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Political uncertainty, corruption, and corporate cash holdings

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ABSTRACT

Exposure to political corruption and political uncertainty separately demands opposing risk management responses: to reduce cash to minimize expropriation and to increase cash to hedge policy risk. We study how local political corruption and political uncertainty interact in their impact on corporate cash holdings within the United States. We find robust evidence that firms located in states with higher corruption scores react to increases in local political uncertainty by increasing cash holdings more than those in less corrupt settings. This behavior suggests that firms in more corrupt settings find it expedient to raise cash to facilitate influence of officials in the face of local political risk. We find further support for this conclusion by showing that politically engaged firms respond to our measure of political risk by increasing cash and increasing spending on campaign contributions. Our findings point to a potential channel through which different jurisdictions experience the entrenchment and persistence of corruption.

1. Introduction

Corporate risk management entails ensuring the availability of state-contingent resources to avert financial distress or to avoid missing profitable investment opportunities. Higher risk, such as that generated by political uncertainty, usually compels a firm to hold more cash and liquid assets. Corruption also exposes a firm to risk, however, in this case, conventional wisdom advises financial policies that constrain access to liquid assets, to mitigate the risk of expropriation. In this paper, we examine this apparent contradiction by studying the cash holdings of firms in the United States (US). Given that corruption and political uncertainty can often (though not always) co-exist, how do firms respond to the joint incidence of these risk sources?

The notion that political uncertainty necessitates raising cash follows from risk management theory based on costly external financing (Froot et al., 1993), and has empirical validation in the literature (Brogaard and Detzel, 2015; Duong et al., 2020; Gungoraydinoglu et al., 2017; Julio and Yook, 2012). Similarly, the idea that the presence of corruption would induce firms to reduce their liquid assets (particularly cash) has established theoretical (Myers and Rajan, 1998) and empirical (Brockman et al., 2020; Caprio et al., 2013; Smith, 2016) support, and is referred to as the "shielding hypothesis" by Smith (2016). However, alternative arguments that suggest firms allocate resources to gain political favors (referred to as the "liquidity hypothesis" by Smith) have also been presented in the literature (see, e.g., Faccio and Hsu, 2017). Related evidence shows that politically connected firms hold more cash in more corrupt settings although their connections should shield them from uncertainty (Boubakri et al., 2013).

We investigate how firms in more corrupt environments respond to political uncertainty relative to those in less corrupt

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environments by considering a two-sided hypothesis. Under the shielding hypothesis, firms facing increased political uncertainty in a corrupt environment will reduce their liquid assets (cash) further. In other words, although firms may optimally increase cash as a buffer to mitigate uncertainty, those firms located in highly corrupt states will be constrained by the higher risk of expropriation if they wish to avoid paying bribes.[1]

By contrast, according to the liquidity hypothesis, if firms wished to mitigate political risk by influencing policy makers, they would increase access to cash following a rise in political uncertainty, at a higher rate in a more corrupt environment. Previous studies show that firms located in a highly extractive environment increase liquidity for tunneling (Pinkowitz et al., 2006), and use cash to pay bribes and kickbacks around election cycles to gain benefits from the government (Mironov and Zhuravskaya, 2016). Although bribery transactions expose firms to legal complications, being involved in such activities enables firms to derive benefits that cannot otherwise be obtained (see Cheung et al., 2021).

Since firms adopt contradictory risk management policies to mitigate political corruption and political uncertainty, their combined influence on cash holdings is not obvious. In a more corrupt environment, an increase in uncertainty leads to more expropriation as corrupt officials use their discretionary power to introduce and implement policies that are favorable to them. A firm operating in such an environment has two possible reactions to uncertainty, hence we examine the two competing hypotheses (shielding and liquidity).

We find that firms hold more cash in the face of greater political uncertainty when they are based in more corrupt environments. We thus argue it is plausible to conclude that when faced with political uncertainty in a corrupt environment, firms increase their liquid assets in order to ease the process of influence over policymakers. We then find evidence consistent with this idea by examining the Political Action Committee (PAC) contributions of firms in response to varying levels of corruption and political uncertainty. When firms increase cash alongside higher corruption and uncertainty, they also make higher PAC contributions.

The US provides a natural setting for our study. Most studies on the relationship between firm financial policies in the presence of political uncertainty and corruption are based on international data, with few exceptions (Ferraz and Finan, 2011; Xu et al., 2016). This could potentially make it difficult to disentangle the many institutional factors that determine these outcomes. By studying state-level variation within the US it is easier to control for some of the factors and to also employ objective or more easily comparable measures of corruption and uncertainty, as well as accounting variables. This is because there is a significant variation in the legislative, executive, and judicial branches of state governments that determines the quality of political institutions (Alt and Lassen, 2003). This in turn is reflected in variations in the culture of corruption across states and over time. In addition, the political alignment between the executive (the President), legislative (Congress), and local branches of government has an influence on the implementation of policies across states. Given that the degree of this alignment can potentially change every two years, it is possible to construct a rich dataset to exploit the heterogeneity in both local corruption and political uncertainty across states and over time.

Our main measure of corruption is based on convictions of public officials for corruption-related offenses (Dass et al., 2016; Fisman and Gatti, 2002; Huang and Yuan, 2021; Smith, 2016). This measure can be considered objective thanks to the role of federal courts that are more likely to be uniform and independent of local influence (Glaeser and Saks, 2006). While studying the US with cross-state convictions data is not free from criticism, the alternatives pose potentially more problems: to either try and disentangle institutional effects from cross-country objective indicators, or to rely solely on perception-based measures that are subject to sampling problems. Smith (2016) makes a compelling case for the use of federal court convictions for corruption (scaled by population) as a proxy for the level of local political corruption by providing examples of corruption cases and different forms of bribery. Further evidence of bribery and corruption along with the potential gains from such activities are provided by, among others, Dass et al. (2021, 2016); Faccio and Hsu (2017).

To measure state-level political uncertainty we employ the political alignment index (PAI) developed by Kim et al. (2012), who note that states that are more aligned to the President are exposed to rapid policy changes. Thus, firms in those states that are more aligned with the ruling federal government are exposed to higher political risk than those in less aligned states. This state level measure of political risk is intuitively closer to the potential for corruption that we study because it is associated with proximity to policy makers. It also captures the change in political institutions across different tiers of the system, relative to a binary election variable. We also assess whether our results are valid when using the Economic Policy Uncertainty (EPU) index (Baker et al., 2016) employed by, among others, Duong et al. (2020).

Using 47,489 firm-year observations of 4551 unique firms over the sample period from 1998 to 2018, we find robust evidence that firms in states with high corruption scores hold more cash as a response to rising political uncertainty relative to those in states with lower corruption scores. Our results remain consistent after controlling for macro-economic factors at both state level and national level, as well as firm-specific predictors of cash holdings present in the literature. For instance, on average, firms located in Louisiana (high corruption score) increase their cash-to-assets ratio by 15.1% more than firms located in Minnesota (low corruption score) in response to higher political uncertainty (upper quartile).

We pay due attention to endogeneity concerns. To address the concern that local corruption and uncertainty could be correlated

[1] Anecdotal evidence exists, firstly that US public officials use (threats of unfavorable) regulations to extract bribes from firms. In 2009, Vince Fumo, a member of the Pennsylvania Senate, was convicted for a number of fraud and corruption charges relating in part to his persuading an energy company to make a large donation to a non-profit in return for his withdrawing support for a regulatory change that would harm profits (AssociatedPress, 2009). Secondly, that US firms use cash to pay bribes to public officials. In December 2005, a contractor was charged with fraud and conspiracy for giving cash and gifts to a public official in exchange for favorable influence for his company in obtaining contracts in Atlanta (Feldstein, 2005). Similarly, in September 2011, a CEO of a healthcare organization was convicted for paying bribes to three New York state regulators in return for beneficial treatment for his company (Weiser, 2012).

with other unobservable factors, we control for endogeneity with the help of two instrumental variables that are associated with state-level corruption. To address potential self-selection problems arising from firms choosing to locate in specific states, we split the sample based on a survey-based proxy of corruption perceptions published by Boylan and Long (2003), leaving aside firms in states with medium scores for corruption. We find that firms in high corrupt states respond to increases in political uncertainty by increasing cash, whereas those in low corrupt states do not.

We conduct a series of robustness checks. First, we consider alternative measures of corruption and uncertainty. The main corruption measure based on convictions could be affected by the persistent nature of corruption, and by enforcement concerns, such as when some federal judges are nominated by state politicians. To address these concerns, we alternatively employ a dichotomous proxy from conviction data as well as the state corruption score from Boylan and Long (2003). Similarly, we consider an alternative construction of PAI, based only on members of Congress from the state and excluding the role of governors and state legislatures (Antia et al., 2013).

Next, we explore whether our results largely occur around presidential and gubernatorial elections. Since the level of uncertainty is higher around close elections, primarily around close gubernatorial elections, firms in high corrupt states respond to increasing uncertainty by holding more cash in the years following such elections. Finally, we also run alternative specifications of the baseline model without firm fixed effects to address potential concerns about noise in the corruption proxy.

We have controlled for many factors that could lead to increased cash holdings in the face of rising political uncertainty but establishing the mechanisms can always be challenging. For instance, it might be argued that reduction in research and development or capital expenditure reflects in increased cash. However, our conjecture that cash is used to buy influence mainly relies on identifying the differential impact of political uncertainty in states with higher and lower corruption scores. To further explore whether we can put more weight into this argument, we also examine whether an increase in cash is likely to be used to influence politicians. For this purpose, we examine campaign contributions through firm PACs. We find that, in states with high corruption scores relative to those with low scores, the size of contributions to Congress members is positively related to increasing uncertainty and the amount of cash savings.

Our paper contributes to the literature on the effect of both political uncertainty and corruption on firm financial policies, and more importantly on their interaction. We exploit cross-state heterogeneity within the US to examine, with the use of objective measures of corruption, how political corruption and political uncertainty jointly affect a firm's cash holdings. In doing so, we highlight firm policies that point to the potential for further entrenchment of corruption.

Overall, our results indicate that firms hoard cash to influence public officials in the face of rising political uncertainty. We complement the findings of Smith (2016) by accounting for changes in the level of local political risk. We report that firms located in highly corrupt areas do not only increase cash holdings when faced with political uncertainty but do so by more than those in less corrupt environments. In the US, states' proximity to political power may change every two years with mid-term elections and the uncertainty that results from higher government intervention threatens to increase the level of expropriation in the state. To mitigate this high expropriation risk, firms increase rather than decrease cash holdings. Although Smith (2016) finds support mainly for the shielding hypothesis, we show how exposure to policy risk can bring the liquidity hypothesis into play.

The remainder of this paper is organized as follows. Section 2 provides an overview of the literature relating to the connections between corruption, political uncertainty, and cash holdings and places our contribution within it. Section 3 describes the data used while section 4 discusses the methodology adopted along with the empirical findings in addition to some robustness tests. Section 5 concludes the paper. Additional information relating to the data is reported in the Appendix.

2. Literature review

There exists a rich and growing academic literature on the effects of both corruption and political uncertainty, separately, on firms. Theoretical work by Myers and Rajan (1998) and Stulz (2005) suggests that exposure to political corruption compels firms to channel cash and marketable securities into assets that cannot be extracted easily, such as property, plant and equipment, and inventory. Since liquid assets can be easily converted into private benefits, they are more likely to be targeted by corrupt politicians. McChesney (1987) argues that such expropriation can occur in the form of targeted taxation and regulatory threats.

Several empirical studies document shielding of liquid assets as a strategy to respond to corruption. For instance, Caprio et al. (2013), in a study based on 109 countries, show that firms in countries that have a higher likelihood of political extraction hold less liquid assets as a means of shielding, invest more in hard assets, and pay out more in dividends relative to firms located in countries with a lower risk of extraction. Fan et al. (2012) find that firms in highly corrupt countries with weaker laws tend to use more leverage, arguing that this relationship holds due to the level of expropriation, as it is more difficult to expropriate debt holders than equity holders. Xu et al. (2016) show that increased risk of extraction arising from specific forms of political change induces firms in China to reduce or hide their cash. Smith (2016) explores the causality between US state-level corruption and firm financial policies. Using conviction data as a proxy for corruption, he reports that firms that are domiciled in high corrupt states hold significantly less cash and have greater leverage compared to those firms in less corrupt states.

Although this line of literature points towards a shielding approach adopted by firms in a persistently corrupt environment, evidence is lacking in the understanding of how this approach can be reconciled to liquidity demands in the face of changes in the political environment.

In recent years there has been extensive research on the impact of political uncertainty on financial policies. Pástor and Veronesi (2012) develop a theoretical framework that shows that uncertainty surrounding government policies gives rise to political risk, which in turn can lead to a decrease in the level of investment. Gungoraydinoglu et al. (2017) show that political uncertainty increases financial constraints. In such a context, those firms that have difficulty accessing external finance are more likely to reserve cash (Bates et al., 2009; Opler et al., 1999; Harford et al., 2014).

A limited number of empirical studies have examined the effect of political risk on cash holdings. Most of these studies employ the EPU index developed by Baker et al. (2016) as a proxy. A recent study by Duong et al. (2020) shows that growing cash reserves in US firms can partially be explained by rising policy uncertainty, as firms hoard cash due to a precautionary motive. They find that a rise in uncertainty leads to an increase in firms' cash-to-assets ratios in the following year. They further argue that higher cash balances mitigate the impact of policy uncertainty on firms' investment. Hankins et al. (2019) compare the impact of policy uncertainty shocks (using the EPU index) and partisan conflict shocks (using Partisan Conflict Index developed by Azzimonti, 2018) on cash holdings. They show that these are two distinct measures and that firms respond in different ways to these shocks, reducing cash holdings immediately after policy shocks while increasing cash holdings after partisan shocks.

Within the US, several authors have documented the impact of political uncertainty or corruption on firm value, financial policies, and investments (Dass et al., 2016; Smith, 2016; Huang and Yuan, 2021; Nguyen et al., 2020; Duong et al., 2020; Jens, 2017).[2] We follow this literature in collating a sizable dataset consisting of high-quality proxies for both corruption and uncertainty. However, our paper analyzes how they interact in their impact on firms' financial policies.

Our work also complements the international evidence of Julio and Yook (2016), who show that the decline in foreign direct investments due to political uncertainty is more pronounced for countries with high levels of corruption, while Gungoraydinoglu et al. (2017) find that a decrease in firms' external finance due to political uncertainty is mitigated by the existence of strong political institutions. In a current study, Afzali et al. (2021) study, independently of us, the effect of policy uncertainty on the moral behavior of firms using international survey data. Similar to us, they also find partial support for increase in bribery when political uncertainty increases. We exploit cross-state heterogeneity within the US to examine, with the use of objective measures of corruption, how the political corruption and political uncertainty jointly affect a firm's cash holdings. In doing so, we highlight firm policies that point to the potential for further entrenchment of corruption.

Our study also points to a channel for the persistence and entrenchment of corruption. While there is a significant literature on rent-seeking and corruption around the world, there also exists a broad literature that jointly studies the interrelationship between political instability and corruption and their influence on issues such as policy formation or regulatory compliance (see, e.g., Acemoglu et al., 2003; Campante et al., 2009; Damania et al., 2004; Ferraz and Finan, 2011; Fredriksson and Svensson, 2003; Shleifer and Vishny, 1993). By comparison, our paper is focused on firm policies. Political instability can be seen along a spectrum, with the most extreme version involving regime change through violence. We are more interested in political risk that presents in the form of rapid policy and regulatory changes. The above literature distinguishes this type of risk as a means for corrupt politicians to extract rents. However, we document a phenomenon whereby firms could be choosing the expediency of corruption over other alternatives. Further, we show political strategy as a channel through which firms use cash to influence policy makers.

Our findings provide an extension to the political strategies literature that campaign contributions are mechanisms employed by firms to influence politicians. Using a theoretical model Grossman and Helpman (1992) explain the participation of special interest groups in trade policy formation, and recent work by Kang (2016) quantifies the effect of such participation by firms in lobbying activities on the probabilities of policy enactment. Our findings extend these studies by providing clear evidence of the extent to which firms adjust their financial policies to influence policy makers through campaign contributions. We emphasize the level of corruption in the location of the firm as a determinant for its behavior in responding to political risk through political connections, similar to the findings of Amore and Bennedsen (2013).

Finally, we contribute to the broader literature studying firm financial policies, in particular cash holdings. This literature links to risk management policies (Bates et al., 2009; Harford et al., 2014; Opler et al., 1999; Qiu, 2019) and agency issues (Dittmar et al., 2003; Dittmar and Mahrt-Smith, 2007; Pinkowitz et al., 2006). Our focus is on cash holdings because cash can most easily be transformed into private benefits (Myers and Rajan, 1998). We show the non-linear manner in which political uncertainty and corruption impact firm policies. Our research highlights that the coincidence of corruption and uncertainty exacerbates firm risks even among developed countries with strong political institutions. By demonstrating the interplay between opposing policies arising from different sources of risk, we hope to enrich our understanding of the complex balance of incentives faced by firms when determining financial policies.

3. Data and variables description

3.1. Data

The sample consists of all publicly listed firms incorporated in the US. We obtain firm historical financial data from Datastream. The dataset includes all active and inactive firms in any of the following exchanges: NYSE, NYSE MKT, NASDAQ Global Market, and NYSE Arca. We exclude firms in the financial sector (SIC 6000–6999) as these firms need to meet a statutory capital requirement that is different from non-financial firms, and firms in the utility sector (SIC 4900–4999) since these firms are subject to state-specific regulations. Furthermore, firm-year observations with non-positive assets and sales are excluded, as too are firms-years with assets and

[2] In an international context similar evidence exists on corruption (Fisman and Svensson, 2007; Nguyen and van Dijk, 2012) and uncertainty (Boutchkova et al., 2011; King et al., 2021) separately.

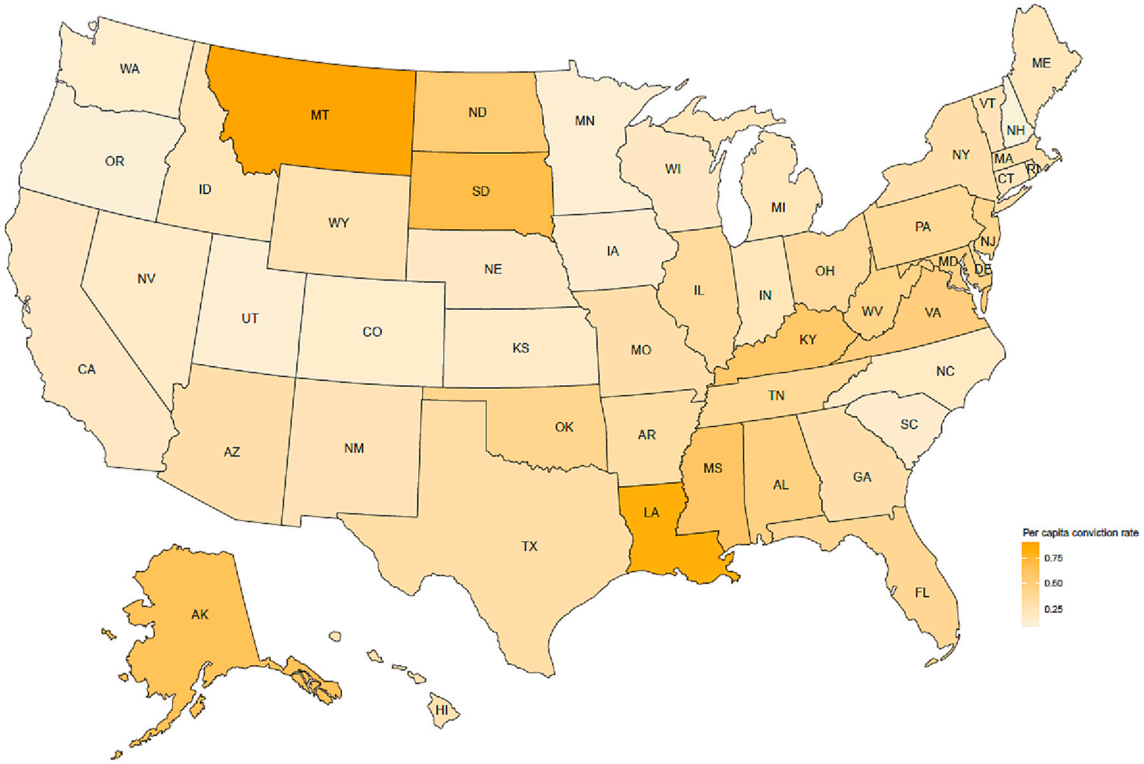

Fig. 1. Average annual per capita conviction rate.
This graph show the annual average per capita conviction rate for each state over the period from 1998 to 2018. States with darker color reflects higher conviction rate which means higher level of corruption.

sales growth over 100%.[3] We further exclude firms headquartered in District of Columbia (DC). After applying these restrictions, the total sample consists of 47,489 observations incorporating 4551 unique firms over the period extending 1998–2018. We collect historical firm headquarters data from the 'edgar' R package developed by Lonare and Patil (2020). The package provides a function to download 10-K filings from the Securities and Exchange Commission (SEC) and extract the business address of all publicly listed firms.

Following Opler et al. (1999), the dependent variable is equal to the logarithm of cash and cash equivalents divided by total assets net of cash. We control for firm characteristics identified in the existing literature highlighting the determinants of cash holdings (e.g., Opler et al., 1999; Bates et al., 2009). These include firm size, leverage, net working capital, capital expenditure, dividends, book-to-market value, cash flow, and research and development expenditure. These controls are defined in Appendix 1. The two main independent variables of interest, namely political corruption and political uncertainty, are described in sections 3.2 and 3.3, respectively.

3.2. Political corruption

Annual conviction data issued by the Department of Justice (DOJ) Public Integrity Section is used to construct the main proxy for corruption. DOJ provides data on an annual basis on the number of corruption convictions of public officials for 94 federal judicial districts in the US. The data covers corruption cases prosecuted by the DOJ on various crimes such as conflicts of interest, fraud, campaign-finance violations, and obstruction of justice. A district with a high number of convictions is assumed to have a culture of corruption influencing corporate operations in the district (Fisman and Gatti, 2002).

We follow a similar approach as Dass et al. (2016) and Huang and Yuan (2021) to construct the main proxy for corruption. To calculate the state-level per capita conviction rate, we divide the annual raw number of conviction cases by annual total state population (per 100,000 capita). This allows us to create a time-varying measure of corruption across states. In a few cases where the number of convictions is not reported, a value is assigned by interpolating between the previous year and the following year. Consistent with previous studies, the corruption level in the state that the firm is domiciled is considered as the firm-level measure of interest. This is achieved by matching headquarter data for all the firms in the sample over the sample period. Fig. 1 shows that on average Louisiana, Montana, South Dakota and Mississippi have a higher per capita conviction rate. These rates are consistent with the studies that use the same data source (Dass et al., 2016; Huang and Yuan, 2021).

[3] Following Almeida et al. (2004), in this last screening, we remove firm-years with large jumps in sales and assets since these are associated with major corporate events such as mergers and acquisitions.

The use of conviction data is well supported in the literature. One of the main advantages of this approach is that, compared to survey-based measures that are based on opinion, conviction data facilitates construction of an arguably objective measure. In particular, the data is standardized and verifiable. Although corruption can be persistent, the time varying feature of conviction data allows us to apply it in a panel study. Despite these benefits, there are certain criticisms associated with conviction data. For instance, lower numbers of convictions may arise due to lack of prosecutorial resources and low legal enforcement. Glaeser and Saks (2006) argue that by using federal convictions the situation can be mitigated because, as compared to local regulation, the federal judicial system is more isolated and likely to treat everyone in the same way.

3.3. Political uncertainty

The Political Alignment Index (PAI) as developed by Kim et al. (2012) is used as a proxy for political risk. PAI is a state-level measure of alignment with the president's party, constructed by giving equal weights to the portions of each of the state delegations in the two chambers of Congress that are aligned with the president's party, and to the president's party's control of state policies.

The measure is constructed based on the concept of unified versus divided government. Several studies have argued that under a divided government the probability of policy changes is low compared to a unified government. Fowler (2006) and Bechtel and Fuss (2008) note that under a divided government policy risk is lower compared to a unified government. This is because, under a divided government, where there exists a partisan conflict between the executive and legislative branches, it reduces the probability of policy changes. When making policies, a divided government forces the parties to negotiate, and this limits the range of policy changes that are otherwise seen in a unified government with full control. Extending this to the US state level, Kim et al. (2012) show that states that become more aligned to the ruling party are exposed to higher political uncertainty, as legislators in these states use their power to introduce and sponsor bills more rapidly. Therefore, greater proximity to political power acts as a source of policy risk, hence higher PAI implies higher uncertainty and vice versa.

The distinct advantage of using PAI as a proxy is that it captures the uncertainty that arises due to the influence of local political actors in policy making at the different tiers of the political system that goes beyond the election cycles (Çolak et al., 2021). PAI is thus more comprehensive in comparison to binary election proxies. PAI has been widely used as a proxy for state-level policy risk. Bradley et al. (2016) and Aabo et al. (2020) provide evidence on the impact of state proximity to political power on the cost of debt and informational advantage of institutional investors, respectively.

The PAI for each state every two years is calculated using the following formula.[4]

$$\begin{aligned} \text{PAI} = {} & (1/4)\times \text{SENATORS} + (1/4)\times \textit{REPRESENTATIVES} + (1/4)\times \text{GOVERNORS} + (1/4)\times [(1/2)\times \text{STATE SENATORS} \\ & + (1/2)\times \text{STATE REPRESENTATIVES}] \end{aligned} \tag{1}$$

where *SENATORS* is the percentage of the state's two senators in Congress that belong to the president's party; *REPRESENTATIVES* is the percentage of the state's House of Representatives in Congress that belong to the president's party; *GOVERNOR* is an indicator equal to 1 if the Governor belongs to the same party as the president, and 0 otherwise; *STATE SENATOR* is an indicator equal to 1 if the percentage of members of the state senate belonging to the president's party is >50%, and 0 otherwise; and *STATE REPRESENTATIVES* is an indicator equal to 1 if the percentage of state representatives in the state house belonging to the president's party is >50%, and 0 otherwise.

Various databases are employed to obtain the necessary data for the construction of the PAI. Ideological data of the members in the two chambers of Congress is obtained from Voteview: Congressional Roll-Call Votes Database.[5] Governor's party affiliation data, state senate and house of representative ideology data is extracted from State Partisan Balance Data.[6] Fig. 2 shows how PAI shifts across states every two years.

Taken together, Fig. 1 and Fig. 2 portray the heterogeneity across US states in corruption and the biyearly change in political uncertainty.

3.4. Summary statistics

Table 1 contains the summary statistics and correlation coefficients with respect to variables used in the main analysis. According to Panel A, the mean cash-to-assets net of cash ratio is 46%. The average firm log size is 6.18, leverage ratio is 23%, capex-to-total assets ratio is 5% and book-to-market ratio is 2.15. The main proxy for corruption shows that on average there are 0.29 convictions per 100,000 population at the state-level every year. Huang and Yuan (2021) report a similar rate. The mean PAI is 0.50. Panel B, which reports the correlation between all the variables, shows that corruption is negatively correlated (significant at 1% level) and political uncertainty is positively correlated (significant at 1% level) with cash holdings, which is consistent with prior literature. Corruption and political uncertainty are negatively correlated, implying that in high corrupt states there is lower political uncertainty on average.

[4] It is calculated every two years due to the fact the political map can change every second year with mid-term elections.

[5] Available at https://voteview.com/

[6] Available at https://doi.org/10.7910/DVN/LZHMG3, Harvard Dataverse, V1

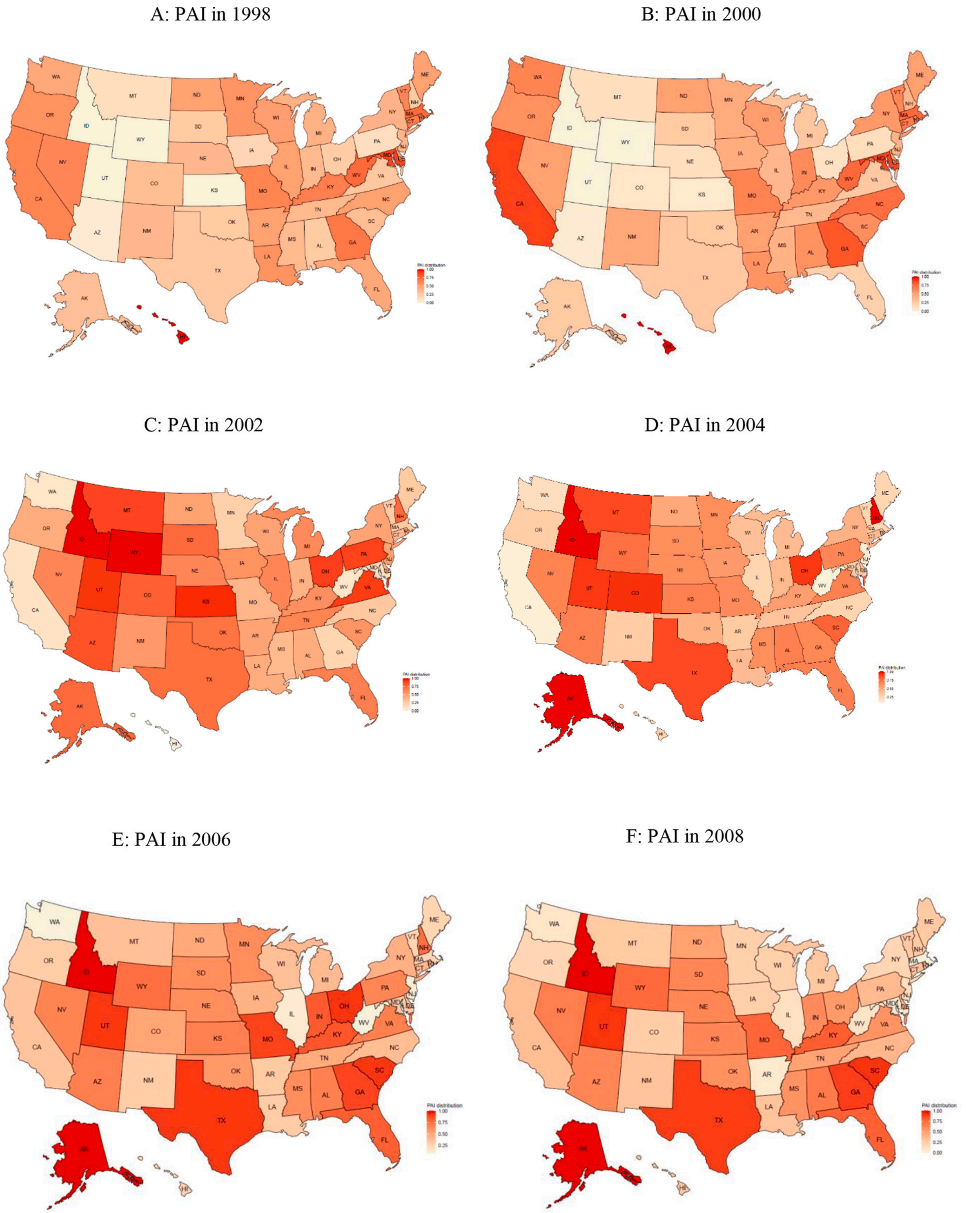

Fig. 2. Biyearly shift in Political Alignment Index.
Panel A to K show the biyearly shift in the political map over the period from 1998 to 2018. The darker orange reflects a high PAI (high uncertainty) and lighter beige reflects low PAI (low uncertainty).

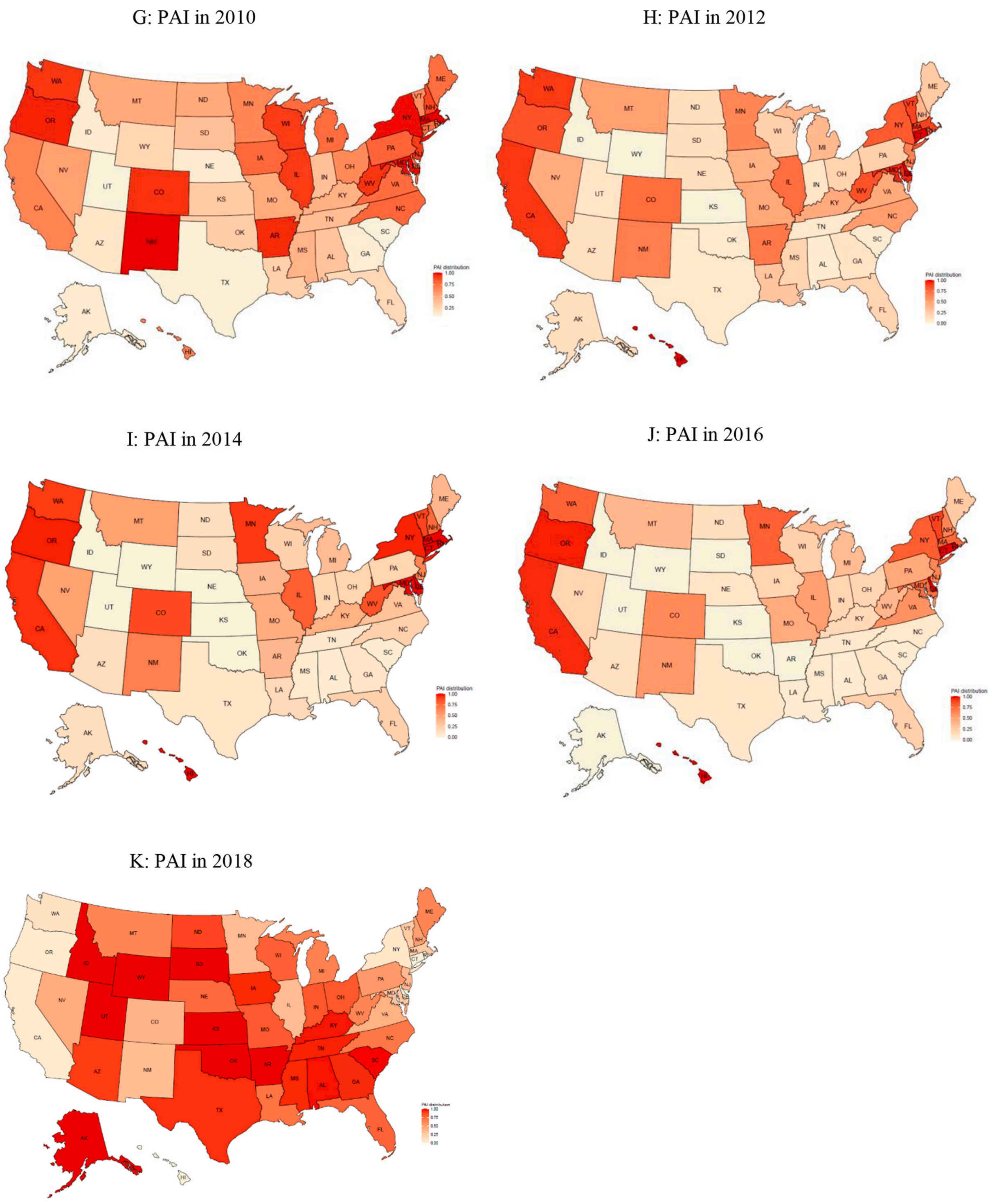

Fig. 2. (*continued*).

4. Results

4.1. Baseline results

We have identified a clear two-sided hypothesis in the introduction. In a highly corrupt state, when faced with high political risk, firms would trade off the need for increased cash against the risk of expropriation and thus raise less cash than their counterparts (in a

Table 1
Descriptive statistics and correlation coefficients.

Panel A: Descriptive statistics

Statistic	Mean	SD	Pctl (25)	Median	Pctl (75)
CORR	0.29	0.18	0.18	0.25	0.37
PAI	0.50	0.31	0.22	0.47	0.79
CASH	0.46	1.02	0.04	0.13	0.39
logCASH	−2.14	1.76	−3.32	−2.06	−0.94
SIZE	6.18	2.08	4.71	6.20	7.62
LEV	0.23	0.23	0.02	0.19	0.35
CAPEX	0.05	0.05	0.02	0.03	0.06
DIV	0.38	0.49	0.00	0.00	1.00
NWC	0.07	0.19	−0.04	0.06	0.18
BM	2.15	1.69	1.17	1.59	2.42
CFLOW	0.02	0.22	0.02	0.07	0.11
R&D	0.05	0.10	0.00	0.00	0.06

Panel B: Correlation coefficients

	CORR	PAI	CASH	SIZE	LEV	CAPEX	DIV	NWC	BM	CFLOW	R&D
CORR	1										
PAI	−0.06	1									
CASH	−0.12	0.02	1								
SIZE	0.04	0	−0.29	1							
LEV	0.07	−0.02	−0.49	0.35	1						
CAPEX	0.04	−0.04	−0.22	0.12	0.1	1					
DIV	0.06	−0.01	−0.24	0.39	0.12	0.09	1				
NWC	0.05	0.01	−0.2	−0.11	−0.14	−0.06	0.06	1			
BM	−0.05	0.01	0.33	−0.03	−0.18	0.02	0	−0.21	1		
CFLOW	0.04	0	−0.13	0.19	−0.08	0.31	0.1	0.14	0.22	1	
R&D	−0.14	0.02	0.49	−0.23	−0.3	−0.21	−0.22	−0.05	0.29	−0.18	1

This table reports descriptive statistics (Panel A) and correlation coefficients (Panel B) for the main variables used in the analysis. The sample contains 47,489 firm-year observations of 4551 US firms over the period from 1998 to 2018. All the firm variables are winsorized at 1% and 99% level to minimize the effect of outliers. Variable definitions are provided in Appendix 1.

low corrupt environment). Alternatively, firms in high corrupt states could raise cash by more than their counterparts (in low corrupt settings) in order to manage political risk through political influence. In this section we test the effect of corruption and political uncertainty on cash holdings. We estimate the following regression, where *i* indicates a firm, *s* a state and *t* indicates time (years):

$$logCASH_{i,t+1} = \alpha_0 + \beta_1 PAI_{s,t} + \beta_2 CORR_{s,t} + \beta_3 PAI_{s,t} * CORR_{s,t} + \gamma Firm\ Controls + \alpha_i + \alpha_t + \varepsilon_{i,t+1} \quad (2)$$

The dependent variable is log of cash and cash equivalents scaled by total assets net of cash. The main explanatory variables are PAI which is the political alignment index and CORR which is the per capita corruption conviction rate. We include a set of firm controls following Opler et al. (1999) and Bates et al. (2009), namely SIZE, LEV, CAPEX, DIV, NWC, BM, CFLOW and R&*D. variable* descriptions for firm characteristics can be found in Appendix 1. Firm and year fixed-effects are included to account for within firm variation and macroeconomic trends.

Table 2 reports the results for our baseline model. Column 1 only includes the main variables of interest and firm and year fixed effects. Since the net effect of firms' cash holdings depends on the interaction of both variables, we need to consider the coefficient of the interaction term between PAI and CORR which is positive 0.303 and significant at the 5% level. In column 2 we include firm control variables, and the coefficient on the interaction term remains positive and significant at the 5% level. The results of the control variables are consistent with the prior literature (e.g., Opler et al., 1999). Firm size, leverage, capital expenditures, research and development expenditure and net working capital are negatively associated with the cash ratio while book-to-market ratio is positively related to cash ratio.

In Table 2, column 3, we further control for local economic conditions by adding state-level variables that represent economic or business-cycle characteristics. These include the unemployment rate (UNEMP), GDP growth rate (GDP), log of personal income (PI), and minimum wage (MIN_WAGE). This suggests that even after controlling for state-level economic conditions our results remain consistent.

It is possible that the state-level effects we see are somehow driven by broader economic policy uncertainty at the national level. To control for this possibility, we also include the EPU index developed by Baker et al. (2016) in Table 2, column 4.[7] EPU is calculated monthly based on the frequency of newspaper articles that cover a large spectrum of uncertainties surrounding both monetary and fiscal policy, regulatory changes, and elections. We calculate the average EPU over a 12-month period in each fiscal year *t* and assign it

[7] The link between aggregate policy uncertainty and cash holdings has been documented by, among others, Duong et al. (2020) and Li (2019).

Table 2
Baseline regression results.

	Dependent variable: logCASH (t + 1)			
	(1)	(2)	(3)	(4)
PAI	−0.092**	−0.086**	−0.082**	−0.191***
	(0.037)	(0.036)	(0.037)	(0.036)
CORR	−0.071	−0.017	−0.020	−0.122*
	(0.079)	(0.076)	(0.075)	(0.074)
PAI*CORR	0.303**	0.246**	0.238**	0.501***
	(0.120)	(0.115)	(0.115)	(0.113)
SIZE		−0.211***	−0.212***	−0.209***
		(0.020)	(0.020)	(0.020)
LEV		−1.075***	−1.075***	−1.141***
		(0.065)	(0.065)	(0.064)
CAPEX		−2.223***	−2.234***	−2.425***
		(0.199)	(0.199)	(0.198)
DIV		−0.035	−0.036	−0.050*
		(0.028)	(0.028)	(0.028)
NWC		−0.576***	−0.578***	−0.619***
		(0.093)	(0.093)	(0.092)
BM		0.078***	0.077***	0.070***
		(0.006)	(0.006)	(0.006)
CFLOW		−0.125***	−0.126***	−0.153***
		(0.047)	(0.047)	(0.047)
R&D		−0.371**	−0.371**	−0.391**
		(0.167)	(0.168)	(0.169)
UNEMP			−0.018*	0.049***
			(0.011)	(0.004)
GDP			0.175	−1.223***
			(0.300)	(0.209)
PI			0.084	1.120***
			(0.230)	(0.102)
MIN_WAGE			−0.004	−0.042***
			(0.015)	(0.013)
EPU				0.008
				(0.023)
Firm effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	No
Observations	47,489	47,489	47,489	47,489
Adjusted R^2	0.727	0.742	0.742	0.737

This table presents ordinary least squares estimates from the baseline model. The dependent variable, logCASH (t + 1) is log of cash-to-assets net of cash ratio in the following year. PAI is the political alignment index of state *s* at time *t*. CORR is the per capita conviction rate of state *s* at time *t*. All the firm variables are winsorized at 1% and these variables and state controls are defined in Appendix 1. Standard errors are clustered at firm level. *,**, *** indicates statistical significance at the 10%, 5% and 1% level, respectively.

to each firm in year *t*. Table 2 column 4 shows that controlling for broad policy uncertainty does not change the magnitude of the combined effect of local political corruption and uncertainty on cash holdings.[8] It is not clear why EPU is not statistically significant, though its interaction with CORR (reported in later analyses) does have an effect on cash holdings consistent with our results using PAI. Overall, these findings demonstrate that an increase in political uncertainty in more corrupt states is associated with higher cash holding levels in the following year.

Our results are economically significant. For example, using the coefficient on the interaction term of PAI*CORR in column 3, during high political uncertainty, a firm located in Louisiana (high corrupt) holds a cash ratio of 15.1% more than a firm in Minnesota (low corrupt).[9]

4.2. Robustness checks

In this subsection, we conduct five robustness checks to address issues ranging from potential endogeneity to alternative measures of corruption, the role of different election cycles, and possible concerns about the firm fixed effects specifications due to noise in the corruption measure.

[8] Year fixed effects are excluded from this model to capture the effect of EPU on the cash ratio.

[9] The increase in the cash ratio is calculated as 0.71 × 0.79 x (1.269–1) x100, which translates to 15.07%. 0.71 is the difference in average CORR between Louisiana and Minnesota (refer Appendix 2). 0.79 is the 75th percentile of PAI and 1.269 is the exponential of 0.238, which is the coefficient of the interaction term.

Table 3
Two-stage least squares (2SLS) analysis.

	First Stage	Second Stage
	CORR (1)	*logCASH (t + 1)* (2)
RESIDENT_VOTE	0.001***	
	(0.000)	
CONSTITUTION_AGE	−0.001***	
	(0.000)	
CORR		−2.795***
		(0.271)
PAI		−1.095***
		(0.122)
PAI*CORR		3.907***
		(0.428)
Baseline controls	Yes	Yes
Year effect	Yes	Yes
Weak IV test	854.15***	
Wu-Hausman test		64.54***
Observations	47,489	47,489
Adjusted R^2		0.383

This table reports the regression results from two-stage least squares (2SLS) analysis. Column 1 shows the results from first-stage regression by taking CORR as the dependent variable. Column 2 reports the second stage results in which logCASH (t + 1) is the dependent variable. The coefficients in CORR and CORR*PAI are estimated using predicted values of CORR from the first stage. Two instruments for corruption are RESIDENT_VOTE and CONSTITUTION_AGE. All the firm controls from the baseline model are included in the regression and coefficients are not reported for brevity. All the firm variables are winsorized at 1% and these are defined in Appendix 1. Standard errors are clustered by year. *,**, *** indicates statistical significance at the 10%, 5% and 1% level, respectively.

4.2.1. *Instrumental variable (IV) analysis*

Despite controlling for regional characteristics, the possibility exists that our results are affected by endogeneity. The level of corruption in the state that the firm is located and firm cash holdings could be correlated with other unobservable variables due to possible omitted variable bias. To address this endogeneity issue, we adopt an IV approach. Following Johnson et al. (2011) and Dass et al. (2016) we use two instruments for state-level corruption. The first instrument is the number of days that a person should be resident in a state, as measured in 1970, before being eligible to vote (RESIDENT_VOTE). If a citizen must wait longer to be eligible to vote, this indicates that the state is depriving them of some power to hold politicians accountable. The lack of political accountability is positively associated with corruption.

The second instrument, CONSTITUTION_AGE, is the age of the state's current constitution, measured as of 1970. The constitution outlines the set of rules that governs state politics. To accommodate changes in socio-cultural factors, a state can amend the existing rules or adopt a new constitution. The latter raises concerns about the quality of the rules that governed the state since new rules may bring new issues compared to the old constitution. Therefore, a higher quality constitution should be able to mitigate the level of corruption. Hence, an older constitution is more likely to be negatively correlated with corruption. Both variables are valid instruments since they relate to state-level corruption but have no direct effect on firm cash holdings.

We re-estimate eq. (2) by replacing the dependent variable with state-level corruption (CORR) in the first stage of the analysis. It can be seen from the results in Table 3 column 1 that the coefficients on both instruments are significant at the 1% level, confirming that RESIDENT_VOTE is positively correlated and CONSTITUTION_AGE is negatively correlated with corruption. In the second stage, using the predicted value of corruption, the coefficient of the interaction term (PAI*CORR) is positive and significant at the 1% level. Column 2 shows the IV diagnostics, indicating that the null hypothesis for both weak instrument and exogeneity can be rejected, confirming that our results are robust after correcting for endogeneity.

4.2.2. *Subsample regressions*

A firm can choose to be established in a state with a high level of corruption to wield considerable influence over legislators by paying bribes. By contrast, if a firm wishes to avoid paying bribes it might choose to locate in a low corrupt state. Although this is not the only consideration in choosing location, a firm's ability to choose where to base its headquarters raises the concern that the effect of corruption on firm financial policies we have found may be endogenous. To examine whether self-selection plays a part in our findings, we split the sample and run separate regressions for firms in high and low corrupt states.

To capture a state's reputation for being corrupt, which is the factor that would influence location, we use the survey-based measure of Boylan and Long (2003) because it is based on perceptions early in our sample period and a good candidate for a time-invariant indicator of corruption. The survey was conducted by Boylan and Long (2003) among State House reporters to compare corruption across states. One of the eight questions in the survey asks reporters to rank their state on the overall level of corruption

Table 4
Subsample regressions.

	High Corrupt	Low Corrupt
	(1)	(2)
PAI	0.091**	−0.087
	(0.046)	(0.069)
Baseline controls	Yes	Yes
State controls	Yes	Yes
Firm effect	Yes	Yes
Year effect	Yes	Yes
Observations	10,669	7283
Adjusted R^2	0.714	0.709

This table presents regression results on a subsample of firms in high corrupt and low corrupt states. High corrupt subsample consists of firm-year observations where the CORR_SURVEY value is above 4 and the low corrupt subsample consists of firm-year observations where CORR_SURVEY value is below 3. PAI is the political alignment index of state *s* at time *t*. The dependent variable, logCASH (t + 1) is the log of cash-to-assets net of cash ratio in the following year. All the firm controls from the baseline model are included in the regression and coefficients are not reported for brevity. All the firm variables are winsorized at 1% and these are defined in Appendix 1. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

Table 5
Alternative corruption and political uncertainty measures.

	Dependent variable: logCASH (t + 1)				
	(1)	(2)	(3)	(4)	(5)
PAI	−0.044**	−0.284***			
	(0.022)	(0.095)			
CORR_LEVEL	−0.033				
	(0.027)				
PAI*CORR_LEVEL	0.082**				
	(0.041)				
CORR_SURVEY		−0.017	−0.007		
		(0.051)	(0.051)		
PAI*CORR_SURVEY		0.073***			
		(0.026)			
Modified_PAI			−0.223**		
			(0.104)		
Modified_PAI *CORR_SURVEY			0.051*		
			(0.028)		
CORR				−1.326**	−1.339***
				(0.517)	(0.519)
EPU*CORR				0.301***	0.283**
				(0.110)	(0.111)
PAI*CORR					0.207*
					(0.116)
Baseline controls	Yes	Yes	Yes	Yes	Yes
Macro-economic controls	No	No	No	Yes	Yes
Firm effect	Yes	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes	Yes
Observations	47,489	42,820	42,820	47,489	47,489
Adjusted R^2	0.742	0.739	0.739	0.742	0.742

This table presents ordinary least squares estimates from the baseline model using three alternative proxies for corruption: CORR_LEVEL and CORR_SURVEY, and alternative political uncertainty measure, Modified_PAI. The dependent variable, logCASH (t + 1) is log of cash-to-assets net of cash ratio in the following year. PAI is the political alignment index of state *s* at time *t*. CORR_LEVEL is a dummy variable equals to 1 if the firm is located in a state with conviction rate above the top tercile for the year, and 0 otherwise. CORR_SURVEY is the state corruption score from Boylan and Long (2003). Modified_PAI is the political alignment index of state *s* at time *t*. All the firm controls from the baseline model are included in the regression and coefficients are not reported for brevity. All the firm variables are winsorized at 1% and these are defined in Appendix 1. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

from a scale of 1 (least corrupt) to 7 (most corrupt). The authors construct a score for each state by taking the average of all the responses. We use this score to construct the survey-based measure, CORR_SURVEY. The measure can theoretically take values between 1 and 7, but the median in our sample is 3.5, the maximum is 5.5, and the minimum is 1.5. As a result, we classify all states with a score below 3 as low corrupt and those with a score above 4 as high corrupt.

In Table 4, we report the results of the two subsample regressions based on Eq. (2). In the low corrupt sample PAI is not statistically significant, while in the high corrupt sample it is positive and significant (at the 5% level), thereby consistent with our main results.

4.2.3. Alternative corruption and political uncertainty measures

The use of judicial conviction rates of public officials is a well-established measure of corruption. However, the use of conviction data has been criticized despite its benefit in terms of it being an objective measure. Boylan and Long (2003) argue that there is a time lag between the crime and conviction, hence the annual change in conviction rate does not necessarily reflect a fluctuation in the level of corruption in a district. Furthermore, there is also a possibility that the most corrupt states have lower conviction rates due to lack of prosecutorial resources. Although DOJ data consist of convictions at the federal level and should reduce the enforcement variations, we further address these concerns by employing alternative measures of corruption.

First, to account for a possible time lag between crimes and convictions, we create a measure using conviction data where CORR_LEVEL equals to one if the firm is located in a state with conviction rate above the top tercile of the year, and zero otherwise. Next, to address possible enforcement concerns we use Boylan and Long (2003) survey-based measure, CORR_SURVEY as the second alternative corruption measure.

Table 5 reports the findings from the alternative corruption measures. Column 1 shows that the coefficient on the interaction term using CORR_LEVEL is 0.082, which is much lower than those from the baseline model, yet it remains positive and significant at the 5%. This indicates that an increase in political uncertainty in more corrupt states, considering possible measurement errors in conviction data, has a significant positive impact on firms' cash holding levels. Column 2 shows the results using CORR_SURVEY. The number of observations in this test is restricted due to the non-availability of survey data from three states, namely Massachusetts, New Hampshire, and New Jersey. The coefficient on the interaction term is 0.073 and it is significant at the 5% level, showing that even with the use of perception-based corruption measures, a rise in local uncertainty leads to a greater increase in cash holding in more corrupt states.

Most of the PAI-related uncertainty at the local level emanates as a result of Congressional activities. This is primarily due to the volume of bills introduced and passed by state officials representing the Senate and House of Representatives from states that are more aligned to the president. However, the number of bills that is eventually passed into law is much lower (Bradley et al., 2016). On the other hand, state legislatures and governors do not have an influence in introducing bills, rather they play a significant role in implementing regulations within a state. Therefore, greater alignment of state officials representing the two chambers of Congress to the ruling government is more likely to induce uncertainty than governors and state legislatures.

In order to test whether uncertainty through federal representation alone can capture the effect of corruption on cash, we construct a modified PAI by excluding state legislatures and governors. We assign equal weights to state officials representing the two chambers of Congress (similar to Antia et al., 2013), as follows:

$$\text{Modified PAI} = (1/2)^{*} SENATORS + (1/2)^{*}\ REPRESENTATIVES \tag{3}$$

In column 3 Table 5, we re-estimate the baseline model by interacting Modified_PAI with the alternative corruption proxy based on survey results, CORR_SURVEY. Results show that the interaction term is significant at the 10% level.

It is also possible that rather than local political uncertainty, firms are reacting to national conditions. To address this, we use the EPU as a proxy for political risk in column 4 of Table 5, and then include both PAI and EPU in column 5. The interaction between EPU and CORR is positive and significant, and so is the interaction between PAI and CORR. This suggests that the two measures are in agreement on the main finding, but that they appear to capture different aspects of political risk and uncertainty, with PAI our preferred measure due to its direct association with the role of policy makers.

4.2.4. State-level uncertainty around election cycles

Having addressed endogeneity implications to our findings, next we attempt to increase the validity of state-level variation in political uncertainty by testing whether firms' response varies around presidential and gubernatorial election cycles.

Julio and Yook (2012, 2016) argue that firms adjust investment decisions around the timing of national elections. In the U.S, presidential elections are predetermined, hence the timing of the elections does not depend on local economic conditions. The outcome of an election can affect regulations and federal and state policies, which in turn can affect firm financial policies. Given that major shifts in the political map as depicted in Fig. 2 occur around presidential elections, we examine whether our results are stronger around these election cycles. We create a dummy variable GEN_ELEC, which is equal to 1 for election years and zero otherwise.

Gubernatorial elections take place every four years, and every year there are at least two elections across various states. Since these are staggered across states it is difficult to minimize the risk that affects the firm behavior. Many studies have used gubernatorial elections as a source of political uncertainty, concluding that it affects firms' IPO decisions (Çolak et al., 2017) and investment decisions (Jens, 2017). Based on this premise, we create a dummy variable, GUB_ELEC which is equal to 1 if a firm is located in a state with a gubernatorial election year and zero otherwise.

Table 6
Results around presidential and gubernatorial elections.

	Dependent variable: logCASH (t + 1)			
	(1)	(2)	(3)	(4)
PAI*CORR*GEN_ELEC	−0.210 (0.222)			
PAI*CORR*GEN_CLOSE_ELEC		0.104 (0.572)		
PAI*CORR*GUB_ELEC			−0.134 (0.203)	
PAI*CORR*GUB_CLOSE_ELEC				1.731*** (0.536)
Baseline controls	Yes	Yes	Yes	Yes
Firm effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	Yes
Observations	47,489	11,314	47,489	13,613
Adjusted R^2	0.742	0.707	0.742	0.707

This table reports ordinary least squares estimates around presidential and gubernatorial elections. GEN_ELEC is a dummy variable equals to 1 for general election years, and 0 otherwise. GEN_CLOSE_ELEC is a dummy variable equals to 1 for close election years and 0 for non-close election years. GUB_ELEC is a dummy variable equals to 1 for gubernatorial election years, and 0 otherwise. GUB_CLOSE_ELEC is a dummy variable equals to 1 for close gubernatorial election years and 0 for non-close gubernatorial election years. Election closeness is determined by the vote differential (if the difference in percentage vote received by the first and second place candidates is in the lowest tercile of the sample vote differential). The dependent variable, logCASH (t + 1) is the log of cash-to-net of assets ratio in the following year. All the firm controls from the baseline model are included in the regression and coefficients are not reported for brevity. All the firm variables are winsorized at 1% and these are defined in Appendix 1. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

Although elections create some form of uncertainty, it should be less if the outcome of the election can be predicted well in advance. Therefore, we predict that close election years create higher uncertainty than non-close election years, and subsequently firms should raise more cash in those years. To determine the level of closeness in an election, we follow a similar approach to Jens (2017). First, we take the difference in percentage of votes received by the first and second place candidates.[10] If the vote difference is in the lowest tercile of the sample vote differential, we consider it as a close election. Applying this approach for both presidential and gubernatorial elections, we create two dummy variables, GEN_ELEC_CLOSE and GUB_ELEC_CLOSE.

Table 6 summarizes the results from the triple interaction terms. We observe a significant effect on cash ratio only around close gubernatorial elections. This suggests that in high corrupt states, shift in the political map around close gubernatorial elections create higher uncertainty than firms in low corrupt states.

4.2.5. *Baseline results with industry fixed effects*

Some authors (see, e.g., footnote 10 in Huang and Yuan, 2021) caution against the use of firm fixed effects due to the potential measurement error in the corruption proxy. They contend that there is a potential that the noise in the corruption proxy will be emphasized with the use of firm fixed effects. Instead, they suggest that the relevant state-level variation is more reliably captured using industry fixed effects. Therefore, we re-estimate our baseline model without firm fixed effects. Table 7 shows that our results hold with alternative specifications with industry and year fixed effects.

4.3. *Further analysis: political influence*

Having established our argument that firms in high corrupt states increase cash to navigate rapid policy changes, we next look at a possible channel through which corruption occurs. If firms in a more corrupt environment use cash to expedite the process of policy making that is affected due to change in the political geography, such firms should save more cash in order to facilitate this process. To test our theory, we use a sample of firms who are engaged in election campaign donations.

Zingales (2017) argues that powerful American corporates use campaign donations, lobbying and explicit bribes to influence politicians in the regulatory process.[11] Such firms gain favorable outcomes in the form of higher future stock returns (Cooper et al., 2010), secure more government funds (Duchin and Sosyura, 2012; Adelino and Dinc, 2014) and receive reduced regulatory enforcements (Heitz et al., 2019). Hence, in order to engage in campaign donations and other forms of associations with government officials, firms need to accumulate more cash (Smith, 2016). To that end, we find supporting evidence at a cross country level; Boubakri et al. (2013) report that politically connected firms hold more cash compared to non-connected firms and associate this with

[10] Vote differences in popular votes for both presidential and gubernatorial elections are collected from Dave Leip's website (https://uselectionatlas.org/)

[11] In addition, having politically connected executives and board members in the firm also eases the process of influencing government representatives. In the international context, Faccio (2006) and Faccio and Zingales (2022) and in the US context, Goldman et al. (2013) and Faccio and Hsu (2017) provide evidence on the benefits of such connections.

Table 7
Baseline results with industry fixed effect.

Dependent variable:	logCASH (t + 1)			
	(1)	(2)	(3)	(4)
PAI	−0.260***	−0.186***	−0.161***	−0.296***
	(0.055)	(0.046)	(0.048)	(0.046)
CORR	−1.066***	−0.511***	−0.354***	−0.545***
	(0.127)	(0.105)	(0.103)	(0.102)
PAI*CORR	0.868***	0.522***	0.447***	0.801***
	(0.183)	(0.154)	(0.153)	(0.148)
SIZE		−0.048***	−0.052***	−0.054***
		(0.009)	(0.009)	(0.009)
LEV		−2.243***	−2.199***	−2.249***
		(0.074)	(0.074)	(0.074)
CAPEX		−3.361***	−3.257***	−3.253***
		(0.275)	(0.273)	(0.270)
DIV		−0.235***	−0.202***	−0.225***
		(0.032)	(0.032)	(0.032)
NWC		−2.014***	−1.973***	−2.011***
		(0.097)	(0.097)	(0.097)
BM		0.157***	0.155***	0.148***
		(0.008)	(0.007)	(0.007)
CFLOW		−0.097	−0.093	−0.107*
		(0.060)	(0.060)	(0.060)
R&D		3.247***	3.033***	3.102***
		(0.174)	(0.172)	(0.173)
UNEMP			0.050***	0.054***
			(0.013)	(0.005)
GDP			1.340***	−0.342
			(0.429)	(0.292)
PI			0.540***	0.383***
			(0.134)	(0.102)
MIN_WAGE			0.098***	0.041**
			(0.017)	(0.015)
EPU				−0.065**
				(0.028)
Industry effect	Yes	Yes	Yes	Yes
Year effect	Yes	Yes	Yes	No
Observations	47,489	47,489	47,489	47,489
Adjusted R^2	0.248	0.463	0.469	0.462

This table presents ordinary least squares estimates from the baseline model with industry and year effects. The dependent variable logCASH (t + 1) is the log of cash-to-net of assets ratio in the following year. PAI is the political alignment index of state s at time t. CORR is the per capita conviction rate of state s at time t. All the firm variables are winsorized at 1% and these variables and state controls are defined in Appendix 1. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

poor governance. Xu et al. (2016) find similar evidence at national level, where politically connected firms in Chinese cities experiencing a change in leadership hold more cash than non-connected firms (they argue that connected firms are exposed to low expropriation risk).

Our argument for political influence is as follows. If cash is being increased to influence politicians, then the amount spent by firms on these activities should be positively associated with the amount of cash saved by these firms. Based on this premise, we estimate the model in Eq. (4), in which ΔCASH is used as a proxy for firm's propensity to save cash.[12]

$$Pol\_Influence_{i,t} = \alpha_i + \beta_1 PAI_{s,t} + \beta_2 CORR_{s,t} + \beta_3 \Delta CASH_{i,t} + \beta_4 PAI_{s,t} * CORR_{s,t} + \beta_5 CORR_{s,t} * \Delta CASH_{i,t} + \beta_6 PAI_{s,t} * \Delta CASH_{i,t} + \beta_7 CORR_{s,t} * PAI_{s,t} * \Delta CASH_{i,t} + \gamma Controls + \alpha_i + \alpha_t + \varepsilon_{i,t} \tag{4}$$

We use two dependent variables; $PAC_{i,t}$ is the annual campaign donation by a firm PAC to congressional candidates scaled by total assets; $PACIncumbent_{i,t}$ is the total annual campaign donations by a firm PAC towards incumbent congressional candidates scaled by total assets. Campaign finance data are collected from the Center for Responsive Politics (CRP). $CORR_{s,t}$ is the per capita conviction rate of state *s* at time *t*. *PAI* is the level of political uncertainty in state *s* at time *t*.

Following previous studies (Cooper et al., 2010; Wellman, 2017; Pham, 2019), determinants of political connections are added as control variables. These include three firm controls; SIZE, BM and CFLOW (since firm size and resources influence firm's capacity to engage in political activities). Furthermore, two industry controls are added to the model since firm's incentive to participate in political activities could be driven by the activities of its industry peers. Hence, we include MKT_SHARE (firm's sales scaled by total

[12] Using a cash saving model, Almeida et al. (2004) show that firm's propensity to save cash out of cash flows is positively related for financially constrained firms.

Table 8
Use of cash for political influence.

Dependent variable:	*PAC*	*PAC Incumbent*
	(1)	(2)
CORR* PAI * ΔCASHt	0.0001**	0.0001**
	(0.000)	(0.000)
Firm and industry controls	Yes	Yes
Firm effect	Yes	Yes
Year effect	Yes	Yes
Observations	7192	7130
Adjusted R^2	0.638	0.650

This table presents ordinary least squares estimates of the analysis on political strategies. The firm level political influence is measured using two dependent variables: PAC and PAC Incumbent are the annual campaign donations by firm political action committees (PACs) to congressional candidates and congressional incumbent candidates scaled by total assets. CORR is the per capita conviction rate of state *s* at time *t*. PAI is the political alignment index of state *s* at time *t*. ΔCASH is the difference in cash in time *t* and *t-1,* scaled by total assets in time *t*. Firm and industry controls are included in the regression and coefficients are not reported for brevity. Firm controls include SIZE, BM and CFLOW. All the firm variables are winsorized at 1% and these are defined in Appendix 1. Industry controls include MKT_SHARE and N_IND_ACTIVE. MKT_SHARE is the firm's sales scaled by total industry sales for a given year. N_IND_ACTIVE is the number of politically active firms in a firm's industry with PAC contributions for a given year. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

Table 9
Channels of increasing cash.

Dependent variable	CAPEX (t + 1)	LEV (t + 1)	DIV PAYOUT (t + 1)
	(1)	(2)	(3)
PAI	0.035	−0.039	−0.0002
	(0.027)	(0.045)	(0.001)
CORR	0.070	0.022	0.0011
	(0.049)	(0.070)	(0.001)
PAI*CORR	−0.146*	0.133	−2.78e-5
	(0.078)	(0.126)	(0.002)
SIZE	−0.127***	0.225***	0.0001
	(0.013)	(0.026)	(0.000)
LEV	−0.465***		
	(0.047)		
BM	0.135***	−0.044***	0.0006***
	(0.005)	(0.011)	(0.000)
CFLOW	0.553***		
	(0.039)		
ROA		−0.688***	0.0081***
		(0.099)	(0.001)
CASH		−1.691***	0.0102***
		(0.124)	(0.001)
LIFECYCLE		−0.098***	0.0001
		(0.013)	(0.000)
State controls	Yes	Yes	Yes
Firm effect	Yes	Yes	Yes
Year effect	Yes	Yes	Yes
Observations	45,349	37,452	47,192
Adjusted R^2	0.657	0.587	0.543

This table presents the estimates of effect of corruption and uncertainty on the components of cash level. The dependent variables are the lead values of log of capital expenditures scaled by total assets (column 1), log of total debt scaled by total assets (column 2), and dividends scaled by total assets (column 3). All the firm variables are winsorized at 1% and these are defined in Appendix 1. Standard errors are clustered at firm level. *,**,*** indicates statistical significance at the 10%, 5% and 1% level, respectively.

industry sales for a given year) and N_IND_ACTIVE (number of politically active firms in a firm's industry with PAC contributions for a given year).

The main variable of interest is the coefficient on the interaction term CORR*PAI*ΔCASH. We expect this to be positively associated with the dependent variables. This means that during high uncertainty, a firm's cash savings in a given year in high corrupt states influences the amount of money it spends on political activities.

Table 8 column 1 and 2 show that the triple interaction term is positively associated with PAC donations to all congress candidates and incumbent candidates (significant at 5%).

Overall, these findings imply that contribution to political campaigns is a possible mechanism through which firms navigate policy uncertainty in a corrupt environment.

4.4. Channels of increasing cash

It is evident from the findings so far that firms in a more corrupt environment hold more cash when faced with rising uncertainty to pay for political favors. We then test the mechanism through which firms increase cash. If firms respond to corruption and uncertainty by increasing cash levels, we would expect firms to either decrease dividend payments by retaining earnings, delay investments until uncertainty resolves, or become more conservative and target lower leverage levels. In the face of increasing political uncertainty, prior studies document that firms decrease investments (Gulen and Ion, 2016; Julio and Yook, 2012), decrease mergers and acquisitions (Nguyen and Phan, 2017), increase dividend payouts (Attig et al., 2021) and decrease leverage (Gungoraydinoglu et al., 2017).

To examine which of these mechanisms are affected by corruption and uncertainty, we regress their effect on investments, dividend payout, and leverage in three separate models. Table 9 reports the findings that capital expenditure react relatively more negatively to political uncertainty in high corrupt states than low corrupt states. This suggests that reducing capital expenditure might be at least a part of the mechanisms through which firms hold more cash in such situations.

5. Conclusion

We provide a novel perspective on the interaction between corruption and political uncertainty by looking at firm behavior (cash holdings). Our use of state-level variation within the US allows for clean and crisp analysis using relatively more objective measures than would otherwise be possible due to the socio-economic factors that contaminate cross-country studies. We find robust evidence that firms located in states with higher corruption increase cash holdings more in response to increases in political risk.

Using conviction data as a proxy for corruption and political alignment as a proxy for uncertainty, we find that firms in more corrupt states when faced with high uncertainty increase cash levels to a greater extent relative to firms in less corrupt states. The findings remain consistent after controlling for (national level) economic policy uncertainty, state-level socio economic factors and instrumental variable analysis using two instruments that are associated with state-level corruption. We also use alternative proxies for corruption and uncertainty, and in all cases we find qualitatively the same results with respect to the interaction between corruption and political risk. As a further robust identification strategy, we examine the results around elections, and we find that the associations are significant around close gubernatorial elections. Finally, we find some support for the suggestion that firms use increased cash holdings around high political uncertainty periods to influence politicians (in the form of higher PAC contributions).

Overall, our work complements the literature in several ways. It finds support for the "liquidity hypothesis" in addition to the "shielding hypothesis" emphasized in Smith (2016). In doing so, we highlight the nuanced considerations that firms evaluate in determining their financial structure. We show that political risk is a possible channel through which corruption affects corporate financial policies. We find evidence consistent with firm behavior that could form a channel for the entrenchment of corruption, thereby helping in part to close the loop often alluded to in the literature on political instability and corruption.

Data availability

The authors do not have permission to share data.

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Appendix 1. Data codes and variable description

Code	Variable	Description
Firm-level variables		
CASH	Cash-to-assets ratio	Cash & cash equivalents divided by total assets net of cash
ΔCASH	Propensity to save cash	Difference in cash in time *t* and *t-1,* scaled by total assets in time *t*
SIZE	Firm size	Natural logarithm of total assets
LEV	Leverage ratio	Total of short term debt and long term debt scaled by total assets
NWC	Net working capital ratio	Working capital net of cash and cash equivalents scaled by total assets.
CAPEX	Capital expenditures	Capital expenditures scaled by total assets
DIV	Dividend	Dummy variable which equals to one if firm paid dividend in a given year and zero otherwise.
DIV PAYOUT	Dividend payout	Dividend paid divided by total assets
BM	Book-to-market	Total assets minus total equity plus market capitalization, scaled by total assets.
CFLOW	Cash flow	EBITDA minus interest, taxes and dividends, scaled by total assets
R&D	Research & development ratio	Research and development expenses scaled by assets
ROA	Return on assets	Operating income divided by total assets
LIFECYCLE	Firm life cycle	Retained earnings divided by total equity
PAC	PAC donations	Donations by firm's Political Action Committees (PAC) to congressional candidates in year *t* scaled by total assets in year *t*
PAC Incumbent	PAC donations to incumbents	Donations by firm's Political Action Committees to incumbent congressional candidates in year *t* scaled by total assets in year *t*
MKT_SHARE	Market share	Firm's sales scaled by total industry sales for a given year
N_IND_ACTIVE	Politically active firms in industry	Number of politically active firms in a firm's industry with PAC contributions for a given year.
State-level variables		
CORR	Corruption	State-level conviction data from the Department of Justice Public Integrity Section, scaled by state-level population data from US Census Bureau
CORR_LEVEL	High Corrupt Level	A dummy variable equals to 1 if the firm is located in a state with conviction rate above the top tercile of the year, and zero otherwise.
CORR_SURVEY	Corruption Survey	Corruption score calculated based on question number 6 from Boylan and Long (2003) survey.
PAI	Political Uncertainty	Political alignment index calculated according to Kim et al. (2012). Refer eq. (1)
Modified_PAI	Alternative Political Uncertainty	Modified political alignment index calculated according to Antia et al. (2013). Refer eq. (3)
UNEMP	Unemployment	Annual unemployment rate from the Bureau of Labor Statistics
GDP	Gross domestic product	Annual GDP growth rate calculated based on the data from the Bureau of Economic Analysis
PI	Personal Income	Natural logarithm of annual per capita personal income from the Bureau of Economic Analysis
MIN_WAGE	Minimum Wage	Annual minimum wage from Bureau of Labor Statistics
RESIDENT_VOTE	Residency before voting	Number of days a citizen has to wait to be eligible to vote as measured in 1970 from the Book of the States
CONSTITUTION_AGE	Age of the constitution age	Number of years in a state with the same constitution as measured in 1970 from the Book of the States
GUB_ELEC	Gubernatorial elections	A dummy variable equals to 1 if the firm is located in a state with a gubernatorial election, and zero otherwise.
GUB_ELEC_CLOSE	Close gubernatorial elections	A dummy variable equals to 1 for close gubernatorial election years and 0 for non-close gubernatorial election years. Election closeness is determined by the vote differential (if the difference in percentage vote received by the first and second place candidates is in the lowest tercile of the sample vote differential).
National-level variable		
EPU	Economic Policy Uncertainty	Natural logarithm of the average EPU index (developed by Baker et al., 2016) over the 12 months period. The EPU data is available at https://www.policyuncertainty.com/
GEN_ELEC	General elections	A dummy variable equals to 1 for elections years and zero otherwise.
GEN_ELEC_CLOSE	Close general elections	A dummy variable equals to 1 for close election years and 0 for non-close election years. Election closeness is determined by the vote differential (if the difference in percentage vote received by the first and second place candidates is in the lowest tercile of the sample vote differential).

Appendix 2. State-wise distribution

State code	State	Avg CORR	Avg PAI	Total Firm-year obs
AK	Alaska	0.69	0.51	44
AL	Alabama	0.48	0.46	228
AR	Arkansas	0.31	0.46	270
AZ	Arizona	0.28	0.43	632
CA	California	0.19	0.51	8365
CO	Colorado	0.13	0.60	1256
CT	Connecticut	0.23	0.58	1171
DE	Delaware	0.41	0.57	160
FL	Florida	0.41	0.48	1931

(*continued on next page*)

(*continued*)

State code	State	Avg CORR	Avg PAI	Total Firm-year obs
GA	Georgia	0.29	0.49	1218
HI	Hawaii	0.26	0.59	105
IA	Iowa	0.14	0.47	268
ID	Idaho	0.25	0.49	117
IL	Illinois	0.36	0.47	2150
IN	Indiana	0.22	0.43	579
KS	Kansas	0.16	0.42	235
KY	Kentucky	0.59	0.58	318
LA	Louisiana	0.83	0.34	285
MA	Massachusetts	0.29	0.53	2616
MD	Maryland	0.43	0.56	784
ME	Maine	0.23	0.38	64
MI	Michigan	0.22	0.44	904
MN	Minnesota	0.12	0.53	1573
MO	Missouri	0.30	0.60	783
MS	Mississippi	0.66	0.44	86
MT	Montana	0.82	0.47	54
NC	North Carolina	0.17	0.43	883
ND	North Dakota	0.51	0.44	25
NE	Nebraska	0.16	0.38	249
NH	New Hampshire	0.10	0.62	176
NJ	New Jersey	0.44	0.41	1877
NM	New Mexico	0.20	0.52	32
NV	Nevada	0.17	0.52	317
NY	New York	0.31	0.56	3885
OH	Ohio	0.38	0.52	1880
OK	Oklahoma	0.42	0.38	424
OR	Oregon	0.09	0.53	502
PA	Pennsylvania	0.40	0.48	1892
RI	Rhode Island	0.28	0.57	162
SC	South Carolina	0.14	0.46	196
SD	South Dakota	0.61	0.44	49
TN	Tennessee	0.39	0.38	833
TX	Texas	0.31	0.49	4431
UT	Utah	0.11	0.46	505
VA	Virginia	0.51	0.55	1156
VT	Vermont	0.27	0.49	45
WA	Washington	0.14	0.44	928
WI	Wisconsin	0.19	0.43	786
WV	West Virginia	0.41	0.41	46
WY	Wyoming	0.32	0.36	14

References

Aabo, T., Lee, S., Pantzalis, C., Park, J.C., 2020. Know thy neighbor: political uncertainty and the informational advantage of local institutional investors. J. Bank. Financ. 113, 105762.

Acemoglu, D., Johnson, S., Robinson, J., Thaicharoen, Y., 2003. Institutional causes, macroeconomic symptoms: volatility, crises and growth. J. Monet. Econ. 50, 49–123. https://doi.org/10.1016/S0304-3932(02)00208-8.

Adelino, M., Dinc, I.S., 2014. Corporate distress and lobbying: evidence from the stimulus act. J. Financ. Econ. 114, 256–272.

Afzali, M., Çolak, G., Fu, M., 2021. Economic uncertainty and corruption: evidence from public and private firms. J. Financ. Stab. 57 https://doi.org/10.1016/j.jfs.2021.100936.

Almeida, H., Campello, M., Weisbach, M.S., 2004. The cash flow sensitivity of cash holdings. J. Financ. 7, 4795–4801. https://doi.org/10.1111/j.1540-6261.2004.00679.x.

Alt, J.E., Lassen, D.D., 2003. The political economy of institutions and corruption in American states. J. Theor. Polit. 15, 341–365.

Amore, M.D., Bennedsen, M., 2013. The value of local political connections in a low-corruption environment. J. Financ. Econ. 110, 387–402. https://doi.org/10.1016/j.jfineco.2013.06.002.

Antia, M., Kim, I., Pantzalis, C., 2013. Political geography and corporate political strategy. J. Corp. Finan. 22, 361–374.

AssociatedPress, 2009. Ex-Pa. senator convicted of 137 corruption counts.

Attig, N., El Ghoul, S., Guedhami, O., Zheng, X., 2021. Dividends and economic policy uncertainty: international evidence. J. Corp. Finan. 66, 101785 https://doi.org/10.1016/j.jcorpfin.2020.101785.

Azzimonti, M., 2018. Partisan conflict and private investment. J. Monet. Econ. 93, 114–131.

Baker, S.R., Bloom, N., Davis, S.J., 2016. Measuring economic policy uncertainty. Q. J. Econ. 131, 1593–1636. https://doi.org/10.1093/qje/qjw024.

Bates, T.W., Kahle, K.M., Stulz, R.M., 2009. Why do U.S. firms hold so much more cash than they used to? J. Financ. 64, 1985–2021.

Bechtel, M.M., Fuss, R., 2008. When investors enjoy less policy risk: divided government, economic policy change, and stock market volatility in Germany, 1970-2005. Swiss Polit. Sci. Rev. 14, 287–314.

Boubakri, N., El Ghoul, S., Saffar, W., 2013. Cash holdings of politically connected firms. J. Multinatl. Financ. Manag. 23, 338–355. https://doi.org/10.1016/J.MULFIN.2013.06.002.

Boutchkova, M., Doshi, H., Durnev, A., Molchanov, A., 2011. Precarious politics and return volatility. Rev. Financ. Stud. 25, 1111–1154.

Boylan, R.T., Long, C.X., 2003. Measuring public corruption in the American states: a survey of state house reporters. State Polit. Policy Q 3, 420–438.

Bradley, D., Pantzalis, C., Yuan, X., 2016. Policy risk, corporate political strategies, and the cost of debt. J. Corp. Finan. 40, 254–275. https://doi.org/10.1016/j.jcorpfin.2016.08.001.
Brockman, P., Luo, J., Xu, L., 2020. The impact of short-selling pressure on corporate employee relations. J. Corp. Finan. 64, 101677 https://doi.org/10.1016/j.jcorpfin.2020.101677.
Brogaard, J., Detzel, A., 2015. The asset-pricing implications of government economic policy uncertainty. Manag. Sci. 61, 3–18.
Campante, Fi, R., Chor, D., Do, Q.A., 2009. Instability and the incentives for corruption. Econ. Polit. 21, 42–92. https://doi.org/10.1111/j.1468-0343.2008.00335.x.
Caprio, L., Faccio, M., McConnell, J.J., 2013. Sheltering corporate assets from political extraction. J. Law Econ. Org. 29, 332–354. https://doi.org/10.1093/jleo/ewr018.
Cheung, Yan-Leung, P., Rau, R., Stouraitis, A., 2021. What determines the return to bribery? Evidence from corruption cases worldwide. Manag. Sci. 67, 6235–6265.
Çolak, G., Durnev, A., Qian, Y., 2017. Political uncertainty and IPO activity: evidence from U.S. gubernatorial elections. J. Financ. Quant. Anal. 52, 2523–2564.
Çolak, G., Gounopoulos, D., Loukopoulos, P., Loukopoulos, G., 2021. Political power, local policy uncertainty and IPO pricing. J. Corp. Finan. 67, 101907.
Cooper, M.J., Gulen, H., Ovtchinnikov, A.V., 2010. American finance association corporate political contributions and stock returns. J. Financ. 65, 687–724.
Damania, R., Fredriksson, P.G., Mani, M., 2004. The persistence of corruption and regulatory compliance failures: theory and evidence. Public Choice 121, 363–390. https://doi.org/10.1007/s11127-004-1684-0.
Dass, N., Nanda, V., Xiao, S.C., 2016. Public corruption in the United States: implications for local firms. Rev. Corp. Financ. Stud. 5, 102–138.
Dass, N., Nanda, V., Xiao, S.C., 2021. Geographic clustering of corruption in the United States. J. Bus. Ethics 173, 577–597. https://doi.org/10.1007/s10551-020-04513-5.
Dittmar, A., Mahrt-Smith, J., 2007. Corporate governance and the value of cash holdings. J. Financ. Econ. 83, 599–634. https://doi.org/10.1016/j.jfineco.2005.12.006.
Dittmar, A., Mahrt-Smith, J., Servaes, H., 2003. International corporate governance and corporate cash holdings. J. Financ. Quant. Anal. 38, 111. https://doi.org/10.2307/4126766.
Duchin, R., Sosyura, D., 2012. The politics of government investment. J. Financ. Econ. 106, 24–48. https://doi.org/10.1016/j.jfineco.2012.04.009.
Duong, H.N., Nguyen, J.H., Nguyen, M., Rhee, S.G., 2020. Navigating through economic policy uncertainty: the role of corporate cash holdings. J. Corp. Finan. 62, 101607 https://doi.org/10.1016/j.jcorpfin.2020.101607.
Faccio, M., 2006. Politically connected firms. Am. Econ. Rev. 96, 369–386. https://doi.org/10.1257/000282806776157704.
Faccio, M., Hsu, H.C., 2017. Politically connected private equity and employment. J. Financ. 72, 539–574. https://doi.org/10.1111/JOFI.12483.
Faccio, M., Zingales, L., 2022. Political determinants of competition in the mobile telecommunication industry. Rev. Financ. Stud. 35, 1983–2018. https://doi.org/10.1093/rfs/hhab074.
Fan, J.P.H., Titman, S., Twite, G., 2012. An international comparison of capital structure and debt maturity choices. J. Financ. Quant. Anal. 47, 23–56.
Feldstein, D., 2005. Atlanta Contractor Charged with Fraud. Houst, Chron.
Ferraz, C., Finan, F., 2011. Electoral accountability and corruption: evidence from the audits of local governments. Am. Econ. Rev. 101, 1274–1311. https://doi.org/10.1257/aer.101.4.1274.
Fisman, R., Gatti, R., 2002. Decentralization and corruption: evidence from U.S. federal transfer programs. Public Choice 113, 25–35.
Fisman, R., Svensson, J., 2007. Are corruption and taxation really harmful to growth? Firm level evidence. J. Dev. Econ. 83, 63–75. https://doi.org/10.1016/j.jdeveco.2005.09.009.
Fowler, J.H., 2006. Elections and markets: the effect of partisanship, policy risk, and electoral margins on the economy. J. Polit. 68, 89–103.
Fredriksson, P.G., Svensson, J., 2003. Political instability, corruption and policy formation: the case of environmental policy. J. Public Econ. 87, 1383–1405. https://doi.org/10.1016/S0047-2727(02)00036-1.
Froot, K.A., Scharfstein, D.S., Stein, J.C., 1993. Risk management: coordinating corporate investment and financing policies. J. Financ. 48, 1629–1658. https://doi.org/10.1111/j.1540-6261.1993.tb05123.x.
Glaeser, E.L., Saks, R.E., 2006. Corruption in America. J. Public Econ. 90, 1053–1072.
Goldman, E., Rocholl, J., So, J., 2013. Politically connected boards of directors and the allocation of procurement contracts. Rev. Financ. 17, 1617–1648. https://doi.org/10.1093/rof/rfs039.
Grossman, G.M., Helpman, E., 1992. Protection for Sale (No. 4149). National Bureau of Economic Research.
Gulen, H., Ion, M., 2016. Policy uncertainty and corporate investment. Rev. Financ. Stud. 29, 523–564. https://doi.org/10.1093/rfs/hhv050.
Gungoraydinoglu, A., Çolak, G., Öztekin, Ö., 2017. Political environment, financial intermediation costs, and financing patterns. J. Corp. Finan. 44, 167–192. https://doi.org/10.1016/j.jcorpfin.2017.03.007.
Hankins, W.B., Stone, A.L., Cheng, C.H.J., Chiu, C.W., 2019. Corporate decision making in the presence of political uncertainty: the case of corporate cash holdings. Financ. Rev. 55, 307–337.
Harford, J., Klasa, S., Maxwell, W.F., 2014. Refinancing risk and cash holdings. J. Financ. 69, 975–1012. https://doi.org/10.1111/jofi.12133.
Heitz, A., Wang, Y., Wang, Z., 2019. Corporate political connections and favorable environmental regulation. SSRN Electron. J. https://doi.org/10.2139/ssrn.3479078.
Huang, Q., Yuan, T., 2021. Does political corruption impede firm innovation? Evidence from the United States. J. Financ. Quant. Anal. 56, 213–248. https://doi.org/10.1017/S0022109019000966.
Jens, C.E., 2017. Political uncertainty and investment: causal evidence from U.S. gubernatorial elections. J. Financ. Econ. 124, 563–579.
Johnson, N.D., LaFountain, C.L., Yamarik, S., 2011. Corruption is bad for growth (even in the United States). Public Choice 147, 377–393. https://doi.org/10.1007/s11127-010-9634-5.
Julio, B., Yook, Y., 2012. Political uncertainty and corporate investment cycles. J. Financ. 67, 45–83. https://doi.org/10.1111/j.1540-6261.2011.01707.x.
Julio, B., Yook, Y., 2016. Policy uncertainty, irreversibility, and cross-border flows of capital. J. Int. Econ. 103, 13–26. https://doi.org/10.1016/j.jinteco.2016.08.004.
Kang, K., 2016. Policy influence and private returns from lobbying in the energy sector. Rev. Econ. Stud. 83, 269–305. https://doi.org/10.1093/restud/rdv029.
Kim, C., Pantzalis, C., Chul Park, J., 2012. Political geography and stock returns: the value and risk implications of proximity to political power. J. Financ. Econ. 106, 196–228.
King, T., Loncan, T., Khan, Z., 2021. Investment, leverage and political risk: evidence from project-level FDI. J. Corp. Finan. 67, 101873 https://doi.org/10.1016/j.jcorpfin.2020.101873.
Li, X., 2019. Economic policy uncertainty and corporate cash policy: international evidence. J. Account. Public Policy 38, 106694.
Lonare, G., Patil, B., 2020. Package 'edgar.`.
McChesney, F.S., 1987. Rent extraction and rent creation in the economic theory of regulation. J. Leg. Stud. 16, 101–118.
Mironov, M., Zhuravskaya, E., 2016. Corruption in procurement and the political cycle in tunneling: evidence from financial transactions data. Am. Econ. J. Econ. Pol. 8, 287–321.
Myers, S.C., Rajan, R.G., 1998. The paradox of liquidity. Q. J. Econ. 113, 733–771. https://doi.org/10.1162/003355398555739.
Nguyen, N.H., Phan, H.V., 2017. Policy uncertainty and mergers and acquisitions. J. Financ. Quant. Anal. 52, 613–644. https://doi.org/10.1017/S0022109017000175.
Nguyen, T.T., van Dijk, M.A., 2012. Corruption, growth, and governance: private vs. state-owned firms in Vietnam. J. Bank. Financ. 36, 2935–2948. https://doi.org/10.1016/j.jbankfin.2012.03.027.
Nguyen, N.H., Phan, H.V., Simpson, T., 2020. Political corruption and mergers and acquisitions. J. Corp. Finan. 65, 101765.
Opler, T., Pinkowitz, L., Stulz, R., Williamson, R., 1999. The determinants and implications of corporate cash holdings. J. Financ. Econ. 52, 3–46. https://doi.org/10.1016/s0304-405x(99)00003-3.
Pástor, Ľ., Veronesi, P., 2012. Uncertainty about government policy and stock prices. J. Financ. 67, 1219–1264. https://doi.org/10.1111/j.1540-6261.2012.01746.x.

Pham, A.V., 2019. Political risk and cost of equity: the mediating role of political connections. J. Corp. Finan. 56, 64–87. https://doi.org/10.1016/j.jcorpfin.2019.01.001.
Pinkowitz, L., Stulz, R., Williamson, R., 2006. Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. J. Financ. 61, 2725–2751. https://doi.org/10.1111/j.1540-6261.2006.01003.x.
Qiu, Y., 2019. Labor adjustment costs and risk management. J. Financ. Quant. Anal. 54, 1447–1468. https://doi.org/10.1017/S0022109018000960.
Shleifer, A., Vishny, R.W., 1993. Corruption. Q. J. Econ. 108, 599–617.
Smith, J.D., 2016. US political corruption and firm financial policies. J. Financ. Econ. 121, 350–367. https://doi.org/10.1016/j.jfineco.2015.08.021.
Stulz, R.M., 2005. The limits of financial globalization. J. Financ. 60, 1595–1638. https://doi.org/10.1111/j.1540-6261.2005.00775.x.
Weiser, B., 2012. Executive of Hospital Gets 3 Years for Bribery. New York Times.
Wellman, L.A., 2017. Mitigating political uncertainty. Rev. Acc. Stud. 22, 217–250.
Xu, N., Chen, Q., Xu, Y., Chan, K.C., 2016. Political uncertainty and cash holdings: evidence from China. J. Corp. Finan. 40, 276–295. https://doi.org/10.1016/j.jcorpfin.2016.08.007.
Zingales, L., 2017. Towards a political theory of the firm. J. Econ. Perspect. 31, 113–130. https://doi.org/10.1257/jep.31.3.113.