories ( $\Delta INV$ );  $DISEXP$  is the discretionary expenses, defined as the sum of advertising, R&D, and SG&A expenses<sup>5</sup>; and other variables are previously defined. We estimate Eqs. (2)–(4) cross-sectionally, allowing the estimated coefficients to vary over time. The abnormal cash flows from operations ( $R\_CFO$ ), abnormal production costs ( $R\_PROD$ ), and abnormal discretionary expenses ( $R\_DISEXP$ ) are calculated as the difference between the actual values and normal levels using the estimated coefficients from Eqs. (2)–(4). Firms with higher real earnings management are likely to have low values of abnormal CFO and discretionary expenses and high abnormal production costs. Following prior earnings management work (e.g., Achleitner et al. 2014; Badertscher 2011; Braam et al. 2015; Choi et al. 2018; Cohen et al. 2008), we combine the three individual metrics to construct an aggregate measure ( $REM$ ) to capture the overall real activities earnings management. Specifically, we multiply both abnormal cash flow from operations and abnormal discretionary expenses by -1 and add them to abnormal production costs to construct the measure. A higher value of this aggregate measure indicates a higher level of real earnings management.

<sup>4</sup> Following prior studies (e.g., Achleitner et al. 2014; Kothari et al. 2005; Roychowdhury 2006; Zang 2012), we include unscaled intercept  $\beta_0$  in Eqs. (1) - (4) when estimating the expected levels of operating cash flows, production costs, discretionary expenses, and accruals to reduce misspecification in these models and ensure that the mean abnormal levels of these metrics for every industry-year are zero. However, removing the unscaled intercept does not substantially change our results.

<sup>5</sup> Provided that SG&A expenditure is available, we set advertising expenditures and R&D to zero if they are unavailable.

#### 4.4 Empirical model

To test the hypotheses, we employ the Heckman two-stage model because a firm's decision to be politically connected is not random; unobservable factors that affect this decision may also be associated with firm-level earnings management, leading to a selection bias.<sup>6</sup> As such, using ordinary least squares (OLS) estimation is more likely to yield biased coefficient estimates of the explanatory variables if political connections are endogenous elements of earnings management decisions. For example, firms that adopt high-quality financial reporting can choose to have political connections and exhibit less earnings management. Thus, firms with political connections would have lower earnings management even if they do not choose to have political connections. Therefore, the negative association between political connections and earnings management could be attributed to firm characteristics rather than the governance role of political ties.

To tackle the concern of endogenous choice of establishing political connections, we follow prior research (e.g., Belghitar et al. 2019; Guedhami et al. 2014; Habib et al. 2017b; Kim and Zhang 2016) and use the Heckman two-step estimation (Heckman 1979). Specifically, in the first stage of the estimation, we estimate the following probit model that predicts the probability of a firm's choice to be politically connected:

$$Pr(PCon_{it}) = \alpha + \beta X_{it} + \gamma Z_{it} + \theta(Industry_i) + \delta(Year_t) + \epsilon_{it} \quad (5)$$

where, for each firm  $i$  and year  $t$ ,  $PCon$  is an indicator variable that equals one if the firm has political connections, and zero otherwise. We follow Faccio (2006) and adapt their definition, and define a firm as politically connected if one of its large shareholders, who directly or indirectly controls at least 10% of the votes or a top officer is: (i) a former politician, (ii) a former member of parliament (MP), (iii) a former minister, (iv) a former high-ranking government official, or (v) closely related to a top former politician, official, or political party. The vector  $X_{it}$  is the set of control variables used in the second-stage estimation. The vector  $Z_{it}$  is the additional selection model variables to predict the likelihood that a firm chooses to be politically connected. Lennox et al. (2012) argue that a convincing implementation of the Heckman model requires an appropriate implementation of exclusion restrictions; that is, including at least one variable in the first-stage choice model that can be excluded from the second-stage regression. Stated differently, we need to include at least one variable in the first-stage estimation that affects the firm's political connections but is not directly related to earnings management measures.<sup>7</sup>

The vector  $Z_{it}$  includes two instruments that have been used in previous studies, namely the percentage of connected firms within an industry,  $PercPC$  (e.g., Guedhami et al. 2014; Habib et al. 2017b; Kim and Zhang 2016) and regional unemployment rate,  $Unemp$  (Xu

<sup>6</sup> We use the Durbin-Wu-Hausman test to check for this endogeneity, and  $F$ -statistics for both earnings management models are consistently significant at the 1% level, suggesting that political connectedness is an endogenous variable and hence using the OLS method would yield biased estimates.

<sup>7</sup> Although it is technically possible to estimate the choice model with no exclusion restrictions, it is not a recommended practice because the choice model is likely to suffer from multicollinearity problems which make Mills ratio close to be linear over a broad range of its values (Lennox et al. 2012; Puhani 2000). Including the inverse Mills ratio in the second-stage model is more likely to reduce the multicollinearity problem, which arises naturally from the correlation between Mills ratio and independent variables in the second stage. For more discussion on the importance of exclusion restrictions, see Lennox et al. (2012) and Tucker (2010).

et al. 2013). The rationale for using these instruments is that large firms, firms in heavily regulated industries, and firms in industries with strong links with the government (e.g., infrastructure-related firms) are likely to have more political connections than firms operating in other industries (Agrawal and Knoeber 2001). Politicians may also prefer working in the city where they have built up their major social and political networks. They could use connected firms to serve their constituents in local areas and provide more job opportunities for local areas (Niessen and Ruenzi 2010). However, these two variables are excluded from the second stage model because we have no prior reason to believe that they directly affect earnings management activities through channels other than political connections.<sup>8</sup>

In the second stage, we test the association between political connections and earnings management by regressing earnings management measures on the inverse Mills ratio (IMR) estimated from the first stage and control variables. Specifically, we estimate the following regression model:

$$AEM_{it} \text{ or } (REM_{it}) = \alpha + \beta PC_{it} + \gamma X_{it} + \varphi(IMR_{it}) + \theta(Industry_i) + \delta(Year_t) + \varepsilon_{it} \quad (6)$$

where, for each firm  $i$  and year  $t$ ,  $AEM$  is the discretionary accruals as estimated in Eq. (1), and  $REM$  is the measures of real earnings management as estimated in Eqs. (2)–(4). We expect a negative relationship between political connections and earnings management levels and hence a negative value of  $\beta$  in Eq. (6).

We consider several control variables that are used in prior earnings management literature. We include firm size (*Size*) since large firms are better managed, exposed to higher public pressure, and face a higher litigation exposure risk (Ashbaugh et al. 2003; Siregar and Utama 2008); they are less likely to manage earnings. We control for leverage (*Leverage*) because prior research finds that high levered firms are more prone to financial distress (Ho et al. 2016) and greater conflicts between debtholders and shareholders, which may increase earnings management. Firms that face financial troubles may also have greater incentives to adopt income-increasing choices to avoid debt covenant violation (DeFond and Jiambalvo 1994; Sweeney 1994). We also control for the possibility that firms experiencing a loss (*Loss*) are likely to manage earnings (Choi et al. 2018; Perotti and Wagenhofer 2014; Roychowdhury 2006).<sup>9</sup>

We consider firms' age (*Age*) because younger firms face greater capital markets pressure to deliver and are more likely to have poor financial performance; thus, they have more incentives to engage in earnings management to meet earnings targets (Armstrong et al. 2013). Further, we incorporate capital intensity (*Capital*) since firms with a higher capital intensity are less likely to manage earnings (Perotti and Wagenhofer 2014). We include the market-to-book ratio (*MTB*) to account for the impact of growth options. Firms with higher growth opportunities have greater volatility in cash flows and greater agency conflicts between managers and shareholders. Cash holdings (*Cashhold*) and information

<sup>8</sup> A firm's geographic location may also affect the company's ability to attract politically connected board members (Guedhami et al. 2014; Houston et al. 2014). Some studies use the distance of the firm headquarters from the capital city as an alternative instrument (Habib et al. 2017a; Kim and Zhang 2016). In our study, while this instrument passes the Durbin-Wu Hausman test for endogeneity and the  $F$ -test rejects the null hypothesis that the instrument is weak, the Hansen  $J$ -test rejects the null hypothesis that the instrument is exogenous.

<sup>9</sup> Choi et al. (2018) argue that it is possible that the dependent variables (i.e.,  $REM$  and  $AEM$ ) may be a component of contemporaneous profitability or loss. In the main analysis, we use the contemporaneous one, but untabulated results show that using lagged values of  $ROA$  and  $Loss$  does not alter our inferences.

asymmetry (*Asym*) are also controlled for since a large amount of cash-on-hand and higher information asymmetry could lead to poor earnings quality and higher earnings management (Ascioglu et al. 2012; Bhattacharya et al. 2013; Kalcheva and Lins 2007; Richardson 2000; Sun et al. 2012).

We also control for the dividend payout ratio (*Divid*) as firms could pay dividends to mitigate agency concerns and signal their commitment to act in the best interests of outside investors (e.g., He et al. 2017). We add an operating cycle variable (*OpCycle*) to capture the likelihood that firms with longer operating cycles have a longer period for accruals to reverse, resulting in more flexibility to manage accruals (Zang 2012). We use the percentage of shareholdings by the largest five shareholders (*OwnConcen*) because firms with a higher level of ownership distributed among fewer major shareholders are likely to have a higher level of minority interest expropriation and, in turn, a higher level of earnings management (Claessens et al. 2000; Jiang et al. 2010). Previous research finds that high-quality auditors reduce the likelihood of earnings management (Francis and Wang 2008; Guedhami et al. 2014; Gul et al. 2009). Audit quality is controlled for by including an indicator variable (*Big4*) that equals one if the firm is audited by one of the Big 4 auditors, and zero otherwise.<sup>10</sup>

In addition, we construct a corporate governance index (*CG*) that relies on the Institute of Director 2017 Good Governance Report. The index consists of five governance segments: board effectiveness, audit and risk, remuneration and reward, shareholder relations, and stakeholder relations. The full list and the justification for each metric are provided in Appendix B. The corporate governance index score range is between 0 (lowest corporate governance quality) and 1 (highest corporate governance quality). Higher corporate governance quality is expected to curb earnings management (García-Meca and Sánchez-Ballesta 2009). Based on the probit model results in Eq. (5), we calculate and include the inverse Mills ratio (*IMR*) as an additional control variable in the second stage model to control for the selection on unobservables (see Appendix A for complete variable definitions).

Based on a balanced panel dataset, all our regressions include industry and year dummy variables to control for industry and time fixed effects and are estimated using robust standard errors clustered at the firm level to correct for heteroscedasticity and serial dependence (Petersen 2009). The unmitigated cluster effect may have resulted in overstated statistical significance due to lower standard error (Lee et al. 2011b; Smith 2016). Further, Lee et al. (2011a) discuss the importance of controlling for two-dimensional clustering effects and compare them with the use of fixed-effects standard errors. They choose the latter mainly because the panel dataset they use is unbalanced.<sup>11</sup> All continuous variables are winsorized at the top and bottom 1% to mitigate the effect of outliers. Throughout the study, all significance levels are two-tailed.

<sup>10</sup> Big 4 auditors are PricewaterhouseCoopers (PwC), Klynveld Peat Marwick Goerdeler (KPMG), Ernst & Young (E&Y), and Deloitte Touche (D&T).

<sup>11</sup> Our results without incorporating cluster effects (untabulated) yield qualitatively similar inferences.

## 5 Empirical results

### 5.1 Descriptive statistics and correlations

Panel B of Table 1 reports descriptive statistics for the main variables used in the empirical analysis. About 50% of firms have political connections, and 40% are audited by one of the Big 4 auditors. It seems that politically connected firms are larger, highly levered, and profitable. Non-politically connected firms seem to be poorly governed, face a higher level of information asymmetry, are more likely to be audited by non-Big 4 auditors, and have a higher ownership concentration level.

Table 2 reports Pearson correlations among variables used in the analysis. The table shows no significant correlation between political connections and both measures of earnings management. The table also shows a positive and significant correlation between AEM and REM (i.e., 0.34), suggesting that firms may simultaneously use earnings management strategies. We find the variance inflation factor (VIF) values are less than 10 with the highest score of 2.03, signifying that the multicollinearity problem is not a serious concern in our study. Table 2 also indicates that most control variables have a significant relationship with earnings management measures and political connections.

### 5.2 The effect of political connections on earnings management

In this section, we analyze the relationship between political connections and earnings management strategies. Table 3 reports results for the first stage estimation (i.e., the probit model). In line with prior studies (e.g., Habib et al. 2017b; Kim and Zhang 2016), the table shows that the estimated coefficients of *PercPC* and *Unemp* are positive and highly significant, indicating the relevance of the instruments. Given that the instruments are also exogenous based on the Hansen J test results, we confirm the validity of the instruments. We also note that the inverse Mills ratio's coefficient is statistically significant, suggesting the presence of selection bias.<sup>12</sup>

We present estimates for the second-stage of the Heckman model in Table 3. As predicted in H1, the table shows the coefficient of *PCon* is negative for both AEM and REM and significant at the 5% and 1% level, respectively. These results support the view that politicians help restrict opportunistic managerial behavior. The results also demonstrate that political connectedness is an effective corporate governance device that counters the managerial incentives to manage reported earnings to obtain personal benefits at the expense of minority shareholders, consistent with H1. This result is also economically significant: one standard deviation increase in political connections is associated, on average, with a decrease in the standard deviation of accrual and real earnings management of 0.96% and 27.55%, respectively. The result is consistent with Batta et al. (2014) and Bona-Sanchez et al. (2014) but conflicts with the evidence that politically connected firms have lower earnings quality (e.g., Belghitar et al. 2019; Chaney et al. 2011; Harymawan and Nowland 2016). One possible explanation for the conflicting result is the differences in the institutional settings. For example, Belghitar et al. (2019) show lower earnings quality for

<sup>12</sup> Lennox et al. (2012) contend that an insignificant Mills coefficient does not necessarily prove the absence of selection bias as lack of statistical significance could be caused by high multicollinearity.

Table 2 Pearson correlation matrix

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) <i>REM</i>	1.000							
(2) <i>AEM</i>	0.342***	1.000						
(3) <i>PCon</i>	-0.026	-0.028	1.000					
(4) <i>OwnConcen</i>	-0.106***	0.001	-0.087	1.000				
(5) <i>Big4</i>	-0.121***	-0.078***	0.137***	0.165***	1.000			
(6) <i>CG</i>	-0.061**	-0.050**	0.312***	-0.033	0.319***	1.000		
(7) <i>Size</i>	0.015	-0.009	0.438***	-0.157***	0.416***	0.544***	1.000	
(8) <i>Age</i>	-0.050**	0.005	0.033	0.104***	0.187***	0.258***	0.143***	1.000
(9) <i>Leverage</i>	0.134***	-0.035	0.072***	-0.037	-0.003	0.066***	0.139***	-0.015
(10) <i>Capital</i>	-0.088***	-0.038	-0.039	0.111***	0.147***	0.103***	0.014	0.072***
(11) <i>CashHold</i>	-0.275***	-0.199***	0.044*	0.055***	0.105***	0.091***	-0.002	0.091***
(12) <i>Asym</i>	0.039	-0.015	-0.186***	0.297***	-0.042*	-0.224***	-0.326***	0.003
(13) <i>MTB</i>	-0.259***	-0.062***	0.064***	0.030	0.193***	-0.096***	0.053**	-0.019
(14) <i>ROA</i>	-0.346***	-0.007	0.066***	0.110***	0.248***	0.159***	0.124***	0.191***
(15) <i>Divid</i>	-0.172***	-0.073***	0.110***	0.135***	0.307***	0.226***	0.224***	0.237***
(16) <i>OpCycle</i>	0.089***	0.088***	0.043*	-0.183***	-0.191***	-0.179***	-0.060**	-0.030
(17) <i>Loss</i>	0.158***	-0.058**	-0.005	-0.024	-0.085***	-0.070***	-0.075***	-0.142***
(9) <i>Leverage</i>	1.000							
(10) <i>Capital</i>	0.061**	1.000						
(11) <i>CashHold</i>	-0.282***	-0.234***	1.000					
(12) <i>Asym</i>	-0.040	0.042*	0.010	1.000				
(13) <i>MTB</i>	-0.077***	-0.044*	0.126***	-0.074***	1.000			
(14) <i>ROA</i>	-0.244***	-0.177***	0.401***	-0.071***	0.114***	1.000		
(15) <i>Divid</i>	-0.083***	-0.033	0.213***	-0.042*	0.281***	0.404***	1.000	
(16) <i>OpCycle</i>	-0.109***	-0.315***	-0.137***	-0.078***	-0.070***	-0.081***	-0.107***	1.000



**Table 2** (continued)

(17)	<i>Loss</i>	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
		0.128***	0.200***	- 0.193***	0.045*	- 0.133***	- 0.548***	- 0.278***	0.029

This table presents the Pearson correlation coefficients among the variables used in the main analysis. See Appendix A for complete variable definitions  
 \*, \*\*, and \*\*\* Indicate the significance of different at the 10%, 5% and 1% levels, respectively

**Table 3** The effect of political connections on accrual-based and real earnings management

	First-stage probit model		Second-stage regressions			
	Dep. variable: PCon		AEM		REM	
	Coeff	SE	Coeff	SE	Coeff	SE
<i>PCon</i>			- 0.082**	0.041	- 0.727***	0.256
<i>PercPC</i>	3.149***	1.066				
<i>Unemp</i>	1.096**	0.524				
<i>Size</i>	0.373***	0.069	0.011**	0.005	0.104***	0.036
<i>Leverage</i>	0.221	0.433	- 0.035***	0.013	0.090	0.085
<i>Loss</i>	0.399**	0.172	- 0.007	0.009	0.105*	0.056
<i>ROA</i>	0.796	1.125	0.122**	0.048	- 0.789**	0.348
<i>Age</i>	0.044	0.187	0.010	0.006	0.024	0.042
<i>MTB</i>	0.024	0.093	- 0.004**	0.002	- 0.035*	0.019
<i>Capital</i>	0.325	0.253	- 0.018	0.013	- 0.140*	0.072
<i>Cashhold</i>	0.725	0.849	- 0.211***	0.028	- 0.515**	0.221
<i>Divid</i>	0.031	0.175	- 0.012	0.008	- 0.002	0.044
<i>Asym</i>	- 0.009	0.007	0.001	0.001	0.002	0.002
<i>OpCycle</i>	0.131	0.087	0.010***	0.003	0.045***	0.017
<i>OwnConcen</i>	0.144	0.479	0.021	0.015	- 0.110	0.104
<i>Big4</i>	- 0.248	0.193	- 0.013*	0.007	- 0.066	0.046
<i>CG</i>	2.409***	0.899	0.031	0.040	0.531**	0.246
<i>IMR</i>			0.048**	0.024	0.435***	0.150
<i>Intercept</i>	- 9.550***	1.459	- 0.169*	0.091	- 1.436**	0.618
Industry FE	Yes		Yes		Yes	
Year FE	Yes		Yes		Yes	
Observations	1571		1568		1569	
Wald Joint	101.45***					
Pseudo $R^2$	0.2366					
Adj. $R^2$			0.099		0.210	

This table reports results of the Heckman two-stage model. The first stage is a probit model to estimate determinants of political connections by regressing *PCon* on *PercPC*, *Unemp*, and other control variables. The second-stage results are from regressing earnings management measures on control variable and the inverse Mills ratio estimated from the first stage. The earnings management measures are accrual-based, *AEM*, and real, *REM*, earnings management measures. All regressions include industry and year fixed effects. Robust standard errors are clustered by firms

\*\*\*, \*\*, \*Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed). See Appendix A for complete variable definitions

firms with political connections in Pakistan.<sup>13</sup> Although both are Muslim-majority countries, Pakistan adopts a unitary board structure, whereas Indonesia follows a two-tier board structure, resulting in better monitoring of management than that adopted in Pakistan. In

<sup>13</sup> Leuz and Oberholzer-Gee (2006) and Belghitar et al. (2019) show that the effect of political connections depends on whether the politician's political party is still in power. However, the number of firm in our sample with such affiliation is inconsequential. The number of firm samples with such affiliation is inconsequential. Out of the politically connected board members, 30.6% are former military/police generals with no political party affiliation, 50.8% who must remain neutral, are career civil servants have no political party affiliation, and only 13.6% who are former ministers have political party affiliation, representing 0.3% from the total of the entire board members.

addition, the reputation incentive, the stringent selection criteria, and the limited number of directorships available also motivate the politicians attached to the board of commissioners to protect minority shareholders' interests. However, as noted by Belghitar et al. (2019: 1104) in Pakistan, "politicians have indulged in the distribution of patronage to their connected firms as well as to self-enrichment.", reducing the quality of accounting information.<sup>14</sup>

Coefficient estimates for the control variables are generally in line with those reported by prior studies. We find a statistically positive relationship between earnings management and firm size. This result is consistent with the argument that large firms may manipulate earnings to meet investors' expectations (Watts and Zimmerman 1990). There is evidence that the magnitude of AEM is lower for highly levered firms (DeAngelo et al. 1994). Levered firms may be under heightened lenders scrutiny and, therefore, have little room to manipulate AEM.

Contrary to previous studies, our results suggest that firms with high cash holdings exhibit lower earnings management, possibly because they face fewer financing constraints that may motivate earnings manipulation. The results in Table 3 also confirm the findings of prior studies that firms with higher capital intensity are less likely to manage earnings (e.g., Perotti and Wagenhofer 2014), although the coefficient of *Capital* is marginally significant only in the REM model. Results show a negative relationship between *ROA* and REM, and a negative link between *MTB* and earnings management types, confirming that profitable and high-growth firms are less likely to manage real activities (Garcia Osma 2008; Roychowdhury 2006). However, the results that firms with negative earnings manage reported earnings to report positive earnings is inconsistent with prior research (e.g., Francis and Yu 2009). The positive association between *ROA* and AEM, however, is in line with prior studies (e.g., Jiang et al. 2018). Consistent with Zang (2012), we further find that firms with longer operating cycles exhibit more earnings management.

The results also provide evidence that Big 4 auditors effectively constrain accrual-based earnings management. This result is consistent with prior research (i.e., Francis and Wang 2008; Gul et al. 2009) that high-quality auditors are more likely to detect aggressive earnings management and report material misreporting. Corporate governance, on average, seems to play no monitoring role in reducing earnings management practices in Indonesia. A plausible explanation is that political connections and Big 4 auditors may provide sufficient monitoring of earnings manipulation, may substitute for CG, which we will further explore in the following section.

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<sup>14</sup> One potential reason for the conflict with Chaney et al. (2011) is that they measure earnings quality at a country level. However, this measure may obscure managerial reporting incentives across firms and disregards that a single measure for earnings quality represents neither financial reporting practices across institutions nor the firms' fundamental performance. Although connected firms in Indonesia share similar characteristics (i.e., weak legal protection, high ownership concentration, board structure), they are likely to differ in their reporting incentives and transparency to equity markets.

**Table 4** The effect of political connections, audit quality, and corporate governance on accrual-based and real earnings management

	AEM		REM		AEM		REM	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
<i>PCon</i>	-0.082**	0.041	-0.700***	0.249	-0.066**	0.030	-0.585***	0.217
<i>Size</i>	0.011**	0.005	0.103***	0.036	0.009**	0.004	0.088***	0.034
<i>Leverage</i>	-0.035***	0.013	0.091	0.085	-0.036***	0.013	0.079	0.086
<i>Loss</i>	-0.007	0.009	0.105*	0.056	-0.009	0.009	0.091*	0.052
<i>ROA</i>	0.122**	0.048	-0.792**	0.341	0.119**	0.048	-0.840**	0.333
<i>Age</i>	0.010	0.006	0.024	0.042	0.011*	0.006	0.039	0.040
<i>MTB</i>	-0.004**	0.002	-0.034*	0.019	-0.004**	0.002	-0.034*	0.018
<i>Capital</i>	-0.018	0.014	-0.147**	0.073	-0.020	0.013	-0.156**	0.072
<i>Cashhold</i>	-0.211***	0.028	-0.527**	0.219	-0.214***	0.028	-0.525**	0.213
<i>Divid</i>	-0.012	0.008	0.001	0.045	-0.012	0.008	-0.013	0.042
<i>Asym</i>	0.001	0.001	0.001	0.002	-0.001	0.001	0.002	0.002
<i>OpCycle</i>	0.010***	0.003	0.044***	0.017	0.009***	0.003	0.041**	0.016
<i>OwnConcen</i>	0.021	0.015	-0.114	0.103	0.020	0.015	-0.115	0.102
<i>CG</i>	0.031	0.040	0.541**	0.246	-0.012*	0.006	-0.055	0.044
<i>Big4</i>	-0.013	0.009	-0.020	0.060				
<i>PCon*Big4</i>	-0.095**	0.044	-0.802***	0.282				
<i>HCG</i>					0.001	0.008	0.100*	0.051
<i>PCon*HCG</i>					-0.062**	0.027	-0.475**	0.202
<i>IMR</i>	0.048**	0.024	0.440***	0.150	0.038**	0.017	0.348***	0.126
Intercept	-0.169*	0.091	-1.421**	0.610	-0.135**	0.068	-1.087*	0.573
Industry FE	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Observations	1568		1569		1568		1569	
Adj. $R^2$	0.099		0.212		0.099		0.212	

This table reports results of second-stage of the Heckman two-stage model of earnings target tests. The dependent variables are accrual-based, *AEM*, and real, *REM*, earnings management measures. All regressions include industry and year fixed effects. Robust standard errors are clustered by firms. See Appendix A for complete variable definitions

\*\*\*, \*\*, \*Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed)

### 5.3 Firm characteristics, political connections, and earnings management

We have documented a negative relationship between political connections and earnings management. We next examine whether the association between political connections and earnings management varies with external auditing and corporate governance qualities. If H2 and H3 are valid, high-quality auditing and better corporate governance should strengthen the negative association between political connections and earnings management. To conduct the analysis, we re-estimate Eqs. (5) and (6) after adding an

interaction term between political connections and Big 4 ( $PCon*Big4$ ) to test whether the relationship between political connections and earnings management varies across Big 4 and non-Big 4 auditors.

The coefficient of  $PCon*Big4$  captures the joint effect of the political connections and audit quality on AEM and REM. The results reported in Table 4 are similar to those documented earlier in Table 3, where the coefficient of  $PCon$  is negative and statistically significant in AEM and REM regressions. However, the coefficient of  $Big4$ —which was marginally significant for AEM in Table 3—becomes insignificant in both regressions, implying that Big 4 auditors have no role in reducing AEM and REM in firms without political connections. Of particular interest here is the coefficient of the interaction term. We find that the coefficient of  $PCon*Big4$  is negative and statistically significant at the 5% and 1% level for AEM and REM, respectively. These results, consistent with Choi et al. (2018), indicate that political connections restrict accrual and real earnings management in firms audited by a Big 4 auditor to a greater extent than in those audited by a non-Big 4 auditor, confirming H2. The results of the control variables are qualitatively similar to those reported in Table 3.

To test the joint effect of political connections and the quality of corporate governance on earnings management, we use the median value of CG to distinguish between firm-years with the above (below)-median value of CG to indicate strong (weak) corporate governance. We generate an indicator variable ( $HCG$ ) that equals one if the firm-year refers to strong corporate governance, and zero otherwise. Then, we re-estimate Eqs. (5) and (6) by adding an interaction term ( $PCon*HCG$ ). Similar to the results of Big 4 above, Table 4 shows that the estimated coefficient of the political connections variable is negative and significant. However, the coefficient of  $HCG$  is positive but marginally significant only in the REM regression, which implies that strong corporate governance is ineffective in reducing AEM in firms without political connections. The estimated coefficient of  $PCon*HCG$ , however, is negative and statistically significant at the 5% level. This evidence suggests that the monitoring role of political connections in constraining earnings management is more pronounced in well-governed firms than poorly-governed firms, confirming H3.

Collectively, the results in Tables 3 and 4 suggest that political connections can act as a governance mechanism that disciplines managerial opportunistic reporting behavior by reducing accrual and real earnings management. In addition, this governance role is more apparent in firms audited by Big 4 auditors and in relatively well-governed firms.

## 6 Additional analyses

In this section, we perform a battery of sensitivity analyses to assess the robustness of our main results. For brevity, some of these tests are not tabulated but available from the authors upon request.

### 6.1 Propensity score matching of political connections

In the previous sections, we employed the Heckman two-step model to control for the selection on unobservables. In this section, we further use the propensity-score matched-pair research design (PSM) (Rosenbaum and Rubin 1983) to address the potential selection bias on observables since firms could differ in observable aspects that are systematically

related to earnings management.<sup>15</sup> An advantage of using PSM is that it does not require the inclusion of IMR (Lennox et al. 2012) and does not depend on a linear functional form outcome variable (the level of earnings management) with the independent variable of interest (political connections) and the other explanatory variables (covariates) (Armstrong et al. 2012).<sup>16</sup> Matching mitigates model misspecification problems by reducing the correlation between the political connections (treatment variable) and the matching (control) variables existing in the full samples (Minutti-Meza 2013).<sup>17</sup> We first use a propensity-matched sample by estimating a logit propensity-score model, which is the probability that a firm chooses to be politically connected (i.e., the treatment) conditional upon observable economic and governance variables (i.e., covariates) discussed earlier, including industry and year indicator variables. We estimate a series of logit models where the dependent variable in each model equals one if a firm is politically connected, and zero otherwise.

Second, we match a firm that has political connections with another firm having a similar probability of having political connections, but it is not politically linked. Thus, we match firms that have similar characteristics but differ in their political connections. We form matched pairs by identifying pairings that result in observations with the smallest propensity-score differences (i.e., the most similar observed firm-level factors). Following Boubakri et al. (2012), we match a firm first from the same industry and year as the connected firms and use the nearest neighbor since the number of treated and untreated observations in our study is balanced.<sup>18</sup> Observations are matched without replacement using a caliper distance of 0.01. If no untreated firm fulfills the caliper threshold, it would not be matched and discarded from the resultant matched sample (Austin 2011). This procedure yields a balanced matched sample between connected and non-connected firms.

Third, we examine the covariate balance based on the calculated propensity score and remove the most divergent matched pairs to achieve better control for potentially confounding factors if required (Armstrong et al. 2012). Covariate balance is achieved if both the treatment and control groups appear similar along their observable dimensions, except for their choice of being a politically connected firm. The  $p$ -values for the  $t$ -test indicate that the matching algorithm is successful in achieving balance for most covariates. Using  $t$ -tests to test differences in means, none of the differences in firm characteristics is statistically significant in the treatment (with political connections) and control (without political connections) groups at the 10% level (two-tailed). Finally, we examine the relationship between political connections and earnings management by evaluating whether earnings management is significantly different between the treated and untreated groups. In line with the results documented above, Table 5 shows that the estimated coefficient of *PCon* is negative and significant at the 5% and 1% level in the AEM and REM models, respectively. These results suggest that political connections effectively curb accrual-based and

<sup>15</sup> We are very grateful to an anonymous reviewer for this insightful suggestion.

<sup>16</sup> It should be noted that we are not using PSM as an alternative to the Heckman selection model. Rather, we use it to control for the potential endogeneity that may arise from observables (Lennox et al. 2012; Shipman et al. 2017; Tucker 2010).

<sup>17</sup> Despite the advantages of matching using PSM, it is not without its limitations. For more discussion of the limitations of matching methods, including PSM, see Minutti-Meza (2013) and Shipman et al. (2017).

<sup>18</sup> The nearest neighbor matching within a specified caliper distance is similar to the nearest neighbor matching method with the additional further restriction that the absolute difference in the propensity scores of matched subjects must be below the caliper distance as a threshold. Results (untabulated) are also qualitatively similar when the Kernel matching method is used.

**Table 5** The effect of political connections on accrual-based and real earnings management regression using propensity score matching (PSM)

	AEM		REM	
	Coeff	S.E.	Coeff	S.E.
<i>PCon</i>	-0.013**	0.007	-0.092***	0.034
<i>Size</i>	0.003	0.003	0.034**	0.017
<i>Leverage</i>	-0.009	0.020	0.158	0.097
<i>Loss</i>	-0.033***	0.012	-0.052	0.038
<i>ROA</i>	0.192	0.128	-0.203	0.303
<i>Age</i>	0.011*	0.006	0.0598*	0.036
<i>MTB</i>	-0.003	0.005	-0.022	0.028
<i>Capital</i>	0.047***	0.018	0.166**	0.082
<i>CashHold</i>	-0.425***	0.069	-1.962***	0.463
<i>Divid</i>	-0.038***	0.012	-0.138***	0.047
<i>Asym</i>	0.000	0.000	0.002	0.002
<i>OpCycle</i>	0.008**	0.004	0.018	0.017
<i>OwnConcen</i>	0.034	0.021	0.042	0.099
<i>Big4</i>	-0.012	0.009	-0.036	0.039
<i>CG</i>	-0.027	0.025	-0.078	0.136
Intercept	-0.120**	0.052	-0.720**	0.362
Industry FE	Yes		Yes	
Year FE	Yes		Yes	
Observations	1132		1141	
Adj. $R^2$	0.119		0.242	

This table reports propensity score matching regression using the nearest neighbor method with a caliper distance of 0.01. The dependent variables are accrual-based earnings management, *AEM* and real earnings management, *REM*. All regressions include industry and year fixed effects. Robust standard errors clustered by firms are reported in parentheses. See Appendix A for complete variable definitions

\*\*\*, \*\*, \*Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed)

real earnings management even after controlling for differences in observable firm characteristics between politically connected and non-connected groups by matching.

## 6.2 Meeting earnings targets

One shortcoming of using the full sample to test the relationship between political connections and earnings management is that managers' incentives to manage reported earnings are not silent. To increase the power of our tests, we examine the effectiveness of political connections in reducing opportunistic earnings management when managers' incentives to manage earnings to meet earnings benchmarks are strong. Burgstahler and Dichev (1997) provide evidence that managers use income-increasing earnings management to avoid reporting losses and earnings declines.

Following prior research (e.g., Burgstahler and Dichev 1998, Degeorge et al. 1999; Peasnell et al. 2000; Park and Shin 2004; Roychowdhury 2006), we use two earnings

**Table 6** The effect of political connections on accrual-based and real earnings management partitioned by earnings target

Panel A: earnings target $\geq 0$								
	UME < 0				UME $\geq 0$			
	AEM		REM		AEM		REM	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
<i>PCon</i>	- 0.093**	0.053	- 0.223	0.151	- 0.077*	0.044	- 0.503*	0.276
<i>Size</i>	0.010	0.007	0.022	0.020	0.013***	0.006	0.076**	0.036
<i>Leverage</i>	0.015	0.017	0.094*	0.055	- 0.063***	0.016	0.034	0.109
<i>Loss</i>	- 0.018	0.016	0.046	0.029	- 0.036***	0.010	- 0.028	0.073
<i>ROA</i>	0.398**	0.186	0.650***	0.223	0.223***	0.055	- 0.553*	0.320
<i>Age</i>	0.003	0.006	0.019	0.023	0.007	0.006	- 0.017	0.046
<i>MTB</i>	0.017**	0.007	0.007	0.023	- 0.017***	0.006	- 0.094**	0.038
<i>Capital</i>	0.001	0.018	- 0.038	0.050	- 0.027**	0.014	- 0.178**	0.087
<i>Cashhold</i>	- 0.091	0.056	- 0.164	0.175	- 0.179***	0.029	- 0.090	0.196
<i>Divid</i>	- 0.005	0.009	- 0.030	0.029	- 0.016*	0.008	0.003	0.043
<i>Asym</i>	0.000	0.001	0.001	0.001	0.001	0.001	0.001	0.002
<i>OpCycle</i>	0.008	0.004	0.018*	0.010	0.006	0.004	0.039**	0.018
<i>OwnConcen</i>	0.029	0.019	0.029	0.053	0.025*	0.015	- 0.056	0.115
<i>Big4</i>	- 0.010	0.009	- 0.018	0.027	- 0.017**	0.007	- 0.055	0.053
<i>CG</i>	- 0.091*	0.050	- 0.027	0.131	0.031	0.042	- 0.569*	0.319
<i>IMR</i>	0.046	0.031	0.139	0.091	0.045*	0.026	0.304*	0.157
Intercept	- 0.166	0.120	- 0.269	0.316	- 0.187**	0.095	- 1.129**	0.573
Industry FE	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Observations	499		785		1070		785	
Adj. $R^2$	0.3588		0.3622		0.1696		0.2568	

  

Panel B: earnings target $\geq \text{EARN}_{t-1}$								
	UME < $\text{EARN}_{t-1}$				UME $\geq \text{EARN}_{t-1}$			
	AEM		REM		AEM		REM	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
<i>PCon</i>	- 0.063*	0.037	- 0.272*	0.145	- 0.025	0.037	- 0.389	0.270
<i>Size</i>	0.006	0.005	0.026	0.019	0.005	0.005	0.054	0.035
<i>Leverage</i>	0.016	0.013	0.122**	0.054	- 0.050***	0.013	0.072	0.102
<i>Loss</i>	0.016	0.010	0.049	0.030	- 0.003	0.007	0.019	0.071
<i>ROA</i>	0.227**	0.056	0.144	0.225	- 0.016	0.036	- 0.913***	0.295
<i>Age</i>	0.002	0.005	0.016	0.021	0.005	0.005	- 0.037	0.045
<i>MTB</i>	0.008	0.006	0.001	0.022	- 0.011*	0.006	- 0.082**	0.039
<i>Capital</i>	0.005	0.014	- 0.031	0.046	- 0.005	0.012	- 0.162*	0.094
<i>Cashhold</i>	- 0.092***	0.031	- 0.255	0.179	- 0.080***	0.024	0.007	0.190
<i>Divid</i>	0.002	0.008	- 0.025	0.029	- 0.003	0.006	0.017	0.040
<i>Asym</i>	0.001	0.001	0.001	0.001	0.001	0.001	0.003	0.002
<i>OpCycle</i>	0.007**	0.003	0.021*	0.011	0.005*	0.003	0.047**	0.018
<i>OwnConcen</i>	0.000	0.014	0.016	0.054	0.003	0.012	- 0.074	0.110



**Table 6** (continued)Panel B: earnings target  $\geq EARN_{t-1}$ 

	$UME < EARN_{t-1}$				$UME \geq EARN_{t-1}$			
	AEM		REM		AEM		REM	
	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.	Coeff	S.E.
<i>Big4</i>	-0.009	0.006	-0.022	0.025	-0.007	0.006	-0.034	0.054
<i>CG</i>	0.048	0.039	0.089	0.116	0.025	0.033	-0.651**	0.321
<i>IMR</i>	0.034	0.022	0.172	0.088	0.016	0.022	0.240	0.154
Intercept	-0.091	0.081	-0.368	0.305	-0.112	0.076	-0.906*	0.540
Industry FE	Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes	
Observations	780		882		789		688	
Adj. $R^2$	0.111		0.317		0.144		0.356	

This table reports results of second-stage of the Heckman two-stage model of earnings target tests. The dependent variables are accrual-based, *AEM*, and real, *REM*, earnings management measures; *UME* is unmanaged earnings defined as reported earnings minus abnormal accruals. All regressions include industry and year fixed effects. Robust standard errors are clustered by firms. See Appendix A for complete variable definitions

\*\*\*, \*\*, \*Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed)

targets: zero earnings (avoid reporting losses) and prior year's earnings.<sup>19</sup> To run the test, we first define unmanaged earnings (*UME*) as reported earnings (*EARN*) minus discretionary accruals (*AEM*) or the aggregate measure of real earnings management (*REM*). We expect managers to adopt income-increasing accruals and higher real earnings management when *UME* falls below target earnings (i.e.,  $UME < 0$  or  $UME < EARN_{t-1}$ ) (Peasnell et al. 2000; Park and Shin 2004). We have no prior prediction for those firms where *UME* exceeds target earnings, and thus we cannot envisage whether political connections would correct downward earnings management (i.e., income-decreasing accruals). We divide the sample based on whether *UME* exceeds or are below the earnings targets mentioned above and estimate Eqs. (5) and (6) separately for each subgroup.

Panel A of Table 6 presents the estimation results. Focusing mainly on the below-target subgroup, we find that the coefficient of the political connection variable is negative yet only significant in the *AEM* model. This result indicates that political connections play an important role in limiting accrual earnings manipulation when the incentive to avoid reporting losses is high. Managers may prefer using accruals to manipulate earnings because it is less visible and has no direct cash flow consequences (Cohen and Zarowin 2010; Roychowdhury 2006). A plausible explanation is that managers use accrual earnings manipulation first and switch to *REM* when they have limited flexibility in managing accounting numbers using *AEM* (Gunny 2010).

Similar results are also apparent in Panel B of Table 6. Specifically, the estimated coefficient of political connections is negative and significant at the 10% level for the *AEM* and *REM* models. These results reinforce the negative relation between political connections and earnings management and support the hypothesis that political connections effectively

<sup>19</sup> We are very grateful to an anonymous reviewer for suggesting this analysis to us.

constrain accrual and real earnings manipulation when managers are likely to manage earnings to meet/beat last year's earnings. In Panel A of Table 6, we also find evidence that political connections reduce accrual earnings management where *UME* is above earnings targets. However, it is unclear from the literature whether *UME* as above earnings target should be interpreted as income-decreasing earnings management or as conservative accounting (Gul et al. 2009). For example, managers may take a "big bath" to store up positive earnings for future periods (Degeorge et al. 1999). Alternatively, improved disclosure and institutional reforms may force firms to adopt conservative reporting to reduce managerial opportunism and alleviate management incentives to manipulate reported earnings (Iyengar and Zampelli 2010).

### 6.3 Individual and alternative aggregate measures of real earnings management

In the main analyses, we constructed an aggregate measure that captures the three individual real earnings management proxies. However, combining abnormal production costs and abnormal CFO in the same measure could lead to a double counting because some activities that result in abnormally high production costs also result in abnormally low CFO (Roychowdhury 2006). Accordingly, we first multiply both abnormal cash flows from operations and abnormal discretionary expenses by -1 and then construct two alternative aggregate measures of real earnings management. In particular, following Cohen and Zarowin (2010), we define *REM1* as the sum of *R\_DISEXP* and *R\_PROD*, while *REM2* is the sum of *R\_CFO* and *R\_DISEXP*. Higher values of these measures indicate more real earnings manipulation. Table 7 shows that our main findings are robust to these two alternative aggregate measures and lend support to the contention that political connectedness is an effective governance device that constrains real earnings management.

While using an aggregate measure of real earnings management activities captures the overall effects of real activities manipulation, it might be the case that different individual components underlying REM may have different earnings implications that can dilute the results using the composite measure (Cohen and Zarowin 2010). Therefore, we re-estimate the main analysis using the three individual real earnings management metrics (i.e., *R\_CFO*, *R\_PROD*, and *R\_DISEXP*). Table 7 shows that political connections reduce all real earnings management activities.

### 6.4 Decile ranks of AEM and REM

We also use the decile ranks of AEM and REM instead of raw values to reduce the measurement noise and eliminate the impact of outliers (Choi et al. 2018; Kim and Sohn 2013). We calculate the scaled decile ranks by ranking the observations by industry and year into ten groups and then dividing the ranking by ten. For REM, we calculate the average of the decile ranks of the three real earnings management metrics of each industry and year. Therefore, each rank variable ranges from zero to one. Untabulated results show that the coefficient of political connections variable is negative and significant at the 1% level, suggesting that outliers do not materially drive our findings.

**Table 7** The effect of political connections on accrual-based earnings management and individual and different aggregate measures of real earnings management

	REM1		REM2		R_CFO		R_DISEXP		R_PROD	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
<i>PCon</i>	-0.604**	0.239	-0.478***	0.169	-0.171***	0.055	-0.313**	0.158	-0.285***	0.104
<i>Size</i>	0.087**	0.034	0.070***	0.023	0.021***	0.007	0.045**	0.022	0.041***	0.015
<i>Leverage</i>	0.073	0.082	0.020	0.063	0.008	0.019	0.010	0.054	0.050	0.033
<i>Loss</i>	0.068	0.057	0.025	0.038	-0.001	0.012	0.029	0.034	0.035	0.025
<i>ROA</i>	-0.701*	0.376	-0.708***	0.267	-0.468***	0.086	-0.230	0.212	-0.523***	0.173
<i>Age</i>	0.013	0.035	0.015	0.026	0.019**	0.008	-0.003	0.023	0.013	0.016
<i>MTB</i>	-0.027	0.020	-0.031*	0.018	0.003	0.008	-0.034**	0.014	0.013	0.011
<i>Capital</i>	-0.030	0.065	-0.094*	0.051	-0.076***	0.019	-0.009	0.044	-0.030	0.031
<i>Cashhold</i>	-0.247	0.216	-0.290*	0.161	-0.186***	0.045	-0.088	0.138	-0.177*	0.091
<i>Divid</i>	-0.011	0.044	-0.019	0.029	-0.018*	0.010	-0.001	0.025	-0.012	0.023
<i>Asym</i>	0.002	0.002	0.001	0.001	-0.001*	0.000	0.002*	0.001	0.000	0.001
<i>OpCycle</i>	0.024	0.016	0.030**	0.013	0.019***	0.005	0.009	0.011	0.016**	0.007
<i>OvwnConcen</i>	-0.129	0.096	-0.070	0.071	0.034*	0.019	-0.103	0.063	-0.031	0.038
<i>Big4</i>	-0.058	0.043	-0.054*	0.032	-0.024***	0.009	-0.031	0.029	-0.027	0.019
<i>CG</i>	0.468**	0.228	0.410**	0.164	0.087	0.054	0.325**	0.147	0.166	0.108
<i>IMR</i>	0.359**	0.141	0.281***	0.100	0.103***	0.033	0.182*	0.093	0.177***	0.061
Intercept	-1.230**	0.539	-1.010***	0.360	-0.415***	0.116	-0.600*	0.336	-0.607**	0.249
Industry FE	Yes		Yes		Yes		Yes		Yes	
Year FE	Yes		Yes		Yes		Yes		Yes	
Observations	1570		1570		1570		1570		1570	
Adj. R <sup>2</sup>	0.1219		0.1593		0.2675		0.0635		0.1832	

This table reports results of second stage of the Heckman two-stage model, where the dependent variable is the accrual-based earnings management, *AEM*, as estimated in Eqs. (1); *REM1* is the sum of *R\_CFO* and *R\_PROD* while *REM2* is the sum of *R\_CFO* and *R\_DISEXP* as estimated in Eqs. (2)-(4). All regressions include industry and year fixed effects. Robust standard errors are clustered by firms. See Appendix A for complete variable definitions

\*\*\*, \*\*, \* Denote significance level at the 1%, 5%, and 10% levels, respectively (two-tailed)

## 6.5 Ownership types and other tests

We argue that the incentives and ability of large shareholders to constrain earnings management are likely to vary. Therefore, we replace *OwnConcen* with several ownership variables: family ownership, *FamOwn*; state ownership, *StateOwn*; corporations' ownership, *CorpOwn*, and institutional ownership, *InstOwn*. We use the percentage of outstanding shares owned by each group. Results (not tabulated) show that the estimated coefficient of political connections is negative and highly significant for both models at the 1% level. In addition, we find that higher family ownership is associated with higher AEM and lower REM activities. The result of family ownership is in line with Achleitner et al. (2014), who show that firms with higher family ownership are less likely to engage in REM and use AEM possibly to help families retain transgenerational control. Firms with higher family ownership may prefer AEM because it is less likely to be detected by the lax regulatory system and avoid the harmful consequences of real earnings management on firm value and family reputation (Achleitner et al. 2014; Prencipe et al. 2011; Siregar and Utama 2008). Another plausible explanation is that family ownership may play a substitutive role in weak investor protection (Bertrand and Schoar 2006) and reduce the adverse impact of real activities manipulations on the firm value.<sup>20</sup>

Bona-Sanchez et al. (2014) find that the effect of political connections on earnings informativeness depends on the separation between the dominant owner's voting rights and cash flow rights. We measure the separation between the dominant owner's voting rights and cash flow rights, *Wedge*, and re-estimate Eqs. (5) and (6) after adding the interaction term *PCon\*Wedge* to test whether the effect of political connections on earnings management varies with the divergence between the dominant owner's voting and cash flow rights. The results (untabulated but available on request) show that the interaction term is negative and highly significant at the 1% level, indicating that political connections effectively reduce earnings management in firms with a high degree of divergence between the dominant owner's voting and cash flow rights. This result reinforces the governance role of political connections in firms prone to expropriation. It might also be that dominant shareholders are less inclined to expropriate minority shareholders' wealth in politically connected firms to increase the company's reputation and reduce the cost associated with non-value-maximizing activities (Bona-Sanchez et al. 2014).

Since firms with high information asymmetry and growth opportunities are prone to greater agency problems, we evaluate whether the effect of political connections on earnings management varies according to the level of information asymmetry and growth opportunities. We calculate the median values of bid-ask-spread and create an indicator variable (*H\_Asym*) with a value of one for firms with values greater than or equal to the median value of *Asym*, and zero otherwise. Similarly, we calculate the median value of the market-to-book ratio (MTB) and create an indicator variable (*H\_MTB*) with a value of one for firms with values greater than or equal to the median value MTB, and zero otherwise. Then, we re-estimate Eqs. (5) and (6) after adding interaction terms *PCon\*H\_Asym* and *PCon\*H\_MTB* at a time to test whether the effect of political connections on earnings management is stronger in firms with high information asymmetry and growth opportunities, respectively. Results (non-tabulated) indicate that the interaction terms are negative and highly significant for both models, indicating that political connections effectively reduce

<sup>20</sup> The results remain the same when we use indicator variables to replace the continuous ownership variables.

earnings management practices in firms facing higher information asymmetry and those with growth opportunities to a greater extent than in those with low information asymmetry and growth prospects.

To further mitigate the endogeneity problem from simultaneity or reverse causality bias, we re-estimate Eqs. (5) and (6) after replacing contemporaneous values of all explanatory variables with lagged values. This specification yields qualitatively similar findings, albeit the sample size is reduced to 1300 observations, and the coefficients of some control variables are still statistically significant yet at lower significance levels. Finally, we add lagged value of AEM to control for earnings management reversal since the income increasing accruals in a period will be offset by income decreasing accruals in later periods (Choi et al. 2018; Vorst 2016). We also use the lagged value of REM because Vorst (2016) provides empirical evidence that including reversals helps reduce serial correlations and obtain a better-specified REM measure. Unreported results reinforce our inferences that political connectedness is associated with lower accrual-based and real earnings management.

## 7 Conclusion

This study investigates whether political connections are related to earnings management and whether this relationship is influenced by the presence of high-quality auditors and the strength of firm-level corporate governance. Using a sample of publicly listed firms in Indonesia, the findings suggest that political connections effectively reduce accrual-based and real earnings management. We find that the role of political connections in reducing earnings management is pronounced in firms audited by high-quality auditors and in those with better corporate governance. The findings are robust to alternative measures of earnings management and different empirical specifications. This study extends prior research by providing evidence for the role of political connections in influencing accounting outcomes in an emerging market where corporate reporting practices are shaped by inadequate protection for minority investors, high information asymmetry, and weaker corporate governance practices.

Our study has some implications for regulators. First, regulators and capital market authorities may gain insight into the value that former politicians bring to corporate boards and their role in enhancing the quality of financial reporting by reducing earnings management. Second, the negative association between political connections and earnings management strategies has important implications for politicians' contract design and corporate monitoring.

The results, however, should be considered in light of the following caveats. First, a key concern about the explanation of our results relies on the ability of earnings management proxies to capture earnings manipulation activities. Although we use alternative measures for accrual and real activities manipulation, the possibility remains that measurement errors related to these measures may drive our results. Also, earnings targets (i.e., using small profits and small loss avoidance) may not indicate opportunistic choices, and the "kink" in earnings around zero can be explained by asymmetric taxes (Beaver et al. 2007) or statistical and sample bias (Durtschi and Easton 2005, 2009). Second, we only study the relation between political connections and real and accrual-based earnings manipulation. However, we do not consider other aspects of corporate reporting, such as accounting conservatism, corporate disclosure, and value relevance, which could be interesting avenues for future research. We also did not distinguish between the types of political connections.

The benefits of political connections for each board member could vary (Braam et al. 2015). Thus, whether the level of political connections has different effects on earnings management is another avenue for further research. In addition, in this paper, we focus only on the governance role of former politicians in reducing earnings management. However, examining the differential effect of current versus former political connections would provide more insights into the relationship between political connections and earnings management. Therefore, we leave this research question for future research. Third, we employ the Heckman two-stage estimation to address selection bias due to unobservables. The difficulty lies in finding appropriate exogenous instrumental variables to include in the selection model that are correlated with the endogenous variable (i.e., political connections) but do not directly affect the outcome variable (i.e., earnings management) (Larcker and Rusticus 2010; Lennox et al. 2012). Although we also use propensity score matching to control for the potential selection bias on observables, we cannot rule out that selection bias due to omitted correlated variables influences the findings. Finally, a fourth caveat is using a single country. One advantage of using firm-level data analysis is that it better controls for institutional differences within an institutional context and allows for examining firm incentives (Gordon et al. 2013). It also avoids concerns related to small sample size, endogeneity in country-level variables, and correlated omitted variables (Miller 2004) and may also help draw stronger inferences from the results. However, the usual caveat applies: the results from a single country may not generalize due to its unique conditions.

## Appendix A

See Table 8.

**Table 8** Definitions of the variables

Variable	Description
<i>REM</i>	Aggregate measure of real earnings management calculated as the sum of abnormal cash flows from operations ( <i>R_CFO</i> ), abnormal production costs ( <i>R_PROD</i> ), and abnormal discretionary expenses ( <i>R_DISEXP</i> ) as estimated in Eqs. (2)–(4) using Dechow et al. (1998) and as implemented by Roychowdhury (2006)
<i>AEM</i>	Discretionary accruals as estimated in Eq. (1) using the performance-adjusted modified Jones model (Kothari et al. 2005)
<i>PCon</i>	Indicator variable that equals one if the firm has political connections, and zero otherwise
<i>Size</i>	Natural logarithm of total assets
<i>Leverage</i>	Ratio of total debt to total assets
<i>Loss</i>	Indicator variable that equals one if the firm reports a loss, and zero otherwise
<i>ROA</i>	Return on assets, defined as the ratio of net income to total assets
<i>Age</i>	Natural logarithm of the firm's age in years since its establishment
<i>MTB</i>	Ratio of the book value of assets minus the book value of equity plus the market value of equity to the book value of assets
<i>Capital</i>	Ratio of net property, plant, and equipment to total assets
<i>Cashold</i>	Ratio of cash and cash equivalent to total assets
<i>Divid</i>	Ratio of dividends to net income
<i>Asym</i>	Yearly average of daily bid-ask spread over the prior year, computed as [(ask – bid)/(ask + bid)]/2]
<i>OpCycle</i>	Natural logarithm of the sum of days accounts receivable and days inventory
<i>OwnConcen</i>	Percentage of outstanding shares owned by the largest five shareholders
<i>Big4</i>	Indicator variable that equals one if the firm is audited by one of the Big 4 auditors, and zero otherwise
<i>CG</i>	Corporate governance quality index, with a value ranging from 0 to 1 based on the corporate governance index measures. The construction of this index is available in Appendix B
<i>FamOwn</i>	Percentage of outstanding shares owned by the family, either through individual ownership by family members or corporate ownership via affiliated firms
<i>StateOwn</i>	Percentage of outstanding shares owned by central/regional governmental institutions
<i>CorpOwn</i>	Percentage of outstanding shares owned by corporations
<i>InstOwn</i>	Percentage of outstanding shares owned by institutional investors

## Appendix B

See Table 9.

We follow the Institute of Director Corporate Governance Index measurement to construct an overall CG score for each company. For indicators with “Yes/no” answer, if an affirmative value of the indicator is considered to be positive for governance, such as disclosing auditor fee, we assign a score of one for “Yes” and zero for “no”. If, however, an affirmative value of the indicator is considered to be negative for governance, such as a board size with “fewer than eight or more than 15 directors”, then the score is zero for “Yes” and 1 for “no”. For continuous indicators, such as “Return on Equity”, we rely on a process known as a minimum–maximum normalization. If a higher value of the indicator is considered to be positive for governance, the company with the highest value is set equal to one, and zero for the company with the lowest value. For all other companies, the score is equal one times the difference between the actual and the minimum values divided

**Table 9** Corporate governance index

No.	Items	Impact on corporate governance	Justification
<b>Board effectiveness</b>			
1	Major shareholders in BOC (Yes/No)	Yes = negative impact	Major shareholders can influence the supervising function
2	Major shareholders in BOD (Yes/No)	Yes = negative impact	Major shareholders can influence the management decision making
3	Independent CEO (Yes/No)	Yes = positive impact	Board Leadership is independent of the majority of shareholders interest
4	Percentage of Independent Commissioners on the BOC	Higher value = positive impact	Greater independence and objectivity of the board
5	% of female members on BOC	Higher value = positive impact	Improved board decision-making due to more diverse perspectives
6	% of female members on BOD	Higher value = positive impact	Improved board decision-making due to more diverse perspectives
7	% of foreign members on BOC	Higher value = positive impact	Improved board decision-making due to more diverse perspectives
8	% of foreign members on BOD	Higher value = positive impact	Improved board decision-making due to more diverse perspectives
9	Fewer than 8 or more than 15 board members (yes/no)	Yes = negative impact	Outside of this range, sub-optimal board decision making due to either excessively narrow or unwieldy board size
10	Number of BOC meetings held	Higher value = positive impact	Higher level of board diligence and commitment
11	Number of BOD meetings held	Higher value = positive impact	Higher level of board diligence and commitment
12	% of BOC meeting attendance	Higher value = positive impact	Higher level of board diligence and commitment
13	% of BOD meeting attendance	Higher value = positive impact	Higher level of board diligence and commitment
14	Average BOC members tenure	Higher value = negative impact	High values could indicate lack of board independence and/or the entrenchment of long-serving commissioners
15	Average BOD members tenure	Higher value = negative impact	High values could indicate a lack of board independence and/or the entrenchment of long-serving directors
<b>Audit and risk</b>			
16	Auditor Fee disclosure (Yes/No)	Yes = positive impact	Indicative of a higher level of transparency and auditor role
17	Size of the audit committee	Higher value = positive impact	Indicative of a higher level of audit committee expertise
18	Number of the audit committee meeting	Higher value = positive impact	Higher level of audit committee diligence and commitment
19	% of AC meeting attendance	Higher value = positive impact	Higher level of audit committee diligence and commitment
20	Risk Management System disclosure (Yes/No)	Yes = positive impact	Indicator for company preparation level to manage risk
21	Risk Management Evaluation disclosure (Yes/No)	Yes = positive impact	Indicator for company preparation level to manage risk



**Table 9** (continued)

No.	Items	Impact on corporate governance	Justification
22	Risk Management Types disclosure (Yes/No)		Yes = positive impact
23	Risk Management Implementation disclosure (Yes/No)		Indicator for company preparation level to manage risk
24	Internal Control system disclosure (Yes/No)		Yes = positive impact
25	Internal Control alignment with COSO (Yes/No)		Indicator for proper internal control monitoring process
26	Internal Control Evaluation disclosure (Yes/No)		Yes = positive impact
	Board remuneration		Indicator for proper internal control monitoring process
27	Average board salary/compensation		Higher value = negative impact
28	Remuneration policy disclosure (Yes/No)		Could be suggestive of a lack of robust oversight over board compensation
29	Remuneration committee disclosure (Yes/No)		Yes = positive impact
30	Board assessment policy disclosure (Yes/No)		Indicator of transparency on the remuneration system
	Shareholder relation		Yes = positive impact
31	Return on Equity		Indicator of a link between board compensation and firm performance
32	Share price volatility over the last 5 years period		Higher value = positive impact
	Stakeholder relation		The board are committed to shareholders interest
33	Does the company have the policy to apply the one-share, one vote-principle		Higher value = negative impact
34	No dual-class unequal voting rights—common shares (Yes/No)		Could indicate shareholders concerns with the governance of the company
	Stakeholder relation		Yes = positive impact
35	Environmentally related CSR disclosure (Yes/No)		Greater power enjoyed by minority shareholders
36	Workers safety, health and development related CSR disclosure (Yes/No)		Yes = positive impact
37	Social, Product and Consumers related CSR disclosure (Yes/No)		Greater power enjoyed by minority shareholders
38	Whistleblowing system and protection system for whistleblowers disclosure		Yes = positive impact
	Stakeholder relation		A commitment to the environment
	Stakeholder relation		A commitment to employee
	Stakeholder relation		A commitment to society and consumers
	Stakeholder relation		A commitment to good corporate governance of the company

Source: Modified from Institute of Directors 2017 Corporate Governance Index

by the difference between the maximum and minimum values according to the following formula:

$$\text{IndicatorScore} = \frac{\text{CompanyIndicatorValue} - \min(\text{IndicatorValue})}{\max(\text{IndicatorValue}) - \min(\text{IndicatorValue})}$$

If higher values of the indicator are seen as a negative barometer of corporate governance—for example, an indicator which measures share price volatility, we follow the same process, but we subtract the factor score from one. Where data for an indicator is not available for a particular company, they are assigned the average factor score. We then calculated the arithmetic average of each of the standardized indicator scores for each of the five broad corporate governance categories.

**Funding** Funding was provided by the Indonesia Endowment Funds for Education (LPDP) at the Ministry of Finance.

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