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ORIGINAL RESEARCH

Does firm-level political risk influence earnings management?

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Abstract
This study diverges from mixed findings in the literature on political uncertainty and earnings management by reporting a significant positive association between the firm-level political risk (*FLPR*) measure proposed by Hassan et al. (Q J Econ 134(4):2135–2202, 2019) and both accrual-based and real earnings management. This aligns with the predictions of agency theory and the political cost hypothesis, indicating that firms exposed to higher political risk are more prone to heightened earnings manipulation. Additionally, we find that in the face of increased political risk, firms tend to substitute accrual-based earnings management with real earnings management, which is relatively harder to detect. This study further identifies a non-linear 'U'-shaped association between *FLPR* and both accrual-based and real earnings management, suggesting significant manipulation at both low and high political risk levels, with the least manipulation at a moderate level. This non-linear association is primarily observed in firms that are smaller in size, pay lower abnormal compensation to their CEOs and are less likely to be monitored by lenders. Thus, emphasising the role of external monitoring mechanisms in driving the non-linear association between *FLPR* and earnings management.

Keywords Earnings management · Political risk · Corporate governance · Non-liner · External monitoring · External monitoring

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1 Introduction

The relationship between political risk and earnings management can be analysed through the lenses of agency theory and political cost hypothesis (Watts and Zimmerman 1978; Boland and Goldsell 2020). When faced with uncertainties arising due to political risk, managers may use discretion in financial reporting to mitigate the negative impact of political risk (Cahan 1992). In such politically challenging situations, managers might manipulate earnings to either protect their interests, influence stock prices, or ensure the survival of the firm. For example, managers might engage in income smoothing to present a stable financial performance, signalling stability to stakeholders during politically turbulent times (Gunny 2010). Similarly, the political cost hypothesis suggests that firms consider potential costs associated with political risks and adjust their behaviour, including financial reporting, to minimize adverse consequences (Watts and Zimmerman 1978; Boland and Goldsell 2020). Thus, firms may engage in earnings management as a strategic response to mitigate the negative impact of political risk.

Consequently, this study examines the impact of firm-level political risk (*FLPR*) on the earnings management practices of non-financial firms in the United States (U.S.). While prior studies examined the effect of economy-wide measures of political risk, i.e., economic policy uncertainty or policy uncertainty, on earnings management (El Ghoul et al. 2021; Yung and Root 2019), we focus on idiosyncratic firm-level political risk. We do this because firms react differently to the same external environment and experience different "idiosyncratic shocks" even when they operate within the same industry. This is primarily due to the factors unique to the firm, such as differences in business models, operating characteristics, competitive technologies, new product development, takeover of new businesses, etc. (El Ghoul et al. 2021; Owens et al. 2017). Hassan et al. (2019) provide evidence showing that more than 90% of the variation in political risk is driven by firm-level variations over time, indicating that political risk primarily is a firm-specific phenomenon rather than a systemic economy-wide phenomenon. Thus, confirming that the economy-wide measures like political uncertainty, do not fully capture a firm's exposure to political risk.

Although "policy uncertainty" and "political risk" are related concepts, they capture different aspects of the challenges that businesses may face in the context of governmental decisions and actions. While policy uncertainty is a specific aspect of political risk related to the unpredictability of government policies (see El Ghoul et al. 2021; Gulen and Ion 2015; Yung and Root 2019), political risk encompasses a broader spectrum of potential challenges arising from political decisions and events (see Hassan et al. 2019; Hoang et al. 2023). Both policy uncertainty and political risk can influence business strategies, decision-making, and overall operational stability, and companies need to manage and mitigate these risks to ensure resilience in the face of changing political landscapes.

In times of high political risk due to increased uncertainty regarding monetary policies, fiscal policies, or regulatory conditions, managers tend to exercise caution and delay economic activities such as corporate investments, issuance of equity, and mergers and acquisitions (Bonaime et al. 2018; Çolak et al. 2017; Gulen and Ion 2015; Yu et al. 2022). This is because of the irreversible nature of such activities and the associated high cost of capital. During high political risk periods, firms often resist unfavourable political actions, which may lead to additional costs, such as information costs, lobbying fees, and legal expenses (Patten and Trompeter 2003; Watts and Zimmerman 1990). Thus, firms facing high policy

uncertainty or political risk are more likely to engage in earnings management due to heightened agency conflicts (Yung and Root 2019), thereby compromising the accounting quality. However, El Ghoul et al. (2021) find that firms with high policy uncertainty exhibit higher accounting quality. They attribute this to heightened policy uncertainty prompting investors to demand better financial reporting, thereby reducing managerial tendencies to manipulate earnings.

The mixed findings in the above studies may be attributed to the lack of a comprehensive firm-level measure of political risk (Pástor and Veronesi 2012), as a firm's reaction to political risk is primarily a firm-specific phenomenon rather than a systemic economy-wide phenomenon (Hassan et al. 2019). By focusing on political risk as a sector-wide or economy-wide risk, prior studies neglect the individual firm's heterogeneity in exposure to political risk. Thus, unlike previous studies that employ an economy-wide or industry-wide political uncertainty measure as a proxy for political risk, to the best of our knowledge, we contribute to the literature by being the first study that employs a more accurate *firm-level political risk* (*FLPR*) measure developed by Hassan et al. (2019) to investigate the relationship between political risk and earnings management.[1]

In line with the predictions of agency theory and political cost hypothesis, empirical results show a significant positive association between *FLPR* and accrual-based and real earnings management, indicating that firms facing higher exposure to political risk engage in higher earnings manipulation. This is consistent with previous studies in a similar vein (see Hoang et al. 2023; Yung and Root 2019) which show that earnings manipulation is higher when political uncertainty is high. However, this is in contrast with El Ghoul et al. (2021), who show that accounting quality increases during the period of high political uncertainty. Our results are robust to potential endogeneity concerns, sample selection bias and breakdown of *FLPR* into its respective risk components.

Additionally, prior studies (see Fields et al. 2001; Watts and Zimmerman 1990; Zang 2012) suggest that focusing on only one earnings management technique at a time does not provide a comprehensive understanding of reality. Zang (2012) shows that managers trade-off between accrual-based and real earnings management based on their relative costs. Thus, we examine whether managers substitute between accrual-based and real earnings management techniques, depending on the degree of firms' exposure to political risk. We find that managers are more (less) likely to engage in real (accrual-based) earnings management activities at a higher level of political risk. However, managers appear to be indifferent between the two choices at a lower level of political risk. These results are consistent with Braam et al. (2015), who show that politically connected firms are more likely to substitute accrual-based with real earnings management because the latter is more difficult to detect.

This paper makes another noteworthy contribution to the literature by highlighting a non-linear U-shaped relation between *FLPR* and accrual and real earnings management. This indicates that managers tend to engage in substantial earnings manipulation at both low and high levels of political risk, with the lowest earnings manipulation observed at an optimal level of political risk. Since external monitoring is expected to be lower at lower levels of political risk, it provides opportunities for managers to manipulate earnings. An increase in firms' exposure to political risk increases the visibility of firms, thereby mitigating earnings

[1] The working paper version of this manuscript has been in the public domain since December 2021. Subsequent studies have emerged since then, with some acknowledging and citing our work, while others have chosen to disregard it, reflecting a lapse in professional ethics. In all fairness, we believe our assertion is justified.

management opportunities, resulting in a negative association between *FLPR* and earnings management until political risk reaches a higher optimal level. This is in line with the argument that external monitoring by media, regulators and policymakers mitigates earnings management opportunities (Chen et al. 2021). Beyond the optimal level of political risk, there is a positive association between *FLPR* and earnings management. This is consistent with Yung and Root (2019) who show that accrual-based and real earnings management are higher when political uncertainty (measured using Baker et al. (2016) index) increases beyond the tolerable level. Concerns related to the career, reputation, and survival of the firm may also incentivize managers to manipulate earnings despite increased media attention beyond the optimal levels of political risk (Fisher et al. 2019).

Overall, this non-linear association between *FLPR* and earnings management is a critical contribution of our study which also aims to reconcile the divergent findings of Yung and Root (2019) and El Ghoul et al. (2021) regarding the relationship between political risk and earnings management. Additionally, significant political decisions in the recent past, such as Brexit in the United Kingdom and uncertainty during presidential elections in the U.S., which have a direct and indirect (individual firms react differently to external events) bearing on managerial decision-making, also make these findings particularly critical.

Finally, the non-linear association between *FLPR* and earnings management appears to be driven by firms that are smaller in size, pay lower abnormal compensation to CEOs, and are less likely to be monitored by lenders. Thus, highlighting the role of external monitoring mechanisms, in driving this non-linear relationship. We believe this study provides an avenue for debate on how firms strategically manipulate earnings in response to perceived political risk and external corporate monitoring.

2 Related literature and hypotheses development

2.1 Firm-level political risk

Political risk may stem from a significant policy shift or potential introduction of new regulations (Clark 1997; Busse and Hefeker 2007). Corporate executives consider political risk as one of the major risk factors affecting firm value. Firms often establish ties with politicians, lobby, and donate to political campaigns to steer the political climate to their advantage (Hassan et al. 2019). Such attempts provide firms with greater access to resources, information, preferential treatment, and the power to influence public policies. Risks originating from political activities and firms' reactions to political actions could be costly. It may affect various aspects of a firm's behaviour, such as financing, investment, and dividend decisions (Watts and Zimmerman 1990).

Using various measures of political risk, prior research shows that political risk negatively affects firms' investments (Jens 2017; Julio and Yook 2012), mergers and acquisitions (Bonaime et al. 2018; Chen et al. 2024), equity issuance (Çolak et al. 2017), etc. It also increases the stock price volatility (Pástor and Veronesi 2012). Yung and Root (2019) documented greater earnings manipulation at a higher level of political uncertainty. On the other hand, El Ghoul et al. (2021) show that political risk is positively associated with accounting quality. They argue that monitoring by investors increases at times of high political risk. It motivates managers to improve monitoring quality. The majority of the prior research

uses economy-wide measures of political risk, i.e., economic policy uncertainty or policy uncertainty.

While aggregate measures account for political risk at the country and industry level, they do not capture the idiosyncrasies at the firm level. Political risk measures used in prior research are common for all firms in an industry ignoring the political risk components generated due to factors unique to the firm. Several factors that are unique to a firm, such as differences in business models, operating characteristics, and competitive technologies, shape the total political exposure of companies. Thus, the economy-wide measures do not fully capture a firm's exposure to political risk.

Consequently, this study uses a time-varying firm-level measure of political risk proposed by Hassan et al. (2019) to capture the political risk of non-financial U.S. firms in our sample. It is measured using textual analysis of the transcripts of quarterly earnings conference calls between U.S. firms, analysts, and other interested parties. It captures the proportion of conversation in conference calls centred around politics. By using training libraries of political and non-political texts, Hassan et al. (2019) identified bigrams (two-word combinations) that frequently occur in political texts. They measure the proportion of politically focused conversation in conference calls by dividing the number of bigrams indicating political discussion in conference calls by the total number of bigrams in the conference call transcripts. Quantitatively, the political risk of a given firm in a particular year is the average firm-level transcript-based political risk scores of the past four quarters.

Hassan et al. (2019) provide the following evidence to indicate that their measure truly captures the political risk: stock return volatility significantly increases while investments, capital expenditures, and hiring decrease when there is an increase in *FLPR*. It varies over time and across sectors, and is highly correlated with Baker et al. (2016) measure of 'economic policy uncertainty.' Based on the above evidence, Hassan et al. (2019, p. 2137) note that their firm-level measure of political risk "correlates with firm-level outcomes in a way that is highly indicative of reactions to political risk." Hassan et al. (2019) find that 91.69% of the variation in political risk is at the firm level. In contrast, variation in political risk across sectors and time accounts for only 7.5% and 0.81% of total variations in political risk, respectively. Thus, aggregate measures of political risk, such as the 'economic policy uncertainty' proposed by Baker et al. (2016), remain relatively stable and do not fully capture the heterogeneity and volatility of political risk exposure amongst individual firms. Thus, more recently, the focus has shifted to firm-level political risk (see among others Francis et al. 2014; Kaviani et al. 2020; Wang et al., 2018).

Therefore, in this study, we use the firm-level political risk measure, proposed by Hassan et al. (2019), which avoids the issues associated with aggregate measures of political risk employed in the previous literature.[2]

2.2 Firm-level political risk and earnings management

Major accounting frauds involving earnings manipulations throughout the world have led to extensive research on accounting quality. Unlike other practices of accounting manipu-

[2] The firm-level political risk measure developed by Hassan et al. (2019) has been successfully employed in several studies to examine the effect of political risk on debt markets (see Gad et al. 2019), corporate social responsibility practices (see Chatjuthamard et al. 2021), cost of equity capital, payout policy (see Karimov et al. 2021), earnings opacity (see Hoang et al., 2023) etc.

lations, earnings management does not violate accounting principles and is carried out at the discretion of management within Generally Accepted Accounting Principles (GAAP). In a survey of 400 chief financial officers, Dichev et al. (2016) found that approximately 20% of companies manipulate earnings while adhering to the standard accounting regulations in any given period. They also report manipulations to be as large as 10% of reported earnings. In a similar study based on surveys and interviews of CFOs, Graham et al. (2005) documented that 80% of CFOs admit that they would engage in real earnings management activities such as decreasing R&D, advertising, and maintenance expenditures, while 55% of CFOs would delay a project to meet or beat earnings benchmarks, such as earnings for the same quarter previous year or analysts' consensus forecasts.

The findings in the above studies highlight a concerning trend where managers exploit their accounting discretion to manipulate earnings, substantiating the tenets of agency theory. According to this theory, managers, driven by a conflict of interest with shareholders, indulge in self-serving activities to safeguard personal benefits. Factors such as information asymmetry, differing risk attitudes, and disparate time horizons further contribute to the inherent conflict between managers and shareholders (El Diri 2018). Consequently, depending on the severity of the agency problem, executives may resort to earnings manipulation with the intent of meeting or surpassing benchmarks and analysts' forecasts, securing managerial compensation, or simply presenting an overly optimistic portrayal of the firm.

Political risks, such as the possibility of new regulations or significant policy changes, can impact a variety of economic outcomes at the firm level, such as corporate investments (Gulen and Ion 2015; Huang and Sun 2023; Julio and Yook 2012), mergers and acquisitions (Bonaime et al. 2018), equity issuance (Çolak et al. 2017), etc. Previous studies argue that in an environment characterized by increased uncertainty regarding monetary and fiscal policies, along with regulatory conditions, managers tend to exercise caution. They may delay corporate investments and postpone engaging in mergers and acquisitions due to the irreversible nature of these activities (Bonaime et al. 2018; Gulen and Ion 2015). Moreover, in such situations, firms lower the issuance of equity in the form of initial public offerings because of the higher cost of capital (Çolak et al. 2017). Additionally, the political process imposes several costs on a firm, including information costs, lobbying costs, transfer of wealth between various groups, and legal expenses incurred when opposing adverse political actions (Patten and Trompeter 2003; Watts and Zimmerman 1990). Overall, the delay in important economic activities and additional costs due to high political risk collectively affect the organizational competitiveness of a firm. This may encourage firms to engage in earnings management aimed at mitigating these challenges.

Additionally, the political cost hypothesis suggests that firms, mindful of potential costs associated with political risks, adjust their behaviour, including financial reporting, to minimize adverse consequences (Watts and Zimmerman 1978, 1990). Thus, firms facing high political risk are strongly motivated to manipulate accounting numbers and employ earnings manipulation as a strategic tool to mitigate unfavourable political exposure (Cahan 1992; Watts and Zimmerman 1978). Rightfully, Patten and Trompeter (2003) state that: *"Earnings management is only one tool*, *a reactive tool*, *available to corporations for dealing with political scrutiny."*

However, the empirical evidence examining the association between earnings management and political risk remains inconclusive. Yung and Root (2019) contend that firms are more prone to earnings management during periods of heightened political uncertainty

due to increased agency conflict between shareholders and management. In contrast, El Ghoul et al. (2021) present compelling evidence that firms facing high political risk demonstrate superior accounting quality. They argue that heightened uncertainty prompts investors to exercise greater vigilance, demanding enhanced financial reporting quality, thereby diminishing the managerial inclination to manipulate earnings. Additionally, Jennings et al. (2021) illustrate that politically connected firms engage in less opportunistic financial reporting compared to their non-politically connected counterparts. They posit that politically connected firms undergo heightened scrutiny by the SEC, thus reducing opportunities for earnings management in these companies.

Considering the limited mixed findings in the existing literature, we follow the predictions of agency theory and political cost hypothesis, and formulate the following hypothesis:

H1 *There is a positive association between firm-level political risk and earnings management.*

2.3 Trade-off between accrual-based and real earnings management

Accrual-based and real earnings management are the two earnings management strategies managers use to inflate or deflate financial statements. Accrual-based earnings management involves changing estimates or accounting methods to manipulate earnings. On the other hand, real earnings management is achieved by manipulating real transactions, such as overproduction, decreasing R&D, advertising, maintenance expenditures, etc. (Graham et al. 2005; Roychowdhury 2006). Examining the trade-off decision, Zang (2012) shows that managers trade-off between accrual-based and real earnings management based on their relative costs. The potential penalty of exposure and difficulty in achieving an earnings target are the costs of using an accrual-based manipulation (Cohen and Zarowin 2010). On the other hand, real-activities manipulation is likely to negatively affect a firm's long-term value (Zang 2012). Compared to accrual-based, real earnings management is less likely to be detected by auditors, and therefore it makes it easier to achieve the desired earnings target (Graham et al. 2005).

Thus, firms that are more likely to be under the scrutiny of auditors, regulators, and policymakers are more likely to choose real over accrual-based earnings management. On the other hand, accrual-based earnings management is prone to discovery and is more likely to occur in firms under lower scrutiny. Supporting this view, Ahmed et al. (2022) demonstrate that politically connected firms face a reduced threat of regulatory enforcement and therefore such firms tend to increase accrual-based earnings management while decreasing real earnings management. Additionally, prior research provides evidence that firms substituted accrual-based with real earnings management after the passage of the Sarbanes-Oxley Act (SOX) in 2002 due to improvements in corporate governance standards and increased attention of the press, regulators, and researchers (Cohen et al. 2008; Bartov and Cohen 2009). These changes in the post-SOX period limited the ability of managers to meet or beat earnings forecasts using accrual-based earnings management.

The above discussion suggests that the trade-off between alternate forms of earnings management strategies is primarily driven by relative costs and the threat of detection by internal or external corporate governance mechanisms. Thus, we expect firms exposed to

greater political risk to be under higher scrutiny by external stakeholders such as analysts and the media. Since accrual-based earnings management is prone to discovery, we expect that firms exposed to greater political risk are likely to opt for a combination of higher real and lower accrual-based earnings management. This leads to the following hypothesis:

H2 *Firms exposed to higher firm-level political risk substitute accrual-based earning management with real earnings management.*

2.4 Non-linear association between political risk and earnings management

External scrutiny from the media, regulators and policymakers is expected to be lower when firms' exposure to political risk is low. Examining the monitoring role of the press, Dyck and Zingales (2004), and Dyck and Zingales (2002) find that media pressure mitigates private benefits of control. Consistent with this argument, Chen et al. (2021) provide evidence that media coverage is associated with lower accrual-based and real earnings management. Thus, we argue that lower levels of political risk may incentivize earnings manipulation because, in such firms, external monitoring is lower, and investors are more likely to attribute earnings to firm performance. With an increase in firms' exposure to political risk, we expect that the rise in media coverage and political visibility reduces the opportunities for earnings manipulation until political risk reaches an optimal level at which earnings manipulation is the lowest.

At high levels of political risk, information asymmetry between the managers and investors/creditors increases (Francis et al. 2014; Yung and Root 2019), which may provide opportunities for managers to manipulate earnings. Francis et al. (2014) document that high political exposure leads to additional costs due to increased information asymmetry between insiders and outsiders. Additionally, career concerns and survival threats of firms during a period of high political risk may motivate managers to engage in earnings manipulation (Fisher et al. 2019). Supporting this argument, Cahan (1992) provides evidence that managers adjust discretionary accruals during investigations when the political cost (in the form of an unfavourable ruling) is high. In response to political exposure, Shaffer (1995, p. 495) notes that "firm-level responses include both strategic adaptation and attempts to influence public policy." We argue that manipulating earnings is one of the most effective strategic adoptions by the firm in response to changes in firms' exposure to political risk.

Additionally, research evidence on cookie-jar accounting[3] suggests that companies build a cookie-jar reserve by manipulating earnings when their performance is high and utilize it in the future to meet or beat earnings targets (Frank and Rego 2006; Dhaliwal et al. 2004). Former Securities and Exchange Commission (SEC) Chairman Arthur Levitt states that companies *"stash accruals in cookie jars during the good times and reach into them when needed in the bad times"* (Levitt 1998). Thus, managers may be tempted to manipulate earnings in periods when political risk is either very low or high. Thus, we expect a non-linear association between earnings management and *FLPR*. This leads to the following hypothesis:

[3] In the past, SEC has imposed fines on several companies, such as WorldCom Inc., Microsoft Corp., Xerox Corp., Sunbeam Corp., etc., for misstating earnings using the cookie-jar-accounting (Ward 2002).

H3 *There is a non-linear association between firm-level political risk and earnings management.*

3 Data, covariates and empirical methodology

3.1 Data

We obtained the data on *FLPR* of listed non-financial U.S. companies from Hassan et al. (2019).[4] It records *FLPR* measures from the year 2002, hence our sampling period starts from 2002 and goes until 2020. We sourced the remaining financial data from the Compustat database. We exclude firms in regulated industries (SIC codes between 4400 and 5000), banks and financial institutions (SIC codes between 6000 and 6500) from our sample. Moreover, we restrict our sample to those firms which report a positive book value. We also exclude observations that have missing SIC codes, missing or negative total assets, and firms that are not incorporated in the U.S.[5] We also require at least 15 available observations in a given year and industry to calculate earnings management variables. Finally, we also exclude observations that have missing data on political risk. Our final sample consists of 30,918 firm-year observations of 4,186 firms over the period 2002–2020.

3.2 Definition of variables

3.2.1 Measure of firm-level political risk

In this study, we define political risk as the natural logarithm of the firm-year measure of political risk (*POLITICAL RISK*) obtained from Hassan et al. (2019). As the *FLPR* data obtained from Hassan et al. (2019) is quarterly instead of annual, we calculated the annual *FLPR* measure in any given year by calculating the average of the four quarters of *FLPR* (as our empirical analysis requires annual estimates). If all four quarters' information is not available, we calculate the average of the available quarterly information. Before calculating the annual average, we excluded observations that have missing or zero values for quarterly *FLPR* in the database.

3.2.2 Earnings management variables

3.2.2.1 Accrual-based earnings management In prior research, Jones-type models have been mainly used to test for earnings management. Collins et al. (2017, p. 72) show that Jones-type models "fail to control for the non-linear effects of firm growth on innate (non-discretionary) accruals." They find that the failure to control for the effects of firms' growth results in high Type 1 error (false positives) when standard Jones-type discretionary models are used to test for earnings management. According to Collins et al. (2017), the use of period-to-period change in sales, ignoring the effect of current sales growth, future expected

[4] Available at https://sites.google.com/view/firmrisk/home.

[5] Identified as FIC with value of "USA" in Compustat database.

growth, and the assumption that the relation between change in sales and accruals is linear, are the primary reasons behind the misspecifications in standard Jones-type models. To address these misspecification issues, Collins et al. (2017) modified the Jones-type models by controlling for non-linear effects of firms' growth and performance and show that the refined model lowers the Type 1 error while retaining the power. Thus, following prior research (Ferri et al. 2018; Huang et al. 2017), we use Collins et al. (2017) growth-adjusted discretionary accrual model to proxy accrual-based earning management (*AEM*), represented by the following equation:

$$\begin{aligned}\frac{TA_{i,t}}{Assets_{i,t-1}} =& \beta_0 + \beta_1 \frac{1}{Assets_{i,t-1}} + \beta_2 \frac{(\Delta SALES - \Delta AR)_{i,t}}{Assets_{i,t-1}} \\ &+ {}_k\sum \beta_{3,k} \frac{ROA_{Dumk,\ i,t}}{Assets_{i,t-1}} + {}_k\sum \beta_{4,k} \frac{SG_{Dumk,\ i,t-1}}{Assets_{i,t-1}} \\ &+ {}_k\sum \beta_{5,k} \frac{MB_{Dumk,i,t-1}}{Assets_{i,t-1}} + u_{i,t}\end{aligned} \tag{1}$$

where *i* indexes firms and *t* indexes years. *TA* is total accruals, defined as the difference between income before extraordinary items and operating cash flows. *Assets* are total assets, $\Delta SALES$ is the changes in sales, ΔAR denotes the changes in account receivables. The binary variables $ROA_{Dumk,\ i,t}$, $SG_{Dumk,\ i,t-1}$, and $MB_{Dumk,i,t-1}$take the value 1 if the variable belongs to the k_{th} quintile in the aggregate data, and 0 otherwise. Using Eq. 1, we calculate the discretionary accrual as the residual from the regression estimated for each 2-digit SIC-industry-year group. We define accrual-based earnings management (*AEM*) as the absolute value of calculated discretionary accruals.

3.2.2.2 Real earnings management Following prior research (Cohen and Zarowin 2010; Shi et al. 2018), we use Roychowdhury (2006) model to proxy real earning management. We estimate the abnormal production costs, abnormal discretionary expenses, and abnormal cash flow from operations as alternate measures of real earnings management. We use the following equation to calculate the abnormal production costs:

$$\frac{PROD_{i,t}}{Assets_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{i,t-1}} + \beta_2 \frac{\Delta Sales_{i,t}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta Sales_{i,t-1}}{Assets_{i,t-1}} + u_{i,t} \tag{2}$$

where *PROD* denotes the production cost, calculated as the sum of the cost of the goods sold and the change in inventory over a year. We define the residuals obtained from regressing Eq. 2 for each 2-digit SIC code industry-year group as abnormal production costs. A higher value of abnormal production costs suggests higher real earnings manipulation. We calculate the abnormal discretionary expenses as follows:

$$\frac{DISX_{i,t}}{Assets_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{i,t-1}} + \beta_2 \frac{Sales_{i,t}}{Assets_{i,t-1}} + u_{i,t} \tag{3}$$

where *DISX* denotes discretionary expenses calculated by adding research and development expenses, advertising, and sales and distribution expenses. Like the estimation of abnormal production costs, the abnormal discretionary expenses are defined as the residuals from the regressions of Eq. 3 for each industry-year group. The lower value of abnormal discretionary expenses suggests higher real earnings manipulation. To make this measure increase with the degree of real earnings manipulation, we multiply the obtained residuals by minus one. Further, we calculate the abnormal cash flow from operations using the following equation:

$$\frac{CFO_{i,t}}{Assets_{i,t-1}} = \beta_0 + \beta_1 \frac{1}{Assets_{i,t-1}} + \beta_2 \frac{Sales_{i,t}}{Assets_{i,t-1}} + \beta_3 \frac{\Delta\, Sales_{i,t}}{Assets_{i,t-1}} + u_{i,t} \qquad (4)$$

where *CFO* denotes the cash flow from operations. Similar to the previous measures, we define abnormal CFO as the residual obtained from the regressions of Eq. 4 for each industry-year group. A lower value of abnormal CFO suggests higher earnings management. Therefore, to make it increase with the degree of real earnings manipulation, we multiply the estimated residuals by minus one. Additionally, following prior research (Cohen and Zarowin 2010; Ipino and Parbonetti 2017; Zang 2012), we create an aggregate measure of real earnings management (*REM*) by adding the above three abnormal estimates as follows:

$$\begin{aligned} Real\ Earnings\ Management = Abnormal\ production\ costs \\ + Abnormal\ discretionary\ expenses \times (-1) + \\ Abnormal\ cash\ flow\ from\ operations \times (-1) \end{aligned} \qquad (5)$$

3.2.2.3 Trade-off between Accrual-based and real earnings management To test whether there is any trade-off between accrual-based and real earnings management at different levels of firms' exposure to political risk, we use two dummy variables indicating opposite combinations of both earnings management strategies as our dependent variables. For example, a firm may substitute accrual-based with real earnings management or may adopt an opposite strategy and replace real with accrual-based earnings management depending on the degree of political risk exposure. Following Braam et al. (2015), we test the trade-off between alternate earnings management techniques using the following constructs: $REM_H\_AEM_L$ takes a value of 1 if real earnings management is high (above the third quartile, Q3, in a given year and industry) and accrual-based earnings manipulation is low (below the top quartile, Q3, in a given year and industry), and 0 otherwise. Similarly, $AEM_H\_REM_L$ takes a value of 1 if accrual-based earnings management is high (above the top quartile, Q3, in a given year and industry) and real earnings manipulation is low (below the third quartile, Q3, in a given year and industry), and 0 otherwise.

3.2.3 Control variables

In our regression models, we control for a standard set of firm-specific factors identified in prior literature as determinants of earnings management. We control for firm size (*SIZE*), measured as the natural logarithm of total assets (in millions of dollars), since larger firms are likely to be affected by political risk since their greater visibility due to higher media

coverage makes them prone to political targets. Therefore, larger firms are more likely to manage their earnings. Conversely, the impact of political risk on earnings management could be lower in large firms as they actively manage their political risk by establishing ties with politicians, through lobbying and donating to political campaigns (Hassan et al. 2019), and due to large firms being subject to higher scrutiny from the media, regulators, and policymakers.

Additionally, following prior research on earnings management (e.g. Shi et al. 2018), we include standard control variables such as *AGE* (natural logarithm of the number of years passed since listing), *LEVERAGE* (measured as total debt divided by total assets), and *MTB* (market-to-book ratio, i.e., market capitalization divided by the book value of equity). We also control for firms' profitability, as more profitable firms are less motivated to manipulate earnings. First, we use an indicator variable, *LOSS*, which equals one if the value of income before extraordinary items divided by total assets is negative and zero otherwise. Next, we use return on assets *(ROA)*, measured as income before extraordinary items divided by total assets, as a continuous measure of profitability. Additionally, following Chen et al. (2021), we include the control for an increase in firms' sales revenue *(SALES GROWTH)*, calculated as the change in sales in the current year divided by total sales in the previous year, in our regression model.

3.3 Empirical model

We use the following pooled cross-sectional OLS regression model to test the relationship between *FLPR* and earnings management.

$$EM_{i,t} = \beta_0 + \beta_1 POLITICAL\ RISK_{i,t} + Controls_{i,t-1} + Industry\ FE + Year\ FE + e \quad (6)$$

where $EM_{i,t}$, our dependent variable, stands for different earnings management techniques, such as accrual-based earnings management *(AEM)*, real earnings management *(REM)*, and the opposite combinations of *AEM* and *REM*, i.e., $REM_H\_AEM_L$ or $AEM_H\_REM_L$, for firm *i* in the year *t*. The definitions of these variables are provided in the previous sections. Our independent variable, *POLITICAL RISK*, is the firm-level measure of political risk discussed in Sect. 3.2.1. *Controls* represent the vector of control variables (discussed in the previous section) identified in prior literature as determinants of earnings management, with a one-year lag. We also control for industry- (based on two-digit SIC codes) and year-fixed effects, and cluster the standard errors by the firm.

4 Empirical results and discussion

4.1 Descriptive analysis

Table 1 reports the descriptive statistics of our sample. To mitigate the effect of any potential outliers, all variables are winsorized at their 1st and 99th percentile values. The mean (median) of the *AEM* (absolute discretionary accruals) in our sample is 0.034 (0.020). For real earnings management, the aggregate measure (a sum of three abnormal estimates, i.e., abnormal sales, abnormal discretionary expenses, and abnormal production cost), *REM*,

has a mean (median) of 0.025 (0.020). Our sample's average value of *POLITICAL RISK* is 4.467, and the interquartile range is 1.154 (Q3 – Q1). Comparable to prior research using U.S. data (Chen et al. 2021), the average *SIZE* (natural logarithm of total assets) of firms in our sample is 6.623, while the average *AGE* is approximately 16 years. Also, the sample has a mean *LEVERAGE* of 0.258, a mean *MTB* of 3.099, and an average *SALES GROWTH* of 0.140. These numbers are generally consistent with Ahmed et al. (2022). The mean value of our indicator variable for profitability, *LOSS*, is 0.356, indicating that nearly 36% of firms in our sample report negative income. Comparable to this Owens et al. (2017), the mean *ROA* of our sample is -0.046.

Table 2 presents correlation values among independent and control variables used in this study. As expected, we find that *POLITICAL RISK* is significantly negatively correlated with firm size suggesting that exposure to political risk is lower in larger firms. Though our other control variables are significantly correlated, the degree of correlation is small (below 0.5) in most cases except for the correlation between *LOSS* and *ROA* where the correlation coefficient is -0.616. It is expected since both variables measure the profitability of a firm.

4.2 Test of H1 and H2

4.2.1 Association between firm-level political risk and earnings management

Table 3 presents the results of regression estimates obtained using Eq. 6, which examines the effect of *FLPR* on earnings management. As stated earlier, we obtain regression estimates employing alternate measures of earning manipulation, *AEM* and *REM*, as our dependent variables, reported in Columns (1) and (2) respectively. Furthermore, we test the trade-off between alternate strategies of earnings manipulation using $REM_{H}\_AEM_{L}$ and $AEM_{H}\_REM_{L}$ as our dependent variables in models (3) and (4) respectively. In all these models, the firm-level measure of political risk measure, *POLITICAL RISK*, is our independent variable of interest.

In Model (1) of Table 3, *AEM* is the dependent variable. Our regression model is significant at the 1% level, and the adjusted R^2 is 21.1%. We find that the coefficient on *POLITICAL RISK* is positive and statistically significant (coefficient of 0.001 with a *t*-statistic of 3.991), indicating higher accrual-based earnings management in firms exposed to higher

Table 1 Descriptive statistics

Variable	Mean	St. Dev.	Q1	Q2	Q3
AEM	0.034	0.041	0.007	0.020	0.044
REM	0.025	0.558	-0.188	0.020	0.262
POLITICAL RISK	4.467	0.880	3.890	4.467	5.044
SIZE	6.623	1.901	5.326	6.655	7.931
AGE	2.769	0.779	2.197	2.773	3.296
LEVERAGE	0.258	0.246	0.028	0.215	0.402
MTB	3.099	5.764	1.197	2.084	3.700
LOSS	0.356	0.479	0.000	0.000	1.000
ROA	-0.046	0.253	-0.047	0.027	0.070
SALES GROWTH	0.140	0.456	-0.031	0.070	0.201

Note: This table presents the mean, standard deviation (St. Dev.), 25th (Q1), 50th (Q2), and 75th (Q3) percentiles of the variables used in this study

Table 2 Correlation table

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) *POLITICAL RISK*	1.000							
(2) *SIZE*	**-0.049**	1.000						
(3) *AGE*	**-0.022**	**0.344**	1.000					
(4) *LEVERAGE*	**0.010**	**0.289**	0.010	1.000				
(5) *MTB*	0.007	-0.007	**-0.031**	**-0.111**	1.000			
(6) *LOSS*	**0.078**	**-0.385**	**-0.228**	**0.053**	**-0.024**	1.000		
(7) *ROA*	**-0.095**	**0.449**	**0.215**	**-0.082**	**0.021**	**-0.611**	1.000	
(8) *SALES GROWTH*	-0.001	**-0.062**	**-0.192**	**-0.028**	**0.082**	-0.012	**-0.010**	1.000

Note: This table presents the pairwise correlation among the set of variables used in this study. Bold values indicate statistical significance at 5% or better

Table 3 Firm-level political risk and earnings management

Variable	AEM	REM	$REM_{H}\_AEM_{L}$	$AEM_{H}\_REM_{L}$
	(1)	(2)	(3)	(4)
POLITICAL RISK	**0.001*****	**0.021*****	**0.032****	**0.007**
	(3.991)	(3.879)	(2.239)	(0.580)
SIZE	-0.004***	0.049***	0.074***	-0.127***
	(-17.525)	(9.161)	(6.084)	(-14.720)
AGE	-0.001***	0.033***	0.062**	-0.021
	(-2.225)	(3.479)	(2.379)	(-1.254)
LEVERAGE	-0.004***	0.107***	0.315***	-0.215***
	(-2.364)	(3.311)	(4.339)	(-3.715)
MTB	0.000***	-0.011***	-0.022***	0.011***
	(4.218)	(-10.330)	(-9.036)	(6.111)
LOSS	-0.002***	-0.049***	0.064**	0.043
	(-2.622)	(-3.631)	(2.078)	(1.637)
ROA	-0.025***	-0.305***	-0.076	-0.154***
	(-11.655)	(-6.040)	(-1.065)	(-2.750)
SALES GROWTH	0.003***	-0.038***	-0.036	0.060***
	(5.005)	(-3.538)	(-1.618)	(3.187)
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes	Yes
Observations	30,918	33,043	30,918	30,914
F-Statistic/Wald chi2	109.10***	37.66***	257.00***	582.05***
Adjusted R2/Pseudo R2	0.211	0.071	0.024	0.038

Note: This table presents the results from our baseline regression analyses where earnings management variables are the dependent variables, and firm-level political risk is the independent variable. Models (1) and (2) report the results of OLS regression where *AEM* and *REM* are the dependent variables, respectively. Models (3) and (4) report Probit regression results using the two alternate combinations of *AEM* and *REM* as dependent variables. $REM_{H}\_AEM_{L}$ takes a value of 1 if *REM* is high (the top quartile in a given industry and year) and *AEM* is low (the remaining quartiles in a given industry and year) and 0 otherwise. Similarly, $AEM_{H}\_REM_{L}$ takes a value of 1 if *AEM* is high (the top quartile in a given industry and year) and *REM* is low (the remaining quartiles in a given industry and year), and 0 otherwise. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management

political risk. It is also economically significant. The mean and standard deviation of the natural logarithm of *POLITICAL RISK* are 4.467 and 0.880, respectively (see Table 1). Following Huang et al. (2021), we examine the economic importance of the increase in political risk from the first quartile (Q1) to the third quartile (Q3). Thus, in terms of economic significance, moving *POLITICAL RISK* from Q1 (3.890) to Q3 (5.044) increases the accrual-based earnings management by 0.0012 (0.001×(5.044–3.890), which is about 6% (0.0012/0.020) of the median value of *AEM*. It implies that, economically, there is a modest increase in accrual-based earnings management with an increase in firms' exposure to political risk. This is consistent with Yung and Root (2019), who show that accrual-based earnings management tends to rise with increased political uncertainty.

Turning to the control variables, firm size is negatively and significantly associated with accrual-based earnings management, suggesting that larger firms have lower levels of *AEM*. It is consistent with our expectation since *AEM* is relatively difficult to hide in large firms because they generally receive greater media coverage than smaller firms. Further, companies with greater market-to-book ratios and higher sales growth are associated with higher accrual-based earnings management. Additionally, firms' age, leverage, indicator variable for loss-making firms, and profitability are negatively and significantly associated with accrual-based earnings management. The control variables are generally consistent with prior research on earnings management.

Similarly, in Model (2) of Table 3, *REM* is our dependent, and *POLITICAL RISK* is the independent variable of interest. Our regression model is significant at the 1% level, and the adjusted R^2 is 7.10%. The coefficient on *POLITICAL RISK* is positive and statistically significant (coefficient of 0.021 with a *t*-statistic of 3.879), suggesting that real earnings management is higher at higher levels of political risk. The regression estimate indicates that moving *POLITICAL RISK* from Q1 (3.890) to Q3 (5.044) increases the real-based earnings management by 0.024 (0.021×(5.044–3.890), which is about 120% (0.024/0.020) of the median value of *REM*–implying that real earnings management increases with an increase in firms' exposure to political risk. This is again consistent with Yung and Root (2019) who show a strong positive association between political uncertainty and earnings management. Thus, the regression results support H1 and are in line with the predictions of agency theory and political cost hypothesis.

Further, in Models (3) and (4), we test the trade-off between *AEM* and *REM* using multivariate probit regression. $REM_{H\_}AEM_{L}$ and $AEM_{H\_}REM_{L}$ are our dependent variables, and *POLITICAL RISK* is the independent variable of interest. Our regression models are significant at the 1% level, and the Pseudo R^2 of Models (3) and (4) are 2.40% and 3.80%, respectively. We find that the coefficient on *POLITICAL RISK* is positive and statistically significant in Model (3) (coefficient of 0.032 with *t*-statistic of 2.239). However, in Model (4), the coefficient on *POLITICAL RISK* is statistically insignificant at conventional levels (coefficient of -0.007 with a *t*-statistic of -0.580). These results suggest that managers are more likely to opt for high real and low accrual-based earnings management strategies when a firm's exposure to political risk is high. Our findings are consistent with prior literature, which shows that firms' choice between accrual-based and real earnings management is primarily driven by the relative cost and threat of detection by internal or external corporate governance mechanisms (Ahmed et al. 2022; Bartov and Cohen 2009; Cohen et al. 2008). Thus, our results support our second hypothesis, H2.

4.2.2 Mitigating endogeneity concerns – IV regression

We postulate that idiosyncrasies of the firm's response to political activities may be endogenous to its corporate behaviour affecting its earnings management activities. Additionally, Hribar and Craig Nichols (2007) suggest that absolute measures of accrual-based earnings management models suffer from the omitted variable problem, exacerbating endogeneity concerns (Roberts and Whited 2013).[6] Thus, we use the instrumental variable (IV) regression method to ensure that the above endogeneity concerns do not bias our estimates. We posit that the political risk of a firm is influenced by the political risk of other firms in an industry. Following Acemoglu et al. (2019), we apply the jack-knife method to construct our instrument. The jack-knife method is also known as the "leave-one-out" method. We define our instrument "jack-knifed political risk" for a firm as the average political risk of the industry each year while leaving out the firm's political risk. Thus, our instrument for a given firm is correlated with its political risk but has no direct impact on its earning management strategy.

Explaining the issues associated with weak instruments, Roberts and Whited (2013, p. 517) note that, *"not only do weak instruments cause bias*, *but they distort inference."* Thus, Following Stock and Yogo (2005), we test whether our instrument is robust to the problem of weak instruments. The null hypothesis is that the instrumental variable is weakly correlated with the endogenous regressors. We find that the magnitudes of Wald *F*-statistics in all specifications are higher than the standard threshold of 10, thus rejecting the null hypothesis. Moreover, using the Kleibergen-Paap rk LM test, we test for underidentification – testing the null hypothesis that the structural equation is underidentified. The *p*-value of <0.01 suggests a correlation between the instrument and endogenous variables, rejecting the above null hypothesis. In addition, we also perform the Cragg-Donald weak identification test. The obtained values are higher than the critical values suggested by Stock and Yogo (2005), rejecting the null hypothesis that our instrument is weak. The above tests show that our instrumental variable is robust and meets the relevant criterion for the validity of an instrumental variable.

Table 4 presents the results from the instrumental variable regression method (2SLS estimates instrumenting *POLITICAL RISK* with jack-knifed average industry *POLITICAL RISK*). We find that our results align consistently with the baseline models in Table 3. The coefficients on *POLITICAL RISK* are positive and statistically significant across all models. This indicates that both accrual-based and real earnings management tend to increase when the firms' exposure to political risk is high; and in such situations, managers are more likely to adopt a strategy characterized by high *REM* and low *AEM*.

4.2.3 Mitigating endogeneity concerns – entropy balanced regression analysis

To control for the potential sample selection bias, we implement Hainmueller (2012) entropy balancing method. Recent studies (see among others Chino, 2021; Clatworthy and Peel 2021) in the literature have employed this method to address the sample selection bias.

[6] Measurement error may also result in the potential endogeneity issue. However, it is not likely to affect our regression estimates. As measurement errors in the dependent variables do not always lead to biased coefficient estimates (Roberts and Whited 2013), and our independent variable *FLPR* is not unobservable or hard to quantify.

Table 4 Instrumental variable analysis

Variable	AEM	REM	$REM_{H}\_AEM_{L}$
	(1)	(2)	(3)
POLITICAL RISK	**0.016****	**0.590****	**0.074****
	(9.754)	(2.448)	(2.257)
Control Variables	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes
Observations	30,818	33,043	30,918
Centred R^2	0.120	0.846	-
Wald F-test / Wald chi^2	76.03***	5.42***	849.19***
Cragg-Donald weak identification test	691.447	11.764	-
LM statistic underidentification test (p-value)	0.000	0.001	-
Endogeneity test (p-value)	0.101	0.136	0.399

Note: This table presents the results of instrumental variable estimates of the effects of political risk on earnings management variables. Models (1) and (2) report the results of IV-2SLS estimator for *AEM* and *REM* as dependent variables, respectively. Model (3) reports Probit regression results using $REM_{H}\_AEM_{L}$ (a dummy variable of the combination of high real and low accrual-based earnings management strategies) as dependent variables. The instrument variable is a jack-knifed average of firm-level political risk. Control variables are the same as in Table 3. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management

This method applies a "*maximum entropy reweighting scheme*" to each control variable to produce matched treatment and control variables of nearly identical distributions. Table 5 presents the results from the entropy balancing method. To create treatment and control subsamples, we use a binary variable, *POLITICAL RISK DUMMY*. It is equal to one if the political risk is above the median, zero otherwise. Panel A of Table 5 reports the mean, variance, and skewness of the treatment and control groups before entropy balance matching. Panel B of Table 5 presents the mean, variance, and skewness of our control variables after entropy balance matching, i.e., after employing the "*maximum entropy reweighting scheme*" proposed by Hainmueller (2012). It reweights each control variable such that the first (mean), second (variance), and third (skewness) moments of covariates distributions of the treatment and control groups become nearly identical. We match on following control variables, namely, *SIZE*, *AGE*, *LEVERAGE*, *MTB*, *LOSS*, *ROA*, and *SALES GROWTH*. Panel C of Table 5 reports the regression results from the sample matched by the entropy balancing method. Consistent with our baseline regression results, we find that accrual-based and real earnings manipulations are higher for firms with high levels of political risk. Moreover, when political risk is high, managers are more likely to substitute accrual-based with real earnings management. Thus, our baseline results reported in Table 3 are robust to sample selection bias.

Table 5 Entropy Balanced Regression Analysis

Panel A: Before Entropy Balance Matching

	Treatment			Control		
Variable	Mean	Variance	Skewness	Mean	Variance	Skewness
SIZE	6.668	3.719	0.01	6.811	3.226	-0.12
AGE	2.857	0.511	-0.01	2.869	0.521	-0.032
LEVERAGE	0.247	0.058	1.172	0.261	0.056	1.012
MTB	3.063	32.62	2.024	3.133	31.57	2.189
LOSS	0.344	0.226	0.658	0.312	0.215	0.811
ROA	-0.041	0.063	-3.154	-0.019	0.046	-3.537
SALES GROWTH	0.119	0.195	3.806	0.125	0.153	3.861

Panel B: After Entropy Balance Matching

	Treatment			Control		
Variable	Mean	Variance	Skewness	Mean	Variance	Skewness
SIZE	6.668	3.719	0.01	6.668	3.719	0.01
AGE	2.857	0.511	-0.01	2.857	0.511	-0.01
LEVERAGE	0.247	0.058	1.172	0.247	0.058	1.172
MTB	3.063	32.62	2.024	3.063	32.62	2.024
LOSS	0.344	0.226	0.658	0.344	0.226	0.658
ROA	-0.041	0.063	-3.154	-0.041	0.063	-3.154
SALES GROWTH	0.119	0.195	3.806	0.119	0.195	3.806

Panel C: Entropy Weighted Regression Results

Variable	AEM	REM	$REM_{H\_}AEM_{L}$
	(1)	(2)	(3)
POLITICAL RISK DUMMY	**0.001*****	**0.021*****	**0.032****
	(3.821)	(3.769)	(2.243)
Control Variables	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes
Observations	30,413	32,318	30,413
Adjusted R^2 / Pseudo R^2	0.216	0.0694	0.0231
F Statistic / Wald chi2	101.91***	35.84***	246.27***

Note: This table presents the results from entropy matching analysis on the impact of political risk on *AEM*, *REM*, and $REM_{H\_}AEM_{L}$. *POLITICAL RISK DUMMY* equals one if political risk is above the median and zero otherwise. Using the binary variable *POLITICAL RISK DUMMY*, Panel A reports the mean, variance, and skewness of the treatment and control groups of our control variables before entropy balance matching. Panel B presents the mean, variance, and skewness of the treatment and control groups after entropy balance matching. Panel C reports the post-match entropy-weighted regression results. Control variables are the same as in Table 3. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management; *REM* is real earnings management; and $REM_{H\_}AEM_{L}$ is High *REM* and Low *AEM*

4.3 Test of H3

4.3.1 Non-linear association between FLPR and earnings management

External monitoring tends to be low when a firm has lower exposure to political risk. Lower external monitoring by the media, regulators and policymakers provides more opportunities for private benefits extraction and earnings manipulation (Chen et al. 2021; Dyck and Zingales 2002, 2004). Moreover, in such a period, earnings are more likely to be attributed to the firm's performance by the investors and regulators. Thus, lower exposure to political risk provides an incentive for managers to engage in earnings management. Similarly, as previously discussed, we expect increased earnings manipulation in times of high political risk due to high information asymmetry between the managers and investors/creditors, along with survival threats faced by firms and career concerns for managers during such periods (Francis et al. 2014; Yung and Root 2019). Therefore, we expect high earnings manipulation when firms' exposure to political risk is either too low or too high and lowest at the moderate level of political risk, indicating a non-linear association between political risk and earnings management. Besides, consistent with our assertions of a non-linear relationship, prior studies offer inconclusive findings regarding the association between political uncertainty and earnings manipulation (see El Ghoul et al. 2021; and Yung and Root 2019).

Additionally, depending upon the degree of firms' exposure to political risk, managers may choose between upward (positive) and downward (negative) earnings manipulation strategies, which we consider separately. We examine the effect of political risk on upward and downward accrual-based and real earnings management. Table 6 presents the regression results. Positive *AEM* and negative *AEM* are our dependent variables in Models (1) and (2) respectively, and positive *REM* and negative *REM* are dependent variables in Models (3) and (4) respectively.

We find that *POLITICAL RISK* is positively associated with upward *AEM* and *REM*, whereas it is negatively related to downward *AEM*. There is no significant association between *POLITICAL RISK* and downward *REM*. These results indicate that, at lower levels of political risk, managers are more (less) likely to engage in downward (upward) earnings manipulation. However, with an increase in firms' exposure to political risk, upward (downward) earnings management increases (decreases). Consistent with the cookie-jar accounting hypothesis, these findings suggest that managers build a cookie-jar reserve by downward earnings management for future use when the firms' exposure to political risk is low. Lower external monitoring from the media and the regulators makes it easier for managers to manipulate earnings in such periods. High downward earnings management at lower levels of political risk and high upward earnings management at higher levels indicate a non-linear association between political risk and absolute measures of earnings management. Overall, the above empirical evidence and the limited inconclusive findings in the previous literature suggest a non-linear association between political risk and earnings manipulation.

To empirically test for the non-linear relationship between political risk and earnings manipulation, in Eq. (6) we introduce the squared value of *POLITICAL RISK* (*SQ POLITICAL RISK)* as an additional independent variable. Test results are reported in Table 7. In Models (2) and (4) of Table 7, we find that the coefficient on *POLITICAL RISK* is negative and statistically significant, and the coefficient on *SQ POLITICAL RISK* is positive and

Table 6 Positive and negative earnings management

Variable	Positive AEM	Negative AEM	Positive REM	Negative REM
	(1)	(2)	(3)	(4)
POLITICAL RISK	**0.001****	**-0.001****	**0.020****	**-0.000**
	(2.120)	(-3.940)	(4.065)	(-0.067)
Control Variables	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes	Yes
Observations	15,177	15,659	17,787	15,084
F-statistic	78.32***	62.60***	10.34***	27.24***
Adjusted R^2	0.218	0.208	0.175	0.169

Note: This table presents the results from regression analyses where signed earnings management variables are the dependent variables, and firm-level political risk is the independent variable. Models (1) and (2) report the results of OLS regression where positive *AEM* and negative *AEM* are the dependent variables, respectively. Models (3) and (4) report the results of OLS regression, where positive *REM* and negative *REM* are the dependent variables, respectively. Control variables are the same as in Table 3. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management

Table 7 Political risk and earnings management: a non-linear relation

Variable	AEM		REM	
	(1)	(2)	(3)	(4)
POLITICAL RISK	**0.001****	**-0.006****	**0.021****	**-0.064****
	(3.991)	(-2.475)	(3.879)	(-2.049)
SQ POLITICAL RISK		**0.001****		**0.009****
		(2.406)		(2.632)
Control Variables	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes	Yes
Observations	30,918	30,918	33,043	33,043
F Statistic	109.10***	5.894***	37.66***	33.58***
Adjusted R^2	0.211	0.054	0.071	0.071

Note: This table presents regression results for the association between earnings management and firm-level political risk. Models (1) and (2) report the linear and non-linear regression results where *AEM* is the dependent variable. Models (3) and (4) report linear and non-linear regression results where *REM* is the dependent variable. Control variables are the same as in Table 3. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management

statistically significant, suggesting that there is a non-linear 'U-shaped' relation between political risk and earnings management.

These findings align with previous research on the corporate governance role of external monitoring mechanisms in earnings management (Adut et al. 2011; Chen et al. 2021; Feng and Huang 2021). These studies indicate that managers tend to engage in earnings manipu-

lation when external monitoring is low. With an increase in the firm's exposure to political risk, earnings management declines as external monitoring and visibility of firms increases until political risk reaches an optimal point. Beyond the optimal level, earnings management increases with a further increase in political risk. It is consistent with Yung and Root (2019), who demonstrate that accrual-based and real earnings management are higher when political uncertainty increases beyond tolerable levels. Additionally, career concerns and external and internal pressure to achieve earnings benchmark is also likely to incentivize managers to manipulate earnings at higher levels of political risk. Thus, our findings show that an increase in political risk beyond a point forces managers to engage in opportunistic earnings manipulation activities despite increased visibility due to high media attention. Hence, our findings support hypothesis H3, confirming a non-linear association between political risk and earnings management.

4.3.2 What drives the non-linear association between FLPR and earnings management?

In this section, we study the channel that could be driving the non-linear relation between *FLPR* and earnings management. Since previous research shows that opportunistic earnings management practices are lower in firms exposed to greater external monitoring than firms that receive less attention from external stakeholders (Abdou et al. 2021; Adut et al. 2011; Feng and Huang 2021), we explore corporate governance channels that proxy external monitoring. We expect that the level of corporate governance due to external monitoring by the media, regulators and policymakers would affect the association between political risk and earnings management. In the following section, we classify our sample into different subsamples based on firm-specific factors such as firm size, level of executive compensation and monitoring by lenders.

4.3.2.1 Firm size The political cost hypothesis states that firms that are likely to face higher political costs in the form of wealth transfer would engage in earnings manipulation strategies that mitigate the likelihood or size of the wealth transfer (Cahan 1992). Prior research provides evidence that larger firms are more vulnerable to political costs and are more likely to manage earnings than small firms (Cahan 1992; Watts and Zimmerman 1990). Alternatively, larger firms are better governed because they are more likely to be under greater scrutiny by the media, regulators, and policymakers than smaller firms. Greater media coverage increases the political visibility of larger firms and puts the company's financial statements under additional scrutiny, which reduces the opportunities for managers to manipulate accounting numbers (Hall 1993). Thus, it is an empirical question whether the association between political risk and earnings management differs for small and large firms. Considering firm size as a proxy of the level of external monitoring, we classify our sample into large (above 66.76 percentile, in a given year and industry) and small (below 33.33 percentile, in a given year and industry) subsamples.

The results are reported in Panel A of Table 8. We find that results for small firms' subsample closely mirror the results reported in Table 7, i.e., there is a non-linear 'U-shaped' relation between earnings management and political risk, indicating significant earnings manipulation by managers at both lower and higher levels of political risk. However, there

is no significant association between political risk and earnings management in the large firms' subsample. This is consistent with prior research (Chen et al. 2021; Hall 1993; Jennings et al. 2021), which shows that political visibility created by the media mitigates the opportunities available for managers to engage in earnings manipulation activities.

4.3.2.2 Abnormal compensation of CEOs Executive compensation is a highly debated topic in the popular press; however, it is one of the less-studied corporate governance mechanisms (Core et al. 2008; Zingales 2000). Examining the monitoring role of the media, Dyck and Zingales (2004) and Dyck and Zingales (2002) find that media pressure mitigates the private benefits of control. Firms with higher executive pay are likely to receive greater media coverage (Core et al. 2008), which may play a corporate governance role and influence the firm behaviour (Dyck and Zingales 2004). To further examine the role of external monitoring on the relationship between political risk and earnings management, we classify our sample based on the level of abnormal CEO compensation. Following Core et al. (2008), we calculate abnormal (residual) CEO compensation by subtracting expected compensation from the total compensation.[7] Firms above (below) the median (in a given year and industry) excess compensation are classified as high (low) abnormal compensation subsample.

Panel B of Table 8 presents the results for both subsamples. As with the firm size subsample, we find a non-linear association between political risk and earnings management only in low abnormal compensation firms. Thus, similar to firm size, the non-linear association between *FLPR* and earnings management is more prominent in firms with lower levels of external monitoring.

4.3.2.3 Monitoring by creditors Prior research suggests that creditors play an active role in corporate governance and have a significant influence on the behaviour of managers (Nini et al. 2012; Ozelge and Saunders 2012). Among other effects on corporate behaviour, banks/creditors conduct rigorous monitoring and demand better financial reporting (Balsam et al. 2018). In this section, we examine the role of lender monitoring on the relationship between political risk and earnings management. We classify our sample into two subsamples based on the likelihood of debt covenant violations. Debt ratio and interest coverage ratio, among others, are the primary determinants of the probability of debt covenant violations (Demerjian and Owens 2016). Thus, our indicator variable, *DCV*, equals 1 for firms that are more likely to violate debt covenants (debt ratio higher than the industry-year median and interest coverage ratio lower than the industry-year median), and zero for firms that are less likely to violate debt covenants (debt ratio lower than the industry-year median and interest coverage ratio higher than the industry-year median). We assume that firms that are more likely to violate debt covenants would engage in earnings manipulation (Dyreng et al. 2020) and will be closely monitored by creditors, since Demerjian and Owens (2016) note that "the

[7] Core et al. (2008) calculate expected income by regressing natural logarithm of executive compensation on firm specific factors such as size, growth opportunities, stock returns, profitability etc. and control for industry and year fixed effects.

Table 8 Channel Analysis

Panel A: Firm Size				
Variable	AEM		REM	
	Large Firms	Small Firms	Large Firms	Small Firms
	(1)	(2)	(3)	(4)
POLITICAL RISK	**-0.001**	**-0.011****	**0.041**	**-0.108****
	(-0.386)	**(-2.135)**	**(0.878)**	**(-2.076)**
SQ POLITICAL RISK	**0.000**	**0.001****	**-0.003**	**0.015****
	-0.487	**-2.16**	**(-0.575)**	**-2.247**
Control Variables	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Cluster	Yes	Yes	Yes	Yes
Observations	10,078	10,050	11,173	10,402
Adjusted R^2	0.01	0.01	0.134	0.07
Panel B: Abnormal Compensation of Exceutive				
Variable	***AEM***		***REM***	
	High	Low	High	Low
	(1)	(2)	(3)	(4)
POLITICAL RISK	**0.008**	**-0.019****	**-0.007**	**-0.098***
	(0.585)	**(-2.473)**	**(-0.153)**	**(-1.825)**
SQ POLITICAL RISK	**-0.001**	**0.002***	**0.001**	**(0.014)****
	(-0.630)	**(1.791)**	**(0.268)**	**(2.235)**
Control Variables	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Cluster	Yes	Yes	Yes	Yes
Observations	7,953	8,178	8,136	8,822
Adjusted R^2	0.062	0.085	0.112	0.116
Panel C: Bank Monitoring				
Variable	***AEM***		***REM***	
	DCV =1	DCV = 0	DCV =1	DCV = 0
	(1)	(2)	(3)	(4)
POLITICAL RISK	**-0.001**	**-0.006****	**-0.03**	**-0.072***
	(-0.203)	**(-2.015)**	**(-0.496)**	**(-1.873)**
SQ POLITICAL RISK	**0.000**	**0.001***	**0.006**	**0.011****
	(0.284)	**(1.995)**	**(0.861)**	**(2.096)**
Control Variables	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes
Firm Cluster	Yes	Yes	Yes	Yes

Table 8 (continued)

Panel C: Bank Monitoring				
Variable	***AEM***		***REM***	
	DCV =1	DCV = 0	DCV =1	DCV = 0
	(1)	(2)	(3)	(4)
Observations	8,432	18,159	9,122	19,414
Adjusted R^2	0.011	0.01	0.059	0.095

Note: This table presents results from channel analysis of the non-linear relation between political risk and earnings management. AEM and REM are dependent variables, and *POLITICAL RISK* and *SQ POLITICAL RISK* are the independent variables of interest. Our sample is classified based on three different external monitoring proxies: firm size (Panel A), abnormal executive compensation (Panel B) and lender monitoring (Panel C). *DCV* equals 1 for firms that are more likely to violate debt covenants (debt ratio higher than the median and interest coverage ratio lower than the median), and zero for firms that are less likely to violate debt covenants (debt ratio lower than the median and interest coverage ratio higher than the median). Control variables are the same as Table 3. t-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. AEM is accrual-based earnings management, *REM* is real earnings management, *SQ POLITICAL RISK* is squared political risk, and *DCV* is debt covenant violation

probability of covenant violation is often considered a proxy for borrower riskiness or the degree of agency conflicts."

Panel C of Table 8 presents the results. The findings closely mirror Panel A and B, i.e., the non-linear association is only limited to the firms that are less likely to violate debt covenants and therefore will be under lower scrutiny of the banks. As in firm size and executive compensation subsamples, the association between political risk and earnings management is insignificant for the subsample of firms that are rigorously monitored by creditors.

Furthermore, we also explored additional indicators of external monitoring, including the takeover index proposed by Cain et al. (2017), analyst coverage, institutional ownership, and the presence of Big 4 auditors. Higher values of the takeover index, analyst coverage, and institutional ownership indicate higher external monitoring. Similarly, companies audited by Big 4 auditors (Ernst & Young, Deloitte & Touche, KPMG, and PricewaterhouseCoopers) are exposed to heightened external monitoring. Nevertheless, the empirical findings do not recognize them as significant drivers of non-linearity.

In summary, our results demonstrate a non-linear 'U-shaped' relationship between *FLPR* and earnings management in firms that are smaller, pay lower abnormal executive compensation and are less likely to be monitored by lenders. These findings suggest that external monitoring is the channel through which *FLPR* affects earnings management. However, the lack of significance observed in other external monitoring factors – takeover index, analyst coverage, institutional ownership, and the involvement of Big 4 auditors – in driving non-linearity raises scepticism about this assertion. Consequently, it is advisable to interpret our results with caution.

4.4 Additional tests

4.4.1 Non-political risk and economic policy uncertainty

To test the robustness of our findings, we include non-political risk, as measured by Hassan et al. (2019), as an additional control variable. Notably, our primary results remain qualitatively similar. Moreover, we conduct additional analyses by rerunning our regression models using total risk, encompassing both political and non-political risk. Again, our core findings remain unchanged.

To further examine the robustness of our main results, we include the economic policy uncertainty index of Baker et al. (2016) as an additional control variable in our baseline regression models. We find qualitatively unchanged results, with a statistically significant positive association between *FLPR* and accrual-based and real earnings management.

4.4.2 Individual sources of political risk

Hassan et al. (2019) measure the political risk from eight different political topics, namely "economic policy & budget," "environment," "trade," "institutions & political process," "health care," "security & defence," "tax policy," and "technology & infrastructure." Thus, to test the robustness of our findings, following Hassan et al. (2019), we classify political risk measures into eight individual sources of political risk and separately test their association with earnings manipulation activities by re-estimating our baseline model.

Panels A and B of Table 9 present the results. Accrual-based earnings management (*AEM*) and real earnings management (*REM*) are dependent variables in Panel A and Panel B, respectively. Individual political risk measures (measured as the natural logarithm of the annual average of political risk of individual components), such as economic risk, environmental risk, trade risk, institutional risk, health risk, security risk, tax risk, and technology risk are our independent variables of interest. Coefficients on all individual political risk measures are positive and statistically significant in both Panel A and B, which further substantiates our hypothesis H1.

4.4.3 Internal monitoring mechanisms

To test whether internal corporate governance mechanisms drive the nonlinear association between earnings management and *FLPR*, we rely on a set of firm-specific board characteristics. Prior studies indicate variations in the extent of monitoring among firms, depending on internal corporate governance factors such as board independence (Ryan and Wiggins 2004), board size, frequency of meetings (Adams et al. 2021; Brick and Chidambaran 2010), director tenure (Kim et al. 2014), gender diversity (Adams and Ferreira 2009), and CEO duality (Lin 2005). Thus, we conduct a subsample analysis by dividing the sample based on the aforementioned board characteristics. In untabulated results, we find a 'U-shaped' nonlinear association between political risk and earnings management for both the subsamples for at least one of the earnings management variables (i.e. accrual-based or real earnings management), for all board characteristics except for board gender diversity. In subsample analysis based on board gender diversity, we find a non-linear association between political risk and real earnings management (not the accrual-based earnings management) in firms

Table 9 Individual Components Analysis

Panel A: Accrual-based Earnings Management								
Variables	*AEM*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ECONOMIC RISK	0.001***							
	(3.647)							
ENVIRONMENTAL RISK		0.001***						
		(3.560)						
TRADE RISK			0.001***					
			(3.057)					
INSTITUTIONAL RISK				0.001***				
				(3.996)				
HEALTH RISK					0.001***			
					(4.602)			
SECURITY RISK						0.001***		
						(3.638)		
TECHNOLOGY RISK							0.001***	
							(3.832)	
TAX RISK								0.001**
								(2.573)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Cluster	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	30,848	30,834	30,715	30,820	30,830	30,849	30,814	30,781
Adjusted R^2	0.211	0.211	0.211	0.211	0.211	0.211	0.211	0.210

Table 9 (continued)

Panel B: Real Earnings Management								
Variables	*REM*							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ECONOMIC RISK	0.030***							
	(5.666)							
ENVIRONMENTAL RISK		0.031***						
		(6.671)						
TRADE RISK			0.016***					
			(4.011)					
INSTITUTIONAL RISK				0.020***				
				(4.135)				
HEALTH RISK					0.014***			
					(2.725)			
SECURITY RISK						0.022***		
						(4.231)		
TECHNOLOGY RISK							0.012**	
							(2.546)	
TAX RISK								0.024***
								(5.173)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Constant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Cluster	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	32,972	32,957	32,834	32,943	32,952	32,972	32,934	32,901
Adjusted R^2	0.070	0.071	0.069	0.069	0.068	0.069	0.068	0.070

Note: This table presents regression results of the relation between political risk individual components and earnings management. *AEM* and *REM* are dependent variables in Panels A and B, respectively. Individual components of political risk such as *ECONOMIC RISK*, *ENVIRONMENTAL RISK*, *TRADE RISK*, *INSTITUTIONAL RISK*, *HEALTH RISK*, *SECURITY RISK*, *TECHNOLOGY RISK*, and *TAX RISK* are the independent variables. Control variables are the same as in Table 3. t-statistics are reported in parentheses and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management

with high gender diversity but not in firms with low gender diversity. We do not find consistent results using the proxies for board characteristics. Thus, internal corporate governance mechanisms are not a driver of non-linearity.

4.4.4 Corporate governance control variables

The existing literature suggests that firms with stricter corporate governance and monitoring mechanisms are less likely to engage in earnings manipulation (Adut et al. 2011; Chen et al. 2021; Feng and Huang 2021). To assess whether our results are robust to firms' corporate governance mechanisms, and not biased due to the potential of omission of corporate governance-related variables, we incorporate variables associated with corporate governance mechanisms as additional control variables in our baseline regression models.[8] Specifically, we include indicators of external corporate governance factors such as the takeover index, analyst coverage, institutional ownership, and the presence of Big 4 auditors. Furthermore, we account for internal corporate governance mechanisms, including board independence, board size, frequency of meetings, director tenure, gender diversity, and CEO duality. Our results remain qualitatively unchanged. The positive relationship between *FLPR* and accrual-based and real earnings management remains statistically significant even after controlling either internal or external corporate governance mechanisms, or when both sets of factors are included together as additional control variables.

4.4.5 Mitigating endogeneity concern – DiD regression analysis

To strengthen our study's causal inference and mitigate further endogeneity concerns, we use the 2012 presidential election in the U.S. to conduct a Difference-in-Differences (DiD) regression analysis using a +/– 2-year event window. Hassan et al. (2019) argue that federal elections can significantly increase aggregate economic policy uncertainty (EPU), thereby substantially amplifying *FLPR*. Their findings suggest that during periods of high policy risk, firms already experiencing high political risk will face even greater challenges. Consequently, the impact of *FLPR* on earnings management is expected to be more pronounced in firms with *ex-ante* high political risk compared to those with low political risk.

Figure 1 illustrates the average *FLPR* time trend from 2002 to 2020. Although U.S. presidential elections occur every four years, providing options such as 2004, 2008, 2012, 2016, and 2020, certain years are influenced by significant events that heighten political risk. Thus, we exclude 2008 due to the financial crisis and 2020 due to the COVID-19 pandemic. Furthermore, in the 2004 and 2016 elections, a sharp reversal in average political risk is observed within the DiD analysis window. This results in minimal variation in the average political risk before and after the event. Suggesting that firms did similar levels of earnings management before and after the elections. However, in 2012, the average *FLPR* remained high for approximately two years before the election event and began to decline after the election until 2014. Hence, the average political risk was notably high two years before the election and consistently low two years after. This scenario provides an ideal opportunity to examine the causal impact of *FLPR* transitioning from high to low on firms' earnings management behaviour.

[8] Results are available upon request. We assessed the correlations among all corporate governance variables used as additional control variables and found that the correlations ranged from low to moderate.

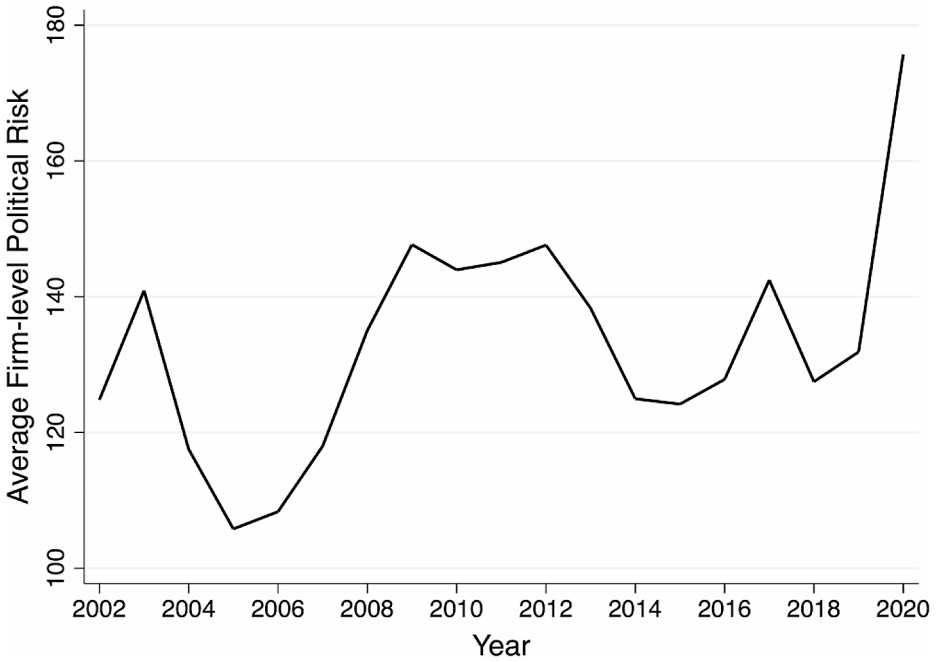

Fig. 1 Yearly trend of average firm-level political risk. Note: This graph illustrates the annual trend of the average firm-level political risk (cross-sectional mean) from 2002 to 2020

Thus, using 2012 as the event year, we conduct a DiD regression analysis using the following procedure. First, we identify the period before the election as a time of high political risk, contrasting it with the subsequent period of relatively lower political risk. We create a dummy variable, *Election*, which equals one for the years 2011 and 2012, and zero for the years 2013 and 2014. Second, to construct our treatment and control groups, we use a dummy variable, *Treated*. It indicates the treatment group and equals one if a firm's political risk is above the industry-year median before the election period, and zero otherwise. Next, to ensure that the treatment and control group have similar characteristics, we perform entropy balancing to match the moments (mean, variance and skewness) of the control variables used in our baseline model. Subsequently, we estimate a DiD regression by regressing earnings management on the *Treated* and *Election*, the interaction variable *Treated×Election* and the control variables.

Table 10 reports the results. The coefficients of *Treated×Election* are positive and statistically significant across all models. The results indicate that firms with *ex-ante* high political risk increase their earnings management during the election periods than firms with *ex-ante* low political risk. Both *AEM* and *REM* increase with high political risk exposure, with managers being more likely to use $REM_{H\_}AEM_{L}$ in such situations. These results support our hypothesis and further strengthen our causal inferences. While we also conducted DiD analyses for the 2004 and 2016 elections, as expected, these analyses did not yield consistent significant results.

Table 10 Difference-in-differences regression

Variable	AEM	REM	$REM_{H}\_AEM_{L}$
	(1)	(2)	(3)
Treated×Election	**0.004****	**0.047****	**0.158****
	(1.989)	(2.238)	(2.081)
Treated	0.0015	0.0127	0.0072
	(1.1248)	(0.4003)	(0.1167)
Control Variables	Yes	Yes	Yes
Constant	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes
Std. Errors Clustered	Yes	Yes	Yes
Observations	4834	5162	4834
Adjusted R2/Pseudo R2	0.231	0.165	0.038

Note: This table presents the results of difference-in-difference (DiD) regression analysis. Models (1) and (2) report the results of DiD analysis for *AEM* and *REM* as dependent variables, respectively. Model (3) reports Probit regression results with DiD using $REM_{H}\_AEM_{L}$ (a dummy variable of the combination of high real and low accrual-based earnings management strategies) as dependent variables. Control variables are the same as in Table 3. *t*-statistics are reported in parentheses, and standard errors are clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels (two-tailed), respectively. *AEM* is accrual-based earnings management, and *REM* is real earnings management. *Election* is a dummy variable equals one for the years 2011 and 2012, and zero for the years of 2013 and 2014. *Treated* is a dummy variable equals one if a firm's political risk is above the industry-year median before the election period, and zero otherwise

5 Conclusion

Earnings management is one of the widely used strategic firm-level responses to political risk. Previous studies document the relationship between industry or sector-wide measures of political risk and earnings management. Hassan et al. (2019) provide evidence that sector-wide measures used in prior research only capture a fraction of firms' exposure to political risk. Therefore, previous studies explain only a partial effect of political risk on earnings management. In this study, we use Hassan et al. (2019) firm-level measure of political risk and investigate its impact on the earnings management activities of non-financial U.S. companies.

Consistent with previous research (Yung and Root 2019; Zang 2012), we show that political risk is positively associated with accrual-based and real earnings management and firms exposed to higher levels of political risk tend to substitute accrual-based with real earnings management, as the latter is relatively difficult to detect. One of the critical findings of our study is the non-linear 'U-shaped' relation between the firm-level measure of political risk and earnings management. It indicates that managers engage in significant earnings manipulation activities at both lower and higher levels of political risk, while earnings management is lowest at moderate levels of political risk.

Since monitoring by the press, regulators, and investors is lower at lower levels of political risk, managers tend to manipulate earnings in those times. As firms face greater exposure to political risk, media scrutiny increases, thereby reducing managerial opportunities to engage in earnings manipulation (Chen et al. 2021; Dyck and Zingales 2002, 2004), until

political risk reaches an optimal point. Beyond that point, earnings manipulation increases with the rise in political risk, possibly due to concerns related to the managers' careers as well as threats to the firm's reputation and survival, despite increased attention from the media. These results aim to reconcile the conflicting findings in previous research. Additionally, we demonstrate that the external corporate governance monitoring channel drives the non-linear association between political risk and earnings management, as this nonlinearity is prevalent only in firms exposed to lower external monitoring.

The positive association between firm-level political risk and earnings management suggests a critical need for policy interventions to safeguard financial transparency and corporate integrity. Policymakers may consider implementing enhanced disclosure requirements to ensure companies provide comprehensive information on their political risk management strategies. Political risk can affect a country's investment attractiveness or cause investors to leave (Kher and Chun 2020). Governments can enhance investment attractiveness by improving legal frameworks to protect investors from risks like expropriation and arbitrary government actions (Jensen 2008). These legal protections reduce risk by providing greater certainty about future outcomes and constraining governmental discretion. Furthermore, strengthening external corporate governance practices may be crucial to mitigating opportunistic earnings management in response to political uncertainties. Additionally, regulatory bodies may explore measures such as stricter rules on earnings management, investor grievance management mechanisms, international cooperation for standardized risk management practices, and incentives for ethical behaviour to foster a climate of accountability and responsible risk management. By addressing these policy implications, authorities can contribute to a more resilient and transparent business environment in the face of political risks.

Finally, our study has several limitations. First, our sample is restricted to non-financial publicly listed companies in the United States. Future research could examine the relationship between *FLPR* and earnings management in other countries. Second, our empirical findings are based on the assumption that Hassan et al.'s (2019) measure of firm-level political risk (*FLPR*) accurately captures the political risk faced by individual U.S. firms. Lastly, due to inconsistent findings regarding some external monitoring channels, we cannot conclusively determine that external monitoring is the mechanism through which *FLPR* affects earnings management. Consequently, our results should be interpreted with caution. Future studies may explore the impact of external monitoring channels on *FLPR* and earnings management across different geographic and institutional settings.

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