Geopolitical risk and corporate political spending disclosure: Evidence from S&P 500 firms

Abstract

We examine the impact of geopolitical risk (GPR) on corporate political spending disclosure (CPSD). Drawing inferences from risk aversion view, we find a negative association between GPR and CPSD, using a sample of S&P 500 firms from 2011 to 2021. Our cross-sectional analyses reveal that this negative association is more pronounced in companies with lower levels of political investment, lower pay-out ratios, and higher international exposure. Additionally, we find that corporate social responsibility (CSR) performance serves as a channel through which GPR reduces CPSD. We also show that higher GPR is associated with lower firm risk due to reduced CPSD. Furthermore, among the dimensions of CPSD (disclosure, policy, oversight), we reveal that GPR is negatively connected to disclosure score only. Our findings are robust, withstanding rigorous sensitivity and endogeneity tests. Overall, our study advances the literature by highlighting the complex interplay between external uncertainties and corporate disclosure within a dynamic political landscape.

Keywords: Corporate political spending, Corporate political spending disclosure, Geopolitical risk, Risk aversion, Corporate social responsibility.

JEL Classifications**:** D72, D81, G30.

1. Introduction

> "*The level of risk companies' face from political spending has grown exponentially. New policies, including a code of conduct for political spending, are required to guide their decision-making and risk-evaluation as they consider how their spending impacts their companies, society, and our democracy*." Bruce Freed, President, Center for Political Accountability (Interfaith Center on Corporate Responsibility, 2021)

The United States (U.S.) corporations spend millions of dollars each year on the politics to advance their business interests (Aggarwal et al., 2012; Goh et al., 2020). An OpenSecrect analysis found that corporations and industry groups contributed $3.5 billion in federal political donations during the 2022 cycle, an increase from the $3.3 billion spent during the 2018 midterm elections after adjusting for inflation[1,2]. The incremental corporate political expenditure triggers intense debates surrounding the mandatory disclosure of corporate political spending (Ali et al., 2023; Goh et al., 2020; Kong et al., 2017). In response, many companies have voluntarily disclosed details about their political practices and spending oversight, echoing transparency in political spending (Adrian et al., 2022). While corporate political spending disclosure (CPSD) enhances transparency and supports informed decision-making (Zhang & Wang, 2024), such disclosure entails significant risks by exposing companies' political views (DeBoskey et al., 2018a; Prabhat & Primo, 2019). Therefore, companies should weigh the benefits and costs of revealing their political spending information.

[1] See "Business interests spent $3.5 billion on federal political contributions during the 2022 cycle", OpenSecrect, https://www.opensecrets.org/news/2023/01/business-interests-spent-3-5-billion-on-federal-political-contributions-during-the-2022-cycle/

[2] Another research showed that independent spending in the 2018 election cycle exceeded $540 million, compared to $106 million in the 2007-2008 cycle before the Citizens United ruling, marking a more than fivefold increase. See "Money talks: Big business, political strategy and corporate involvement in US state politics", The Conversation, https://theconversation.com/money-talks-big-business-political-strategy-and-corporate-involvement-in-us-state-politics-140686

Against this backdrop, our study examines companies' incentives to reveal or conceal corporate political spending information when exposed to geopolitical risk (GPR). GPR is a sub-category of political risk[3] associated with political upheavals, discord, inter-country conflicts, militarization, and antagonistic situations that damage the normal and peaceful flow of international relations (Bussy & Zheng, 2023; Caldara & Iacoviello, 2022). While current studies have underscored the risk implications and precautionary motives associated with GPR, which lead to reduced corporate investments (Le & Tran, 2021), greater cash holdings (Wang et al., 2021), lower payout (Adra et al., 2023), and decreased financial stability (Phan et al., 2022), little is known about firms' information-disclosure strategy in response to GPR.

During times of uncertainty, companies remain uncertain about whether to disclose (Bird et al., 2023; Nagar et al., 2019) or limit their information (Kim et al., 2016; Suijs, 2007). Similarly, the impact of GPR on CPSD is not consistent or certain. During geopolitical uncertainties, companies' exhibit risk aversion tendency due to potential negative consequences. Given that CPSD is a risky one compared to other disclosures (Ali et al., 2022), drawing on a risk aversion perspective, we assume companies often limit such disclosures during high GPR to avoid potential negative consequence. Aligned with real options theory, we argue that GPR can reduce companies' disclosure of political spending through corporate social responsibility (CSR) performance. GPR hinders the companies CSR performance by postponing investments in CSR (Chowdhury et al., 2023), and resulting in a subsequent decrease in political spending disclosure (Goh et al., 2020). On the contrary, based on economic theory, companies can respond to uncertainty and high information asymmetry by increasing their voluntary disclosure (Diamond, 1985; Grossman, 1981; Lu et al., 2024). GPR exacerbates the information asymmetry between companies and fund

[3] Political risk is broadly categorized into corruption, electoral uncertainty, and political turbulence at the domestic level, and geopolitical risk at the international level (Bussy & Zheng, 2023).

providers (Cuculiza et al., 2021; Fiorillo et al., 2023). To counteract this effect, companies may enhance their voluntary disclosure, including disclosure associated with political spending.

To shed light on these competing views, we empirically examine the impact of GPR on CPSD using a sample of 3,397 firm-year observations from S&P 500 firms covering the period from 2011 to 2021. We measure CPSD through a unique dataset known as the CPA-Zicklin index,[4] which represents the depth and diversity of firms' political spending disclosure decisions (Goh et al., 2020). Following Caldara and Iacoviello (2022), we use the annual GPR index of the United States as a proxy to measure GPR based on words related to geopolitical tensions captured in 11 prominent international newspapers. We find that GPR is negatively associated with CPSD, suggesting that companies adopt a more conservative stance in disclosing political spending when GPR increases. In terms of its economic significance, this empirical finding suggests that an increase in GPR by one standard deviation results in a 6.60% decrease in CPSD relative to the sample mean.

Next, we explore when GPR reduces CPSD by conducting cross sectional analyses. The results show that the negative association between GPR and CPSD is particularly prominent among firms characterized by limited political investment, low payout policy, and higher internationalization. The findings support the risk aversion view of companies during GPR, such as delaying investment and reducing corporate pay-out, with internationally exposed firms are likely to be more affected. Then, we investigate how GPR reduces CPSD. To address this issue, we conduct a channel analysis using corporate social responsibility (CSR) performance as a mediator. The analysis shows that companies tend to reduce their CSR activities during periods of

[4] The CPA-Zicklin index was jointly developed by the Center for Political Accountability (CPA) and the Carol and Lawrence Zicklin Center for Business Ethics Research of the University of Pennsylvania's Wharton School, based on S&P 500 companies starting from the year 2011.

heightened GPR, leading to a decrease in their disclosure of political spending. Furthermore, we aim to examine how reduced CPSD dampens the negative impact of firms during high GPR. In that case, our findings indicate that an increase in GPR leads to lower political spending disclosure, which subsequently results in a decline in firm risk. Finally, we reveal that among the dimensions of CPSD, GPR is negatively associated with disclosure score only, suggesting that companies focus on disclosure score to address immediate challenges during heightened GPR, while policy and oversight scores are not affected.

The main finding of our study remains robust even after conducting a series of sensitivity tests, such as alternative measures of GPR (year-end GPR and weighted GPR), alternative estimation techniques (fixed-effect model and Tobit model), and alternative sample estimations (excluding election years, balanced panel data, and adjusting firm size). Finally, to address potential concerns about omitted variables, we performed a two-stage least-square (2SLS) analysis to examine the impact of unobservable confounding variables. In all instances, the study's primary finding remains consistent.

Our study makes two contributions to the body of literature on CPSD and GPR. First, our study contributes to the emerging literature on the determinants of CPSD. While previous research on CPSD primarily focuses on firm-level determinants (Ali et al., 2023; DeBoskey et al., 2018a; Goh et al., 2020; Zhang & Wang, 2024), our study examines an external determinant, GPR, which influences corporate political spending disclosure. Our finding supports the view of Bond and Zeng (2022) who argued that in many cases, firms choose silence over disclosure because it is safer; remaining silent minimizes uncertainty about how their audience might perceive the information on such a risky venture.

Second, GPR represents a novel type of corporate risk that necessitates inventive risk-management strategies. Our study reveals that, in addition to economic strategies like curtailing investment (Le & Tran, 2021), reducing corporate payout (Hendijani Zadeh, 2021), and adjusting capital structure (Khoo & Cheung, 2021), reducing corporate political spending information can also be an effective risk aversion strategy to mitigate the impact of GPR. To support this, we provide new evidence that CPSD is one of the important mechanisms through which GPR reduces firm risk.

The remaining sections of this study are organized as follows: in section 2, we provide a comprehensive review of relevant literature and establish our hypothesis. We then outline the methodology and describe the data used in our research. Next, we present the empirical results derived from our analysis. Finally, we conclude the study with a summary of our findings.

2. Literature review and hypotheses development

2.1 Corporate political spending disclosure (CPSD)

CPSD is a voluntary disclosure that improves transparency by presenting corporate political spending information in accessible formats, addressing the limitations of fragmented and unclear information from external sources (Goh et al., 2020). CPSD reduces data-collection costs and offers insights into non-mandatory spending, thereby facilitating strategic articulation and oversight mechanisms (Lei & Luo, 2023a). However, given the controversial and covert nature of corporate political spending (Werner, 2017), companies should weigh the costs and benefits of disclosing such information. From the benefit side, transparent CPSD minimizes information asymmetry (Wang & Zhang, 2022), which could subsequently reduce analyst forecast error (Goh et al., 2020) and costs of capital (Adrian et al., 2022; DeBoskey et al., 2021). In contrast, CPSD could lead to negative public reactions, criticism from activist investors, and increased regulatory

scrutiny, which can damage corporate reputation and disrupt operations (Lei et al., 2019; Prabhat & Primo, 2019; Zhang & Wang, 2024). Given that context, companies may choose to limit the disclosure of politically related financial details that carry potential risks.

Considering the possible limitations and benefits associated with CPSD, scholars have examined different internal and external factors that affect CPSD. Goh et al. (2020) found that, at the firm level, increased political spending disclosure is positively associated with elevated levels of political expenditure, direct political engagement, investor activism, CSR performance, and corporate governance ratings. Furthermore, greater gender diversity (DeBoskey et al., 2018a), the existence of a formal and independent political contributions committee (DeBoskey et al., 2018b), higher institutional and government ownership (Ali et al., 2022), and better board monitoring and advisory functions (Ali et al., 2023) promote companies to disclose more information about political spending. In addition, external determinants can create a context that encourages or discourages companies from disclosing their political spending voluntarily. In a recent study, Lei and Luo (2023a) found that companies extend their political spending disclosure during times of high economic policy uncertainty (EPU). However, since GPR is distinct from EPU (Caldara & Iacoviello, 2022; Khraiche et al., 2023), our study has introduced GPR as a significant external determinant capable of influencing CPSD.

2.2 Geopolitical risk (GPR)

Extensive literature consistently underscores the adverse effects of GPR on both country- and firm-level factors. At the country level, heightened GPR has been associated with lower unemployment and reduced GDP growth (Caldara & Iacoviello, 2022), decreased aggregate consumption (Bloom, 2009), reduced total factor productivity (Nguyen et al., 2022), diminished

international capital flows (Feng et al., 2023), and heightened stock-market volatility (Zhang et al., 2023).

At the firm level, a substantial body of research shows the adverse effects of GPR on firms' investment and financing decisions. Consistent with the real-options theory, during times of high uncertainty caused by global events, firms are more likely to be negatively affected and more prone to delay investments (Le & Tran, 2021; Rumokoy et al., 2023; Wang et al., 2019). However, companies' political connections could mitigate the negative impact of GPR on corporate investment (Alam et al., 2023). Furthermore, researchers document that GPR significantly influences various forms of real investments, such as decreasing crowd funding (Alsagr et al., 2023), reducing CSR spending (Chowdhury et al., 2023), and encouraging mergers and acquisitions activities (Shen et al., 2021).

GPR influences not only investment, but also companies' financing decisions. It increases the cost of external borrowing for companies by increasing the likelihood of companies defaulting on their debts (Shrestha et al., 2024), thereby prompting banks to raise interest rates on loans (Nguyen & Thuy, 2023). Due to the increased cost of external funding during heightened GPR, firms are more inclined to rely on internal financing sources, such as cash reserves (Lee & Wang, 2021) and conservative payout policies (Adra et al., 2023). Overall, companies tend to pursue a conservative strategy in both investment and financing decisions amid heightened GPR.

In summary, GPR plays a crucial role in shaping business decision-making (Adra et al., 2023; Wang et al., 2021). However, the existing literature on GPR provides limited clarity on whether and how it impacts corporate disclosure practices, especially concerning CPSD. Therefore, examining the connection between GPR and CPSD will aid in comprehending whether and how

companies react in terms of their political spending disclosure in response to global unpredictability.

2.3 Hypotheses development

During the times of heightened uncertainty, companies are often unsure about whether to disclose information. Companies may choose to provide more details to reduce information asymmetry (Bird et al., 2023; Nagar et al., 2019), or withhold information due to potential reputational cost (Kim et al., 2016) or uncertainty about investor reactions (Suijs, 2007). Therefore, we develop two competing hypotheses to explain the relationship between GPR and CPSD.

GPR adds unpredictability in the business environment, making firms to be more cautious in their strategic decisions, including disclosure. Since CPSD is a risky disclosure (Ali et al., 2022), companies are likely to limit such disclosures from a risk-averse perspective to avoid potential negative consequences. From the real options theory, we argue that GPR can influence CPSD through CSR performance. Real options theory emphasizes the flexibility in managing investment that cannot be reversed during uncertainties (Busby & Pitts, 1997; Dixit et al., 1994), and incorporating risk aversion in real options protect companies to incur substantial loss (Ewald & Taub, 2022). Similarly, in line with the risk aversion perspective of real options, firms adopt "wait and see" approach and postpone irreversible investments during periods of high GPR due to obscure expected benefits in such environment (Le & Tran, 2021). CSR investment is mostly complex, highly uncertain, and irreversible in nature (Hasan & Habib, 2017; Yuan et al., 2022). A firm prioritizing investment in CSR, where the returns are uncertain, may finds itself in a more vulnerable position during the heightened GPR. Therefore, elevated GPR drives companies to be less socially responsible (Chowdhury et al., 2023), with lower social responsibility leading to a

decrease in the disclosure of political spending information[5]. From the above discussions, we expect a negative relationship between GPR and CPSD.

On the contrary, companies may find enhancing their voluntary disclosure, such as CPSD, advantageous in reaction to heightened GPR. Economic theory suggests that when companies encounter uncertainty and higher information asymmetry, they usually respond by sharing more detailed information (Diamond, 1985; Grossman, 1981; Lu et al., 2024). For example, during the times of heightened political uncertainty, companies increase their voluntary disclosure to mitigate the problem of information asymmetry (Bird et al., 2023; Nagar et al., 2019). GPR increases information asymmetry between companies and fund providers (Cuculiza et al., 2021; Fiorillo et al., 2023), and firms can respond to this heightened information asymmetry caused by GPR by disclosing more conservative information, such as companies' involvement in political activities.

Considering the divergent predictions regarding how heightened GPR affects CPSD, the true impact of increased GPR on CPSD direction is a question that can only be resolved through empirical analysis. Consequently, we introduce and test the following competing hypotheses:

H1a: Heightened GPR is negatively associated with the level of CPSD.

H1b: Heightened GPR is positively associated with the level of CPSD.

3. Research design

3.1 Sample and data sources

Our sample consisted of all firms in the S&P 500 index during the period from 2011 to 2021. We started our sample in 2011 due to the availability of political spending disclosure data from

[5] We draw the inferences from the study of Goh et al. (2020) who found that companies with higher social responsibilities disclose more political spending information.

the Center for Political Accountability (CPA)[6] database. Furthermore, the choice of 2011 as the initial reference was associated with the significant influence of the *Citizens United* ruling in 2010 on regulations regarding campaign finance, highlighting the crucial role of practices concerning political spending transparency. We chose to extract evidence from the U.S. market for several reasons. First, the increasingly unstable U.S. political landscape has heightened the firms' exposure to political risks and uncertainties (Hasan et al., 2024; Sweidan, 2021), making the US firms heavily influenced by GPR. Second, political spending in the U.S. is steadily increasing, and corporations are the primary sources of political funding (Goh et al., 2020). Third, transparency in corporate political funding is more pronounced in the U.S. (DeBoskey et al., 2018a).

We collected corporate political spending disclosure (CPSD) data from the CPA-Zicklin index provided by the CPA-Zicklin Center. The CPA-Zicklin index provides information on the political disclosure practices of companies listed in the S&P 500 index. The geopolitical risk data was obtained from the GPR index at https://www.matteoiacoviello.com/gpr.htm. The data for the control, and other variables was assembled from the Thomson Reuters Eikon database (Refinitiv), Bloomberg, and the Center for Responsive Politics (CRP) website.

The initial sample included 4,300 firm-year observations of firms over the 2011 to2021 period, but after removing firms with missing accounting variables and external governance variables (856 firm-year observations), and firms not covered by CPA-Zicklin's annual survey (47 firm-year observations), 3,397 firm-year observations were ultimately drawn. The yearly reconciliation of the entire sample is presented in Panel A of Table 1. Additionally, Table 1, Panel B, displays the coverage of CPA-Zicklin firms in our sample, representing around 79.87% of the initial dataset.

[6] The Center for Political Accountability, a nonpartisan, non-profit advocacy organization, leads the only successful effort to achieve corporate political disclosure and accountability, operating as an NGO outside the political system (see https://www.politicalaccountability.net/about-us/).

This coverage surpasses previous studies: (DeBoskey et al., 2018a) covered 78% from 2011 to 2015, Ali et al. (2022) covered 76.4% from 2015 to 2018, and Ali et al. (2023) covered 68.75% from 2011 to 2019. Table 1, Panel C displays the number of companies in each of the 11 industrial classifications based on the Global Industry Classification Standard (GICS), indicating that our sample was predominantly composed of companies operating in the consumer discretionary industry (16.98 percent) and the information technology industry (14.08 percent). In contrast, the communication services industry (0.62 percent) and the materials industry (4.35 percent) had the smallest representations in our sample.

[Insert Table -1]

3.2 Variables measurement

3.2.1 Corporate political spending disclosure (CPSD)

The Centre for Political Accountability (CPA) and the Carol and Lawrence Zicklin Center for Business Ethics Research collaborated to create a unique Corporate Political Accountability and Disclosure dataset known as the CPA-Zicklin index. The index was primarily developed by reviewing the political transparency and disclosure practices and policies of the top 100 S&P 500 companies. The CPA-Zicklin index was first released in 2011, following the Supreme Court's 2010 *Citizens United* decision, which changed the political funding landscape by eliminating prohibitions on corporate spending to influence elections. The index was expanded to cover the top 200 S&P 500 companies in 2012 and 2013 and the top 300 S&P 500 companies in 2014. Since 2015, the center has been monitoring and recording the political activity disclosure of every company listed on the S&P 500 index on an annual basis.

The CPA-Zicklin index constructs a scoring format based on the publicly accessible information from each company's website, regardless of how the company was evaluated in prior

years. This ensures that the scoring is based on companies' current disclosure practices and policies. The disclosure index consists of 24 indicators divided into three main categories: a) disclosure score (with a maximum value of 36), b) policy score (with a maximum value of 16), and c) oversight of political spending score (with a maximum value of 18), totalling an aggregate maximum value of 70 (Appendix A). The higher the raw score, the more transparent and accountable the companies are concerning political spending/activities. In the empirical analysis, we converted the raw scores into percentages to enhance clarity and interpretability, thus providing a more accessible representation of the data (Adrian et al., 2022; Lei & Luo, 2023a).[7] Since the CPA-Zicklin index incorporates a wide range of political disclosure activities and policies conducted by S&P 500 companies, a variety of literature has considered the CPA-Zicklin index as an appropriate tool for measuring corporate political transparency (Ali et al., 2023; DeBoskey et al., 2018a; Goh et al., 2020).

3.2.2 Geopolitical risk

To measure the geopolitical risk, we employed the GPR index, which was developed by Caldara and Iacoviello (2022). This index has been used extensively in recent literature (Adra et al., 2023; Haque et al., 2023), indicating that the index reflects real-time geopolitical risk. This GPR index is a media-based measure generated by counting the frequency of newspaper reports referring to geopolitical events associated with uncertainty related to terrorist attacks, conflicts, and tensions between states that disrupt international relations. Caldara and Iacoviello (2022) considered articles connected to eight categories of words by classifying them as falling under

[7] The raw scores for CPSD varied initially. The CPA-Zicklin Center first published its CPSD Index in 2011, with a total raw score of 69, comprising a disclosure score of 23, a policy score of 18, and an oversight score of 28. In 2012, the total raw score changed to 72, with a disclosure score of 36, a policy score of 16, and an oversight score of 20. From 2013, the CPSD index consistently provided a total raw score of 70, with a disclosure score of 36, a policy score of 16, and an oversight score of 18. To standardize, we converted the raw score into percentage form.

either geopolitical threats or geopolitical acts. The authors divided the index into two timeframes: the recent and historical GPR index. The recent GPR index spans from 1985 to 2020, encompassing 10 newspapers: six from the USA, three from the UK, and one from Canada. The historical GPR index covers three US-based newspapers from 1900 to 2020. The historical index closely resembles the recent GPR index where their coverage overlaps – that is, from 1985 to 2020 – with a correlation of 0.95. Like most other studies, our study used the recent GPR index due to its coverage of more newspapers. The annual GPR index can be obtained by calculating the mean of the monthly GPR index values for a given fiscal year. The monthly GPR index is calculated by dividing the number of geopolitical risk-related articles by the total number of articles and normalizing the result to have an average value of 100. In this study, we used the annual GPR index of the United States to assess geopolitical risk. A greater GPR value denotes a greater degree of geopolitical risk.

3.3 Research model

To investigate the impact of GPR on CPSD (hypotheses H1a and H1b), our study employed the following regression equation:

$$CPD_{i,t} = \beta_0 + \beta_1 GPR_t + \beta_2 Leverage_{i,t} + \beta_3 ROA_{i,t} + \beta_4 Size_{i,t} + \beta_5 Analyst_{i,t} + \beta_6 Institutional\_ownership_{i,t} + \beta_7 Board\_size_{i,t} + \beta_8 Independence_{i,t} + \beta_9 Industry\_concentration_{i,t} + \sum Firms_i + \varepsilon_{i,t} \quad (1)$$

where $CPD_{i,t}$ is the corporate political spending disclosure (CPSD) score of firm i in year t, and GPR_t is the geopolitical political risk score of year t. Control variables include leverage (*Leverage*), return on assets (*ROA*), firm size based on market value (*Size*), analyst forecast (*Analyst*), percentage of institutional holders (*Institutional_ownership*), board size (*Board_size*), ratio of independent directors (*Independence*), and industry concentration (*Industry_concentration*). Appendix A gives detailed definitions of all variables. In the baseline model, our study included

firm fixed effects ($Firms_i$) to capture firm-specific characteristics that do not change over time. However, the study did not consider year-fixed effects because the GPR index used in the analysis remains constant for all companies within a given year (Adra et al., 2023; Lee & Wang, 2021). In this context, Huang et al. (2022) contended that due to its perfect correlation with year-dummy variables, the parameter associated with the macro-level time-series variable lacks unique determination. This makes it unfeasible to isolate and precisely estimate the standalone influence of the macro-level variable. The standard errors are corrected by clustering at both firm and year levels (Nguyen & Phan, 2017; Nguyen & Thuy, 2023).

This study considered several control variables that are significant drivers of political spending disclosure (Ali et al., 2022; Ali et al., 2023; DeBoskey et al., 2018a; Goh et al., 2020). Larger companies are more likely to attract the interest of stakeholders, which drives them to be more transparent (DeBoskey et al., 2018a). In that sense, our study controlled for the firm size (*Size*). Furthermore, the study used return on assets (*ROA*) as a proxy to control for firm operational performance, as, in line with the research of Goh et al. (2020), high-performing firms tend to disclose less information about political spending. Again, increased transparency in corporate political activities mitigates the concerns of creditors that a company may engage in excessive risk-taking to prioritize the benefits of shareholders, potentially disregarding the interests of creditors (DeBoskey et al., 2021). Therefore, our study anticipated a positive association between CPSD and leverage (*Leverage*). According to the research conducted by Goh et al. (2020), greater analyst coverage (*Analyst*) tends to increase the need for companies to provide more transparency in their political disclosures. As a result, the variable *Analyst* was expected to have a positive relationship with the outcome being studied. Institutional investors (*Institutional_ownership*) may use political spending disclosures to showcase their transparency to prospective clients and bolster

their credibility in the eyes of stakeholders, which suggests a positive relationship between institutional investors and CPSD (Ali et al., 2022). A larger board size (*Board_size*) and a higher ratio of independent directors (*Independence*) induce a company to disclose more political activities (Ali et al., 2023; DeBoskey et al., 2018a). Hence, we expected a positive association between CPSD and board size and CPSD and independent directors. Companies operating in industries with higher levels of concentration tend to provide less information (Ali et al., 2014). Therefore, we expected a negative connection between CPSD and industry concentration (*Industry_concentration*).

4. Empirical results

4.1 Summary statistics

Table 2, Panel A provides summary statistics of the research variables. All continuous variables are winsorized at both the 1% and 99% levels. The variable *CPD* has an average value of 33.041 (raw score) and 47.165 (percentage), which aligns with the mean values reported in the studies by Ali et al. (2022) and Adrian et al. (2022), respectively. An analysis of the quartiles shows that a considerable minority of firms (those scoring 10 points or fewer) disclose little to no information regarding their political spending. In contrast, a significant number of firms provide extensive disclosure, as evidenced by the upper quartile score of 78 points; this suggests a substantial degree of heterogeneity in the level of disclosure among firms, with some being much more transparent about their political spending than others. Furthermore, Panel A reports the mean value of *GPR* is 78.938, with a standard deviation of 10.481, whereas the annual value of *GPR* varies between 62.767 and 93.517.

With a mean leverage (*Leverage*) value of 29.154, firms appear moderately geared, suggesting effective debt management and a balanced approach between leveraging benefits and associated

risks. Furthermore, the average return on assets (*ROA)* of 7.47% observed in our sample of firms suggests that most firms are performing well financially and in a profitable position. The mean score of institutional ownership (*Institutional_ownership*) for S&P 500 firms is 89.978, which suggests that institutional investors exert significant control over the majority of these firms, with a considerable proportion of their shares being owned by institutional investors.

Table 2, Panel B presents CPSD scores across industries, revealing the highest mean score in utilities (63.903) and the lowest in real estate (23.657). Notably, certain heavily regulated industries, like utilities, healthcare, energy, and chemicals, show above-average scores, possibly due to strong political ties and governmental influence. The findings are consistent with the study of DeBoskey and Luo (2018) and Ali et al. (2022).

[Insert Table -2]

4.2 Correlation matrix

Correlation analysis is a fundamental statistical method used to assess the association between a dependent variable and one or more independent variables. Table 3 indicates a negative univariate relation between CPSD and GPR (-0.072). The finding offers preliminary evidence in favour of the hypothesis that increased GPR leads to a decrease in the level of firms' political spending disclosure. Regarding the other control variables, CPSD maintains a positive correlation with firm size and analyst forecast and a negative relationship with profitability and institutional shareholdings. The correlation matrix aids in detecting multicollinearity issues. Our study assessed multicollinearity using a variance inflation factor (VIF) following Neter and Ben-Shakhar (1989) criterion, where VIF values below 10 indicate no multicollinearity. With an average VIF of 1.30, multicollinearity is not a notable concern in this study.

[Insert Table -3]

4.3 Baseline regression results

Table 4 presents the key findings of the study on the relationship between GPR and CPSD as estimated in equation (1). In column (1), we examine this association without including firm-level controls, using a pooled OLS regression. In contrast, in column (2), the analysis maintains the same relationship but includes a comprehensive set of firm-level controls using a firm fixed effect regression model. The results consistently indicate a significant negative coefficient for the *GPR* variable in both cases. Specifically, we observe a negative coefficient of (β=-0.234, p-value<0.01) in column (1) and (β=-0.297, p-value<0.01) in column (2) for the *GPR* variable. Furthermore, the result of the regression analysis in column (2) is not only statistically significant but also economically significant. For instance, the coefficient in column (2) indicates that an increase in *GPR* of one standard deviation corresponds to a decrease in *CPSD* by 3.112 percentage points (calculated as the coefficient of GPR (-0.297) multiplied by the standard deviation of GPR (10.481)), which corresponds to 6.60% relative to the sample mean of CPSD (47.165).

Our result confirms the risk-averse standpoint on political spending disclosure proposed in hypothesis H1a, particularly regarding heightened GPR. The finding implies that with the increment of GPR, companies are reluctant to disclose politically affiliated information if they think it might be controversial or unpopular with shareholders or investors. The finding aligns with the study of Bond and Zeng (2022), suggesting that companies may opt for silence as a safer alternative to disclose in uncertain circumstances.

[Insert Table -4]

The analysis reveals that CPSD exhibits a positive relationship with firm size (*Size*) (Goh et al., 2020), institutional shareholders (*Institutional_ownership*) (Ali et al., 2022), and board independence (*Independence*) (DeBoskey et al., 2018a). Conversely, CPSD demonstrates a

negative relationship with firm profitability (*ROA*) (Goh et al., 2020) and industry concentration (*Industry_concentration*) (Ali et al., 2022). In contrast to previous findings (DeBoskey et al., 2018a), our study identifies a negative relationship between *CPSD* and analyst forecasts (*Analyst*). Our finding suggests that analysts frequently adjust their projections for companies that disclose their political spending due to concerns about possible negative outcomes, including reputational risks and heightened regulatory scrutiny, all of which can affect the company's financial outlook. In conclusion, these findings are consistent with prior research on CPSD and contribute to the existing understanding of the relationship between firm characteristics and CPSD.

5. Additional analyses

So far, we find that increased GPR reduces CPSD levels. In Section 5, we explore three extensions of these results. Literature suggests that companies take different risk aversion techniques, such as reducing investments (Rumokoy et al., 2023) and corporate payouts (Adra et al., 2023) during high GPR. Consistent with that, we want to examine whether political investments and corporate payouts moderate GPR-CPSD relationship. Furthermore, since GPR is a global risk, companies with greater international exposure are likely to be more affected. Therefore, we investigate the impact of companies' international exposure on the relationship between GPR and CPSD. Next, we examine the impact of GPR on CPSD through CSR performance; and finally, we analyse how the GPR-CPSD relationship affects firm risk.

5.1 Role of political investment

During geopolitical crises, companies reduce their investments in political engagement as a precautionary measure (Alam et al., 2024). Furthermore, legitimacy theory predicts that firms with limited political engagement are less likely to disclose information about their political spending (Goh et al., 2020); such a tendency becomes more noticeable during times of external uncertainty

(Lei & Luo, 2023a). Therefore, corporate political investments dampen the incentive to companies to engage in CPSD during heightened GPR. Given the context above, we can expect that the negative association between GPR and CPSD will be more (less) pronounced for firms with lower (higher) political investments. Following the previous literature, our study uses lobbying expenses as a proxy of political investments. Furthermore, about 71% of S&P 500 companies are involved in annual lobbying activities (Coates, 2012), making lobbying expenses a relevant measure for political investments in this context.

To empirically examine the proposition, we partition the sample into firms with high and low political investments based on the median value of lobbying expenses. Table 5, column (1) and (2) represent the impact of political investments on GPR and CPSD. We observe that the coefficient of GPR is negative and significant for firms with lower political investment (β=-0.297, p-value<0.05). As expected, our study finds that less politically oriented companies reduce CPSD during times of elevated GPR. The finding implies that during periods of heightened geopolitical uncertainty, companies with limited political resources, particularly political investments, opt to reduce their CPSD initiatives as a precaution against unwanted public repercussions. This strategy aims to mitigate additional uncertainty in the business environment.

5.2 Role of corporate pay-out policy

Next, our study examines how corporate payout moderates the negative connection between GPR and CPSD. GPR amplifies cash-flow risk (Lee & Wang, 2021) and financial-distress risk (Phan et al., 2022), thereby inducing firms to rely on internal funds, which leads to diminished wealth distribution to shareholders (Adra et al., 2023; Arena & Julio, 2023). Therefore, companies that are more exposed to GPR are more likely to adopt a conservative pay-out policy (Adra et al., 2023). Furthermore, reduced corporate transparency is associated with diminished corporate

payout to investors, facilitating restricted wealth transfer to shareholders (Hendijani Zadeh, 2021). Therefore, from the above discussion, it can be conjectured that the negative relationship between GPR and CPSD will be more (less) pronounced in firms that adopt a low (high) pay-out policy.

[Insert Table – 5]

To empirically test this proposition, our study divides the sample into two groups based on the median value of total pay-out (Adra et al., 2023). Table 5, columns (3) and (4) present the role of corporate payout policy on GPR and CPSD. We observe that the estimated coefficients for GPR are negative and significant in both subsamples, with higher pay-out (β=-0.176, p-value<0.10) and lower pay-out (β=-0.317, p-value<0.05). However, the magnitude of the coefficient estimates for GPR is substantially higher for firms with a lower pay-out policy. Additionally, the disparity in coefficient estimates between the two subsamples is statistically significant at a 10% significance level ($\chi 2$ =3.97, p<0.05). The finding supports the view that the inverse association between GPR and CPSD is more pronounced in firms that embrace a conservative (that is, low) pay-out strategy.

5.3 Role of internationalization

Companies with international exposure encounter various risks, including complicated business environments, complex tax systems, unfavourable government interference, the possibility of property seizure, reduced supervision of management by shareholders, and information asymmetry between local and multinational corporations (Kim & Mathur, 2008; Lee & Kwok, 1988; Michel & Shaked, 1986; Pantzalis et al., 2008). Moreover, GPR introduces additional risk to companies' internationalization strategy by diminishing overall capital movement (Feng et al., 2023) and disturbing international trade (Singh & Roca, 2022). However, the literature presents mixed results regarding companies' international exposure as related to their voluntary disclosures. Kolk and Fortanier (2013) discovered a negative connection between the

degree of internationalization of companies and their voluntary disclosure information (environmental disclosure). In contrast, Shi et al. (2012) found that companies' international engagement influences voluntary disclosure (management earnings forecast), and argued that cross-listed companies show a greater tendency to issue forecasts when their stocks are listed on prominent US exchanges such as NYSE, AMEX, and NASDAQ, in contrast to being listed on the OTC or Portal platforms. Therefore, the perplexing relationship between a company's degree of internationalization and voluntary disclosure prompts us to investigate the role of internationalization in the connection between GPR and CPSD. In summary, when a company has greater international exposure, it remains unclear whether the company discloses more or less political spending during periods of heightened GPR. Following the study of Shi et al. (2012) and Krapl (2015), we take the foreign sales ratio (foreign sales divided by total sales) as a proxy for the degree of internationalization of companies.

To experimentally examine this concept, our study categorizes the sample into two groups using the median value of the foreign sales ratio. The results are presented in Table 5, columns (5) and (6). The computed coefficients for GPR are seen to be negative and statistically significant in both subsamples, with a higher degree of internationalization (β=-0.304, p-value<0.05) and a lower degree of internationalization (β=-0.291, p-value<0.10). However, the coefficient estimates for GPR are significantly greater for organizations with a higher internationalization level. Notably, the difference in coefficient estimate between the two subsamples is statistically significant at a 5% threshold ($\chi 2$ = 6.61, p=0.015). Overall, the result indicates that corporations with greater global involvement decrease their transparency regarding political expenditures when faced with heightened geopolitical uncertainty.

5.4 GPR, corporate social responsibility (CSR), and CPSD: Mediating role of CSR performance

We propose that CSR performance acts as a channel through which GPR influences CPSD. To examine this conjecture, we apply mediation analysis, as commonly used in prior accounting and finance research (Ali et al., 2022; Harjoto & Laksmana, 2018).

$$CSR\_Performance_{i,t} = \gamma_0 + \gamma_1 GPR_t + \sum Controls_{i,t} + \sum Firms_i + \varepsilon_{i,t} \quad (2.1)$$

$$CPD_{i,t} = \omega_0 + \omega_1 GPR_t + \omega_2 CSR\_Performance_{i,t} + \sum Controls_{i,t} + \sum Firms_i + \varepsilon_i \quad (2.2)$$

Where, *CPD* is the corporate political spending disclosure (CPSD) score of companies; and *GPR* is geopolitical risk which is the treatment variable; *CSR_Performance* is the CSR performance of the compagnies. We use the Environmental, Social, and Governance Combined (ESGC) Score, obtained from the Refinitiv database for the respective companies, as an indicator of CSR performance. The ESGC Score, an improved and enhanced replacement for Refinitiv's older CSR rating system, aims to provide more-robust and better-benchmarked assessments of companies' CSR performance (Havlinova & Kukacka, 2023; Läger et al., 2022). The ESGC Score has been used in several studies as a proxy for assessing firms' CSR performance (Havlinova & Kukacka, 2023; Läger et al., 2022).

Equation (2.1) identifies γ_1 as the effect of GPR on CSR performance, while Equation (2.2) captures the direct effect of GPR on CPSD, controlling for CSR performance, with ω_1 representing this direct effect. According to Baron and Kenny (1986), CSR performance acts as a mediator if: (a) GPR significantly influences CSR performance ($\gamma_1 \neq 0$) in Equation (2.2); and (b) CSR performance significantly impacts CPSD ($\omega_2 \neq 0$) after controlling for GPR in Equation (2.2). If these conditions are satisfied, the average causal mediation effect should be tested to evaluate the

relationships among GPR, CSR performance, and CPSD, considering all equations simultaneously.

Table 6, Panel A, column (1) and (2) examine the mediation effect of CSR performance on the relationship between GPR and CPSD. Column (1) demonstrates that GPR has a significant negative impact on CSR performance (β=-0.086, p<0.01), indicating that higher GPR is related to reduced CSR performance. Column (2) shows a significant negative relationship between GPR and CPSD (β=-0.153, p<0.01), even after accounting for CSR performance, while the coefficient for CSR performance is positive and statistically significant (β = 0.351, p < 0.01). Based on the principle of mediation, when the impact of the independent variable (GPR) on the dependent variable (CPSD) is found to be statistically significant and not equal to zero ($\beta_1 \neq 0$), it suggests the presence of partial mediation (Baron & Kenny, 1986).

[Insert Table 6]

We then assess the statistical significance of the mediation effect, and as shown in Table 6, Panel B, the indirect effects of GPR on CPSD through CSR are negative and statistically significant (β=-0.029, p<0.01). The calculation of the indirect effect of GPR on CPSD involves multiplying the standardized slope coefficients of GPR (-0.086) from column (1) of Panel A, Table 6, by the corresponding standardized slope coefficients of CSR (0.351) from column (2) of Panel A, Table 6.These findings collectively indicate that an increase in GPR leads to a decrease in CSR performance, which is associated with firms' reduction in the disclosure of their political spending information.

5.5 Does geopolitical risk (GPR) affect firm risk through corporate political spending disclosure (CPSD)?

In our theoretical framework, we argue that companies tend to limit their political spending disclosure during high GPR to overcome the negative consequences of GPR. Considering firm risk as one of the negative consequences of GPR, this section focuses on how GPR affects firm risk through CPSD. GPR can significantly negatively influences business decisions (Wang et al., 2019), financial stability (Phan et al., 2022), and market performance (Fiorillo et al., 2024), which in turn increase overall business risk (Li & Cheng, 2024). Again, disclosing political spending information can lead to intense public scrutiny and criticism from investors, potentially damaging company's reputation (Lei et al., 2019; Prabhat & Primo, 2019) and, thereby increasing business risk. Therefore, it can be argued that companies can lower their risk by disclosing less information about their political spending. In our study, we find that companies GPR reduces CPSD. Against this backdrop, we contend that high GPR is associated with reduced CPSD, which in turn corresponds with a decrease in firm risk.

Following the previous literature (Ali et al., 2022; Harjoto & Laksmana, 2018), we apply mediation analysis to examine the relationships among GPR, CPSD, and firm risk.

$$CPD_{i,t} = \gamma_0 + \gamma_1 GPR_t + \sum Controls_{i,t} + \sum Firms_i + \varepsilon_{i,t} \quad (3.1)$$

$$Risk_{i,t} = \omega_0 + \omega_1 GPR_t + \omega_2 CPSD_{i,t} + \sum Controls_{i,t} + \sum Firms_i + \varepsilon_i \quad (3.2)$$

Where, *CPD* is the corporate political spending disclosure (CPSD) score of companies; and *GPR* is geopolitical risk which is the treatment variable; *Risk* is the firm risk. *Risk* is assessed by measuring the firm's earnings volatility (Boubakri et al., 2013; Zhang et al., 2021), specifically through the standard deviation of return on assets (ROA) over the past five years. Other variables are defined in Appendix A.

Equation (3.1) identifies γ_1 as the effect of GPR on CPSD, while Equation (3.2) captures the direct effect of GPR on firm risk, controlling for CPSD, with ω_1 representing this direct effect. CPSD acts as a mediator if: (a) GPR significantly influences CPSD ($\gamma_1 \neq 0$) in Equation (3.1); and (b) CPSD significantly impacts firm risk ($\omega_2 \neq 0$) after controlling for GPR in Equation (3.2). If these conditions are satisfied, the average causal mediation effect should be tested to evaluate the relationships among GPR, CPSD, and firm risk considering all equations simultaneously.

Table 7, Panel A, column (1) and (2) examine the mediation effect of CPSD on the relationship between GPR and firm risk. Column (1) demonstrates that GPR has a significant negative impact on CPSD (β=-0.147, p<0.01), indicating that higher GPR is related to reduced CPSD. Column (2) shows a significant negative relationship between GPR and firm risk (β=-2.418, p>0.10), after controlling CPSD, while the coefficient for CPSD is positive and statistically significant (β = 0.523, p < 0.01). Based on the principle of mediation, when the impact of the independent variable (GPR) on the dependent variable (firm risk) is found to be statistically significant and equal to zero ($\beta_1 \neq 0$), it suggests the presence of partial mediation (Baron & Kenny, 1986).

[Insert Table -7]

We then assess the statistical significance of the mediation effect. As shown in Table 7, Panel B, the indirect effects of GPR on firm risk through CPSD are negative and statistically significant (β=-0.077, p<0.05)The indirect effect is calculated by multiplying the standardized slope coefficient of GPR (-0.147) from column (1) of Panel A, Table 7, by the standardized slope coefficient of CPSD (0.052) from column (2). These results collectively suggest that higher GPR leads to reduced political spending disclosure, which in turn results in a decrease in firm risk.

6. Robustness checks

6.1 Dimensions of political spending disclosure

After establishing the influence of GPR on CPSD, our study examines how GPR affects each of the three components of CPSD – disclosure score, policy score, and oversight score. –. The disclosure score evaluates whether firm publicly report the details of their political contributions and hold management accountable for political spending decisions (see questions 1 to 9 in appendix B). The policy score assesses a company's political spending matches its public-policy stance and supports its long-term interests, rather than reflecting individual managers' inclinations (see questions 10 to 16 in appendix B). The oversight score examines the general board's and board committees' level of oversight of direct political contributions, as well as payments made to trade associations and other tax-exempt organizations, particularly those engaging in dark-money activities (see questions 17 to 24 in appendix B).

The regression results presented in Table 8, column (1), (2), and (3) show that GPR is significantly associated only with disclosure score (β= -0.322; p-value<0.05). However, we found no significant relationship between GPR and the other two components of CPSD (policy score and oversight score). The lack of significant relationships between GPR and both policy score and oversight score suggests that the effect of geopolitical risk is limited to the disclosure aspect of CPSD. Companies' policy and oversight scores align with their long-term public-policy positions, which remain stable over time. In contrast, the disclosure score is concerned with immediately sharing information about political contributions and the individuals involved in political activities, linking it to short-term strategy. Therefore, companies rely on disclosure score to manage immediate challenges during heightened GPR, while policy and oversight scores, being inherently stable, are not a primary focus in GPR.

[Insert Table -8]

6.2 Alternative measures of GPR

Our study conducts several sensitivity analyses to enhance the validity and reliability of the main findings and ensure that specific modelling choices had not influenced the results. For the baseline regression, the annual GPR index of the US was used as the primary indicator for geopolitical risk. However, as an alternative measure, our study employs year-end GPR (Le & Tran, 2021) as a substitute for the GPR index, where the GPR value for the final month of each year (i.e., December) is established as the reference point. Next, our study assigns increasing weights (from 1 to 12) to the monthly GPR for each fiscal year to calculate the incremental weighted GPR (Oanh & Hoang, 2021). We conduct the regression again, and present the estimation outcomes in Table 9, columns (1) and (2). The outcomes of this study are consistent with the results of the baseline regression (Table 4), indicating that firms tend to be more conservative in sharing their political spending information during times of increased GPR.

6.3 Alternative estimation techniques

Our study sample consists of micro-level panel data (CPSD and control variables) with macro-level time-series (GPR) data. One conjecture of the study was that the combination of these two can lead to perfect correlation between the macro-level variable and year-dummy variables making the macro-level variable's parameter unidentifiable and suggesting that year dummies can be excluded (Huang et al., 2022). Ignoring that conjecture, certain combined macro-micro studies, particularly in the field of GPR, utilize the year effect to account for unobservable confounding factors specific to each year (Khoo & Cheung, 2021; Le & Tran, 2021; Phan et al., 2022). In line with this idea, our study re-estimates equation (1) using a fixed-effect estimator along with year dummies to control for unobservable cross-sectional firm-level heterogeneity in the sample. In

addition, our study uses a panel Tobit model with random effects to address the issue of censoring at zero in certain CPSD data points, which arises due to the possibility of firms not disclosing political spending in certain years. Consistent with the main results, Table 9, columns (3) and (4) confirm that GPR is negatively connected with firm-level political spending disclosure in the case of a fixed-effect model (β=-1.476, p-value<0.01)and Tobit model (β=-0.302, p-value<0.01)

6.4 Alternative sample specifications

Our study performs evaluations to confirm the validity of the primary results by implementing different sample specifications to ensure the dependability of the study findings. One of the key concerns was the potential influence of the U.S. election year on the main findings. The presidential election in the U.S. is a highly anticipated political event that can potentially disturb the global balance and escalate geopolitical pressures. This is due to the fact that the results of the election can greatly affect various aspects of international relations, including trade deals, partnerships, and defense policies. The election of a new president can bring about changes in the U.S. stance on global issues, which can have ripple effects on other countries and regions around the world. The 2020 presidential and congressional elections amassed a total expenditure of $14 billion, with a significant proportion of funding originating from corporate contributions (Zhang & Zhang, 2022). However, precisely quantifying corporate contributions is challenging due to the absence of mandatory political spending disclosure. Therefore, it is highly probable that the disclosure of political spending by the sample firms and the U.S. GPR can be affected during U.S. election periods. We conducted a sensitivity analysis by omitting 2012, 2016, and 2020 from the dataset to ensure that data from the US presidential election years did not influence our findings. The result in Table 9, column (5) indicates that the increase in GPR leads to a reduction in CPSD (β=-0.368, p-value<0.05) which is consistent with the findings reported in Table 4. The result

suggests that including data from U.S. presidential election years does not affect the relationship between geopolitical risk and political spending disclosure.

[Inset Table -9]

Additionally, we suspect that the unbalanced fraction of the sample may affect the key conclusions. Our study reduces the sample size to the period spanning from 2015 to 2021, given that 2015 marks the first year where data for the complete set of S&P 500 companies was available. By adhering to the criteria used in previous studies (Ali et al., 2022; Ntim & Soobaroyen, 2013), we ensure that the study data will be classified as balanced panel data. Table 9, column (6) reports a negative association between geopolitical risk and political spending disclosure (β=-0.323, p-value<0.05). This finding aligns with the primary conclusion of Table 4, suggesting that the observed association is not attributable to an imbalanced subset of the sample.

We suspect that the difference in firm size could affect the relationship between GPR and CPSD. Hence, we perform supplementary sensitivity tests by running regressions of the baseline model on subsamples that excluded the largest 10% and smallest 10% of firms based on their market value. The results of the estimation, as presented in Table 9, column (7), reveal that even when excluding the smallest and largest firms from the sample, the outcomes remain consistent with those reported in Table 4 (β=-0.297, p-value<0.05). This implies that either small or large firms do not affect the finding.

6.5 Endogeneity issues

The issue of endogeneity can arise due to three distinct biases: reverse causality, measurement error, and omitted variable (Roberts & Whited, 2013). First, it is unlikely for a firm's voluntary disclosure could affect GPR in the USA; therefore, in accordance with the view of Wang et al. (2022), the potential reverse-causality issue is not significant in this study. Next, the study's

empirical findings, in line with the results from the sensitivity-analysis section using alternative measures of GPR and estimation techniques, offer reassurance that potential measurement errors in the regression model have been effectively addressed. Finally, the issue with omitted variables arises during empirical estimation when they affect a significant independent variable, leading to a distortion of the relationship between the independent and dependent variables (Busenbark et al., 2021). When both independent (endogenous) and dependent variables are continuous variables, the standard approach to control for omitted-variable bias is to use instrumental variables (IVs) with two-stage least-squares regression (2SLS) (Peel, 2014). Given that both GPR and political spending disclosure are continuous variables, the appropriate approach would be to use instrumental variables (IVs) with 2SLS in our study to mitigate potential omitted-variable bias.

The instrumental variable approach necessitates an instrument that is linked to the endogenous variable (GPR) (relevance condition) but does not directly affect the dependent variable (CPSD) (exclusion condition), except through the endogenous variable (GPR) (Nash & Patel, 2019). Following the previous studies of geopolitical risk, we have used two instrumental variables separately: the one-year lag of GPR (Wang et al., 2021) and the growth of terrorist attacks (Phan et al., 2022). Our study reports the 2SLS regression results in Table 10. In the first stage, it has been predicted that GPR will be positively associated with the one-year lag of GPR and the growth rate of terrorist attacks. Here, GPR (endogenous variable) is significantly positively associated with the one-year lag of GPR (β= 0.425, p-value<0.01) and the growth of terrorist attacks (β=2.221, p-value<0.01), therefore satisfying the relevance condition. The second stage of the analysis involves using the predicted values obtained from the first stage to conduct subsequent regression analyses. In the second stage, coherent with our main findings, GPR is negatively connected with political spending disclosure with the one-year lag of GPR (β=-0.344, p-

value<0.01) and the growth of terrorist attacks (β=--3.010, p-value<0.01) Consequently, the two instrumental variables can be said to influence the dependent variable (CPSD) by way of the endogenous variable (GPR), thereby satisfying the exclusion condition. Our study conducted post-estimation tests to analyse the strength of instrumental variables and ensure instrumental validity. An instrument is deemed relevant or robust if its F-statistic surpasses the critical values established by Stock and Yogo (2005) (Angrist & Pischke, 2008) or if the *F-statistic* is more than 10 (Staiger & Stock, 1997). The Cragg-Donald F statistics are notably high (*F-stat*, *GPR_lag* = 440.805, *Terrorist_attack* = 28.231), suggesting that our instruments are robust enough to address endogeneity bias in the 2SLS regression.

[Insert Table -10]

7. Conclusion

To address the question of whether companies adjust their voluntary disclosure during heightened external uncertainties (Lei & Luo, 2023b; Nagar et al., 2019; Wang et al., 2022), this study focuses on geopolitical risk (GPR) as an external uncertainty and corporate political spending disclosure (CPSD) as voluntary disclosure.. By combining two issues, our study sheds light on whether companies increase or decrease their disclosure of political spending in response to elevated GPR. Employing a firm fixed effect model, our study identifies a negative relationship between GPR and CPSD, indicating that companies tend to decrease their political spending disclosure during times of heightened GPR. Cross-sectional analyses further indicate that increased political investment, higher pay-out policy, and lower degree of internationalization could mitigate the negative impact of GPR and CPSD. Furthermore, the channel analysis reveals that a decrease in CSR performance during periods of heightened GPR leads to reduced political transparency within the company. In our additional analysis, we investigate the impact of CPSD

on GPR-firm risk relationship. Our channel analysis documents that a higher GPR reduces companies' disclosure of political spending, and this reduced disclosure results in decreased firm risk. Additionally, when examining the different components of CPSD, our study reveals that GPR is only negatively connected with the disclosure score, while the policy score and oversight score show a non-significant relationship. Our study conducts sensitivity analyses, which confirm the robustness of the findings, as minor modifications to the model do not significantly affect the results.

Our study is relevant to a wide range of interest groups, including managers, regulators, and policymakers. First, corporate managers are responsible for decisions regarding political spending and the disclosure of such decisions to stakeholders (Goh et al., 2020; Lund & Strine, 2022). Our study findings help managers in making informed decisions about their voluntary disclosure practices of political spending by considering GPR. This aspect holds substantial importance as these decisions profoundly influence companies' relationships with stakeholders and their competitive position in the market. Next, the value creation (reducing firm risk) capacity of limiting CPSD during amid GPR may reconsider the policymakers about mandating CPSD. Since CPSD contains sensitive but valuable information, policymakers should develop guidelines on the extent of disclosure to ensure that stakeholders receive necessary information without fostering a hostile mentality.

Our study paves the way for future research to explore the influence of external determinants in greater depth. One potential avenue of investigation lies in examining how CPSD behaves in relation to various other types of institutional factors, such as state-level political ideology and religiosity, providing further insights into the role of CPSD. These avenues of research will

contribute to a more comprehensive understanding of the dynamics surrounding CPSD and its interaction with different external factors.

References

Adra, S., Gao, Y., Huang, J., & Yuan, J. (2023). Geopolitical risk and corporate payout policy. *International Review of Financial Analysis*, *87*, 102613. https://doi.org/https://doi.org/10.1016/j.irfa.2023.102613

Adrian, C., Garg, M., Viet Pham, A., Phang, S.-Y., & Truong, C. (2022). Policy and oversight of corporate political activities and the cost of equity capital. *Journal of Contemporary Accounting & Economics*, *18*(2), 100314. https://doi.org/https://doi.org/10.1016/j.jcae.2022.100314

Aggarwal, R. K., Meschke, F., & Wang, T. Y. (2012). Corporate Political Donations: Investment or Agency? *Business and Politics*, *14*(1), 1-38. https://doi.org/10.1515/1469-3569.1391

Alam, A. W., Farjana, A., & Houston, R. (2024). Geopolitical risk, CEO power, and corporate lobbying: Do powerful CEOs lobby more? *Finance Research Letters*, *62*, 105127. https://doi.org/https://doi.org/10.1016/j.frl.2024.105127

Alam, A. W., Houston, R., & Farjana, A. (2023). Geopolitical risk and corporate investment: How do politically connected firms respond? *Finance Research Letters*, *53*, 103681. https://doi.org/https://doi.org/10.1016/j.frl.2023.103681

Ali, A., Klasa, S., & Yeung, E. (2014). Industry concentration and corporate disclosure policy. *Journal of Accounting and Economics*, *58*(2), 240-264. https://doi.org/https://doi.org/10.1016/j.jacceco.2014.08.004

Ali, H., Adegbite, E., & Nguyen, T. H. (2022). Ownership structure and political spending disclosure. *Accounting Forum*, *46*(2), 160-190.

Ali, H., Adegbite, E., & Nguyen, T. H. (2023). Corporate Governance and Corporate Political Responsibility. *Business & Society*, 00076503231157725. https://doi.org/10.1177/00076503231157725

Ali, S., Liu, B., & Su, J. J. (2022). Does corporate governance have a differential effect on downside and upside risk? *Journal of Business Finance & Accounting*, *49*(9-10), 1642-1695.

Almaghrabi, K. S., & Tsalavoutas, I. (2022). Political spending, related voluntary disclosure, and the cost of public debt. *Journal of Financial Stability*, *63*, 101085. https://doi.org/https://doi.org/10.1016/j.jfs.2022.101085

Alsagr, N., Cumming, D. J., Davis, J. G., & Sewaid, A. (2023). Geopolitical risk and crowdfunding performance. *Journal of International Financial Markets, Institutions and Money*, *85*, 101766. https://doi.org/https://doi.org/10.1016/j.intfin.2023.101766

Angrist, J. D., & Pischke, J.-S. (2008). *Mostly harmless econometrics: An empiricist's companion*. Princeton University Press, Princeton, NJ. .

Arena, M. P., & Julio, B. (2023). Litigation Risk Management Through Corporate Payout Policy. *Journal of Financial and Quantitative Analysis*, *58*(1), 148-174. https://doi.org/10.1017/S002210902200076X

Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social psychology*, *51*(6), 1173.

Bird, A., Karolyi, S. A., & Ruchti, T. G. (2023). How do firms respond to political uncertainty? Evidence from US gubernatorial elections. *Journal of Accounting Research*, *61*(4), 1025-1061.

Bloom, N. (2009). The impact of uncertainty shocks. *Econometrica*, *77*(3), 623-685.

Bond, P., & Zeng, Y. (2022). Silence is safest: Information disclosure when the audience's preferences are uncertain. *Journal of Financial Economics*, *145*(1), 178-193. https://doi.org/https://doi.org/10.1016/j.jfineco.2021.08.012

Boubakri, N., Mansi, S. A., & Saffar, W. (2013). Political institutions, connectedness, and corporate risk-taking. *Journal of International Business Studies*, *44*, 195-215.

Busby, J. S., & Pitts, C. G. C. (1997). Real options in practice: an exploratory survey of how finance officers deal with flexibility in capital appraisal. *Management Accounting Research*, *8*(2), 169-186. https://doi.org/https://doi.org/10.1006/mare.1996.0040

Busenbark, J. R., Yoon, H., Gamache, D. L., & Withers, M. C. (2021). Omitted Variable Bias: Examining Management Research With the Impact Threshold of a Confounding Variable (ITCV). *Journal of Management*, *48*(1), 17-48. https://doi.org/10.1177/01492063211006458

Bussy, A., & Zheng, H. (2023). Responses of FDI to geopolitical risks: The role of governance, information, and technology. *International Business Review*, *32*(4), 102136. https://doi.org/https://doi.org/10.1016/j.ibusrev.2023.102136

Caldara, D., & Iacoviello, M. (2022). Measuring Geopolitical Risk. *American Economic Review*, *112*(4), 1194-1225. https://doi.org/10.1257/aer.20191823

Chowdhury, M. S. R., Koussis, N., Makrominas, M., & Trigeorgis, L. (2023). Geopolitical Risk, Uncertainty, Real Options, and Corporate Social Responsibility. *Available at SSRN* https://doi.org/https://ssrn.com/abstract=4615553

Coates, J. C. (2012). Corporate politics, governance, and value before and after citizens united. *Journal of Empirical Legal Studies*, *9*(4), 657-696.

Cuculiza, C., Antoniou, C., Kumar, A., & Maligkris, A. (2021). Terrorist attacks, analyst sentiment, and earnings forecasts. *Management Science*, *67*(4), 2579-2608.

DeBoskey, D., Li, Y., Lobo, G. J., & Luo, Y. (2021). Corporate political transparency and the cost of debt. *Review of Quantitative Finance and Accounting*, *57*, 111-145.

DeBoskey, D. G., & Luo, Y. (2018). Recent trends in corporate political disclosure for a sample of S&P 500 firms: a new and emerging corporate disclosure area. *International Journal of Disclosure and Governance*, *15*(3), 176-184. https://doi.org/10.1057/s41310-018-0045-z

DeBoskey, D. G., Luo, Y., & Wang, J. (2018a). Does board gender diversity affect the transparency of corporate political disclosure? *Asian Review of Accounting*, *26*(4), 444-463. https://doi.org/10.1108/ARA-09-2017-0141

DeBoskey, D. G., Luo, Y., & Wang, J. J. (2018b). Do specialized board committees impact the transparency of corporate political disclosure? Evidence from S&P 500 companies. *Research in Accounting Regulation*, *30*(1), 8-19. https://doi.org/https://doi.org/10.1016/j.racreg.2018.03.002

Diamond, D. W. (1985). Optimal release of information by firms. *The Journal of Finance*, *40*(4), 1071-1094.

Dixit, R. K., Dixit, A. K., & Pindyck, R. S. (1994). *Investment under uncertainty*. Princeton university press.

Ewald, C. O., & Taub, B. (2022). Real options, risk aversion and markets: A corporate finance perspective. *Journal of Corporate Finance*, *72*, 102164. https://doi.org/https://doi.org/10.1016/j.jcorpfin.2022.102164

Feng, C., Han, L., Vigne, S., & Xu, Y. (2023). Geopolitical risk and the dynamics of international capital flows. *Journal of International Financial Markets, Institutions and Money*, *82*, 101693. https://doi.org/https://doi.org/10.1016/j.intfin.2022.101693

Fiorillo, P., Meles, A., Pellegrino, L. R., & Verdoliva, V. (2023). Geopolitical risk and stock liquidity. *Finance Research Letters*, *54*, 103687. https://doi.org/https://doi.org/10.1016/j.frl.2023.103687

Fiorillo, P., Meles, A., Pellegrino, L. R., & Verdoliva, V. (2024). Geopolitical risk and stock price crash risk: The mitigating role of ESG performance. *International Review of Financial Analysis*, *91*, 102958. https://doi.org/https://doi.org/10.1016/j.irfa.2023.102958

Goh, L., Liu, X., & Tsang, A. (2020). Voluntary disclosure of corporate political spending. *Journal of Corporate Finance*, *61*, 101403. https://doi.org/https://doi.org/10.1016/j.jcorpfin.2018.08.014

Grossman, S. J. (1981). An introduction to the theory of rational expectations under asymmetric information. *The Review of Economic Studies*, *48*(4), 541-559.

Haque, T., Pham, T. P., & Yang, J. (2023). Geopolitical risk, financial constraints, and tax avoidance. *Journal of International Financial Markets, Institutions and Money*, *88*, 101858. https://doi.org/https://doi.org/10.1016/j.intfin.2023.101858

Harjoto, M., & Laksmana, I. (2018). The impact of corporate social responsibility on risk taking and firm value. *Journal of Business Ethics*, *151*, 353-373.

Hasan, M. M., & Habib, A. (2017). Corporate life cycle, organizational financial resources and corporate social responsibility. *Journal of Contemporary Accounting & Economics*, *13*(1), 20-36. https://doi.org/https://doi.org/10.1016/j.jcae.2017.01.002

Hasan, M. M., Hossain, A., & Jiang, H. (2024). Political sentiment and credit ratings. *The British Accounting Review*, 101432. https://doi.org/https://doi.org/10.1016/j.bar.2024.101432

Havlinova, A., & Kukacka, J. (2023). Corporate Social Responsibility and Stock Prices After the Financial Crisis: The Role of Strategic CSR Activities. *Journal of Business Ethics*, *182*(1), 223-242. https://doi.org/10.1007/s10551-021-04935-9

Hendijani Zadeh, M. (2021). The effect of corporate social responsibility transparency on corporate payout policies. *International Journal of Managerial Finance*, *17*(5), 708-732.

Huang, H.-C., Wang, X., & Xiong, X. (2022). When macro time series meets micro panel data: A clear and present danger. *Energy Economics*, *114*, 106289. https://doi.org/https://doi.org/10.1016/j.eneco.2022.106289

Interfaith Center on Corporate Responsibility (2021, January 28). *In Wake of Jan 6, Investors Call on Companies to Re-Evaluate Whether Corporate Political Spending is in the Company's – or the Public's – Best Interest* [Press release]. https://www.iccr.org/wake-jan-6-investors-call-companies-re-evaluate-whether-corporate-political-spending-companys-or/

Khoo, J., & Cheung, A. (2021). Does geopolitical uncertainty affect corporate financing? Evidence from MIDAS regression. *Global Finance Journal*, *47*, 100519. https://doi.org/https://doi.org/10.1016/j.gfj.2020.100519
Khraiche, M., Boudreau, J. W., & Chowdhury, M. S. R. (2023). Geopolitical risk and stock market development. *Journal of International Financial Markets, Institutions and Money*, *88*, 101847. https://doi.org/https://doi.org/10.1016/j.intfin.2023.101847
Kim, K., Pandit, S., & Wasley, C. E. (2016). Macroeconomic uncertainty and management earnings forecasts. *Accounting Horizons*, *30*(1), 157-172.
Kim, Y. S., & Mathur, I. (2008). The impact of geographic diversification on firm performance. *International Review of Financial Analysis*, *17*(4), 747-766.
Kolk, A., & Fortanier, F. (2013). Internationalization and environmental disclosure: The role of home and host institutions. *Multinational Business Review*, *21*(1), 87-114.
Kong, X., Radhakrishnan, S., & Tsang, A. (2017). Corporate lobbying, visibility and accounting conservatism. *Journal of Business Finance & Accounting*, *44*(5-6), 527-557.
Krapl, A. A. (2015). Corporate international diversification and risk. *International Review of Financial Analysis*, *37*, 1-13.
Läger, F., Bouzzine, Y. D., & Lueg, R. (2022). The relationship between firm complexity and corporate social responsibility: International evidence from 2010–2019. *Corporate Social Responsibility and Environmental Management*, *29*(3), 549-560.
Le, A.-T., & Tran, T. P. (2021). Does geopolitical risk matter for corporate investment? Evidence from emerging countries in Asia. *Journal of Multinational Financial Management*, *62*, 100703. https://doi.org/https://doi.org/10.1016/j.mulfin.2021.100703
Lee, C.-C., & Wang, C.-W. (2021). Firms' cash reserve, financial constraint, and geopolitical risk. *Pacific-Basin Finance Journal*, *65*, 101480. https://doi.org/https://doi.org/10.1016/j.pacfin.2020.101480
Lee, K. C., & Kwok, C. C. (1988). Multinational corporations vs. domestic corporations: International environmental factors and determinants of capital structure. *Journal of International Business Studies*, *19*, 195-217.
Lei, L., Li, Y., & Luo, Y. (2019). Social media and voluntary nonfinancial disclosure: Evidence from Twitter presence and corporate political disclosure. *Journal of Information Systems*, *33*(2), 99-128.
Lei, L., & Luo, Y. (2023a). Aggregate economic policy uncertainty and corporate political contribution disclosure. *Journal of Accounting Literature*, *ahead-of-print*(ahead-of-print). https://doi.org/10.1108/JAL-11-2021-0015
Lei, L., & Luo, Y. (2023b). Political/Policy Uncertainty, Corporate Disclosure, and Information Asymmetry. *Accounting Perspectives*, *22*(1), 87-110.
Li, L., & Cheng, X. (2024). Do geopolitical risks increase corporate risk-taking?—Based on the perspective of diversification expansion. *Corporate Governance: An International Review*, *32*(3), 428-448.
Lu, C., Parsley, D., & Xue, B. (2024). Economic policy uncertainty and voluntary disclosures:How do Chinese firms respond? *International Review of Economics & Finance*, *92*, 141-167. https://doi.org/https://doi.org/10.1016/j.iref.2024.02.008
Lund, D. S., & Strine, L. E. (2022). Corporate Political Spending Is Bad Business. *Harvard Business Review*(January-February), 130-137.
Lu, S. F., & Wedig, G. J. (2013). Clustering, agency costs and operating efficiency: Evidence from nursing home chains. *Management Science*, *59*(3), 677-694.
Michel, A., & Shaked, I. (1986). Multinational corporations vs. domestic corporations: Financial performance and characteristics. *Journal of International Business Studies*, *17*, 89-100.
Nagar, V., Schoenfeld, J., & Wellman, L. (2019). The effect of economic policy uncertainty on investor information asymmetry and management disclosures. *Journal of Accounting and Economics*, *67*(1), 36-57. https://doi.org/https://doi.org/10.1016/j.jacceco.2018.08.011
Nash, R., & Patel, A. (2019). Instrumental variables analysis and the role of national culture in corporate finance. *Financial Management*, *48*(2), 385-416.
Neter, E., & Ben-Shakhar, G. (1989). The predictive validity of graphological inferences: A meta-analytic approach. *Personality and Individual differences*, *10*(7), 737-745.
Nguyen, N. H., & Phan, H. V. (2017). Policy Uncertainty and Mergers and Acquisitions. *The Journal of Financial and Quantitative Analysis*, *52*(2), 613-644. http://www.jstor.org/stable/26164611
Nguyen, T. C., & Thuy, T. H. (2023). Geopolitical risk and the cost of bank loans. *Finance Research Letters*, *54*, 103812. https://doi.org/https://doi.org/10.1016/j.frl.2023.103812

Nguyen, T. T. T., Pham, B. T., & Sala, H. (2022). Being an emerging economy: To what extent do geopolitical risks hamper technology and FDI inflows? *Economic Analysis and Policy*, *74*, 728-746. https://doi.org/https://doi.org/10.1016/j.eap.2022.04.005

Ntim, C. G., & Soobaroyen, T. (2013). Corporate governance and performance in socially responsible corporations: New empirical insights from a Neo-Institutional framework. *Corporate Governance: An International Review*, *21*(5), 468-494.

Oanh, H. K., & Hoang, K. (2021). The bright side of geopolitical risk: evidence from Chinese firms. *Journal of Financial Economic Policy*, *13*(3), 353-370. https://doi.org/10.1108/JFEP-04-2020-0076

Pantzalis, C., Park, J. C., & Sutton, N. (2008). Corruption and valuation of multinational corporations. *Journal of Empirical Finance*, *15*(3), 387-417. https://doi.org/https://doi.org/10.1016/j.jempfin.2007.09.004

Peel, M. J. (2014). Addressing unobserved endogeneity bias in accounting studies: control and sensitivity methods by variable type. *Accounting and Business Research*, *44*(5), 545-571. https://doi.org/10.1080/00014788.2014.926249

Phan, D. H. B., Tran, V. T., & Iyke, B. N. (2022). Geopolitical risk and bank stability. *Finance Research Letters*, *46*, 102453. https://doi.org/https://doi.org/10.1016/j.frl.2021.102453

Prabhat, S., & Primo, D. M. (2019). Risky business: Do disclosure and shareholder approval of corporate political contributions affect firm performance? *Business and Politics*, *21*(2), 205-239. https://doi.org/10.1017/bap.2018.24

Roberts, M. R., & Whited, T. M. (2013). Chapter 7 - Endogeneity in Empirical Corporate Finance1. In G. M. Constantinides, M. Harris, & R. M. Stulz (Eds.), *Handbook of the Economics of Finance* (Vol. 2, pp. 493-572). Elsevier. https://doi.org/https://doi.org/10.1016/B978-0-44-453594-8.00007-0

Rumokoy, L. J., Omura, A., & Roca, E. (2023). Geopolitical risk and corporate investment in the metals and mining industry: Evidence from Australia. *Pacific-Basin Finance Journal*, *79*, 101991. https://doi.org/https://doi.org/10.1016/j.pacfin.2023.101991

Shen, H., Liang, Y., Li, H., Liu, J., & Lu, G. (2021). Does geopolitical risk promote mergers and acquisitions of listed companies in energy and electric power industries. *Energy Economics*, *95*, 105115. https://doi.org/https://doi.org/10.1016/j.eneco.2021.105115

Shi, Y., Magnan, M., & Kim, J.-B. (2012). Do countries matter for voluntary disclosure? Evidence from cross-listed firms in the US. *Journal of International Business Studies*, *43*, 143-165.

Shrestha, K., Philip, S. S. S., & Khaw, K. L.-H. (2024). Impact of geopolitical risk on target debt ratio. *Finance Research Letters*, *60*, 104964. https://doi.org/https://doi.org/10.1016/j.frl.2023.104964

Singh, V., & Roca, E. D. (2022). China's geopolitical risk and international financial markets: evidence from Canada. *Applied Economics*, *54*(34), 3953-3971.

Staiger, D. O., & Stock, J. H. (1997). Instrumental variables regression with weak instruments. *Econometrica*, *65*(3), 557-586.

Stock, J. H., & Yogo, M. (2005). Testing for weak instruments in linear IV regression. Identification and inference for econometric models: Essays in honor of Thomas Rothenberg. In: Cambridge, UK: Cambridge University Press.

Suijs, J. (2007). Voluntary disclosure of information when firms are uncertain of investor response. *Journal of Accounting and Economics*, *43*(2), 391-410. https://doi.org/https://doi.org/10.1016/j.jacceco.2006.10.002

Sweidan, O. D. (2021). The geopolitical risk effect on the US renewable energy deployment. *Journal of Cleaner Production*, *293*, 126189. https://doi.org/https://doi.org/10.1016/j.jclepro.2021.126189

Wang, J., & Zhang, H. (2022). Political transparency, corporate governance and economic significance. *International Journal of Disclosure and Governance*, *19*(1), 49-66. https://doi.org/10.1057/s41310-021-00127-z

Wang, K.-H., Xiong, D.-P., Mirza, N., Shao, X.-F., & Yue, X.-G. (2021). Does geopolitical risk uncertainty strengthen or depress cash holdings of oil enterprises? Evidence from China. *Pacific-Basin Finance Journal*, *66*, 101516. https://doi.org/https://doi.org/10.1016/j.pacfin.2021.101516

Wang, M., Zhao, W., & Yin, L. (2022). Economic policy uncertainty, investor sentiment, and voluntary disclosure on internet platform. *Asia-Pacific Journal of Accounting & Economics*, *29*(4), 896-915.

Wang, X., Wu, Y., & Xu, W. (2019). Geopolitical risk and investment. *Journal of Money, Credit and Banking*, *Forthcoming*.

Werner, T. (2017). Investor reaction to covert corporate political activity. *Strategic Management Journal*, *38*(12), 2424-2443.

Yuan, T., Wu, J., Qin, N., & Xu, J. (2022). Being nice to stakeholders: The effect of economic policy uncertainty on corporate social responsibility. *Economic Modelling*, *108*, 105737. https://doi.org/https://doi.org/10.1016/j.econmod.2021.105737

Zhang, B., & Zhang, Z. (2022). Shining light on corporate political spending: Evidence from shareholder engagements. *International Review of Law and Economics*, *70*, 106047. https://doi.org/https://doi.org/10.1016/j.irle.2022.106047

Zhang, H., & Wang, J. (2024). Managerial ability, political risk and political spending disclosure. *Meditari Accountancy Research*, *32*(4), 1493-1526. https://doi.org/10.1108/MEDAR-06-2023-2030

Zhang, W., Zhang, X., Tian, X., & Sun, F. (2021). Economic policy uncertainty nexus with corporate risk-taking: The role of state ownership and corruption expenditure. *Pacific-Basin Finance Journal*, *65*, 101496. https://doi.org/https://doi.org/10.1016/j.pacfin.2021.101496

Zhang, Y., He, J., He, M., & Li, S. (2023). Geopolitical risk and stock market volatility: A global perspective. *Finance Research Letters*, *53*, 103620. https://doi.org/https://doi.org/10.1016/j.frl.2022.103620

Table 1. Sample coverage

The table provides an overview of the study's sample coverage from 2011 to 2021. Panel A outlines the process of selecting the total number of observations used in the regression analysis, while Panels B and C detail the distribution of sample firms by year and industry.

Panel A: Sample selection

Data source	**Observations**
Scope of CPA-Zicklin index (2011-2021)	4,300
Firms with missing CPA-Zicklin index	(47)
Coverage of CPA-Zicklin index (2011-2021)	4,253
Firms with missing accounting variables and external governance variables	(856)
Actual number of observations used in the regression	**3,397**

Panel B: Year-wise distribution of sample firms

Year	Firms covered by CPA-Zicklin index	Firm-year observations	Coverage percentage
2011	99	75	75.75%
2012	196	156	79.59%
2013	195	155	79.48%
2014	299	233	77.93%
2015	497	367	73.84%
2016	493	389	78.90%
2017	499	402	80.56%
2018	493	406	82.35%
2019	496	411	82.86%
2020	493	423	85.80%
2021	493	380	77.08%
Total	**4,253**	**3,397**	**79.87%**

Panel C: Industry-wise distribution of sample firms according to Global Industry Classification Standard (GICS)

Industry	GICS code	Number of companies	Coverage percentage
Consumer discretionary	25	82	16.98
Information technology	45	70	14.08
Industrials	20	68	14.08
Financials	40	64	13.25
Healthcare	35	59	12.22
Consumer staples	30	36	7.45
Energy	10	30	6.21
Utilities	55	26	5.38
Real estate	60	26	5.38
Materials	15	21	4.35
Communication services	50	3	0.62
Total		**483**	**100.00**

Table 2. Summary statistics

This table provides a comprehensive overview of the summary statistics for the entire sample, encompassing S&P 500 firms spanning the years 2011 to 2021. Panel A presents the descriptive statistics for all research variables, while Panel B displays the descriptive statistics for industry-specific CPSD scores. The study employs the Global Industry Classification Standard (GICS) code for industry distribution. All variable definitions are provided in Appendix A. Continuous variables are adjusted at the 1st and 99th percentiles.

Panel A: Descriptive statistics (Full sample)					
Variables	Observations	Mean	Standard deviation	P25	P75
CPD (percentage)	3,397	47.165	34.064	10.000	78.571
CPD (raw score) (Max 70)	3,397	33.041	23.857	7.000	55.000
CPD_disclosure (percentage)	3,397	41.903	36.358	5.555	77.777
CPD_policy (percentage)	3,397	55.064	37.021	18.750	87.500
CPD_oversight (percentage)	3,397	50.552	37.012	11.111	88.888
GPR	3,397	78.938	10.481	72.949	86.324
Leverage	3,397	29.154	17.872	16.200	39.860
ROA (percentage)	3,397	7.485	7.025	3.340	11.020
Size	3,397	4.432	0.426	4.132	4.683
Analyst	3,397	22.612	7.922	17.000	27.000
Institutional_ownership	3,397	89.978	11.044	82.878	99.887
Board_size	3,397	11.301	2.044	10.000	12.000
Independence	3,397	84.658	8.232	80.000	91.670
Industry_concentration	3,397	0.207	0.171	0.121	0.233
Lobbying expenses ($m)	3,343	2.052	3.074	0.120	2.530
Payout ratio	3,397	0.042	0.071	0.001	0.056
Foreign sales ratio (percentage)	3,293	29.764	27.132	0.000	49.230
Risk	2,914	2.797	1.762	0.692	3.577
CSR_performance	3,397	56.429	15.881	44.820	68.650
Panel B: Descriptive statistics of industry-wise CPSD score					
Industry with GICS code	Observations	Mean	Standard deviation	Min	Max
Energy	220	52.710	29.067	0.000	100.000
Materials	150	51.609	31.827	1.429	100.000
Industrials	468	41.701	32.396	0.000	100.000
Consumer discretionary	552	39.613	31.686	0.000	98.730
Consumer staples	290	53.572	31.952	0.000	100.000
Healthcare	436	53.118	34.205	0.000	100.000
Financials	460	51.087	36.221	0.000	100.000
Information technology	466	45.390	37.291	0.000	100.000
Communication services	18	60.092	22.054	7.698	84.762
Utilities	212	63.903	27.388	1.389	100.000
Real estate	181	23.657	29.215	0.000	100.000
Total	**3,397**				

Table 3. Correlation matrix

This table presents the correlation analysis of the variables used in estimating equation 1. The sample contains S&P 500 firms spanning the years 2011 to 2021. All variable definitions are provided in Appendix A. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
(1) *CPD*	1.000									
(2) *GPR*	-0.072***	1.000								
	(0.000)									
(3) *Leverage*	-0.005	-0.003	1.000							
	(0.774)	(0.884)								
(4) *ROA*	-0.049***	0.031	-0.002	1.000						
	(0.004)	(0.070)	(0.924)							
(5) *Size*	0.423***	-0.010	-0.071***	0.200***	1.000					
	(0.000)	(0.542)	(0.000)	(0.000)						
(6) *Analyst*	0.225***	0.061***	-0.132***	0.047***	0.525***	1.000				
	(0.000)	(0.000)	(0.000)	(0.006)	(0.000)					
(7) *Instructional_ ownership*	-0.287***	0.033	-0.023	0.024	-0.476***	-0.176***	1.000			
	(0.000)	(0.055)	(0.179)	(0.166)	(0.000)	(0.000)				
(8) *Board_size*	0.217***	-0.004	-0.042**	-0.173***	0.276***	0.103***	-0.269***	1.000		
	(0.000)	(0.818)	(0.015)	(0.000)	(0.000)	(0.000)	(0.000)			
(9) *Independence*	0.253***	-0.042**	0.063***	-0.061***	0.106***	0.014	0.109***	0.090***	1.000	
	(0.000)	(0.015)	(0.000)	(0.000)	(0.000)	(0.408)	(0.000)	(0.000)		
(10) *Industry_ concentration*	-0.020	0.002	0.050***	0.061***	-0.020	-0.056***	-0.033	-0.005	-0.033	1.000
	(0.233)	(0.930)	(0.003)	(0.000)	(0.241)	(0.001)	(0.057)	(0.753)	(0.052)	

Table 4. Baseline regression: Impact of GPR on CPSD

This table presents the impact of GPR on CPSD using a firm fixed model. The dependent variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). In column (1), the effect of GPR on CPSD is shown without control variables and firm fixed effects, while column (2) illustrates the effect of GPR on CPSD incorporating control variables and employing a firm fixed effect model. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable	*CPD*	*CPD*
	(1)	(2)
GPR	-0.234***	-0.297**
	(-4.21)	(-2.63)
Leverage	-	0.157
		(1.63)
ROA	-	-0.415***
		(-3.25)
Size	-	27.810***
		(4.20)
Analyst	-	-0.726***
		(-3.40)
Institutional_ownership	-	0.350**
		(2.86)
Board_size	-	-0.129
		(-0.44)
Independence	-	0.313**
		(2.86)
Industry_concentration	-	-39.710**
		(-3.10)
Constant	65.660***	-86.032*
	(14.82)	(-1.84)
Firm effects	No	Yes
Observations	3,397	3,397
R^2	0.005	0.781

Table 5. GPR and CPSD: Cross-sectional analyses

This table presents the impact of GPR on CPSD using a firm fixed effect model across subsamples. The dependent variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). Columns (1) and (2) present findings regarding political investment, where lobbying expenses serve as a proxy, as per Goh et al. (2020). Columns (3) and (4) display results concerning corporate payout, calculated using the formula [(Purchase of common and preferred stock – Reduction in preferred stock) + cash dividends], scaled by total assets, following the methodology outlined by Adra et al. (2023). Lastly, columns (5) and (6) depict the results of internationalization, computed by scaling foreign sales by total sales, as per the study conducted by Krapl (2015). All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable = *CPD*	Political investments		Corporate payout		Degree of internationalization	
	High	**Low**	**High**	**Low**	**High**	**Low**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
GPR	-0.221	-0.297***	-0.176*	-0.317**	-0.304***	-0.291*
	(-1.78)	(-3.19)	(-2.27)	(-2.86)	(-3.36)	(-2.20)
Leverage	0.281*	-0.031	0.169	0.132	0.188	0.182
	(1.91)	(-0.33)	(1.53)	(1.05)	(1.59)	(1.49)
ROA	-0.359*	-0.468**	-0.425**	-0.427**	-0.496***	-0.153
	(-2.11)	(-2.75)	(-2.93)	(-2.69)	(-3.58)	(-0.83)
Size	30.960***	18.470***	36.650***	21.951***	28.373***	25.66***
	(4.24)	(3.63)	(4.33)	(3.62)	(4.35)	(3.32)
Analyst	-0.762***	-0.569*	-0.703**	-0.714**	-0.606*	-0.891***
	(-3.23)	(-1.95)	(-2.42)	(-2.84)	(-2.12)	(-3.57)
Institutional_ownership	0.322**	0.209	0.248	0.539**	0.326*	0.408*
	(2.98)	(1.30)	(1.89)	(2.94)	(2.07)	(2.12)
Board_size	-0.021	-0.472	-0.128	0.044	-0.138	-0.176
	(-0.05)	(-0.94)	(-0.31)	(0.15)	(-0.38)	(-0.43)
Independence	0.284*	0.336**	0.272	0.387	0.289*	0.379**
	(2.10)	(2.61)	(2.07)	(2.14)	(1.87)	(2.50)
Industry_concentration	-48.680***	-26.460	-28.852	-54.103**	-28.450*	-63.47**
	(-3.23)	(-1.31)	(-1.78)	(-3.02)	(-2.20)	(-2.52)
Constant	-92.530	-43.460	-124.421**	-82.260	-88.062*	-83.40
	(-1.75)	(-1.22)	(-2.54)	(-1.74)	(-2.02)	(-1.64)
Difference in coefficients	-		$\chi2 = 3.97$** (p = 0.048)		$\chi2 = 6.61$** (p = 0.015)	
Firm effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,695	1,660	1,704	1,655	1,727	1,625
R^2	0.759	0.740	0.799	0.781	0.785	0.790

Table 6. GPR, CSR performance, and CPSD: Path regression

This table reports the mediation effect of CSR performance on GPR and CPSD using a firm fixed effect model. The dependent variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). CSR performance is assessed using a combined environmental, social, and governance (ESG) score (Havlinova & Kukacka, 2023). Panel A reports path regression of CSR performance on GPR and CPSD; more specifically, column (1) examines the direct impact of GPR on CSR performance, while column (2) focuses on the influence of GPR on CPSD when considering CSR performance. Panel B illustrates the indirect effect of GPR on CPSD through CSR performance using the delta method. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Path regression of CSR performance on GPR and CPSD		
Dependent variables	*CSR_performance*	*CPD*
	(1)	(2)
GPR	-0.086***	-0.153***
	(-3.46)	(-3.19)
CSR_performance	-	0.351***
	-	(10.67)
Leverage	0.053***	0.005
	(3.60)	(0.17)
ROA	0.159***	-0.520***
	(4.02)	(-6.85)
Size	1.384	28.210***
	(1.61)	(17.15)
Analyst	-0.234***	0.186**
	(-5.95)	(2.45)
Institutional_ownership	0.038	-0.229***
	(1.37)	(-4.35)
Board_size	0.328**	0.935***
	(2.37)	(3.53)
Independence	0.481***	0.627***
	(15.01)	(9.87)
Industry_concentration	-3.029**	0.639
	(-1.98)	(0.22)
Constant	12.410**	-129.200***
	(2.04)	(-11.05)
Firm effects	Yes	Yes
Observations	3,397	3,397
R^2	0.091	0.273
Panel B: Indirect effect of GPR on CPSD via CSR performance (Delta method)		
Coefficient	-0.029***	
Standard error	0.009	
Z-value	-3.250	

Table 7. GPR, CPSD, and firm risk: Path regression

This table reports the mediation effect of CPSD on GPR and firm value using a firm fixed effect model. The dependent variable, firm risk (*Risk*), is measured by standard deviation of return on assets (ROA) over the past five years. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). The mediated variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. Panel A reports the path regression of CPSD on GPR and firm risk; more specifically, column (1) examines direct impact of GPR on CPSD, while column (2) focuses on the influence of GPR on firm risk while considering CPSD. Panel B illustrates the indirect effect of GPR on firm risk through CPSD using the delta method. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Panel A: Path regression of CPSD on GPR and firm risk		
Dependent variables	*CPD*	*Risk*
	(1)	(2)
GPR	-0.147***	-0.242***
	(-2.90)	(-4.74)
CPD	-	0.052**
	-	(2.82)
Leverage	0.001	0.241***
	(0.01)	(7.69)
ROA	-0.486***	-0.087
	(-5.86)	(-1.04)
Size	26.350***	-9.237***
	(14.43)	(-4.88)
Analyst	0.190**	0.833***
	(2.26)	(9.85)
Institutional_ownership	-0.257***	0.031
	(-4.41)	(0.53)
Board_size	1.041***	-2.581***
	(3.55)	(-8.78)
Independence	0.807***	0.133
	(11.61)	(1.87)
Industry_concentration	1.786	13.170***
	(0.53)	(3.87)
Constant	-113.800***	72.630***
	(-8.86)	(5.57)
Firm effects	Yes	Yes
Observations	2,914	2,914
R^2	0.239	0.093
Panel B: Indirect effect of GPR on firm risk via CPSD (Delta method)		
Coefficient		-0.008**
Standard error		0.004
Z-value		-2.021

Table 8. GPR and different dimensions of CPSD

This table reports the impact of GPR on three dimensions of CPSD using a firm fixed effect model. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). Column (1) assesses how GPR affects the disclosure score of CPSD, where the disclosure score, derived from the CPA-Zicklin index with a maximum of 36, is standardized into a percentage. In column (2), the focus shifts to the impact of GPR on the policy score of CPSD, also derived from the CPA-Zicklin index with a maximum of 16, and standardized into a percentage. Finally, column (3) examines the influence of GPR on the oversight score of CPSD, which is derived from the CPA-Zicklin index with a maximum of 18 and then standardized into a percentage. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variables	*CPD_disclosure*	*CPD_policy*	*CPD_oversight*
	(1)	(2)	(3)
GPR	-0.322**	-0.108	-0.426
	(-2.71)	(-0.51)	(-1.24)
Leverage	0.167	-0.039	0.292**
	(1.53)	(-0.34)	(2.46)
ROA	-0.444**	-0.331*	-0.469**
	(-3.04)	(-2.63)	(-2.43)
Size	27.952***	3.706	46.210***
	(4.18)	(0.49)	(4.62)
Analyst	-0.765**	0.041	-1.325***
	(-3.05)	(0.17)	(-4.11)
Institutional_ownership	0.419**	0.209	0.410*
	(3.11)	(1.47)	(2.15)
Board_size	-0.213	-0.305	-0.064
	(-0.57)	(-0.84)	(-0.16)
Independence	0.281**	0.036	0.638***
	(2.24)	(0.29)	(4.40)
Industry_concentration	-38.540**	-9.972	-68.191***
	(-2.70)	(-0.66)	(-4.03)
Constant	-91.850*	33.550	-171.701*
	(-1.97)	(0.63)	(-2.09)
Firm effects	Yes	Yes	Yes
Observations	3,397	3,397	3,397
R^2	0.738	0.749	0.692

Table 9. Sensitivity analyses

The table presents the effects of GPR on CPSD using a firm fixed effect model across a battery of robustness tests. In the main regression, the dependent variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). In columns (1) and (2), GPR is defined in alternative ways. In column 1, we establish year-end GPR, where the GPR value for the last month of each year (i.e., December) serves as the reference point (Le & Tran, 2021), while in column (2), GPR is computed by assigning increasing weights (ranging from 1 to 12) to the monthly GPR for each fiscal year, resulting in the calculation of incremental weighted GPR (Oanh & Hoang, 2021). Columns (3) and (4) show the impact of GPR and CPSD using alternative estimation techniques, such as a fixed-effect estimator using year dummies and Tobit model. Finally, columns (5), (6), and (7) investigate the influence of GPR on CPSD using various sample estimations. This includes excluding US presidential election years (2012, 2016, and 2020) from the sample period, using balanced panel data from 2015 to 2021 due to consistent reporting of all S&P 500 firms in the CPA-Zicklin report since 2015, and excluding the largest and smallest 10% of firms based on market value. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

Dependent variable = CPD	**Alternative measures of GPR**		**Alternative estimation techniques**		**Alternative sample specifications**		
			Fixed effect with year	**Tobit**	**Excluding election years**	**Balanced panel data**	**Excluding the largest and smallest 10% of firms**
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
GPR_end	-0.191***	-	-	-	-	-	-
	(-3.41)						
GPR_weight	-	-0.262**	-	-	-	-	-
		(-3.01)					
GPR	-	-	-1.476***	-0.302***	-0.368**	-0.323**	-0.298**
			(-13.25)	(-9.43)	(-2.86)	(-2.97)	(-2.57)
Leverage	0.154	0.152	-0.132**	0.139***	0.072	-0.028	0.249*
	(1.62)	(1.56)	(-2.06)	(3.08)	(1.08)	(-0.47)	(2.12)
ROA	-0.454***	-0.412***	-0.279***	-0.504***	-0.362**	-0.210**	-0.396**
	(-3.69)	(-3.21)	(-3.00)	(-6.50)	(-2.80)	(-2.68)	(-3.17)
Size	27.850***	28.430***	3.970	35.120***	27.340***	16.800**	24.70***

	(3.84)	(4.25)	(1.19)	(17.08)	(3.83)	(3.54)	(3.75)
Analyst	-0.662***	-0.716***	-0.087	-0.448***	-0.683**	-0.517**	-0.741***
	(-3.24)	(-3.39)	(-0.55)	(-4.12)	(-2.74)	(-2.58)	(-3.53)
Institutional_ ownership	0.337**	0.349**	0.089	0.225***	0.330**	0.148	0.270**
	(2.67)	(2.84)	(1.05)	(3.27)	(3.27)	(1.62)	(2.26)
Board_size	-0.065	-0.128	-0.180	0.174	0.018	0.123	-0.172
	(-0.23)	(-0.44)	(-0.61)	(0.60)	(0.06)	(0.44)	(-0.49)
Independence	0.325**	0.313**	0.018	0.476***	0.287**	0.151*	0.325**
	(2.84)	(2.86)	(0.20)	(6.65)	(2.37)	(2.08)	(2.85)
Industry_ concentration	-40.490***	-39.940**	19.400*	-27.720***	-38.720**	15.370	-36.51**
	(-3.44)	(-3.06)	(1.88)	(-6.26)	(-2.56)	(0.51)	(-3.01)
Constant	-97.720*	-91.840*	113.101***	-130.700***	-73.220	-18.290	-68.28
	(-2.18)	(-2.03)	(5.21)	(-9.19)	(-1.49)	(-0.57)	(-1.48)
Firm effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year effects	No	No	Yes	No	No	No	No
Industry effects	No	No	No	Yes	No	No	No
Observations	3,397	3,397	3,397	3,397	2,388	2,776	2,706
R^2	0.781	0.751	0.313	-	0.795	0.841	0.769

Table 10. GPR and CPSD: Instrumental variable estimation[8]

This table presents two-stage least-squares regression (IV) results of the effect of GPR on CPSD using firm fixed effect. The dependent variable, CPSD, is derived from the CPA-Zicklin index, which is subsequently standardized into percentage form. The independent variable, GPR data, is sourced and computed following the study of Caldara and Iacoviello (2022). We use a one-year lag of GPR (Wang et al., 2021) and the growth rate of terrorist attacks (Phan et al., 2022) as instrumental variables. All variable definitions are provided in Appendix A. Robust standard errors are clustered at firm and year levels. t-values are presented in the parentheses. ***, **, * indicate significance at the 1, 5, and 10 percent levels, respectively.

	IV=One-year lag of GPR		IV=Growth of terrorist attack	
	GPR	*CPD*	*GPR*	*CPD*
Dependent variables	(1)	(2)	(3)	(4)
GPR_lag	0.425***	-	-	-
	(49.31)			
Terrorist_attack	-	-	2.221***	-
			(8.77)	
GPR	-	-0.344***	-	-3.010***
		(-4.46)		(-7.48)
Leverage	-0.032	0.112	0.011	0.116
	(-0.94)	(1.57)	(0.28)	(0.96)
ROA	0.224***	-0.301***	0.227***	0.307
	(3.75)	(-2.70)	(3.63)	(1.37)
Size	0.469	22.141***	-2.957	5.474
	(0.26)	(5.90)	(-1.44)	(0.80)
Analyst	0.212***	-0.764***	0.212**	-0.002
	(2.67)	(-4.07)	(2.50)	(-0.01)
Institutional_ownership	0.330***	0.272***	0 .372***	1.257***
	(6.38)	(2.91)	(6.63)	(5.45)
Board_size	-0.394**	-0.106	-0.403**	-1.166*
	(-2.00)	(-0.33)	(-1.94)	(-1.78)
Independence	-0.235***	0.298***	-0.247***	-0.428*
	(-4.73)	(3.06)	(-4.53)	(-2.01)
Industry_concentration	3.401	-27.862**	-4.741	-40.477***
	(1.19)	(-2.40)	(-1.56)	(-2.78)
Firm effects	Yes	Yes	Yes	Yes
Weak instrument test (Cragg-Donald)	*F-stat* = 440.805***		*F-stat* = 28.231***	
Observations	2,855		2,856	

[8] We did not report R-square in our results, as it has no statistical meaning in the context of 2SLS regression (Lu & Wedig, 2013).

Appendix A Variable definitions

Variables	Definition	Key reference	Data source
Dependent variable:			
Corporate political spending disclosure (*CPD*)	A company's overall corporate political spending disclosure (CPSD) index score, generated by adding scores of twenty-four indicators broken down into three broad categories – a) disclosure score, b) policy score, and c) oversight of political spending score, then converted into percentage form.	Adrian et al. (2022) Almaghrabi and Tsalavoutas (2022)	https://www.politicalaccountability.net/cpa-zicklin-index/past-cpa-zicklin-index-reports/
Independent variable:			
Geopolitical risk (*GPR*)	The GPR index for each year represents a 12-month average of the geopolitical risk (GPR) calculated at the end of every fiscal year.	Caldara and Iacoviello (2022)	https://www.matteoiacoviello.com/gpr.htm
Control variables:			
Leverage (*Leverage*)	Ratio of total debt to total assets	Ali et al. (2022)	Refinitiv
Return of assets (*ROA*)	Ratio of Net income after tax to total assets	Goh et al. (2020)	Refinitiv
Firm size (*Size*)	Natural log of total market value of equity	Goh et al. (2020)	Refinitiv + Authors' calculation
Analyst (*Analyst*)	The number of analysts recommending the security is measured as the total count at the end of each fiscal year.	Goh et al. (2020)	Bloomberg
Institutional shareholder (*Institutional_ ownership*)	Institutional Ownership, which is measured as the percentage of shares held by institutions to the number of float shares outstanding	Goh et al. (2020)	Bloomberg
Board size (*Board_size*)	Number of directors on the board	Ali et al. (2023)	Refinitiv
Board independence (*Independence*)	Ratio of independent board directors	DeBoskey et al. (2018a)	Refinitiv
Industry concentration (*Industry_ concentration*)	The Herfindahl-Hirschman Index (HHI) is calculated by adding up the squared market shares of all firms in a particular industry, using the Fama-French 48-industry classifications. A higher HHI indicates greater concentration in the industry, suggesting lower levels of competition.	Goh et al. (2020)	Refinitiv + Authors' calculation
Moderating variable:			
Lobbying expenses	Annual lobbying expenses of the firms scaled by '000.	Goh et al. (2020)	www.opensecrets.org
Total pay out	[(Purchase of common and preferred stock – Reduction in the preferred stock) + cash dividends] scaled by total assets	Adra et al. (2023)	Refinitiv
Degree of internationalization	Ratio of foreign sales to total sales	Krapl (2015)	Refinitiv

Mediating variable:			
CSR performance	ESG (Environmental, Social and Governance) Combined Score from Refinitiv	Havlinova and Kukacka (2023)	Refinitiv
Other variables:			
Disclosure score (*CPD_disclosure*)	The firm's total political spending disclosure score is calculated by adding up the scores from all the criteria within the Disclosure dimension of the PSD Index and then converted into percentage form.	Adrian et al. (2022)	https://www.politicalaccountability.net/cpa-zicklin-index/past-cpa-zicklin-index-reports/
Policy score (*CPD_policy*)	The firm's political spending policy score is calculated by adding up the scores from all the criteria within the Policy dimension of the PSD Index, then converted into percentage form.	Adrian et al. (2022)	https://www.politicalaccountability.net/cpa-zicklin-index/past-cpa-zicklin-index-reports/
Oversight score (*CPD_oversight*)	The firm's political spending oversight score is calculated by adding up the scores from all the criteria within the Oversight dimension of the PSD Index, then converted into percentage form.	Adrian et al. (2022)	https://www.politicalaccountability.net/cpa-zicklin-index/past-cpa-zicklin-index-reports/
Yearend GPR (*GPR_end*)	Month-end (December) score of GPR	Oanh and Hoang (2021)	https://www.matteoiacoviello.com/gpr.htm
Weighted GPR (*GPR_weight*)	Weighted value of annual GPR	Oanh and Hoang (2021)	https://www.matteoiacoviello.com/gpr.htm
Firm risk (*Risk*)	Standard deviation of return on assets (ROA)	Boubakri et al. (2013)	Refinitiv + Authors' calculation
Terrorist attack	The growth rate of the number of terrorist attacks in the US	Phan et al. (2022)	Global terrorism database https://www.start.umd.edu/gtd/

Appendix B CPA-Zicklin PSD Index Indicators (Adrian et al., 2022)

Disclosures	Max Score
1. Does the company publicly disclose corporate contributions to political candidates, parties, and committees, including recipient names and amounts given?	4
2. Does the company publicly disclose payments to 527 groups, such as governors' associations and super political action committees, including recipient names and amounts given?	4
3. Does the company publicly disclose independent political expenditures made in direct support of or opposition to a campaign, including recipient names and amounts given?	4
4. Does the company publicly disclose payments to trade associations that the recipient organization may use for political purposes?	6
5. Does the company publicly disclose payments to other tax-exempt organizations, such as 501(c)(4)s, that the recipient may use for political purposes?	6
6. Does the company publicly disclose a list of the amounts and recipients of payments made by trade associations or other tax-exempt organizations of which the company is either a member or donor?	2
7. Does the company publicly disclose payments made to influence the outcome of ballot measures, including recipient names and amounts given?	4
8. Does the company publicly disclose the company's senior managers (by position/title of the individuals involved) who have final authority over the company's political spending decisions?	2
9. Does the company publicly disclose an archive of each political expenditure report, including all direct and indirect contributions, for each year since the company began disclosing the information (or at least for the past 5 years)?	4
Policy	
10. Does the company disclose a detailed policy governing its political expenditures from corporate funds?	6
11. Does the company have a publicly available policy permitting political contributions only through voluntary employee funded political action committee contributions?	Y/N
12. Does the company have a publicly available policy stating that all its contributions will promote the interests of the company and will be made without regard for the private political preferences of executives?	2
13. Does the company publicly describe the types of entities considered to be proper recipients of the company's political spending?	2
14. Does the company publicly describe its public policy positions that become the basis for its spending decisions with corporate funds?	2
15. Does the company have a public policy requiring senior managers to oversee and have final authority over all the company's political spending?	2
16. Does the company have a publicly available policy that the board of directors regularly oversees the company's corporate political activity?	2
Oversight	
17. Does the company have a specified board committee that reviews the company's policy on political expenditures?	2

18. Does the company have a specified board committee that reviews the company's political expenditures made with corporate funds?	2
19. Does the company have a specified board committee that reviews the company's payments to trade associations and other tax-exempt organizations that may be used for political purposes?	2
20. Does the company have a specified board committee that approves political expenditures from corporate funds?	2
21. Does the company have a specified board committee, composed entirely of outside directors, that oversees its political activity?	2
22. Does the company post on its website a detailed report of its political spending with corporate funds semiannually?	4
23. Does the company make available a dedicated political disclosure web page found through search or accessible within three mouse-clicks from homepage?	2
24. Does the company disclose an internal process for or an affirmative statement on ensuring compliance with its political spending policy?	2

Title: Geopolitical risk and corporate political spending disclosure: Evidence from S&P 500 firms

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None