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Firm-Level Political Risk and the Cash Flow Sensitivity of Cash

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We examine the impact of firm-level political risk on the cash flow sensitivity of cash. Using a large sample of U.S. firms from 2003 to 2018, we find that the cash flow sensitivity of cash decreases in political uncertainty and the impact of political

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risk is asymmetric to cash flow types (positive versus negative). Intensified political uncertainty induces positive/negative cash flow firms to reduce savings out of cash flows to finance investment opportunities/terminate unprofitable projects to retrieve cash. The results are robust to various model specifications, alternative variable definitions, and the control for non-political risks. In addition, we show that a firm's financial status moderates the relation between the two, with financially constrained positive/negative cash flow firms saving more out of cash flows/decreasing existing savings as firm-level political risk increases.

Keywords: Firm-level political risk; cash flow sensitivity of cash; positive (negative) cash flow firms; financial constraints.

JEL Classifications: G30, G32, G39

1. Introduction

Political risk, to some extent, determines corporate outcomes as it affects both macroeconomic and firm-level decisions.[1] Political risk is mainly rooted in external causes from a firm's perspective rather than caused by managerial actions or inactions. The 2016 CFO Outlook Survey shows that 79% of participating U.S. chief financial officers (CFOs) believe that the United States economy faces "moderate-to-severe" political risk, and 47% indicate that they would limit their business spending due to heightened political uncertainty.[2] Popular media also reports similar anecdotes that political uncertainty impacts business decisions.[3] Political risk induces uncertainty in a firm's production and investments (e.g., Bonaime *et al.*, 2018; Gulen and Ion, 2015; Julio and Yook, 2012). Huang *et al.* (2023) document evidence that politically risky firms suffer particularly harsh financial constraints in periods of high policy uncertainty. Liquidity management becomes extremely important for such firms. They may increase cash holdings as a precautionary and uncertainty-hedging instrument to mitigate the negative effects of uncertainty on investments and innovations (e.g., Demir and Ersan, 2017; Phan *et al.*, 2019; Hasan *et al.*, 2022).[4]

[1] Such as corporate investments (e.g., Hassan *et al.*, 2019; Gulen and Ion, 2015), stock price volatility (Hassan *et al.*, 2019), mergers and acquisitions (Bonaime *et al.*, 2018), leverage decisions (Gyimah *et al.*, 2022; Huang *et al.*, 2023), and equity issuance (Colak *et al.*, 2017).
[2] http://www.cfosurvey.org/2016q2/press-release.html.
[3] Howard Shultz, the former CEO of Starbucks, sent a well-publicized memo to employees urging better customer service in the face of "great political uncertainty both at home and abroad" (Harwell, 2015).
[4] Conversely, Xu *et al.* (2016) find that firms in China hold less cash to deal with political risk from city government official appointments.

Different from other business risks, political risk is difficult to predict and cannot be diversified away with portfolio diversification (Hassan *et al.*, 2019). Though firms try to diversify political risk through lobbying on certain political topics, only large firms can actively manage political risk (Hassan *et al.*, 2019). The aggregate political system and environment affect all companies in the economy. However, within the same political environment, political risk is more firm-specific and has heterogeneous variations cross-sectional and over time. Hence, firm-level political risk is idiosyncratic and varies across firms and time by nature, while the cross-sectional position to political risk is more of a concern to a firm. As indicated in Hassan *et al.* (2019) and Brogaard *et al.* (2020), the effects of political decision-making are far beyond the aggregate level and are idiosyncratic. In addition, the political risk measure in Hassan *et al.* (2019) captures firm-level exposure to the aggregate-level political risk related to eight political topics (i.e., Economics, Environment, Trade, Institutions, Health, Security, Tax, and Technology). Thus, the firm-level political risk can cause or affect other types of risks in liquidity management, such as credit risk and labor market risk, and it covers a much broader and unique aspect of risk not captured by other types of risk. Therefore, investigating the impact of firm-level political risk on corporate liquidity management is very important, given that liquidity is one of the indicators of the strength of a firm's balance sheet.

In terms of cash savings, Riddick and Whited (2009) point out that a firm's optimal level of savings depends on its external financing cost and expected future financing needs. Since political uncertainty affects a firm's cost of external financing and future financing needs (e.g., Riddick and Whited, 2009; Francis *et al.*, 2014; Karimov *et al.*, 2021), political risk can be an important determinant of the firm's cash savings. Though all firms may be affected by economy-wide political risk, their reactions could differ due to their unique business situations. Hassan *et al.* (2019) show that firm-level political risk contributes to over 90% variation in political risk. Holding cash can be costly for a firm even though it helps the firm buffer against adverse shocks, both idiosyncratic and aggregate, particularly when the firm faces high external financing costs (Acharya *et al.*, 2013b; Baum *et al.*, 2006, 2008; Gao *et al.*, 2017; Hasan *et al.*, 2022). Firms must make trade-offs between the need for liquidity and the need for external financing or between current and future investments. We examine the impact of firm-level political uncertainty on the cash flow sensitivity of cash in U.S. firms.

Prior studies on firms' tendency to save cash out of cash flows are inconclusive. Almeida *et al.* (2004) and Khurana *et al.* (2006) find that the sensitivity of cash-to-cash flow is positive for financially constrained firms.

Riddick and Whited (2009) find that savings and cash flows are negatively related after controlling for measurement error in Tobin's *Q*. Faulkender and Wang (2006) indicate that the magnitude of cash change for positive cash flow firms and those with negative cash flows could be different. Empirically, Bao *et al.* (2012) document that the sensitivity of cash-to-cash flows is asymmetric to cash flow types. When firms face a positive cash flow shock, cash savings come from cash inflows. However, when firms face a negative cash flow shock, they need to terminate existing negative net present value (NPV) projects to retrieve cash. When facing a severe cash shortfall due to continuous low productivity, the changes in cash may not even be sensitive to cash flows because not all projects can be terminated for various reasons.[5]

However, none of the existing literature considers the role of political uncertainty in a firm's propensity to save cash out of cash flows. Riddick and Whited (2009) posit that income uncertainty significantly affects firms' saving behavior. We propose that firm-level political risk may affect the cash flow sensitivity of cash due to the increased cost of external financing, increased managerial conservatism, and heightened precautionary incentives. Liquidity management is more essential when firms anticipate financial constraints because they rely more on internal funds to accommodate investments (Almeida *et al.*, 2004). As firm-level political risk increases, a firm's cash flow may witness more volatility, and its future cash flow and investment needs may become more unpredictable, suggesting that more precautionary actions need to be taken. Specifically, we propose that firm-level political risk affects the cash flow sensitivity of cash with the impact contingent on cash flow types, and that financial constraints may further moderate the asymmetric impact of firm-level political risk.

To estimate the effect of firm-level political risk on the cash flow sensitivity of cash, we augment the model in Almeida *et al.* (2004) and Riddick and Whited (2009) by adding a firm-level political risk proxy, its interaction with cash flow, and investment opportunities not captured by Tobin's *Q* (proxied by sales growth rate and R&D expenditures).[6] We use the firm-level political risk (Prisk) developed in Hassan *et al.* (2019) that captures the proportion of conversations with financial analysts in a firm's quarterly earnings conference calls focusing on political uncertainties through textual analysis. Our variable of interest is the interaction of Prisk and cash flow (CashFlow), where CashFlow is defined as earnings before extraordinary

[5] See detailed discussions in Sec. 2.

[6] See Sec. 3 for detailed discussions of the model.

items and depreciation scaled by total assets. Employing a sample of 30,248 U.S. firm-year observations from 2003 to 2018,[7] we estimate the model using the cumulant estimator (minimum distance estimator) as in Erickson *et al.* (2014).[8] This estimation methodology is asymptotically equivalent to the moment estimator and provides consistent results with fixed effects, heteroskedasticity, and a serially correlated measurement error when using the with-transformed input data (Erickson and Whited, 2012).

We document a significant negative association between Prisk and the cash flow sensitivity of cash for the full sample, suggesting that firms tend to save less out of cash flow as their firm-level political risk increases. We also observe that the impact of political risk on the cash flow sensitivity of cash is asymmetric to cash flow types, and the negative effect of Prisk on the cash flow sensitivity of cash is driven by positive cash flow firms. However, firms with negative cash flows tend to increase cash savings as Prisk increases, suggesting political uncertainty induces these firms to terminate negative NPV projects to retrieve cash. As anticipated, the results show that financial constraints moderate the association between the two. Financially constrained positive cash flow firms save more out of cash flows as a financial buffer when experiencing high levels of political risk, while financially constrained negative cash flow firms decrease savings due to limited access to external funds when facing increased political uncertainty. Though our model design can address various types of endogeneity, we conduct additional analyses to check the robustness of the results and further confirm the causal effect of political risk on firms' cash flow sensitivity of cash. Specifically, we revisit our baseline model and add other types of risk to reduce omitted variable bias, use more time-period forward values of the dependent variable to mitigate reverse causality bias, and use the instrumental variable approach to further address the endogeneity concerns. The results continue to hold.

We complement the research on cash flow sensitivity of cash (Almeida *et al.*, 2004; Bao *et al.*, 2012; Khurana *et al.*, 2006; Riddick and Whited, 2009) and extend the political uncertainty literature by considering firm-level political risk (e.g., Pastor and Veronesi, 2012; Baker *et al.*, 2016; Hasan *et al.*, 2022). We also add to the body of growing studies on the effects of firm-level political risk on corporate decisions (e.g., Chatjuthamard *et al.*, 2021; Choi *et al.*, 2022; Hasan *et al.*, 2022; Ahmed *et al.*, 2023; Huang

[7] Our sample period ends in 2018 because this is the last year with firm-level political risk data being available.

[8] We advance the methodology in examining the impact of firm-level political risk on cash policies, which is one of the contributions that we add to the literature.

et al., 2023).[9] Hasan *et al.* (2022) examine the association between firm-level political risk and the level of corporate cash holdings. We focus on a firm's marginal propensity to save cash, another aspect of corporate cash policies, and provide causal evidence on the association between political risk and the cash flow sensitivity of cash. We show that firm-level political risk is an important determinant of corporate saving behavior. Its impact on corporate cash-savings goes beyond the effects of other types of risk that may also lead to changes in their cash-saving policies. In addition, we use cumulant estimators to control for the errors-in-variables bias, which advances the methodology used in Hasan *et al.* (2022).

The rest of this paper is organized as follows. Section 2 includes a literature review and hypothesis development. Section 3 presents models, variables, and the sample. Section 4 discusses the empirical results. Section 5 summarizes the paper and provides concluding remarks.

2. Literature Review and Hypothesis Development

2.1. *Incentives of cash holdings*

Cash policy is one of the most important corporate decisions. Cash constitutes a large portion of U.S. firms' assets in recent years (Bates *et al.*, 2009). Cash holdings can benefit a firm with fund availability, transaction cost savings, and reduced liquidity risk.[10] However, these benefits do not come without costs, such as lower returns of liquid assets, tax disadvantages, and the potential for agency problems.

Firms hold cash for various reasons. The *transaction motive* focuses on the need to save due to high costs of converting non-financial assets into cash (e.g., Baumol, 1952; Miller and Orr, 1966; Mulligan, 1997). The *precautionary motive* asserts that firms hold cash to meet their future financing needs when they face unanticipated contingencies and when accessing financial markets is costly (e.g., Keynes, 1936; Opler *et al.*, 1999; Almeida *et al.*, 2004; Gamba and Triantis, 2008; Bates *et al.*, 2009; Bolton *et al.*, 2011; Harford *et al.*, 2014; Francis *et al.*, 2014). Precautionary savings are more prevalent in firms with more risk-averse managers (Opler *et al.*, 1999). Hasan *et al.* (2022) show that firms prefer to hold cash to finance investment projects when their cash flows become volatile. The *tax motive* indicates that U.S. firms that would incur tax consequences associated with

[9] These researchers examine the impact of firm-level political risk on corporate social responsibility, investments, and cash holdings, respectively.

[10] Transaction cost savings come from avoiding raising funds frequently or liquidating non-cash assets.

repatriating foreign earnings hold higher cash balances (Foley *et al.*, 2007). The *strategic motive* posits that firms use cash as a commitment vehicle to invest in innovation when subject to strong product competition (Lyandres and Palazzo, 2016). Lastly, the *agency motive* for cash holdings states that self-interested managers hold cash to serve their own interests at the cost of shareholders (e.g., Jensen, 1986; Dittmar *et al.*, 2003; Pinkowitz *et al.*, 2006; Harford, 1999; Harford *et al.*, 2008).[11] Precautionary incentives, managerial conservatism, and cost of capital considerations are most relevant to our study, upon which we develop our testable hypotheses.

2.2. *Firm-level political risk and the cash flow sensitivity of cash*

Political shocks can be significant sources of firm-level (idiosyncratic) risk, and firms are concerned about their relative position in the distribution of firm-level political risk (Hassan *et al.*, 2019). Firm-level political risk is dynamic, and profound variations exist in both cross-section and time series since a broad set of factors, such as local, sector-specific, time-specific, and idiosyncratic political factors, contribute to the exposure of a firm to political risk (Hassan *et al.*, 2019; Gad *et al.*, 2022). Firm-level variations in political risk over time suggest that political risk is more of a firm-specific feature than a systematic one. In addition, seemingly similar firms respond differently to the same aggregate political environment, leading to cross-sectional variations in firm-level political risk. Studies show that the idiosyncratic nature of firm-level political risk creates heterogeneity in firms' policies. For example, Hassan *et al.* (2019) show that firm-level idiosyncratic political risk has significant economic content. Specifically, they find that firms exposed to political risk retrench hiring and investment and actively lobby and donate to politicians. A higher degree of exposure to political risk increases corporate social responsibility activities (Chatjuthamard *et al.*, 2021), reduces corporate innovations (Ahmed *et al.*, 2023), and increases corporate cash holdings (Hasan *et al.*, 2022). Firm-level political risk also affects debt choices (Huang *et al.*, 2023), leverage decisions and the speed of adjustment to target (Gyimah *et al.*, 2022), bank loans (Saffar *et al.*, 2019), dividend payout (Ahmad *et al.*, 2023), and corporate tax avoidance (Hossain *et al.*, 2023), and has significant implications for the cost of equity (Mishra, 2023).

[11] Studies have provided ample evidence of agency incentives in firms' cash policies. For example, Dittmar *et al.* (2003) document that corporate cash holdings in different countries are affected by the degree of shareholder protection and firms hold more cash in countries with greater agency problems. Entrenched managers are more likely to build excess cash balances but spend excess cash quickly (Harford *et al.*, 2008). Harford (1999) finds that cash-rich firms are more likely to make value-decreasing acquisitions.

Prior studies document that firms' tendency to save cash out of cash flows is contingent on various factors, such as financial status, investment needs, future income volatility, cash flow type, firm transparency, and corporate governance. Almeida *et al.* (2004) show that the propensity to save out of cash flow is only evident in financially constrained firms because their restricted access to external financing increases their use of internal funds for investments. Harford *et al.* (2014) find that firms with higher instrumented shorter maturity debt save more cash out of cash flows, indicating that firms save cash from cash flows to mitigate refinancing risk. Riddick and Whited (2009) argue that firms with positive cash flows may consume more cash for investments, leading to a reduced propensity to save out of cash flows. James and Lirely (2021) find that increased firm transparency and corporate governance reduce costs of external financing and managerial opportunistic use of cash, decreasing the need to save out of cash flow. Building on the previous research, we argue that firm-level political uncertainty affects firms' savings out of cash flows.

Cash holdings may serve as a financial buffer against negative shocks that could hit a firm's future cash flows. During policy uncertainty, managers become more conservative and tend to hold more cash (Panousi and Papanikolaou, 2012). Conversely, exposure to political risk can alter a firm's external financing costs through its impact on capital market participants' risk perception (e.g., Pastor and Veronesi, 2013; Bekaert *et al.*, 2014; Karimov *et al.*, 2021). For example, Gorbatikov *et al.* (2019) find that the cost of equity increases with a firm's exposure to political uncertainty. Similarly, Mishra (2023) finds that firm-level political risk increases equity market illiquidity and dispersion of earnings forecasts and decreases analyst coverage, hence increasing financing costs (i.e., the cost of equity). Gad *et al.* (2022) and Francis *et al.* (2014) show that the cost of debt is significantly higher for borrowers facing higher firm-level political risk. In addition, firms with higher political risk receive less favorable terms in the bond market (Huang *et al.*, 2023) and tend to adjust to their target leverage ratios more rapidly (Gyimah *et al.*, 2022). As such, managers may need to rely more on internally generated cash flows for investments when policy uncertainty increases the wedge between internal and external financing costs, implying a reduced propensity to save cash out of cash flows.

The ultimate relation between the cash flow sensitivity of cash and firm-level political risk depends on which effect dominates: precautionary savings from conservative managers or the increased cost of external financing. Therefore, we state our first hypothesis in a null form:

H_1. The cash flow sensitivity of cash is unrelated to firm-level political risk.

We recognize that not all firms can use internally generated funds universally to avoid the increased costs of external financing. Under increased political uncertainty, firms with positive cash flows can rely more on internal funds for investments, resulting in lower savings out of cash flows. In contrast, firms with negative cash flow shocks may have to divest existing unprofitable projects to retrieve cash. Bao *et al.* (2012) empirically show that the cash flow sensitivity of cash is asymmetric for firms having positive cash flows and those suffering negative cash flow shortfalls. In addition, not all unprofitable projects can be terminated due to contractual obligations, the desire to withhold bad news, and managers' incentives not to divest in order to maximize their private benefits (Bao *et al.*, 2012). Hence, we argue that the impact of firm-level political risk on the cash flow sensitivity of cash is asymmetric to the cash flow types, with decreased cash flow sensitivity in positive cash flow firms and no clear prediction in negative cash flow firms.

H_2. The association between firm-level political risk and the cash flow sensitivity of cash is asymmetric to cash flow types.

Financially constrained firms have limited access to external funding (e.g., Faulkender and Wang, 2006) and rely more on internal funds for investments. As a result, financially constrained firms have less cash flows left after satisfying their investment needs than unconstrained firms. Studies have provided ample evidence that financial constraints affect a firm's cash policies. For example, Han and Qiu (2007) show that an increase in cash flow volatility increases cash holdings for financially constrained firms as a precaution. Acharya *et al.* (2013a) note that cash is useful for hedging and addressing income shortfalls, especially in financially constrained firms. As indicated earlier, Almeida *et al.* (2004) find that financially constrained firms have a positive cash flow sensitivity of cash, while unconstrained firms' cash savings are not systematically related to cash flow. Campello *et al.* (2010) find that financially constrained firms cut their budgets on investment and hiring and reserve more cash to protect themselves during a financial crisis. Similarly, Faulkender and Wang (2006) and Denis and Sibilkov (2010) show that cash holdings benefit financially constrained firms, encouraging them to invest when good opportunities arise. Lin and Paravisini (2013) find that financial constraints increase the risk of corporate cash flows and returns, and firms under financial constraints tend to hoard cash to mitigate the impact of such constraints on business risks. In addition, financial

constraints may force managers to reduce investments, such as forgoing some positive NPV projects and terminating existing negative NPV projects, especially when facing high levels of uncertainty. Taken together, we propose that the association between political risk and the cash flow sensitivity of cash is contingent upon the level of financial constraints.

H_3. A firm's existing financial status moderates the impact of firm-level political risk on the cash flow sensitivity of cash.

3. Models, Variables, and Sample

3.1. *Cash–cash flow sensitivity model*

We estimate the effect of firm-level political uncertainty on the cash flow sensitivity of cash using the model in Almeida *et al.* (2004), Riddick and Whited (2009), and Bao *et al.* (2012) by adding the proxy for political uncertainty, its interaction with cash flow, and two additional variables (one-year lead sales growth rate and R&D expenditures) to further control investment opportunities[12]

$$\begin{aligned} \text{Ch\_Cash}_{it} = {} & \beta_0 + \beta_1 \text{CashFlow}_{it} + \beta_2 \text{Prisk}_{it} + \beta_3 \text{CashFlow}_{it} * \text{Prisk}_{it} \\ & + \beta_4 \text{Size}_{it} + \beta_5 \text{Tobin's } Q_{it} + \beta_6 \text{Sale}_{\text{Growth}_{it+1}} + \beta_7 \text{R \& D}_{it} \\ & + \beta_8 \text{Acquisition}_{it} + \beta_9 \text{Capx}_{it} + \beta_{10} \text{Ch}_{\text{NWC}_{it}} \\ & + \beta_{11} \text{ShortDebt}_{it} + \varepsilon_{it}, \end{aligned} \tag{1}$$

where i refers to firm i and t stands for time t, Ch_Cash is the change in cash levels (savings) (constructed as the difference between current and the previous year's cash scaled by total assets), CashFlow is earnings before extraordinary items and depreciation scaled by total assets, and Prisk is quarterly firm-level political risk in Hassan *et al.* (2019) standardized by its standard deviation. Since sales growth rate is a historical variable, it is more appropriate to use the lead value to proxy for growth and investment opportunities. Hence, we include the one time period lead value of Sale_Growth in the model. The definitions of all variables are provided in Table 1.

[12] Although Riddick and Whited (2009) find that firms with more investment opportunities have reduced cash flow sensitivity of cash because they consume more cash for investment needs, it is possible that better investment opportunities motivate firms to save more cash out of cash flows and simultaneously discuss less about political uncertainty in their quarterly earnings conference calls. We thank an anonymous reviewer who kindly suggested that we further control for growth opportunities with lead sales growth rate (sales growth rates tend to be forward-looking) and R&D expenditures alongside Tobin's Q to address this issue.

Table 1. Variable definitions.

Variable	Definition
Cash	The ratio of cash to total assets.
Ch_Cash	The difference between current and the previous year's cash scaled by total assets.
Prisk	Firm-level political risk standardized by its standard deviation (Hassan *et al.*, 2019).
CashFlow	Earnings before extraordinary items and depreciation scaled by total assets.
Tobin's Q	Book value of assets minus book value of equity plus market value of equity divided by book value of assets.
Size	The natural logarithm of total assets.
Capx	Capital expenditures divided by total assets.
Acquisition	Acquisition expenditures scaled by total assets.
Ch_NWC	The difference between the current and previous years' net working capital divided by total assets.
ShortDebt	Short-term debt scaled by total assets.
Sale_growth	Change in sales from the previous year scaled by sales.
R&D	R&D expenses scaled by total sales.
KZ index	Constructed following Lamon *et al.* (2001) as $$\text{KZ index} = -1.001909 * \text{CashFlow} + 0.2826389 * \text{Tobin's } Q + 3.139193 * \text{Debt} - 39.3678 * \text{Dividends} - 1.314759 * \text{Cash},$$ where CashFlow is income before extraordinary items plus depreciation, scaled by net property, plant, and equipment. Tobin's Q is book value of assets minus book value of equity minus deferred taxes plus market value of equity, divided by book value of assets. Debt is the sum of long-term debt, notes payable and the current portion of long-term debt, divided by the sum of long-term debt, current portion of long-term debt and shareholder's equity. Dividends is the sum of common dividends and preferred dividends, scaled by the lagged net property, plant, and equipment. Cash is cash and short-term investment, scaled by the lagged net property, plant, and equipment.
HP index	Constructed following Hadlock and Pierce (2010) as $$\text{HP index} = -0.737 * \text{Size} + 0.043 * \text{Size}^2 - 0.04 * \text{Age},$$ where Size is the logarithm of inflation-adjusted (in 2004 dollars) total assets, and Age is the number of years since the firm was first listed on Compustat.
FC	An indicator variable with a value of one for financially constrained firms, and zero for unconstrained ones. Firms are classified as financially constrained (unconstrained) if they belong to the top decile of the annual distribution of KZ/HP index or the bottom decile of the annual distribution of firm size (Size).
PCI	The logarithm of the annual PCI. See details of the construction of PCI in Azzimonti (2018). The data is obtained from https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/partisan-conflict-index.

Riddick and Whited (2009) and Erickson and Whited (2000, 2012) posit that the measurement error in Tobin's Q can bias the coefficient estimate on cash flow because measurement error in one regressor affects all coefficients if the regressors are correlated. Furthermore, because the variance of Tobin's Q is much larger than the variance of cash flow, a smaller bias in the coefficient estimate of Tobin's Q may create a much larger bias in the coefficient estimate of cash flow.[13] Erickson and Whited (2002) recommend using a higher-order generalized method of moments (GMM) estimator to alleviate the bias. Their later work (Erickson and Whited, 2012) shows that, although the moment estimators are biased on untransformed data in the presence of fixed effects, heteroskedasticity, and a serially correlated measurement error, they are unbiased using with-transformed data. Erickson *et al.* (2014) advance the moment estimators by using the cumulant estimators (closed-form minimum distance estimators) and show that, although asymptotically equivalent to the moment estimators, the performance of the cumulant estimators exceeds that of the moment estimators. This estimation methodology has a convenient closed form and does not require selecting the starting value from the data. This feature is advantageous because the moment estimators are very sensitive to the chosen starting values (Erickson and Whited, 2012). In addition, the estimators share the same consistency as moment estimators in Erickson and Whited (2000, 2002) using with-transformed data. Thus, we estimate the model using the cumulant estimators with input data demeaned in both cross-sectional and time series.

As political uncertainty increases, managers may have strong incentives to consume internal funds for investment opportunities, resulting in lower cash flow sensitivity of cash (i.e., a negative and significant β_3). Conversely, managers may take precautionary actions and save more out of cash flows for uncertainty, resulting in greater cash flow sensitivity of cash (i.e., a positive and significant β_3). To test H_2, we estimate Eq. (1) separately for firms with positive cash flows and those with negative cash flows. We expect to see a negative and significant β_3 for positive cash flow firms, but we have no clear prediction on the sign of β_3 for negative cash flow firms.

3.2. *The moderating effect of financial constraints*

When accessing external financial markets, financially constrained firms encounter higher costs of capital attributable to the inelasticity in the

[13] Using simulation data, Riddick and Whited (2009) show that coefficients estimated from OLS or firm-fixed effect regressions are not consistent in the presence of measurement error in Tobin's Q.

supply of capital (Stiglitz and Weiss, 1981; Almeida *et al.*, 2004; Whited and Wu, 2006), which can change firms' incentives to save out of cash flows. We employ two financial constraint indices and firm size to classify financially constrained and unconstrained firms.

Lamont *et al.* (2001) estimate an ordered logit model relating the degree of financial constraint to five accounting variables identified in Kaplan and Zingales (1997). The KZ index is estimated with the following equation:

$$\begin{aligned}\text{KZ index} = &-1.001909 * \text{CashFlow} + 0.2826389 * \text{Tobin's } Q \\ &+ 3.139193 * \text{Debt} - 39.3678 * \text{Dividends} \\ &- 1.314759 * \text{Cash}. \end{aligned} \tag{2}$$

Hadlock and Pierce (2010) develop a financial constraint index using firm size and age. The HP index is calculated with the following equation:

$$\text{HP index} = -0.737 * \text{Size} + 0.043 * \text{Size}^2 - 0.04 * \text{Age}. \tag{3}$$

The constructions of the indices are detailed in Table 1. Existing studies have questioned the validity of these indices in measuring financial constraints (e.g., Kaplan and Zingales, 1997; Almeida *et al.*, 2004; Whited and Wu, 2006; Hadlock and Pierce, 2010; Farre-Mensa and Ljungqvist, 2015). As such, we also use firm size to measure financial constraints (Almeida *et al.*, 2004; Bao *et al.*, 2012). Typically, larger firms are mature and more transparent, and hence have access to cheaper external financing (Gilchrist and Himmelberg, 1995; Almeida *et al.*, 2004). We follow the convention in the literature to rank firms each year using these financial constraints proxies and classify those in the top decile of the annual distribution of KZ/HP index or the bottom decile of the annual distribution of firm size (Size) as financially constrained.

We augment Eq. (1) by adding an indicator variable for financial constraint (FC), its interactions with cash flow and political uncertainty (FC_{it}*CashFlow_{it} and FC_{it}*Prisk_{it}), and a three-way interaction term (FC_{it}*CashFlow_{it}*Prisk_{it}) to test the moderating effect of financial constraints on the association between firm-level political risk and the cash flow sensitivity of cash (H_3). The augmented model is as follows:

$$\begin{aligned}\text{Ch\_Cash}_{it} = &\beta_0 + \beta_1\text{CashFlow}_{it} + \beta_2\text{Prisk}_{it} + \beta_3\text{CashFlow}_{it}*\text{Prisk}_{it} \\ &+ \beta_4\text{FC}_{it}*\text{Prisk}_{it} + \beta_5\text{FC}_{it}*\text{CashFlow}_{it} \\ &+ \beta_6\text{FC}_{it}*\text{CashFlow}_{it}*\text{Prisk}_{it} + \beta_7\text{FC}_{it} + \beta_8\text{Size}_{it} \\ &+ \beta_9\text{Tobin's } Q_{it} + \beta_{10}\text{Sale}_{\text{Growth}_{it+1}} + \beta_{11}\text{R\&D}_{it} \\ &+ \beta_{12}\text{Acquisition}_{it} + \beta_{13}\text{Capx}_{it} + \beta_{14}\text{Ch}_{\text{NWC}_{it}} \\ &+ \beta_{15}\text{ShortDebt}_{it} + \varepsilon_{it}. \end{aligned} \tag{4}$$

β_6 is expected to be significant if the propensity to save cash from cash flows for financially constrained firms is different from that of financially unconstrained firms as political risk increases.

3.3. *Sample*

Our sample includes all Compustat firms, excluding utility firms (SIC codes 4900–4999), financial firms (SIC codes 6000–6999), and those with negative total assets or market value of equity. The final sample includes 30,248 firm-year observations for fiscal years 2003–2018. To mitigate the influence of outliers, we winsorize all continuous variables at the 1% and the 99% of the sample distribution.

3.4. *Descriptive statistics*

Table 2 provides variable descriptive statistics. The mean (median) Ch_Cash is 0.003 (0.002), while the mean (median) CashFlow is 0.037 (0.076). The mean (median) Prisk is 0.573 (0.382). Distributions of other variables are consistent with the existing literature.

4. Empirical Results

4.1. *Univariate tests*

We split the sample using the median value of Prisk and conduct univariate tests of the difference in the means and the medians of all variables in the baseline model (Eq. (1)). Table 3 displays the results. Panels A, B, and C

Table 2. Descriptive statistics.

	N	Mean	S.D.	P10	P25	Median	P75	P90
Cash	30,248	0.142	0.146	0.011	0.035	0.095	0.199	0.338
Ch_Cash	30,248	0.003	0.100	−0.085	−0.023	0.002	0.035	0.094
CashFlow	30,248	0.037	0.175	−0.131	0.023	0.076	0.119	0.168
Prisk	30,248	0.573	0.621	0.088	0.194	0.382	0.710	1.259
Size	30,248	6.694	1.818	4.330	5.469	6.661	7.903	9.091
Tobin's Q	30,248	1.951	1.259	0.952	1.173	1.556	2.252	3.405
Sale_growth	30,248	0.111	0.311	−0.161	−0.024	0.070	0.189	0.387
R&D	30,248	0.050	0.092	0.000	0.000	0.004	0.067	0.154
Acquisition	30,248	0.029	0.065	0.000	0.000	0.000	0.021	0.095
Capx	30,248	0.049	0.055	0.008	0.016	0.031	0.061	0.111
Ch_NWC	30,248	0.256	0.222	−0.006	0.083	0.226	0.401	0.574
ShortDebt	30,248	0.025	0.052	0.000	0.000	0.004	0.026	0.071

Notes: This table presents descriptive statistics. The sample includes Compustat Industrial firms and excludes financial firms (SIC 6000–6999) and regulated utilities (SIC 4900–4949). The sample period is 2003–2018. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution.

Table 3. Univariate tests.

Panel A. Full sample

	High Prisk (N = 7,562)		Low Prisk (N = 22,686)		Difference High Prisk − Low Prisk	
	Mean	Median	Mean	Median	Mean	Median
Cash	0.163	0.113	0.138	0.091	0.025***	0.022***
Ch_Cash	0.003	0.002	0.003	0.002	−0.000	0.000
CashFlow	0.005	0.068	0.043	0.077	−0.038***	−0.009***
Prisk	1.391	1.115	0.304	0.282	1.087***	0.834***
Size	6.542	6.498	6.726	6.693	−0.184***	−0.194***
Tobin's Q	2.022	1.560	1.938	1.558	0.084***	0.002
Sale_growth	0.108	0.063	0.111	0.073	−0.004***	−0.010***
R&D	0.064	0.008	0.048	0.003	0.016***	0.005***
Acquisition	0.026	0.000	0.029	0.000	−0.003***	0.000***
Capx	0.046	0.028	0.050	0.032	−0.004***	−0.004***
NWC	0.276	0.239	0.252	0.223	0.025***	0.016***
ShortDebt	0.025	0.004	0.025	0.004	−0.000	−0.000

Panel B. Positive cash flow

	High Prisk (N = 5,656)		Low Prisk (N = 18,422)		Difference High Prisk − Low Prisk	
	Mean	Median	Mean	Median	Mean	Median
Cash	0.132	0.094	0.120	0.080	0.012***	0.013***
Ch_Cash	0.012	0.004	0.009	0.003	0.003***	0.001**
CashFlow	0.100	0.091	0.102	0.093	−0.001	−0.002**
Prisk	1.374	1.097	0.301	0.278	1.073***	0.819***
Size	7.068	7.008	7.046	6.980	0.022	0.028
Tobin's Q	1.922	1.556	1.928	1.589	−0.006	−0.033***
Sale_growth	0.118	0.073	0.123	0.082	−0.005	−0.009***
R&D	0.029	0.000	0.029	0.000	−0.001	0.000
Acquisition	0.030	0.000	0.032	0.000	−0.002*	−0.000***
Capx	0.050	0.032	0.053	0.035	−0.003***	−0.002***
NWC	0.234	0.203	0.233	0.208	0.001	−0.005
ShortDebt	0.023	0.004	0.024	0.004	−0.001	0.000

Panel C. Negative cash flow

	High Prisk (N = 1,906)		Low Prisk (N = 4,264)		Difference High Prisk − Low Prisk	
	Mean	Median	Mean	Median	Mean	Median
Cash	0.250	0.190	0.210	0.158	0.040***	0.032***
Ch_Cash	−0.025	−0.005	−0.025	−0.007	−0.000	0.002
CashFlow	−0.263	−0.168	−0.207	−0.119	−0.057***	−0.049***
Prisk	1.439	1.162	0.317	0.301	1.122***	0.862***
Size	5.057	4.883	5.375	5.242	−0.318***	−0.359***
Tobin's Q	2.302	1.588	1.977	1.381	0.325***	0.208***
Sale_growth	0.078	−0.015	0.060	−0.016	0.018	0.001

(*Continued*)

Table 3. (*Continued*)

Panel C. Negative cash flow						
	High Prisk (N = 1,906)		Low Prisk (N = 4,264)		Difference High Prisk − Low Prisk	
	Mean	Median	Mean	Median	Mean	Median
R&D	0.162	0.117	0.126	0.080	0.036***	0.036***
Acquisition	0.014	0.000	0.019	0.000	−0.004***	0.000***
Capx	0.035	0.018	0.040	0.023	−0.005***	−0.004***
NWC	0.395	0.401	0.330	0.313	0.065***	0.087***
ShortDebt	0.032	0.002	0.033	0.002	−0.001	−0.001*

Notes: This table presents univariate test results. Panels A, B, and C present the results of the full sample, the subsample of firms with positive cash flows, and the subsample of firms with negative cash flows, respectively. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and the lower 1% of the sample distribution . ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

contain the results for the full sample, the subsample of firms with positive cash flows, and the subsample of firms with negative cash flows, respectively. Across all three panels, firms with higher political risk hold a significantly higher level of cash than those with lower political risk, echoing the findings of Hasan *et al.* (2022). In firms with positive cash flows, we observe a higher level of changes in cash (Ch_Cash) when political risk is high. On average, negative cash flow firms hold more cash when they suffer a higher level of political uncertainty, suggesting political uncertainty induces more precautionary cash holdings. Lastly, the negative cash flow shock (CashFlow) is more severe in firms with higher political risk, as shown in Panel C. Collectively, the results show that firm-level political uncertainty has a significant impact on firms' cash policies, and the effect is conditional on their cash flow status.

4.2. *Firm-level political risk and the cash flow sensitivity of cash*

We begin our multivariate analysis by examining the impact of firm-level political risk on the cash flow sensitivity of cash using Eq. (1) and report the results in Table 4 (H_1 and H_2). Models (1), (2), and (3) display the results for the full sample, the subsample of positive cash flow firms, and the subsample of negative cash flow firms, respectively. In Model (1), the coefficient of CashFlow is positive and significant at the 1% level, suggesting that firms build up cash when their operations generate cash flows. The coefficient on the interaction between Prisk and CashFlow is negative and significant, indicating that cash accumulation is reduced when firms

Table 4. Political uncertainty and the cash flow sensitivity of cash.

	(1)	(2)	(3)
	Ch_Cash		
	Full sample	CashFlow > 0	CashFlow < 0
CashFlow	0.630***	1.066***	0.603***
	(15.06)	(9.61)	(6.40)
Prisk	0.006***	0.063***	−0.050***
	(3.45)	(7.75)	(−4.33)
Prisk*CashFlow	−0.215***	−0.665***	−0.229***
	(−9.55)	(−7.63)	(−4.54)
Size	0.002	0.005***	−0.002
	(1.24)	(3.33)	(−0.34)
Tobin's Q	−0.001	−0.008***	0.008***
	(−0.72)	(−4.02)	(3.18)
Sale_growth	−0.003	0.004	−0.000
	(−1.02)	(1.10)	(−0.03)
R&D	0.007	−0.126***	−0.075***
	(1.27)	(−6.48)	(−6.85)
Acquisition	0.029**	0.033***	−0.003
	(2.44)	(2.93)	(−0.08)
Capx	−0.174***	−0.236***	−0.027
	(−7.34)	(−9.82)	(−0.43)
Ch_NWC	0.436***	0.411***	0.489***
	(32.95)	(29.89)	(20.06)
ShortDebt	0.400***	0.346***	0.461***
	(16.18)	(14.03)	(9.63)
Constant	0.032**	0.073***	0.029
	(2.49)	(5.99)	(0.66)
Observations	30,248	24,078	6,170
Rho^2	0.279	0.280	0.267

Notes: This table reports regression results of the effect of firm-level political risk on the cash flow sensitivity of cash. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

experience a higher level of political risk. We observe a similar pattern in Model (2) for the subsample of positive cash flow firms. In Model (3), the negative and significant coefficient of Prisk indicates a reduction of cash with increased political uncertainty in firms encountering a negative cash flow shock. The negative and significant coefficient of the interaction between Prisk and CashFlow suggests that a higher level of political risk incentivizes firms with negative cash flows to terminate negative NPV projects to retrieve cash.

4.3. *The moderating effect of financial constraints*

We further examine whether the impact of political risk on cash flow sensitivity of cash is conditional on financial constraints (H_3). Table 5 displays the results. The coefficients of CashFlow and Prisk*CashFlow are consistent with those in Table 4. The coefficient of the three-way interaction, FC*CashFlow*Prisk, is significant and positive across all models. The results indicate that positive/negative cash flow firms save more from cash flows/further draw down their cash balance when they suffer both financial constraints and high political risk relative to high political risk alone. The results suggest that financially constrained negative cash flow firms may have limited investments to terminate.

4.4. *Robustness checks*

Rooted in policy-related risk and uncertainty, such as economic policy uncertainty (EPU), geopolitical risk, and political risk (Lee *et al.*, 2021) and the nature of a firm's business, firm-level political risk responds significantly to aggregate EPU and federal elections, and is conditional on the extent of a firm's government dependence. Firm-level political risk captures firms' idiosyncratic exposure to overall political risk at the macro-level, and studies show that firms are more concerned about how much attention they draw from regulators relative to their peers in cross-section.

Prior theoretical literature predicts that firms reduce investments in response to an increase in any kind of risk (Dixit and Pindyck, 1994; Bloom *et al.*, 2009). Studies in political economy show that, even though lobbying and building connections with politicians can mitigate a firm's exposure to political uncertainty (e.g., Olson, 1965; Peltzman, 1976; Cooper *et al.*, 2010), policy-impactful corporate decisions are rare and only limited to large firms or regulated industries.[14] These studies clearly show that political risk induces firms to take action to reduce their risk exposure. Such responses are one-directional, as no prior literature documents that firms' policies affect how they view the aggregate political risk. This is also intuitive, as firms may respond to political risk by changing policies, but they do not have any control over political decision-making. Given the limited corporate influence on politicians and policymakers, economically, the reverse

[14] Furthermore, Aggarwal *et al.* (2012) and Liang and Renneboog (2017) document that corporate donations are more of an agency problem than a political investment, evidenced by large donations in firms with worse corporate governance and lower returns in donating firms.

Table 5. Political uncertainty and the cash flow sensitivity of cash: The moderating effect of financial constraints.

	Dependent variable = Ch_Cash								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable = Ch_Cash								
	KZ index			HP index			Size		
	Full sample	CashFlow > 0	CashFlow < 0	Full sample	CashFlow > 0	CashFlow < 0	Full sample	CashFlow > 0	CashFlow < 0
CashFlow	0.755***	1.206***	0.788***	0.710***	1.072***	0.760***	0.640***	1.075***	0.619***
	(13.32)	(9.54)	(6.54)	(12.99)	(8.59)	(6.63)	(15.04)	(9.88)	(6.73)
Prisk	0.016***	0.081***	−0.057***	0.017***	0.064***	−0.065***	−0.000	0.064***	−0.053***
	(5.60)	(7.75)	(−4.66)	(7.12)	(6.95)	(−4.76)	(−0.22)	(7.61)	(−4.38)
Prisk*CashFlow	−0.296***	−0.762***	−0.341***	−0.333***	−0.699***	−0.402***	−0.213***	−0.680***	−0.230***
	(−9.84)	(−7.67)	(−5.55)	(−9.35)	(−6.91)	(−5.06)	(−9.20)	(−7.51)	(−4.68)
FC*Prisk	−0.019***	−0.082***	0.046***	−0.009***	−0.028***	0.040***	−0.003	−0.065***	0.053***
	(−6.05)	(−7.53)	(3.84)	(−4.66)	(−4.61)	(4.69)	(−1.27)	(−7.43)	(3.92)
FC*CashFlow	−0.520***	−1.086***	−0.562***	−0.282***	−0.356***	−0.347***	−0.564***	−0.943***	−0.519***
	(−10.21)	(−8.81)	(−5.37)	(−10.33)	(−6.19)	(−5.58)	(−13.88)	(−9.51)	(−6.35)
FC*CashFlow*Prisk	0.308***	0.763***	0.342***	0.207***	0.357***	0.267***	0.248***	0.692***	0.330***
	(8.01)	(7.28)	(4.91)	(8.52)	(5.13)	(5.06)	(9.09)	(7.50)	(4.98)
FC	0.028***	0.109***	−0.078***	0.011***	0.025***	−0.078***	0.038***	0.096***	−0.059***
	(5.87)	(7.94)	(−6.62)	(7.28)	(5.41)	(−5.56)	(8.64)	(9.10)	(−3.76)
Size	0.007***	0.008***	0.005	0.003*	0.004**	−0.004	−0.000	0.002	−0.002
	(4.21)	(5.34)	(0.97)	(1.84)	(2.28)	(−0.54)	(−0.04)	(1.27)	(−0.35)
Tobin's Q	−0.001	−0.005***	0.007***	0.000	−0.007***	0.007***	0.001	−0.004**	0.008***
	(−0.43)	(−2.98)	(2.64)	(0.28)	(−3.41)	(3.17)	(0.81)	(−2.13)	(3.14)
Sale_growth	0.002	0.007**	0.003	0.003	0.007**	0.004	−0.000	0.006*	0.002
	(0.70)	(2.42)	(0.48)	(1.05)	(2.00)	(0.70)	(−0.12)	(1.82)	(0.30)

(*Continued*)

Table 5. (*Continued*)

	Dependent variable = Ch_Cash								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Dependent variable = Ch_Cash								
	KZ index			HP index			Size		
	Full sample	CashFlow > 0	CashFlow < 0	Full sample	CashFlow > 0	CashFlow < 0	Full sample	CashFlow > 0	CashFlow < 0
R&D	−0.015***	−0.113***	−0.076***	−0.101***	−0.120***	−0.153***	0.006	−0.128***	−0.051***
	(−2.66)	(−6.35)	(−7.21)	(−9.00)	(−5.95)	(−6.74)	(1.08)	(−6.78)	(−5.45)
Acquisition	0.040***	0.036***	0.010	0.032***	0.032***	0.005	0.019	0.016	0.002
	(3.30)	(3.22)	(0.25)	(2.74)	(2.89)	(0.13)	(1.59)	(1.49)	(0.05)
Neg_CashFlow	−0.169***	−0.180***	−0.095*	−0.171***	−0.224***	−0.044	−0.155***	−0.196***	−0.036
	(−7.92)	(−9.01)	(−1.68)	(−7.34)	(−9.44)	(−0.71)	(−6.75)	(−8.98)	(−0.59)
Ch_NWC	0.453***	0.422***	0.506***	0.444***	0.415***	0.488***	0.436***	0.413***	0.483***
	(33.97)	(31.19)	(19.78)	(35.12)	(30.61)	(20.40)	(33.18)	(30.70)	(19.76)
ShortDebt	0.366***	0.317***	0.434***	0.391***	0.342***	0.443***	0.389***	0.332***	0.460***
	(15.40)	(14.11)	(9.01)	(16.85)	(14.01)	(9.80)	(16.00)	(14.05)	(9.67)
Constant	0.079***	0.136***	0.050	0.052***	0.068***	0.039	0.017	0.068***	−0.005
	(6.50)	(9.32)	(1.36)	(4.27)	(5.53)	(0.97)	(1.23)	(5.48)	(−0.10)
Observations	28,474	22,743	5,731	30,248	24,078	6,170	30,248	24,078	6,170
Rho^2	0.259	0.273	0.245	0.269	0.275	0.260	0.279	0.280	0.267

Notes: This table reports regression results of the moderating effects of financial constraints on the association between firm-level political risk and the cash flow sensitivity of cash. We classify firms as financially constrained (unconstrained) if the KZ index/HP index is in the top (bottom) decile of the sample distribution and Size is in the bottom (top) decile of the sample distribution. FC is an indicator variable with a value of one for financially constrained firms and zero otherwise. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

causality, i.e., a firm's cash flow sensitivity of cash leads to the extent of political talks in its quarterly conference calls, is very unlikely.

In addition, our estimation methodology in the baseline analysis, the cumulant estimators using cross-sectional and time-series demeaned data as in Erickson *et al.* (2014), can alleviate various types of endogeneity concerns, such as fixed effects (time-invariant firm/CEO characteristics), heteroskedasticity, serially correlated measurement errors, and bias from the shocks in a particular year that affect all firms' propensity to save cash out of cash flows. To further check the robustness of our results, we conduct several additional analyses.

To alleviate the reverse causality concern, we re-run the baseline model by replacing the dependent variable (Ch_Cash) with its one-year, two-year, and three-year forward values relative to the independent variables for the subsamples of positive and negative cash flow firms and display the results in Panels A and B of Table 6, respectively. Consistent with the results from

Table 6. Forward dependent variable.

Panel A. CashFlow > 0			
	(1)	(2)	(3)
	Dependent variable =		
	F1Ch_Cash	F2Ch_Cash	F3Ch_Cash
CashFlow	1.009***	1.083***	1.004***
	(5.72)	(6.60)	(5.30)
Prisk	0.059***	0.067***	0.074***
	(5.21)	(5.86)	(5.42)
Prisk*CashFlow	−0.648***	−0.730***	−0.762***
	(−5.43)	(−6.10)	(−5.48)
Size	−0.018***	−0.016***	−0.020***
	(−9.78)	(−7.00)	(−7.32)
Tobin's Q	−0.010***	−0.016***	−0.015***
	(−3.35)	(−5.71)	(−4.51)
Sale_growth	−0.017***	−0.025***	−0.021***
	(−2.85)	(−4.40)	(−3.47)
R&D	0.626***	0.467***	0.461***
	(5.98)	(4.36)	(3.87)
Acquisition	0.040***	0.059***	0.039**
	(3.22)	(4.12)	(2.51)
Capx	−0.094***	−0.084***	−0.076**
	(−3.15)	(−2.64)	(−2.16)
Ch_NWC	−0.137***	−0.076***	−0.065***
	(−10.00)	(−5.22)	(−4.30)

(*Continued*)

Table 6. (*Continued*)

Panel A. CashFlow > 0			
	(1)	(2)	(3)
	Dependent variable =		
	F1Ch_Cash	F2Ch_Cash	F3Ch_Cash
ShortDebt	−0.081***	0.066***	0.084***
	(−2.97)	(2.61)	(3.04)
Constant	−0.066***	−0.063***	−0.077***
	(−4.19)	(−3.52)	(−3.71)
Observations	20,634	17,596	15,115
Rho^2	0.038	0.004	0.012
Panel B. CashFlow < 0			
CashFlow	1.186***	−0.249	0.657**
	(3.02)	(−0.83)	(2.40)
Prisk	−0.127***	0.024	−0.069**
	(−3.04)	(0.77)	(−2.48)
Prisk*CashFlow	−0.575***	0.116	−0.315**
	(−3.06)	(0.80)	(−2.36)
Size	−0.065***	−0.009	−0.056***
	(−4.41)	(−0.77)	(−4.78)
Tobin's Q	−0.000	0.002	−0.015***
	(−0.03)	(0.48)	(−3.13)
Sale_growth	−0.052***	0.011	−0.022*
	(−2.90)	(0.79)	(−1.68)
R&D	0.791***	−0.134	0.397***
	(3.47)	(−0.84)	(2.64)
Acquisition	−0.057	−0.012	0.083
	(−0.99)	(−0.33)	(1.46)
Capx	0.371***	−0.102	0.087
	(2.67)	(−0.88)	(0.72)
Ch_NWC	−0.080*	−0.094***	0.031
	(−1.93)	(−2.76)	(0.78)
ShortDebt	0.082	−0.097	0.184**
	(0.83)	(−1.37)	(2.21)
Constant	−0.359***	−0.074	−0.355***
	(−4.16)	(−1.12)	(−5.05)
Observations	4,696	3,599	2,832
Rho^2	0.007	0.007	0.007

Notes: This table reports the robustness test results of the effect of firm-level political risk on the cash flow sensitivity of cash, where the dependent variable (Ch_Cash) is measured with its one-year, two-year, and three-year forward values relative to the independent variables to alleviate reverse causality concern in Models (1), (2), and (3), respectively. Panel A displays the results for the subsample of positive cash flow firms and Panel B displays the results for the subsample of negative cash flow firms. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

our baseline analysis, the coefficients on Prisk*CashFlow remain negative and significant in all models except one (Model (2) in Panel B), indicating reduced accumulation of cash/increased cash reserve in positive/negative cash flow firms with higher firm-level political risk.

Furthermore, we revisit our baseline model by adding one-year lagged values of Ch_Cash. If a firm's cash policy affects how managers discuss their political risk during a conference call, this variable should capture the management's incentives for disclosing political risk and thus mitigate the reverse causality. Our baseline results are unchanged. In addition, we examine the autocorrelations of Cash and Ch_Cash, respectively. The results show that the levels of cash holdings are highly correlated in time series. However, the changes in cash savings are only autocorrelated with one period lag and are unrelated for observations two or more years apart. Given that our dependent variable is demeaned Ch_Cash, not demeaned Cash, the bias introduced by the first-order autocorrelation should be minimum. For brevity, we do not tabulate the results of these two analyses, but they are available upon request.

Second, an increase in other types of risks may also trigger an adjustment of a firm's cash savings. Also, the measure of firm-level political risk (Prisk), though valid and popular, may still be subject to measurement errors due to managerial sentiment of political risk. To rule out the possibility that the observed association between firm-level political risk and the cash flow sensitivity of cash is driven by other types of risks or biased due to measurement errors, we factor the effects of credit risk, labor market frictions, and other non-political risks in the analysis. Specifically, labor mobility restrictions can increase a firm's hiring and firing costs and reduce its financial flexibility, leading to a higher demand for liquidity. We control for employee mobility by adding the adoption of the Inevitable Disclosure Doctrine (IDD), a trade secrets protection law that restricts a firm's key employees from working for its rivals. IDD is a dummy variable equal to one for firms headquartered in a state that recognizes IDD, as in Klasa *et al.* (2018), and zero otherwise. Furthermore, Lei *et al.* (2021) document that firms facing greater credit risk contagion have weaker subsequent operating performance and less favorable bank loan terms and accumulate more cash by issuing equity, selling assets, and reducing investment and payout. We conjecture that high credit-risk firms may also take precautionary actions by saving more cash from cash flows. We control for the impact of credit risk using Distress (an indicator variable coded as one if the Altman *Z*-score is less than three and zero

otherwise).[15] In addition, we control for the impact of non-political risk (Nprisk) developed by Hassan *et al.* (2019) to control for the impact of aggregate non-political risk shared in firms' quarterly conference calls.[16] We revisit our baseline model by adding each type of risk separately and all risks simultaneously and report the results in Panels A, B, C, and D of Table 7, respectively. In all panels, Models (1), (2), and (3) cover the full sample, the subsample of positive cash flow firms, and the subsample of negative cash flow firms, respectively. The results from these analyses further validate that the impact of firm-level political risk is beyond the effects of other types of risk or labor market frictions on the cash flow sensitivity of cash, evidenced by the negative and significant coefficient on Prisk*CashFlow in all model specifications.

Third, we use the instrumental variable approach to further address the concern that the change in cash balance and firm-level political risk are simultaneously determined. The Partisan Conflict Index (PCI) captures disagreement (partisan conflict, political discord) published in news articles about economic policy, private-sector regulation, national defense issues, and other dimensions that divide policymakers' views at the federal level (Azzimonti, 2018).[17] The higher the index, the greater the partisan conflict and the higher the firm-level political risk (Azzimonti, 2018, 2023; Chatjuthamard *et al.*, 2021; Hasan *et al.*, 2022). As indicated in Chatjuthamard *et al.* (2021), the intensity of the national-level partisan conflict is beyond the control of any individual firms. Therefore, it is likely exogenous to firm characteristics. Our instrumental variable for firm-level political risk (Prisk) is PCI, defined as the logarithm of the PCI.[18] Although the PCI is directly related to firm-level political risk, it is less likely to directly affect the focal firms' specific policies. Moreover, prior research finds no evidence that the PCI affects corporate decisions directly

[15] Altman *Z*-score = 1.2 ∗ (working capital/total assets) + 1.4 ∗ (retained earnings/total assets) + 3.3 ∗ (earnings before interest and tax/total assets) + 0.6 ∗ (market value of equity/total liabilities) + 1.0 ∗ (sales/total assets).

[16] Using a similar approach in constructing firm-level political risk (Prisk), Hassan *et al.* (2019) use textual analysis of quarterly earnings conference-call transcripts to construct a firm-level measure of non-political risk, i.e., the share of firms' quarterly earnings conference calls devoted to non-political risks.

[17] PCI is different from EPU. See Azzimonti (2018) for details of the construction of the PCI. We obtain the PCI data from the following website: https://www.philadelphiafed.org/surveys-and-data/real-time-data-research/partisan-conflict-index.

[18] We average the monthly PCI data of a calendar year and then merge with our sample data by the calendar year.

Table 7. Controlling for labor market frictions, financial distress, and non-political risks.

Panel A. Controlling for labor market frictions			
	(1)	(2)	(3)
	Ch_Cash		
	Full sample	CashFlow > 0	CashFlow < 0
CashFlow	0.596***	0.963***	0.495***
	(12.26)	(9.23)	(4.42)
Prisk	0.005***	0.058***	−0.038***
	(3.26)	(7.52)	(−3.04)
Prisk*CashFlow	−0.196***	−0.605***	−0.175***
	(−8.20)	(−7.40)	(−3.17)
IDD	0.001*	0.001	0.005*
	(1.67)	(1.14)	(1.77)
Size	0.005***	0.007***	0.005
	(2.68)	(4.30)	(0.99)
Tobin's Q	−0.001	−0.007***	0.007***
	(−0.55)	(−3.54)	(2.91)
Sale_growth	−0.002	0.005	0.004
	(−0.46)	(1.07)	(0.48)
R&D	0.093*	0.094	−0.019
	(1.74)	(1.31)	(−0.24)
Acquisition	0.030**	0.033***	−0.002
	(2.52)	(2.91)	(−0.06)
Capx	−0.174***	−0.226***	−0.071
	(−7.41)	(−9.87)	(−1.21)
Ch_NWC	0.440***	0.414***	0.493***
	(33.86)	(30.89)	(20.59)
ShortDebt	0.397***	0.339***	0.459***
	(16.24)	(14.09)	(9.69)
Constant	0.051***	0.081***	0.064*
	(4.16)	(6.00)	(1.82)
Observations	30,248	24,078	6,170
Rho^2	0.273	0.274	0.253
Panel B. Controlling for credit risk (financial distress)			
CashFlow	0.577***	0.825***	0.613***
	(9.41)	(5.74)	(4.12)
Prisk	0.006***	0.052***	−0.050***
	(3.10)	(5.16)	(−3.31)
Prisk*CashFlow	−0.195***	−0.566***	−0.231***
	(−6.74)	(−5.11)	(−3.26)
distress	0.009***	−0.001	0.016***
	(6.25)	(−1.19)	(2.82)
Size	0.003*	0.005***	−0.001
	(1.88)	(3.79)	(−0.15)

(*Continued*)

Table 7. (*Continued*)

	(1)	(2)	(3)
	Ch_Cash		
	Full sample	CashFlow > 0	CashFlow < 0
Panel B. Controlling for credit risk (financial distress)			
Tobin's *Q*	−0.001	−0.006**	0.008**
	(−0.57)	(−2.40)	(2.29)
Sale_growth	−0.003	0.010**	−0.006
	(−0.63)	(2.17)	(−0.64)
R&D	0.042	−0.020	0.022
	(0.68)	(−0.24)	(0.23)
Acquisition	0.040***	0.042***	0.022
	(3.25)	(3.70)	(0.52)
Capx	−0.151***	−0.178***	−0.053
	(−6.50)	(−7.80)	(−0.83)
Ch_NWC	0.426***	0.411***	0.479***
	(29.69)	(29.26)	(16.16)
ShortDebt	0.364***	0.316***	0.395***
	(14.84)	(14.16)	(7.53)
Constant	0.037***	0.064***	0.022
	(3.02)	(4.89)	(0.48)
Observations	23,975	19,545	4,430
Rho^2	0.274	0.277	0.265
Panel C. Controlling for non-political risk			
CashFlow	0.596***	0.963***	0.491***
	(12.25)	(9.23)	(4.38)
Prisk	0.005***	0.057***	−0.038***
	(2.82)	(7.45)	(−3.01)
Prisk*CashFlow	−0.196***	−0.606***	−0.173***
	(−8.19)	(−7.40)	(−3.13)
Nprisk	0.000**	0.000**	0.000
	(2.39)	(2.25)	(0.54)
Size	0.005***	0.007***	0.006
	(2.79)	(4.37)	(1.17)
Tobin's *Q*	−0.001	−0.007***	0.007***
	(−0.50)	(−3.53)	(2.97)
Sale_growth	−0.002	0.005	0.004
	(−0.45)	(1.07)	(0.52)
R&D	0.093*	0.094	−0.019
	(1.74)	(1.31)	(−0.25)
Acquisition	0.030**	0.033***	−0.003
	(2.51)	(2.90)	(−0.09)
Capx	−0.173***	−0.225***	−0.071
	(−7.36)	(−9.83)	(−1.20)

Table 7. (*Continued*)

	(1)	(2)	(3)
	Ch_Cash		
	Full sample	CashFlow > 0	CashFlow < 0
Panel C. Controlling for non-political risk			
Ch_NWC	0.440***	0.414***	0.493***
	(33.87)	(30.89)	(20.61)
ShortDebt	0.397***	0.339***	0.458***
	(16.24)	(14.09)	(9.70)
Constant	0.054***	0.083***	0.072**
	(4.41)	(6.12)	(2.14)
Observations	30,248	24,078	6,170
Rho^2	0.273	0.275	0.252
Panel D. Controlling for labor market frictions, financial distress, and non-political risk			
CashFlow	0.569***	0.875***	0.606***
	(8.45)	(5.63)	(3.70)
Prisk	0.005**	0.057***	−0.052***
	(2.22)	(4.96)	(−2.90)
Prisk*CashFlow	−0.189***	−0.628***	−0.227***
	(−6.03)	(−4.99)	(−2.91)
IDD	0.001	0.001	0.007*
	(1.32)	(0.85)	(1.66)
Distress	0.010***	−0.001	0.019***
	(5.90)	(−1.06)	(2.85)
Nprisk	0.000	0.000**	−0.000
	(1.15)	(1.98)	(−0.44)
Unemployment rate	−0.000	−0.001	−0.001
	(−0.19)	(−1.07)	(−0.59)
Per capita	0.005	−0.006	0.006
	(1.06)	(−1.12)	(0.31)
Population	−0.003	0.005	0.007
	(−0.64)	(0.90)	(0.33)
Size	0.002	0.005***	−0.003
	(1.17)	(3.19)	(−0.29)
Tobin's Q	−0.001	−0.007**	0.007*
	(−0.71)	(−2.55)	(1.88)
Sale_growth	−0.005	0.006	−0.007
	(−0.94)	(1.06)	(−0.65)
R&D	0.041	−0.021	0.024
	(0.64)	(−0.24)	(0.24)
Acquisition	0.053***	0.052***	0.044
	(3.89)	(4.13)	(0.94)
Capx	−0.165***	−0.196***	−0.050
	(−5.85)	(−7.09)	(−0.64)

(*Continued*)

Table 7. (*Continued*)

	(1)	(2)	(3)
	Ch_Cash		
	Full sample	CashFlow > 0	CashFlow < 0
Panel D. Controlling for labor market frictions, financial distress, and non-political risk			
Ch_NWC	0.434***	0.415***	0.492***
	(27.11)	(26.55)	(15.34)
ShortDebt	0.365***	0.324***	0.373***
	(13.57)	(12.93)	(6.50)
Constant	0.073**	0.032	0.194
	(2.22)	(0.88)	(1.61)
Observations	20,322	16,554	3,768
Rho^2	0.268	0.271	0.259

Notes: This table reports the robustness test results of controlling for potential effects of other types of risk on the association between firm-level political risk and the cash flow sensitivity of cash. In Panel A, we control for labor market frictions with an indicator variable, IDD (equal to one for firms headquartered in a state that recognizes the IDD as in Klasa *et al.* (2018), and zero otherwise). In Panel B, we control for credit risk using an indicator variable, Distress (equal to one if the Altman *Z*-score is less than three and zero otherwise). In Panel C, we control for the impact of non-political risk (Nprisk) developed by Hassan *et al.* (2019). In Panel D, we control for all the risk variables in Panels A, B, and C simultaneously. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

(Hasan *et al.*, 2022; D'Mello and Toscano, 2020). The PCI has been used as an instrumental variable in studies examining the impact of firm-level political risk on various firm decisions such as corporate social responsibility (Chatjuthamard *et al.*, 2021), cash holdings (Hasan *et al.*, 2022), and trade credit (D'Mello and Toscano, 2020).

Our primary focus is to examine how Prisk affects firms' propensity to save cash out of cash flows, which is captured by the coefficient of the interaction term, Prisk*CashFlow. As Prisk is an endogenous variable, we follow the methodology in Field *et al.* (2013) to treat the interaction as endogenous and create two first-stage regressions. The independent variables include PCI, the interaction between PCI and CashFlow (PCI*CashFlow), and the same set of control variables as those in the baseline model. In the second stage, we replace Prisk and Prisk*CashFlow with their predicted values from the first-stage regressions. See Wooldridge (2010), Field *et al.* (2013), and Benson *et al.* (2020) for details of the methodology.[19]

[19] See Wooldridge (2010, pp. 267–268).

Table 8. Instrumental variable approach.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Full sample			CashFlow > 0			CashFlow < 0		
	First stage		Second stage	First stage		Second stage	First stage		Second stage
	Prisk	Prisk*CashFlow	Ch_Cash	Prisk	Prisk*CashFlow	Ch_Cash	Prisk	Prisk*CashFlow	Ch_Cash
PCI	0.0004***	0.000		0.0005**	0.00005**		0.000	0.000	
	(3.76)	(0.06)		(2.29)	(2.09)		(0.33)	(0.47)	
PCI*CashFlow	−0.0002	0.001***		−0.001	−0.0001		−0.001	0.001**	
	(−0.44)	(5.02)		(−0.51)	(−0.42)		(−0.71)	(2.13)	
Prisk			−0.057			3.110			0.043
(Instrumented)			(−1.27)			(1.60)			(0.12)
Prisk*CashFlow			−0.314**			−29.823*			0.060
(Instrumented)			(−1.96)			(−1.66)			(0.11)
CashFlow	−0.242***	0.633***	0.293***	0.038	0.569***	16.932*	−0.124	0.690***	0.073
	(−3.53)	(44.84)	(2.59)	(0.16)	(21.13)	(1.66)	(−1.02)	(15.88)	(0.21)
Size	−0.005**	−0.001***	−0.000	−0.004*	−0.001**	−0.008*	−0.012**	0.000	0.007*
	(−2.26)	(−2.76)	(−0.84)	(−1.65)	(−2.43)	(−1.88)	(−1.96)	(0.11)	(1.75)
Tobin's Q	0.006*	−0.005***	0.005***	−0.002	−0.000	−0.000	0.016***	−0.006**	0.011***
	(1.92)	(−7.81)	(4.63)	(−0.52)	(−0.84)	(−0.06)	(2.60)	(−2.50)	(2.88)
Sale_growth	0.009	0.002	0.030***	0.003	0.002	0.092**	0.014	0.002	0.028***
	(0.75)	(0.61)	(14.75)	(0.19)	(1.31)	(2.42)	(0.73)	(0.30)	(3.85)
R&D	0.013	−0.078***	−0.045***	−0.211**	−0.009	0.400*	0.074	−0.076***	−0.023
	(0.25)	(−7.18)	(−2.90)	(−2.55)	(−0.97)	(1.65)	(0.96)	(−2.77)	(−0.91)
Acquisition	−0.217***	0.013	0.001	−0.164**	−0.005	0.370	−0.383**	0.076	0.022
	(−3.56)	(1.07)	(0.04)	(−2.46)	(−0.61)	(1.59)	(−2.34)	(1.29)	(0.20)
Capx	−0.337***	−0.028**	−0.107***	−0.340***	−0.032***	0.038	−0.617***	0.233***	−0.011
	(−4.97)	(−1.97)	(−5.48)	(−4.42)	(−3.54)	(0.42)	(−3.62)	(3.81)	(−0.08)
Ch_NWC	0.031	0.005	0.446***	0.021	0.010	0.647***	0.040	0.020	0.477***
	(0.74)	(0.61)	(63.20)	(0.41)	(1.61)	(4.86)	(0.56)	(0.78)	(16.48)

(*Continued*)

Table 8. (*Continued*)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	Full sample			CashFlow > 0			CashFlow < 0		
	First stage		Second stage	First stage		Second stage	First stage		Second stage
	Prisk	Prisk*CashFlow	Ch_Cash	Prisk	Prisk*CashFlow	Ch_Cash	Prisk	Prisk*CashFlow	Ch_Cash
ShortDebt	−0.079	0.000	0.154***	−0.110	0.007	0.646*	−0.020	−0.024	0.289***
	(−1.11)	(0.02)	(12.39)	(−1.31)	(0.70)	(1.92)	(−0.15)	(−0.49)	(8.51)
Constant	0.583***	0.009**	0.025	0.564***	−0.000	−1.760	0.653***	0.013	−0.085
	(29.34)	(2.14)	(0.91)	(17.80)	(−0.07)	(−1.60)	(12.32)	(0.68)	(−0.34)
Underidentification test *P*-val			0.0002						
Weak identification test *F*-statistic			7.068						
Observations	30,248	30,248	30,248	24,078	24,078	24,078	6,170	6,170	6,170
R^2	0.010	0.494	0.08	0.002	0.183	0.228	0.019	0.389	0.215

Notes: This table reports the robustness test results using an instrumental variable approach. The instrumental variable (PCI) is the logarithm of the PCI, constructed as the average of the monthly PCI data per calendar year. The first stage includes two regressions with Prisk and Prisk*CashFlow as the dependent variables. See Wooldridge (2010, pp. 267–268), Field *et al.* (2013), and Benson *et al.* (2020) for details of the methodology. In the second stage, we regress Ch_Cash on Prisk (Instrumented) and Prisk*CashFlow (Instrumented) predicted from the first stage regressions. See Table 1 for detailed variable definitions. All continuous variables are winsorized at the upper and lower 1% of the sample distribution. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Table 8 displays the results. Models (1)–(3)/(4)–(6)/(7)–(9) show the results for the full sample/positive cash flow subsample/negative cash flow subsample. Model (1) shows that the coefficient of PCI is positive and significant at 1%. Model (3) shows that the estimated coefficient on Prisk*CashFlow (Instrumented) is negative and significant, echoing the baseline results. The results from the subsample of firms with positive cash flows are quantitatively similar.[20] The under-identification and weak identification tests suggest that our instrument is valid.

5. Conclusion

In this paper, we seek to uncover the relation between firm-level political risk and the sensitivity of savings to cash flow. Using a large sample of U.S. firms from 2003 to 2018, we find that firms reduce savings from cash flows as political uncertainty increases for the full sample. However, the impact of firm-level political risk on the cash flow sensitivity of cash is asymmetric to cash flow types. The finding that the cash flow sensitivity of cash decreases with political risk is driven by firms with positive cash flows, indicating that positive cash flow firms tend to avoid higher external financing costs as the exposure to political risk increases. In firms with negative cash flows, we observe that the cash flow sensitivity of cash increases with firm-level political risk, suggesting that negative cash flow firms tend to terminate negative NPV projects to retrieve cash as political uncertainty increases. The results remain robust to various additional analyses on reverse causality, model misspecification, and omitted variable concerns.

Further analysis reveals that the association between firm-level political risk and the cash flow sensitivity of cash is also contingent upon a firm's financial status. Financially constrained positive cash flow firms save more from cash flows as a financial buffer, while financially constrained negative cash flow firms tend to exhaust their savings as their firm-level political risk intensifies. We add to the literature on corporate cash policies and the impact of firm-level political risk. The evidence documented in this study further improves our understanding of corporate cash policies. Investors should also factor firm-level political risk into their investment decisions.

[20] Our results are less consistent for the negative cash flow subsample, potentially due to the much smaller sample size.

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References

Acharya, V. V., H. Almeida, and M. Campello, 2013a, Is Cash Negative Debt? A Hedging Perspective on Corporate Financial Policies, *Journal of Financial Intermediation* 16(4), 515–554.

Acharya, V. V., H. Almeida, and M. Campello, 2013b, Aggregate Risk and the Choice between Cash and Lines of Credit, *The Journal of Finance* 68(5), 2059–2116.

Aggarwal, R. K., F. Meschke, and T. Y. Wang, 2012, Corporate Political Donations: Investment or Agency? *Business and Politics* 14(1), 1–38.

Ahmad, M. F., S. Aziz, R. El-Khatib, and O. Kowalewski, 2023, Firm-level Political Risk and Dividend Payout, *International Review of Financial Analysis* 86, 102546, https://doi.org/10.1016/j.irfa.2023.102546.

Ahmed, H. A., M. B. Muttakin, and A. Khan, 2023, Firm-level Political Risk and Corporate Innovation: Evidence from US Listed Firms, *International Journal of Managerial Finance* 19(3), 519–538.

Almeida, H., M. Campello, and M. S. Weisbach, 2004, The Cash Flow Sensitivity of Cash, *The Journal of Finance* 59, 1777–1804.

Azzimonti, M., 2018, Partisan Conflict and Private Investment, *Journal of Monetary Economics* 93, 114–131.

Azzimonti, M., 2023, Partisan Conflict in the U.S. and Potential Impacts on the Economy, *Richmond Fed Economic Briefs* 23(20), 1–5.

Baker, S. R., N. Bloom, and S. J. Davis, 2016, Measuring Economic Policy Uncertainty, *Quarterly Journal of Economics* 131, 1593–1636.

Bao, D., K. Chan, and W. Zhang, 2012, Asymmetric Cash Flow Sensitivity of Cash Holdings, *Journal of Corporate Finance* 18, 690–700.

Bates, T. W., K. M. Kahle, and R. Stulz, 2009, Why Do US Firms Hold So Much More Cash than They Used to? *The Journal of Finance* 64, 1985–2021.

Baum, C. F., M. Caglayan, N. Ozkan, and O. Talavera, 2006, The Impact of Macroeconomic Uncertainty on Non-financial Firms' Demand for Liquidity, *Review of Financial Economics* 15(4), 289–304.

Baum, C. F., M. Caglayan, A. Stephan, and O. Talavera, 2008, Uncertainty Determinants of Corporate Liquidity, *Economic Modelling* 25(5), 833–849.

Baumol, W. J., 1952, The Transactions Demand for Cash: An Inventory Theoretic Approach, *Quarterly Journal of Economics* 66, 545–556.

Bekaert, G., C. R. Harvey, C. T. Lundblad, and S. Siegel, 2014, Political Risk Spreads, *Journal of International Business Studies* 45, 471–493.

Benson, B. W., Y. Chen, H. L. James, and J. Park, 2020, So Far Away from Me: Firm Location and the Managerial Ownership Effect on Firm Value, *Journal of Corporate Finance* 64, 101658.

Bloom, N., 2009, The Impact of Uncertainty Shocks, *Econometrica* 77, 623–685.

Bolton, P., H. Chen, and N. Wang, 2011, A Unified Theory of Tobin's *q*, Corporate Investment, Financing, and Risk Management, *The Journal of Finance* 66, 1545–1578.

Bonaime, A., H. Gulen, and M. Ion, 2018, Does Policy Uncertainty Affect Mergers and Acquisitions? *Journal of Financial Economics* 129(3), 531–558.

Brogaard, J., L. Dai, P. T. H. Ngo, and B. Zhang, 2020, Global Political Uncertainty and Asset Prices, *The Review of Financial Studies* 33(4), 1737–1780.

Campello, M., J. R. Graham, and C. R. Harvey, 2010, The Real Effects of Financial Constraints: Evidence from a Financial Crisis, *Journal of Financial Economics* 97(3), 470–487.

Chatjuthamard, P., S. Treepongkaruna, P. Jiraporn, and N. Jiraporn, 2021, Does Firm-level Political Risk Influence Corporate Social Responsibility (CSR)? Evidence from Earnings Conference Calls, *Financial Review* 56(4), 721–741.

Choi, W., C. Y. Chung, and K. Wang, 2022, Firm-level Political Risk and Corporate Investment, *Finance Research Letters* 46, 102307.

Colak, G., A. Durnev, and Y. Qian, 2017, Political Uncertainty and IPO Activity: Evidence from U.S. Gubernatorial Elections, *Journal of Financial and Quantitative Analysis* 52(6), 2523–2564.

Cooper, M. J., H. Gulen, and A. V. Ovtchinnikov, 2010, Corporate Political Contributions and Stock Returns, *The Journal of Finance* 65(2), 687–724.

Demir, E., and O. Ersan, 2017, Economic Policy Uncertainty and Cash Holdings: Evidence from BRIC Countries, *Emerging Markets Review* 33, 189–200.

Denis, D., and V. Sibilkov, 2010, Financial Constraints, Investment, and the Value of Cash Holdings, *The Review of Financial Studies* 23(1), 247–269.

Dittmar, A., J. Mahrt-Smith, and H. Servaes, 2003, International Corporate Governance and Corporate Cash Holdings, *The Journal of Financial and Quantitative Analysis* 38, 111–133.

Dixit, A. K., and R. S. Pindyck, 1994, *Investment under Uncertainty*, Princeton University Press, Princeton, NJ.

D'Mello, R., and F. Toscano (2020). Economic policy uncertainty and short-term financing: The case of trade credit. *Journal of Corporate Finance* 64, 101686.

Erickson, T., C. Jiang, and T. M. Whited, 2014, Minimum Distance Estimation of the Errors-in-Variables Model Using Linear Cumulant Equations, *Journal of Econometrics* 183, 211–221.

Erickson, T., and T. M. Whited, 2000, Measurement Error and the Relationship between Investment and *q*, *Journal of Political Economy* 108, 1027–1057.

Erickson, T., and T. M. Whited, 2002, Two-step GMM Estimation of the Errors-in-Variables Model Using High-order Moments, *Econometric Theory* 18, 776–799.

Erickson, T., and T. M. Whited, 2012, Treating Measurement Error in Tobin's *q*, *The Review of Financial Studies* 25, 1286–1329.

Farre-Mensa, J., and A. Ljungqvist, 2015, Do Measures of Financial Constraints Measure Financial Constraints? *The Review of Financial Studies* 29(2), 271–308.

Faulkender, M., and R. Wang, 2006, Corporate Financial Policy and the Value of Cash, *The Journal of Finance* 61(4), 1957–1990.

Field, L., M. Lowry, and A. Mkrtchyan, 2013, Are Busy Boards Detrimental? *Journal of Financial Economics* 109, 63–82.

Foley, C. F., J. Hartzell, S. Titman, and G. J. Twite, 2007, Why Do Firms Hold So Much Cash? A Tax-based Explanation, *Journal of Financial Economics* 86, 579–607.

Francis, B., I. Hasan, and Y. Zhu, 2014, Political Uncertainty and Bank Loan Contracting, *Journal of Empirical Finance* 29, 281–286.

Gad, M., V. V. Nikolaev, A. Tahoun, and L. van Lent, 2022, Firm-level Political Risk and Credit Markets, SSRN Scholarly Paper No. 3395266, https://doi.org/10.2139/ssrn.3395266.

Gamba, A., and A. Triantis, 2008, The Value of Financial Flexibility, *The Journal of Finance* 63(5), 2063–2296.

Gao, J., Y. Grinstein, and W. Wang, 2017, Firms' Cash Holdings, Precautionary Motives, and Systematic Uncertainty, Working Paper, Indiana University, Bloomington.

Gilchrist, S., and C. P. Himmelberg, 1995, Evidence on the Role of Cash Flow for Investment, *Journal of Monetary Economics* 36(3), 541–572.

Gorbatikov, N., L. Van Lentz, N. Y. Naik, V. Sharma, and A. Tahoun, 2019, Is Firm-level Political Exposure Priced? Working Paper, London Business School.

Gulen, H., and M. Ion, 2015, Policy Uncertainty and Corporate Investment, *The Review of Financial Studies* 29, 523–564.

Gyimah, D., A. Danso, E. Adu-Ameyaw, and A. Boateng, 2022, Firm-level Political Risk and Corporate Leverage Decisions, *International Review of Financial Analysis* 84, 102354, https://doi.org/10.1016/j.irfa.2022.102354.

Hadlock, C. J., and J. R. Pierce, 2010, New Evidence on Measuring Financial Constraints: Moving Beyond the KZ Index, *The Review of Financial Studies* 23(5), 1909–1940.

Han, S., and J. Qiu, 2007, Corporate Precautionary Cash Holdings, *Journal of Corporate Finance* 13(1), 43–57.

Harford, J., 1999, Corporate Cash Reserves and Acquisitions, *The Journal of Finance* 54, 1969–1997.

Harford, J., S. A. Mansi, and W. F. Maxwell, 2008, Corporate Governance and Firm Cash Holdings in the US, *Journal of Financial Economics* 87, 535–555.

Harford, J., S. Klasa, and W. F. Maxwell, 2014, Refinancing Risk and Cash Holdings, *The Journal of Finance* 69(3), 975–1012.

Harwell, D., 2015, Starbucks' CEO Sent This Bizarre Memo Telling Baristas to be Nicer Because of the Stock Turmoil, *Washington Post*, November 17.

Hasan, S. B., M. S. Alam, S. R. Paramati, and M. S. Islam, 2022, Does Firm-level Political Risk Affect Cash Holdings? *Review of Quantitative Finance and Accounting* 59, 311–337, https://doi.org/10.1007/s11156-022-01049-9.

Hassan, T. A., S. Hollander, L. Van Lent, and A. Tahoun, 2019, Firm-level Political Risk: Measurement and Effects, *Quarterly Journal of Economics* 134(4), 2135–2202.

Hossain, M., G. J. Lobo, and S. Mitra, 2023, Firm-level Political Risk and Corporate Tax Avoidance, *Review of Quantitative Finance and Accounting* 60(1), 295–327.

Huang, G.-Y., C. H. Shen, and Z.-X. Wu, 2023, Firm-level Political Risk and Debt Choice, *Journal of Corporate Finance* 78, 102332, https://doi.org/10.1016/j.jcorpfin.2022.102332.

James, H., and R. Lirely, 2021, The Propensity to Save: The Effect of Sarbanes–Oxley Act, *Review of Financial Economics* 40(1), 77–96.

Jensen, M., 1986, Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers, *American Economic Review* 76, 323–329.

Julio, B., and Y. Yook, 2012, Political Uncertainty and Corporate Investment Cycles, *The Journal of Finance* 67(1), 45–83.

Kaplan, S., and L. Zingales, 1997, Do Investment-Cash Flow Sensitivities Provide Useful Measures of Financing Constraints? *Quarterly Journal of Economics* 112(1), 169–215.

Karimov, J., F. Balli, H. Ozer-Balli, and A. de Bruin, 2021, Firm-level Political Risk and Shari'ah Compliance: Equity Capital Cost and Payouts Policy, *Accounting & Finance* 61(3), 4639–4667.

Keynes, J. M., 1936, *The General Theory of Employment, Interest and Money*, Harcourt, Brace & World, Inc., New York.

Khurana, I. K., X. Martin, and R. Pereira, 2006, Financial Development and the Cash Flow Sensitivity of Cash, *Journal of Financial and Quantitative Analysis* 41(4), 787–808.

Klasa, S., H. Ortiz-Molina, M. Serfling, and S. Srinivasan, 2018, Protection of Trade Secrets and Capital Structure Decisions, *Journal of Financial Economics* 128(2), 266–286.

Lamont, O., C. Polk, and J. Saa-Requejo, 2001, Financial Constraints and Stock Returns, *The Review of Financial Studies* 14, 529–554.

Lee, C.-C., C.-C. Lee, and S. Xiao, 2021, Policy-related Risk and Corporate Financing Behavior: Evidence from China's Listed Companies, *Economic Modelling* 94, 539–547.

Lei, J., J. Qiu, C. Wan, and F. Yu, 2021, Credit Risk Spillovers and Cash Holdings, *Journal of Corporate Finance* 68, 101965, https://doi.org/10.1016/j.jcorpfin.2021.101965.

Liang, H., and L. Renneboog, 2017, Corporate Donations and Shareholder Value, *Oxford Review of Economic Policy* 33(2), 278–316.

Lin, H., and D. Paravisini, 2013, The Effect of Financing Constraints on Risk, *Review of Finance* 17(1), 229–259.

Lyandres, E., and B. Palazzo, 2016, Cash Holdings, Competition, and Innovation, *Journal of Financial and Quantitative Analysis* 51(6), 1823–1861.

Miller, M. H., and D. Orr, 1966, A Model of the Demand for Money by Firms, *Quarterly Journal of Economics* 80, 413–435.

Mishra, D. R., 2023, Firm-level Political Risk and Implied Cost of Equity Capital, *International Review of Finance* 23, 615–644, https://doi.org/10.1111/irfi.12411.

Mulligan, C. B., 1997, Scale Economies, the Value of Time, and the Demand for Money: Longitudinal Evidence from Firms, *Journal of Political Economy* 105, 1061–1079.

Olson, M., 1965, *The Logic of Collective Action*, Harvard University Press, Cambridge, MA.

Opler, T., L. Pinkowitz, R. Stulz, and R. Williamson, 1999, The Determinants and Implications of Cash Holdings, *Journal of Financial Economics* 52, 3–46.

Panousi, V., and D. Papanikolaou, 2012, Investment, Idiosyncratic Risk, and Ownership, *The Journal of Finance* 67(3), 1113–1148.

Pastor, L., and P. Veronesi, 2012, Uncertainty About Government Policy and Stock Prices, *The Journal of Finance* 67(4), 1219–1264.

Pastor, L., and P. Veronesi, 2013, Political Risk and Risk Premia, *Journal of Financial Economics* 110, 520–545.

Peltzman, S., 1976, Toward a More General Theory of Regulation, *Journal of Law and Economics* 19, 211–240.

Phan, H. V., N. H. Nguyen, H. T. Nguyen, and S. Hegde, 2019, Policy Uncertainty and Firm Cash Holdings, *Journal of Business Research* 95, 71–82.

Pinkowitz, L., R. Stulz, and R. Williamson, 2006, Does the Contribution of Corporate Cash Holdings and Dividends to Firm Value Depend on Governance? A Cross-country Analysis, *The Journal of Finance* 61, 2725–2751.

Riddick, L. A., and T. M. Whited, 2009, The Corporate Propensity to Save, *The Journal of Finance* 64, 1729–1766.

Saffar, W., Y. Wang, and K.-C. (John) Wei, 2019, The Effect of Firm-level Political Uncertainty on Bank Loan Contracting, *SSRN Electronic Journal*, https://doi.org/10.2139/ssrn.3354246.

Stiglitz, J., and A. Weiss, 1981, Credit Rationing in Markets with Imperfect Information, *American Economic Review* 71(3), 393–410.

Whited, T. M., and G. Wu, 2006, Financial Constraints Risk, *The Review of Financial Studies* 19(2), 531–559.

Wooldridge, J., 2010, *Econometric Analysis of Cross Section and Panel Data*, 2nd edn., The MIT Press, Cambridge, MA.

Xu, N., Q. Chen, Y. Xu, and K. C. Chan, 2016, Political Uncertainty and Cash Holdings: Evidence from China, *Journal of Corporate Finance* 40, 276–295.