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ORIGINAL PAPER

Political Corruption and Corporate Risk-Taking

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Abstract

We use variation in corruption convictions across judicial districts in the US to examine the relationship between political corruption and risk-taking of public firms. Firms headquartered in regions with high levels of political corruption have lower total risk and lower idiosyncratic risk on average. Further analysis shows that corruption tends to encourage firms to pursue risk-decreasing investments, lower the riskiness of their operations, and decrease asset liquidity. While managerial ownership is intended to align the interests of managers and shareholders, the presence of corruption appears to encourage undiversified managers to decrease risk-taking. Our evidence is consistent with agency theory and the asset-shielding argument that political corruption discourages managers from taking risks that expose firms to expropriation by politicians, resulting in suboptimal corporate policies.

Keywords Political corruption · Risk-taking · Systematic risk · Idiosyncratic risk · Investment · Capital structure · Liquidity · Operating leverage

JEL Classification G30 · G31

Introduction

Corruption can affect firms in many ways, and significant research describes its impact on firm riskiness. Some studies find that corruption increases firm riskiness by increasing the uncertainty of the business environment (e.g., Ellis et al., 2020; Huang & Yuan, 2021). However, corruption may decrease firm riskiness by providing alternate, albeit illegal, channels for firms to reduce policy uncertainty or sidestep regulations (e.g., Kato & Sato, 2015; Leff, 1964). Managers in corrupt regions may also avoid risky strategies (Murphy et al., 1993) and adopt measures to shield corporate liquid assets from potential expropriation by local officials (Caprio et al., 2013; Nguyen et al., 2020; Smith, 2016). While previous studies employ a variety of countries, definitions of risk, and definitions of corruption, a key theme among them is that the presence of corruption distorts how companies operate.

In this study, we use regional variation in corruption in the US to measure its impact on risk for public firms. Prior research shows differences in corruption among US judicial districts that affect financial decisions of municipal governments and firms in those areas (e.g., Butler et al., 2009; Smith, 2016). Because expropriation threat harms the interests of both shareholders and managers while the reputation and legal risks of bribing government officials could be too high for managers of US firms, we hypothesize that political corruption has a negative effect on managerial risk-taking, leading to a lower firm risk. We combine the year-by-year

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measures of regional corruption with riskiness measures of public firms headquartered in those regions to evaluate the impacts of local corruption on firm risk.

Our primary empirical finding is that firms headquartered in high corruption areas have lower risk, particularly idiosyncratic (firm-specific) risk. Specifically, a one-standard-deviation increase in our measure of corruption leads to a 3.16% decrease in total risk and a 5.42% decrease in idiosyncratic risk. This result is similar across various model specifications and persists in a variety of robustness tests. Corruption does not have a significant impact on systematic risk, however, meaning that these firms do not change sensitivity to market-wide risks. We interpret these results as evidence that corruption contributes to less risk-taking by firms.

This empirical finding, however, clashes with predictions from classic corporate finance theory. In the classic setting, firm managers would be expected to pursue all projects that add value regardless of their impact on the firms' idiosyncratic risk. This expectation arises because idiosyncratic risk has zero correlation between firms on average, and investors can create a diversified portfolio such that net idiosyncratic risk is essentially zero. In this theoretical setting, therefore, corruption should have no impact on idiosyncratic risk because diversified investors are indifferent to idiosyncratic risk.

However, if firm investors cannot diversify, decreasing idiosyncratic risk could become a criterion for evaluating firm decisions. Prior studies support this argument, showing that undiversified managers sometimes avoid or decrease firms' idiosyncratic risk because they cannot diversify their personal portfolio (e.g., Kim et al., 2013; Lewellen, 2006). Kim and Lu (2011) argue that large stock ownership gives high wealth-performance sensitivity and voting rights conducive for managerial entrenchment, and their combination induces overly conservative risk choices. Political corruption poses expropriation threat to firms to which CEOs may respond by reducing risk for their own benefit. Being both risk-averse and undiversified, CEOs' significant ownership in their firms may explain the effect of corruption on the firms' lower idiosyncratic risk.

Consistent with an undiversified CEO explanation, we find that corruption primarily reduces risk when CEO ownership is high but has little impact on firm risk when CEO ownership is low. This evidence suggests that corruption does not influence corporate risk-taking in the absence of undiversified managers. These findings hold even when we control for a firm's political connectedness, local economic conditions, and industry competitiveness or use alternative definitions of corruption.

The impacts of CEO ownership, corruption, and risk are manifested in corporate policies. We find that high corruption and high CEO ownership cause firms to pursue merger and acquisition (M&A) opportunities that decrease risk. Likewise, firms pursue projects with less volatile cash flows. Both outcomes suggest that CEOs influence firm operations to reduce risk. We also find evidence that firms change their operations in response to corruption through lower operating leverage, lower cash holdings, and risk-decreasing investments. Taken together, these findings support the idea that corruption distorts firm operations.

This study contributes to the discussion on corruption in several ways. First, despite the US' reputation as a low corruption place to do business, we find that local political corruption has a non-trivial impact on public firm decisions. The literature primarily focuses on corruption across borders, but in this case, our study exploits corruption variation across US judicial districts for analysis. By using a sample of firms from a single country, our study alleviates a concern that any findings could be driven by the differences in the legal, financial, and socio-economic conditions in a cross-country analysis.

Second, our findings suggest a conundrum for shareholders. A hallmark of corporate governance is to align the incentives of agents with the desires of the principals. For public firms, this is often accomplished through stock grants to the firm's management. However, if corruption discourages undiversified managers from taking on projects that increase idiosyncratic risk, these same stock grants may incentivize managers to avoid value-increasing projects. Shareholders thus face a trade-off between incentivizing managers to create value and accidentally incentivizing managers to avoid risk-increasing policies that create shareholder value.

Third, we contribute to the literature on *how* corruption affects corporate financing and investment decisions. For example, Smith (2016) finds that corruption causes an increase in financial leverage and a decrease in cash holdings, whereas Huang and Yuan (2021) report that corruption impedes innovation. We add an additional mechanism: Corruption combined with managerial ownership decreases total risk and idiosyncratic risk.

The remainder of this study proceeds as follows: Sect. 2 reviews the related literature and develops testable hypotheses. Section 3 outlines the data, and Sect. 4 provides our empirical estimates. Section 5 documents the impact of corruption on corporate policies. Section 6 concludes.

Related Literature and Hypothesis Development

Corruption has received a great deal of attention in the business and economics literature. Some parts of the literature consider how corruption affects overall economic growth, while others focus on its impact on individual firms. Studies have shown how corruption can improve firm prospects (grease-the-wheel theory) or hinder them (sand-the-wheel theory), but only a few studies connect corruption and firm riskiness.

The grease-the-wheel argument highlights how corruption can make things easier for firms to operate. Leff (1964) and Huntington (1968) describe corruption (and specifically bribery) as a "speed tax" that allows firms to circumvent bureaucracy or regulation in the interest of shareholder value. This argument has received empirical support. Both Ayyagari et al. (2014) and Nguyen et al. (2016) find that corruption is associated with corporate innovation. Ovtchinnikov et al. (2020) even find that firms use corruption to reduce policy uncertainty, thereby making it safer to innovate.

The sand-the-wheel argument, however, highlights how corruption hinders firms. Murphy et al. (1993) develop a theoretical model showing how rent-seeking by politicians in the form of bribery, permissive legal systems, or expropriation is costly to firm growth. Corruption also discourages innovation; it can lead firms to invest more in political capital than innovation (Huang & Yuan, 2021) or discourage risk-taking in general (Dincer, 2019; Ellis et al., 2020). It can also impede corporate investment (Mauro, 1995) and competition (Emerson, 2006). Corruption is especially problematic for smaller firms with fewer resources (Habiyaremye & Raymond, 2013).

Both arguments connect corruption with firm riskiness. Corruption can increase firm riskiness by increasing the uncertainty of the business environment in which firms operate (e.g., Ellis et al., 2020; Huang & Yuan, 2021). Corruption can also decrease firm riskiness by providing alternate channels to reduce policy uncertainty or avoid regulatory rules (e.g., Kato & Sato, 2015; Leff, 1964). Some prior empirical evidence points to corruption increasing the fear of expropriation that discourages corporate investment and risk-taking (Hossain & Kryzanowski, 2020; Huang & Yuan, 2021; Murphy et al., 1993) while motivating asset-shielding behaviors, such as reducing cash reserves, converting liquid assets into hard-to-extract assets, or relocating liquid assets to low corruption areas (Caprio et al., 2013; Nguyen et al., 2020; Smith, 2016).

Agency theory suggests that managers are inherently risk-averse because their wealth and human capital are tied to their firms. Boards of directors usually include stock compensation as a part of the executive compensation packages to elicit greater managerial effort and reduce shareholder–manager conflict of interests. However, managerial stock ownership creates high personal exposure to firm idiosyncratic risk for undiversified managers, which can lead to managers' suboptimal decisions that serve their interests but adversely affect the benefits of other shareholders. Kim and Lu (2011) argue that high stock ownership gives managers greater wealth-performance sensitivity and voting rights conducive for managerial entrenchment. Holmstrom (1979) shows numerically that increasing compensation sensitivity to performance not only elicits greater effort but also induces a risk-averse manager to take less risk. Such a risk-decreasing behavior is more likely when a manager has greater voting rights to protect himself from dismissal. Empirical evidence indicates that firm investment decreases (Panousi & Papanikolaou, 2012) or becomes less risky (Florackis et al., 2020; Gormley & Matsa, 2016; Kim & Lu, 2011) when managers have significant ownership of the firm.

In a setting in which corruption affects a firm's risk, undiversified managers may respond by altering corporate policies. To the extent that local political corruption increases uncertainty, heightens expropriation risk, and exacerbates managerial risk aversion, agency theory and the asset-shielding argument lead us to formalize our testable hypotheses:

Hypothesis 1 Political corruption is negatively associated with firm risks, particularly idiosyncratic risk.

Hypothesis 2 The negative relationship between political corruption and firm risks is stronger for firms whose CEOs have greater ownership of the firms.

Samples, Variables Construction, and Descriptive Statistics

Our sample consists of publicly listed US firms during the period 1992–2014. The sample period begins in 1992 because it is the first year that executive compensation data are available in the Execucomp database. The sample ends in 2014 because we use the next 3-year (5-year) monthly stock returns (annual accounting data) to calculate firm risk measures. We obtain accounting data from Compustat, but we exclude firms from the utility (Standard Industrial Classification, SIC codes 4900–4999) and financial industries (SIC codes 6000–6999).[1] We also exclude firm-year observations with missing values of necessary accounting variables.

Data on CEO ownership come from Execucomp. The primary variable of interest from this dataset is total shares owned by the CEO scaled by total shares outstanding, which measures managerial ownership of the firm. Higher CEO stock ownership implies less personal diversification. In addition to stocks, managers may receive compensation in the form of stock options, which are particularly sensitive to changes in risk. Coles et al. (2006) report that managerial

[1] These industries are highly regulated and generally excluded in corporate finance studies. It is possible, however, that intense regulation creates even more opportunities for corruption. The results presented here are robust to the inclusion of these two industries (see Table A1 in the Online Appendix).

Table 1 Summary statistics

Variables	*N*	Mean	Q1	Median	Q3	Std. Dev
Political corruption	17,682	0.334	0.147	0.266	0.456	0.272
Total risk	17,682	0.077	0.051	0.069	0.093	0.035
Systematic risk	17,682	0.058	0.037	0.052	0.071	0.029
Idiosyncratic risk	17,682	0.047	0.029	0.041	0.057	0.025
CEO delta ($ thousand)	17,682	698.482	68.612	182.531	492.884	1941.780
CEO vega ($ thousand)	17,682	127.288	14.613	48.128	132.275	180.989
CEO ownership	17,682	0.048	0.004	0.017	0.051	0.082
Annual sales ($ million)	17,682	4873.480	566.251	1512.100	4300.010	9801.910
Book-to-market ratio	17,682	0.685	0.504	0.694	0.860	0.249
Property, plant, and equipment	17,682	0.340	0.164	0.288	0.491	0.223
Sales growth	17,682	0.130	0.004	0.081	0.186	0.324
Book leverage	17,682	0.215	0.086	0.205	0.315	0.161

The table reports the descriptive statistics of the sample for the period 1992–2014

Political corruption yearly number of convictions per 100,000 residents of the judicial district in which a firm is headquartered, *Total risk* standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *CEO vega* dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding, *Annual sales* natural logarithm of total annual sales, *Book-to-market* ratio ratio of the book value to the market value of assets, *Book leverage* ratio of the book value of short-term and long-term debts to book value of assets, *Sales growth* growth in annual sales over the prior year, *Plant, property, and equipment* (*PP&E*) *variable* net plant, property, and equipment scaled by the book value of assets

compensation incentives are associated with the riskiness of corporate policies. Armstrong and Vashishtha (2012) document that the sensitivity of stock options' payoff to return volatility incentivizes risk-averse CEOs to increase firm risk by increasing systematic risk, which they can hedge by trading the market portfolio, rather than idiosyncratic risk. To address potential confounding effects of managerial compensation incentives, we calculate CEO delta and vega by total stock and stock option grants reported in Execucomp and include them as controls.[2]

We next construct measures of risk using stock price and return data from the Center for Research in Security Prices (CRSP). Our goal is to examine how corruption affects risk-taking, and potentially we could use the stock return volatility as a measure of risk. Armstrong and Vashishtha (2012), however, show how the information environment of the stock (e.g., how information is disclosed by the firm and how regulators enforce disclosure) and other factors unrelated to specific business decisions inside the firm affect stock return volatility. Furthermore, volatility and stock ownership may be endogenously related if high return volatility discourages the use of stock as an incentive. To address both issues, Armstrong and Vashishtha (2012) construct imputed returns, calculated as

$$r_{i,t}^{\text{Imputed}} = \sum_{s=1}^{S} w_{i,s,t} r_{s,t}, \tag{1}$$

where $w_{i,s,t}$ is the percentage of firm *i*'s assets invested in industry segment *s* at time *t* and $r_{s,t}$ is the average return of all single-segment companies in segment *s* and time *t*. Effectively, imputed returns treat the company's return as the weighted-average return of the industries in which the company operates.

The advantage of imputed returns is that the risk measures estimated from those returns for a firm are driven by the relative investment in different industry segments. Managers control the mix of industries in which their firms operate; therefore, imputed returns represent the outcome of the management's business choices separate from other factors that affect a firm's returns. As this benefit can only be obtained by focusing on multi-segment firms, we exclude single-segment firms from our analysis. We calculate the imputed

[2] CEO delta measures the change in the CEO's wealth given a 1% change in stock prices. CEO vega measures the change in the CEO's wealth given a 0.01 change in stock return volatility. Both are estimated using the Black–Scholes option-pricing model and all holdings reported in Execucomp. Both variables are measured in dollars, so we use the natural logarithm in our analysis.

monthly returns for all multi-segment firms in our sample using two-digit SIC codes to determine industry segments.[3]

Risk is measured in three ways. Total risk is calculated as the standard deviation of the monthly imputed returns over rolling three-year periods. Total risk can also be decomposed into two parts: systematic and idiosyncratic risk. Systematic risk is the proportion of total risk due to a firm's exposure to market-wide risks, while idiosyncratic risk is the proportion of total risk specific to the firm itself. As we expect idiosyncratic risk to be particularly important to any analysis related to corruption, we calculate these risks using rolling ordinary least squares estimates of the three-factor model (Fama & French, 1993) over 3-year periods. A firm's systematic risk is the standard deviation of the monthly expected values from this regression, while idiosyncratic risk is the standard deviation of the monthly residuals.

Turning to corruption, prior research measures variation in regional corruption using data on convictions by federal judicial district (e.g., Butler et al., 2009; Smith, 2016). For each district, the local corruption measure is the number of yearly corruption convictions obtained from the Report to Congress on the Activities and Operations of the Public Integrity Section. We scale yearly convictions to be convictions per 100,000 residents based on annual population estimates from the US Census for each judicial district. Arguably, a higher number of convictions per capita in a judicial district indicate more corruption. We manually identify zip codes associated with each federal judicial district and match the corruption data for each year to a firm by the zip code of the firm's headquarters.

Our final sample consists of 17,682 firm-year observations of 2107 multi-segment firms over the sample period.[4] We winsorize continuous variables at their 1st and 99th percentiles to mitigate the effect of outliers on the analysis and report the summary statistics for the sample in Table 1. On average, sample firms operated in districts with 0.334 corruption convictions per 100,000 residents per year. There is also significant variation in convictions between judicial districts and years, with a standard deviation of 0.272 and an interquartile range of 0.309. The average annual sales are $4.87 billion, while the mean book-to-market ratio and book leverage are 0.685 and 0.215, respectively. The average sales growth and plant, property, and equipment are 13% and 34% of the book value of assets, respectively, while the average total risk, systematic risk, and idiosyncratic risk are 0.08, 0.06 and 0.05, respectively, which are similar to the statistics reported by Armstrong and Vashishtha (2012).

Empirical Models, Results, and Discussions

Political Corruption and Firm Risks

In this section, we test the impact of corruption on firm risk. We begin by specifying an empirical model of risk and corruption motivated by extant literature and estimate the baseline result. We next confirm the robustness of our corruption measures using an instrumental variable (IV). The model is then augmented to control for managerial incentives. Finally, we subject the results to a battery of robustness tests.

Baseline Results

We begin our analyses by developing an empirical model for the relationship between political corruption and risk. Our model is motivated by prior studies (e.g., Armstrong & Vashishtha, 2012) but augmented with political corruption, whose specification is as follows:

$$\mathrm{FirmRisk}_{ijt} = \alpha + \beta \mathrm{political\,corruption}_{j,t-1} + \boldsymbol{C'}_{i,t-1}\boldsymbol{\gamma} + \varepsilon_{ijt}, \tag{2}$$

where $\mathrm{FirmRisk}_{ijt}$ is the total firm risk, systematic risk, or idiosyncratic risk (depending on specification) for firm i headquartered in judicial district j at time t, and $C_{i,t-1}$ is a vector of controls. Specifically, we control for firm size using annual sales because previous research reports a negative relationship between firm size and risk (e.g., Guay, 1999; John et al., 2008). Guay (1999) finds that risk is also associated with growth opportunities, so we also control for sales growth, book-to-market ratio, and plant, property, and equipment. Prior research reports mixed evidence on the relationship between financial leverage and total risk, but we include leverage for completeness (Friend & Lang, 1988; Leland, 1998; Lewellen, 2006). Several studies connect CEO vega and delta with firm risk and risk-altering investment and financing decisions (Armstrong & Vashishtha, 2012; Coles et al., 2006); therefore, we control for CEO vega and delta. The model also includes industry and year fixed effects. Finally, we report heteroskedasticity-robust standard errors

[3] In unreported analysis, we use the risk measures calculated from the actual stock returns of both single- and multi-segment firms and find our results qualitatively unchanged.

[4] We begin with a sample of 42,682 firm-year observations in the Compustat database during the sample period. The number of firm-year observations decreases to 36,329 after we drop firms from the utility and financial industries. After merging the sample with CEO compensation data from the Execucomp database and excluding firm-year observations with missing CEO delta and CEO vega, we obtain the final sample of 17,682 firm-year observations of 2107 multi-segment firms.

Table 2 Political corruption and firm risks

Panel A: political corruption and firm risks—baseline regressions

	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)
Political corruption	−0.001**	−0.001	−0.001***
	(2.02)	(0.14)	(2.83)
CEO delta	0.060***	0.049***	0.055***
	(7.93)	(7.27)	(10.35)
CEO vega	0.089***	0.082***	0.009
	(7.09)	(8.36)	(1.05)
Annual sales	−0.026***	−0.026***	−0.022***
	(5.93)	(6.01)	(7.21)
Book-to-market	−0.007***	−0.006***	−0.001***
	(11.92)	(8.92)	(3.29)
PP&E	0.004*	0.001	0.007***
	(1.66)	(0.39)	(3.69)
Sales growth	0.016***	0.011***	0.014***
	(8.30)	(4.61)	(10.12)
Book leverage	−0.015***	−0.015***	−0.009***
	(7.63)	(8.96)	(6.75)
Intercept	0.263***	0.221***	0.201***
	(11.76)	(12.40)	(12.86)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682
Adjusted R^2	0.32	0.32	0.38

Panel B: political corruption and firm risks—instrumental variable model

	First-stage	Second-stage		
		Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)
Instrumented political corruption		−0.004**	−0.001	−0.006***
		(2.00)	(0.54)	(4.16)
Isolation state capital	0.959***			
	(49.40)			
CEO delta	0.021	0.082***	0.064***	0.068***
	(0.45)	(18.10)	(16.38)	(21.87)
CEO vega	−0.113	0.125***	0.106***	0.108
	(1.40)	(16.46)	(16.27)	(1.11)
Annual sales	0.056**	−0.037***	−0.033***	−0.028***
	(2.06)	(13.81)	(14.58)	(15.52)
Book-to-market	0.017***	−0.008***	−0.007***	−0.003***
	(3.30)	(16.57)	(16.81)	(8.74)
PP&E	−0.044***	0.002	0.001	0.004***
	(2.78)	(1.05)	(0.71)	(3.42)
Sales growth	0.014	0.019***	0.014***	0.016***
	(1.19)	(17.08)	(13.95)	(20.99)
Book leverage	0.007	−0.022***	−0.019***	−0.013***
	(0.50)	(15.77)	(16.27)	(13.87)
Intercept	−0.574***	0.318***	0.260***	0.234***

Table 2 (continued)

Panel B: political corruption and firm risks—instrumental variable model

	First-stage	Second-stage		
		Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)
	(4.08)	(23.44)	(22.28)	(25.00)
Industry fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682	17,682
Adjusted R^2	0.09	0.41	0.35	0.43
Weak identification test				
Cragg–Donald–Wald *F* statistic	1874.31***			
Weak instrument robust inference				
Anderson–Rubin–Wald test statistic	23.97***			

The table reports results of the firm risk baseline regression and the 2-stage firm risk instrumental variable (IV) regressions in Panels A and B, respectively. The dependent variables are three firm risk measures: total risk, systematic risk, and idiosyncratic risk. Other variables are defined in the "Appendix" *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *Political corruption* yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *Isolation state capital* state population concentration around its capital city, adjusted for state size

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

clustered by firms.[5] Panel A of Table 2 reports the estimates of Eq. 2.

The estimates show that political corruption is negatively related to both total risk and idiosyncratic risk, which confirms Hypothesis 1. In terms of the magnitude of the impact, a one-standard-deviation increase in political corruption above its sample mean leads to a 3.16% decrease in total risk and a 5.42% decrease in idiosyncratic risk. This finding suggests that political corruption motivates managers to pursue corporate policies that lower idiosyncratic risk. However, corruption has no effect on systematic risk (column 2 of Table 2), meaning that firms in corrupt environments are no more or less sensitive to market-wide risks.

The effects of other control variables on firm risks are generally in line with those reported in the literature. Specifically, book-to-market ratio and sales are negatively related to firm risk measures, while asset tangibility and sales growth are positively related to firm risks (Armstrong & Vashishtha, 2012; Faccio et al., 2016; Ferris et al., 2017; John et al., 2008; Li et al., 2013). Consistent with Armstrong and Vashishtha (2012), CEO vega is positively related to systematic risk, but not idiosyncratic risk, while CEO delta is positively related to both systematic and idiosyncratic risk.

Instrumental Variable (IV) Model

Both political corruption and firm risks may be jointly correlated with unobserved variables associated with the local environment, which raises endogeneity concerns. We employ an IV approach to address this issue by identifying a proxy for political corruption that is unlikely to be correlated with a firm's operation. Campante and Do (2014) argue that politicians are more corrupt in isolated capital cities due to less oversight from voters. Smith (2016) suggests that the isolation of a state capital city can serve as an instrument for corruption because it is independent of firm characteristics but correlated with the propensity of the judicial district to convict corruptions. The isolation state capital variable measures the distance between the state's capital city and the population's distance-weighted geographic center using the Gravity-based Centered Index for Spatial Concentration (Campante & Do, 2014).[6] A higher value of isolation state

[5] In unreported analysis, we control for firm fixed effects instead of industry fixed effects in the regressions, but the results remain qualitatively unchanged. Our results are qualitatively similar if we cluster standard errors by judicial districts.

[6] We thank Campante and Do for making the isolation of capital city data available.

capital indicates that the majority of the state's population lives farther away from the state's capital city.

We report the results of the two-stage IV regressions in Panel B of Table 2. The first-stage results of the IV regression model reported in column 1 indicate that the coefficient of isolation state capital is positive (0.959) and statistically significant at the 1% level, satisfying the relevance condition for the instrument. Moreover, the weak-identification test suggests that the selected instrument is strong and relevant. The results of the second-stage regressions reported in columns 2–4 indicate a negative and significant relationship between political corruption and idiosyncratic risk. The second-stage results reported in Panel B largely agree with the baseline regression results presented in Panel A, indicating that our findings are robust to the potential endogenous relationship between firm risk and political corruption.[7]

Effects of CEO Ownership

We next consider the degree to which CEO ownership contributes to corruption's impact on firm risk. Undiversified CEOs have incentives to decrease idiosyncratic risk because they cannot easily diversify into other assets (Panousi & Papanikolaou, 2012). Given the connection between corruption and idiosyncratic risk in Table 2, we expect corruption to have a greater impact when CEOs have more invested in the firm. To test this prediction, we augment Eq. 2 with the CEO ownership variable, defined as the ratio of CEO stock ownership to total shares outstanding. We also include the interaction of this variable with the level of political corruption. We report the results in Table 3.

Consistent with CEOs being undiversified investors, we find that higher CEO ownership is associated with lower risk. Furthermore, we find that the interaction of corruption with CEO ownership has an additional negative impact on total and idiosyncratic risks, which confirms Hypothesis 2. This finding suggests that firm risk decreases more when a highly invested CEO operates in a high corruption environment. Our evidence is consistent with the mitigating effect of CEO ownership on corporate risk-taking reported in the literature (Florackis et al., 2020; Gormley & Matsa, 2016; Panousi & Papanikolaou, 2012). However, corruption has no impact on firm risk when CEO ownership is low, suggesting that corruption does not distort firm decisions in the absence of undiversified managers.

[7] In an unreported analysis, we use the state-level shocks to newspaper reporter employment as an additional instrument for political corruption (Brown et al., 2019), but our results remain qualitatively unchanged.

Table 3 Political corruption, CEO ownership, and firm risks

	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)
Political corruption	−0.001	−0.002	−0.001
	(0.41)	(0.73)	(0.60)
Political corruption* CEO ownership	−0.004**	−0.002	−0.004***
	(2.00)	(0.71)	(3.22)
CEO ownership	−0.004***	−0.003***	−0.002***
	(5.12)	(3.62)	(3.54)
CEO delta	0.046***	0.048***	0.042***
	(11.63)	(7.27)	(18.55)
CEO vega	0.057***	0.081***	0.012
	(6.77)	(7.34)	(1.05)
Annual sales	−0.002***	−0.026***	−0.005***
	(9.09)	(6.08)	(28.59)
Book-to-market	−0.006***	−0.006***	−0.001
	(10.28)	(8.56)	(0.55)
PP&E	−0.007***	−0.002	−0.004***
	(7.62)	(0.52)	(6.31)
Sales growth	0.001	0.011***	0.001
	(1.34)	(4.66)	(1.26)
Book leverage	−0.007***	−0.015***	−0.002**
	(6.99)	(8.92)	(2.56)
Intercept	0.072***	0.222***	0.027***
	(42.82)	(12.53)	(23.93)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682
Adjusted R^2	0.31	0.56	0.38

The table reports firm risk regression results. The dependent variables are three firm risk measures: total risk, systematic risk, and idiosyncratic risk. Other variables are defined in the "Appendix." *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *Political corruption* yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

Robustness Checks

The previous sub-sections document a negative impact of corruption on firm risk. We further find that corruption's impact is greater when CEO ownership is higher. In the following sub-sections, we run a battery of robustness tests. Specifically, we consider the impacts of local economic conditions and political connections, alternative measures of corruption, corporate governance, and product-market competition.

Control for Local Economic Conditions and Political Connections

Local economic conditions potentially affect both risk and corruption in our model. For example, economic growth may create a fertile ground for political corruption, but it can also affect corporate risk-taking. While normally firm characteristics or fixed effects would be assumed to control for economic issues, time-varying state-specific economic conditions may affect the connection between corruption and risk. To address this concern, we re-estimate the risk models with additional controls for both state gross domestic product (GDP) growth rate and the natural logarithm of state GDP per capita.[8] The regression results reported in columns 1–3 of Panel A, Table 4, continue to indicate a negative and significant relationship between political corruption and total risk and idiosyncratic risk. This evidence suggests that state economic conditions do not drive our results.

Another aspect of local conditions are local political connections. When a firm has political connections, it tends to receive more benefits from the government (De Soto, 1989; Faccio et al., 2006; Goldman et al., 2013) but be subject to less oversight (De Soto, 1989; Fulmer et al., 2012; Kroszner & Stratmann, 1998; Stigler, 1971). Collins et al. (2009) find that firms engage more in corruption when executives have social ties to government officials. Although political connections may be related to corruption, they may have other direct effects on corporate behavior and risks that extend beyond those of corruption. Thus, it is possible that our results merely capture the effects of political connections rather than corruption.

Following Faccio and Hsu (2017), we use background information such as employment positions, political positions, and affiliations of all executives of a given firm from Capital IQ to identify politically connected corporate managers by matching each executive position and affiliation with 42 political keywords provided by Faccio and Hsu, such as "senator," "Congress," "governor of the state," "White House," and so on. We assume that a firm is politically connected if it employs at least one politically connected executive during the tenure of that executive. We construct the political connection variable as an indicator that takes the value of one for politically connected firms and zero otherwise.

We include the political connection variable as an additional control in Eq. 2 and report the results in columns 4–6 of Panel A in Table 4. While political connections appear to decrease firm risk, we continue to find a negative relationship between corruption and risk. We also consider the degree to which this additional control affects the relationship among corruption, CEO ownership, and risks in Panel B of Table 4. In general, we find qualitatively similar results. Overall, the evidence suggests that our findings are robust to controlling for local economic conditions and political connections.[9]

Alternative Measures of Corruption

Measuring corruption is difficult, and conviction rates by judicial district represent only one way to capture local levels of corruption. In this sub-section, we test two alternative measures of corruption proposed by Smith (2016).

The first measure is the grading by the 2012 State Integrity Investigation developed by the Center of Public Integrity. Each state's transparency, accountability, and law systems are graded on point scales from 0 to 100 to deter corruption. Because a higher overall score indicates a lower level of corruption, we invert the state integrity scores to ease interpretation such that a higher number indicates a higher level of corruption. This measure of corruption has the benefit of controlling for the legal environment for corruption without conflating it with varying degrees of enforcement. However, it is static, with information only from around 2010 to 2012.

The second corruption measure is the outcome of the survey of State House reporters conducted by Boylan and Long (2003). In a point system from one to seven, State House reporters explicitly rank their state's corruption, and a higher score indicates a more corrupt state. This measure provides the benefit of local expert opinion of an inherently subjective characteristic. However, as with the integrity measure, the survey results are only a snapshot, and it is unlikely that local reporters are familiar with how corrupt their state is relative to other states.

[8] We control for both GDP growth rate and GDP per capita because Barro and Lee (1993) argue that GDP can grow faster with a lower GDP per capita given an initial level of human capital.

[9] Local corruption is likely to be more extensive if a firm primarily operates in one area, but less so if it operates across multiple states. Using data from Garcia and Norli (2012) to measure firm concentration, we find that concentrated firms are more affected by local corruption. We report these results in Table A2 in the Online Appendix.

Table 4 Political corruption and firm risks: controlling for local economic conditions and political connection

Panel A: political corruption and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.001**	0.001	−0.002***	−0.002***	−0.001	−0.002***
	(2.17)	(0.73)	(5.19)	(3.42)	(1.36)	(4.35)
State GDP per capita	0.013***	0.010***	0.010***	0.014***	0.001	0.004***
	(13.31)	(7.54)	(14.89)	(14.12)	(0.20)	(4.99)
State GDP growth	−0.180***	−0.140***	−0.098***	−0.181***	0.012	−0.092***
	(36.29)	(29.04)	(26.22)	(35.18)	(0.83)	(21.03)
Political connection				−0.007***	−0.008***	−0.009***
				(4.18)	(3.71)	(7.50)
CEO delta	0.053***	0.044***	0.034***	0.007***	0.002***	0.005***
	(7.18)	(6.63)	(9.68)	(12.76)	(3.05)	(15.11)
CEO vega	0.079***	0.074***	0.006	0.009**	0.008**	0.003
	(6.36)	(7.66)	(1.52)	(2.05)	(1.97)	(0.73)
Annual sales	−0.023***	−0.024***	−0.021***	−0.002***	−0.001**	−0.003***
	(5.40)	(5.60)	(9.46)	(5.25)	(2.15)	(4.94)
Book-to-market	−0.006***	−0.005***	−0.001*	−0.006***	−0.001	−0.003***
	(10.21)	(7.67)	(1.82)	(9.81)	(0.68)	(7.50)
PP&E	0.006***	0.003	0.008***	0.003***	0.012***	0.012***
	(2.67)	(0.85)	(12.14)	(3.10)	(9.90)	(5.56)
Sales growth	0.014***	0.010***	0.011***	0.001***	0.001***	0.001**
	(7.90)	(4.30)	(5.01)	(2.61)	(3.51)	(2.37)
Book leverage	−0.013***	−0.013***	−0.009*	−0.003***	−0.006***	0.003***
	(6.67)	(8.02)	(1.87)	(2.77)	(3.86)	(3.49)
Intercept	0.116***	0.110***	0.060***	−0.076***	0.034	−0.013
	(4.79)	(4.95)	(8.63)	(7.14)	(1.52)	(0.81)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682	17,682	17,682	17,682
Adjusted R^2	0.35	0.35	0.34	0.30	0.36	0.33

Panel B: political corruption, CEO ownership, and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.002	0.001	−0.001	−0.001	−0.001	−0.002
	(1.37)	(0.47)	(0.13)	(1.43)	(0.47)	(1.33)
Political corruption * CEO ownership	−0.004**	−0.002	−0.002**	−0.003**	−0.001	−0.004***
	(2.16)	(0.73)	(1.99)	(2.36)	(0.09)	(2.73)
CEO ownership	−0.001*	−0.002*	−0.001*	−0.001*	−0.001	−0.001**
	(1.78)	(1.70)	(1.81)	(1.72)	(1.27)	(2.05)
State GDP per capita	0.013***	0.009***	0.010***	0.010***	0.001	0.004***
	(13.27)	(7.34)	(14.85)	(9.55)	(1.01)	(4.99)
State GDP growth	−0.179***	−0.138***	−0.098***	−0.177***	0.006	−0.092***
	(35.92)	(28.65)	(26.05)	(30.70)	(0.32)	(20.91)
Political connection				−0.013***	−0.008***	−0.009***
				(7.61)	(3.72)	(7.47)
CEO delta	0.053***	0.043***	0.014***	0.002***	0.002***	0.005***
	(7.18)	(6.63)	(9.70)	(4.46)	(3.04)	(5.13)

Table 4 (continued)

Panel B: political corruption, CEO ownership, and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
CEO vega	0.079***	0.073***	0.008	0.005***	0.008***	0.003
	(6.35)	(7.66)	(1.50)	(4.40)	(4.74)	(0.87)
Other control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682	17,682	17,682	17,682
Adjusted R^2	0.35	0.35	0.34	0.31	0.36	0.32

The table reports results of the corporate risk-taking regressions. The dependent variables are three firm risk measures: Total risk, systematic risk, and idiosyncratic risk. Other control variables are defined in the "Appendix." *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *Political corruption* yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding. Control variables include the natural logarithm of state GDP per capita and state GDP growth rate, *Political connection* indicator variable that takes a value of 1 for political connected firms and 0 otherwise

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

We re-estimate the baseline results using these two alternative proxies for political corruption and report the results in Panel A of Table 5. The results confirm that corruption is negatively related to total risk and idiosyncratic risk for firms operating in the area but non-significantly related to their systematic risk. We further examine the relationships between the two proxies for political corruption and firm risks conditional on CEO ownership. Again, high CEO ownership leads to a stronger impact of corruption on firm risk. These results suggest that our findings are robust to alternative measures of corruption.

Control for Corporate Governance

CEO ownership appears to increase the impact of corruption on risk, but managerial incentives may be part of a broader corporate governance scheme that influences the impact of corruption. For example, weak corporate governance may just as well explain the connection between CEO ownership and lower risk, particularly if weak firm oversight allows corruption to have a greater influence on the firm. Prior research also finds some support for a significant relationship between corporate governance and risk (e.g., John et al., 2008).

To address the concern about a potential confounding effect of corporate governance, we estimate our baseline regressions with two additional controls for corporate governance strength. First, we include institutional ownership. Institutional ownership provides oversight, so higher institutional ownership should represent better governance (Hartzell & Starks, 2003). Second, we include the GIM index from Gompers et al. (2003). The GIM index controls for the quantity of anti-takeover provisions, with higher GIM index values representing worse corporate governance.

The results of firm risk regressions reported in columns 1–3 of Panel A, Table 6, indicate that our main findings persist. In addition, we find that institutional ownership (anti-takeovers) is positively (negatively) related to firm risk measures, which is consistent with the findings of previous studies (e.g., John et al., 2008). The joint impact of CEO ownership and corruption on risk continues to be negative despite these controls (columns 1–3 of Panel B, Table 6).

Product-Market Competition and Expanded Sample

We consider how product-market competition affects our results. Ades and Di Tella (1999) argue that profitability is lower in highly competitive environments, which implies lower excess cash available to pay bribes. Competitive industries can also reduce risky investments because price uncertainty is greater in such environments (Ghosal & Loungani, 1996). Finally, corruption can help protect product-market incumbents (Shleifer & Vishny, 1993). Given these arguments, an alternative explanation for our findings is that corruption is a proxy for low competition.

To address these concerns, we re-run our baseline regressions with an additional control for product-market competition. Hoberg and Phillips (2016) propose text-based

Table 5 Alternative measures of political corruption and firm risks

Panel A: alternative measures of political corruption and firm risks

	Boylan and Long (2003) Survey			State Integrity Investigation Survey		
	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.001**	0.001	−0.001**	−0.002**	−0.001	−0.001***
	(1.99)	(0.62)	(2.21)	(2.16)	(1.40)	(2.65)
CEO delta	0.071***	0.052***	0.054***	0.070***	0.051***	0.043***
	(15.35)	(7.70)	(9.95)	(15.86)	(7.72)	(10.26)
CEO vega	0.105***	0.084***	0.009	0.106***	0.084***	0.007
	(13.51)	(8.19)	(1.12)	(14.15)	(8.40)	(1.47)
Annual sales	−0.031***	−0.026***	−0.003***	−0.031***	−0.026***	−0.003***
	(11.30)	(6.16)	(12.07)	(11.91)	(6.29)	(12.97)
Book-to-market	−0.005***	−0.005***	−0.001**	−0.006***	−0.005***	−0.001**
	(10.53)	(7.00)	(2.53)	(11.45)	(7.98)	(2.23)
PP&E	0.005***	0.002	0.008***	0.005***	0.002	0.007***
	(3.36)	(0.64)	(12.53)	(3.69)	(0.69)	(12.76)
Sales growth	0.018***	0.012***	0.011***	0.017***	0.011***	0.009***
	(15.48)	(5.20)	(6.70)	(15.60)	(5.02)	(7.32)
Book leverage	−0.018***	−0.015***	−0.003	−0.018***	−0.015***	−0.001
	(12.85)	(8.82)	(0.63)	(13.63)	(9.22)	(0.29)
Intercept	0.288***	0.225***	0.037***	0.292***	0.227***	0.038***
	(20.76)	(12.02)	(30.58)	(21.91)	(12.45)	(28.24)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	16,861	16,861	16,861	16,861	16,861	16,861
Adjusted R^2	0.45	0.41	0.42	0.45	0.41	0.42

Panel B: alternative measures of political corruption, CEO ownership, and firm risks

	Boylan and Long (2003) Survey			State Integrity Investigation Survey		
	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.002**	0.001	−0.001***	−0.007***	−0.005	−0.003**
	(2.41)	(0.18)	(3.20)	(2.95)	(1.28)	(2.09)
Political corruption * CEO ownership	−0.001**	−0.001	−0.001***	−0.009***	−0.008	−0.005***
	(2.32)	(0.32)	(3.53)	(3.90)	(1.33)	(3.17)
CEO ownership	−0.006***	−0.004*	−0.007***	−0.010***	−0.007	−0.006**
	(3.28)	(1.81)	(3.06)	(2.88)	(1.58)	(2.33)
CEO delta	0.070***	0.051***	0.044***	0.069***	0.050***	0.042***
	(15.20)	(7.64)	(10.11)	(15.71)	(7.65)	(10.47)
CEO vega	0.104***	0.083***	0.003	0.105***	0.083***	0.004
	(13.37)	(8.11)	(1.57)	(14.00)	(8.31)	(1.46)
Other control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	16,861	16,861	16,861	16,861	16,861	16,861
Adjusted R^2	0.45	0.41	0.42	0.45	0.41	0.42

The table reports results of the firm risk regressions with alternative measures of political corruption. The dependent variables are three firm risk measures: total risk, systematic risk, and idiosyncratic risk. Other variables are defined in the "Appendix." *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors. Alternative corruption measures include the corruption survey scores from Boylan

Table 5 (continued)

and Long (2003) and the inverted integrity investigation scores for each state in which the acquirer is headquartered, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

measures of product-market competition and construct the Herfindahl–Hirschman index (HHI) by product industry to measure competition. We add this measure as a control and report the regression results in columns 4–6 of Table 6.[10] Even when controlling for competition, we continue to find that corruption is negatively associated with idiosyncratic risk and that this relationship is stronger when CEO ownership is higher.

In our analyses, we follow the literature to exclude firms from the utility and financial industries, because these industries are subject to more stringent regulations. However, it could be argued that stringent regulations breed even more corruption. Thus, we re-run firm risk regressions with an expanded sample that does not exclude firms from the utility and financial industries. The results reported in Table A1 in the Online Appendix show that our findings are qualitatively similar.

Impact of Corruption on Corporate Policies

In the previous section, we show that higher corruption is associated with lower firm risk and idiosyncratic risk. By focusing on imputed returns, we argue that corruption affects how firms operate rather than, for example, how they disclose information or trade in the markets. This section examines how corruption affects specific important business decisions. First, we focus on corruption's impact on targets for mergers and acquisitions (M&A). Second, we consider how it changes the financial policies of the firm. Finally, we examine how firm operational risk changes in corrupt environments.

Political Corruption and Investment: M&A

Managers can affect firm idiosyncratic risk through M&A, which are usually large and important corporate investments. If corruption discourages risk-taking, firms operating in corrupt environments may seek out acquisitions that lower the combined firm's idiosyncratic risk. Furthermore, undiversified managers may be even more likely to pursue risk-decreasing acquisitions. We examine this possibility by modeling the impact of corruption on the likelihood that an acquisition lowers a firm's idiosyncratic risk.[11]

We begin by comparing the relative risks of actual deals with counterfactual deals a manager could have pursued around the same time. Data on acquisition deals come from SDC Platinum. Similar to Armstrong and Vashishtha (2012), for each actual target firm we identify a potential target firm as the firm in the same two-digit SIC code industry with the closest market capitalization to the actual target. For each acquirer–target combination, we estimate the hypothetical combined risk measures. The final dataset has the total risk, systematic risk, and idiosyncratic risk for the actual deal and the potential deal that could have occurred but did not.

We model how corruption affects the likelihood of an acquirer pursuing an acquisition target that decreases the risk of the merged firm. We identify risk-decreasing deals as those for which risk measures of the actual deal are lower than those of the potential deal. Panel A of Table 7 presents the results of this estimation. We find that political corruption increases the likelihood that firms pursue acquisition targets that reduce firm risk.

Next, we consider how CEO ownership influences M&As in corrupt environments. We re-estimate the firm risk probit model augmented with CEO ownership and its interaction with political corruption. The results reported in Panel B of Table 7 indicate that political corruption and CEO ownership jointly increase the likelihood that a firm acquires risk-decreasing targets. Collectively, this evidence indicates that political corruption discourages risk-taking; thus, managers may seek out acquisitions that reduce risk at the margin.[12]

[10] As the HHI data are available from 1996, our corporate investment subsample consists of 14,631 firm-year observations.

[11] Hossain and Kryzanowski (2020) define acquisitions as a method for shielding assets from rent-seeking behavior. We focus only on firms that acquired other firms, though the acquisition itself may have occurred as a result of operating in high corruption areas.

[12] In an unreported analysis, we find that corruption reduces capital expenditures and R&D, which is consistent with the evidence reported in the literature (Ellis et al., 2020; Huang and Yuan 2021). Moreover, the relationship is stronger for R&D, implying a more pronounced effect of corruption on idiosyncratic risk because R&D tends to increase firm idiosyncratic risk more (Bhagat and Welch 1995; Bhattacharya et al., 2017; Kothari 2001). However, CEO ownership may also affect a firm's investment level in R&D independent of corruption (e.g., Abdoh and Liu 2020).

Table 6 Political corruption, corporate governance, industry competition, and firm risks

Panel A: political corruption and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.002**	−0.001	−0.002***	−0.002***	0.001	−0.002***
	(2.01)	(1.07)	(2.67)	(3.69)	(0.32)	(4.37)
GIM index	−0.001**	−0.001	−0.001***			
	(2.21)	(0.79)	(3.56)			
Institutional ownership	0.002*	0.002*	0.007***			
	(1.79)	(1.68)	(5.37)			
Industry competition				0.002***	0.001	0.002***
				(2.59)	(0.69)	(4.83)
CEO delta	0.005***	0.019**	0.002	0.044***	0.042***	0.041***
	(3.53)	(2.08)	(1.50)	(7.23)	(8.01)	(2.92)
CEO vega	0.005**	0.011***	0.009	0.062***	0.083***	0.014
	(2.16)	(3.66)	(1.24)	(6.53)	(7.84)	(1.35)
Annual sales	−0.005***	−0.009	−0.007***	−0.002***	−0.029***	−0.005***
	(5.69)	(1.28)	(8.24)	(5.01)	(7.40)	(6.07)
Book-to-market	−0.011***	−0.009***	−0.005***	−0.004***	−0.007***	−0.001
	(6.73)	(4.75)	(4.33)	(6.03)	(9.30)	(1.11)
PP&E	0.009***	0.002	0.010***	0.003***	0.007***	0.009***
	(4.38)	(0.51)	(6.08)	(2.94)	(3.08)	(13.60)
Sales growth	0.002*	0.001	0.001	0.002***	0.007***	0.002***
	(1.94)	(0.20)	(0.72)	(4.73)	(6.68)	(6.22)
Book leverage	−0.007***	−0.002	−0.005***	−0.004***	−0.014***	−0.002**
	(3.08)	(0.62)	(2.73)	(4.20)	(7.93)	(2.41)
Intercept	0.077***	0.006	0.051***	0.052***	0.211***	0.033***
	(15.23)	(0.19)	(12.40)	(28.14)	(11.94)	(25.11)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5728	5728	5728	14,631	14,631	14,631
Adjusted R^2	0.35	0.44	0.31	0.46	0.40	0.43

Panel B: political corruption, CEO ownership, and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
Political corruption	−0.014***	−0.002	−0.007**	−0.001	−0.001	−0.002
	(3.14)	(0.78)	(2.39)	(1.47)	(1.08)	(1.22)
Political corruption * CEO ownership	−0.008*	−0.001	−0.006**	−0.003**	−0.003	−0.002*
	(1.71)	(0.16)	(2.21)	(2.08)	(1.16)	(1.87)
CEO ownership	−0.008***	−0.003*	−0.004**	−0.001***	−0.003*	−0.002***
	(4.12)	(1.86)	(2.48)	(3.66)	(1.81)	(3.75)
GIM index	−0.001***	−0.001	−0.001**			
	(3.02)	(0.69)	(2.48)			
Institutional ownership	0.014***	0.002	0.011***			
	(7.47)	(1.33)	(8.92)			
Industry competition				0.002***	0.001	0.002***
				(2.67)	(0.84)	(4.96)
CEO delta	0.002**	0.019**	0.004***	0.044***	0.041***	0.041***
	(2.49)	(2.05)	(2.96)	(7.42)	(7.88)	(3.20)

Table 6 (continued)

Panel B: political corruption, CEO ownership, and firm risks

	Total risk	Systematic risk	Idiosyncratic risk	Total risk	Systematic risk	Idiosyncratic risk
	(1)	(2)	(3)	(4)	(5)	(6)
CEO vega	0.003**	0.014**	0.011	0.061***	0.082***	0.008
	(2.03)	(2.26)	(1.56)	(4.37)	(7.71)	(1.12)
Other control variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	5728	5728	5728	14,631	14,631	14,631
Adjusted R^2	0.38	0.44	0.33	0.46	0.41	0.43

The table reports results of the firm risk regressions. The dependent variables are three firm risk measures: total risk, systematic risk, and idiosyncratic risk. Other variables are defined in the "Appendix." *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *Political corruption* yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *GIM index* corporate governance developed by Gompers et al. (2003), *Institutional ownership* aggregate equity ownership of institutional investors of a firm in a given year, *Industry competition* text-based Herfindahl–Hirschman Index (HHI), *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

Political Corruption, Financial Leverage, and Corporate Cash Holdings

We next consider the impact of corruption on firm financial policies. Smith (2016) finds that firms reduce cash holdings while increasing financial leverage to shield their liquid assets from political expropriation. We examine the relationship between political corruption and financial leverage of the sample firms and report the results in column 1 of Panel A, Table 8. We find a positive relationship between political corruption and financial leverage, which is consistent with the evidence Smith (2016) reports.

In the next analysis, we examine the relationship between political corruption and corporate cash holdings and report the results in column 2 of Panel A, Table 8. We find a negative relationship between political corruption and cash holdings, which is also consistent with the finding of Smith (2016). The results reported in Panel B of Table 8 suggest an even greater impact of political corruption on cash when CEO ownership is high, though no difference in leverage. Because an increase in financial leverage intensifies financial distress risk and a decrease in cash holdings increases liquidity risk, our results suggest that political corruption is positively related to firm financial risk.

Political Corruption and Operational Risk

In this section, we consider how corruption changes operational risk for the firm. If managers actively strive to reduce risk due to corruption, they should try to reduce uncertainty in the firm's cash flows. Prior studies on corporate risk-taking use the volatility of return on assets (ROA, defined as net income/total assets) (e.g., Coles et al., 2006) as a measure of operational risk. We measure volatility of ROA using either industry-adjusted ROA volatility or seasonally and industry-adjusted ROA both measured over the subsequent 5 years. If managers indeed reduce uncertainty of cash flows from operations, we should find a negative relationship between corruption and subsequent ROA volatility.

Another measure of operational risk is operational leverage. Prior research measures operating leverage as the elasticity of a firm's earnings before interest and taxes (EBIT) to its sales over a 15-quarter period (Chen et al., 2011; Mandelker & Rhee, 1984). If a firm's EBIT is highly sensitive to sales, the firm has high operating leverage—profits depend heavily on regular business operations generating revenue, suggesting that the firm has high operational risk. If this sensitivity is low, the firm is more resilient to changes in revenue and has low operational risk. If managers indeed reduce uncertainty of their operations, we should find a negative relationship between corruption and operating leverage.

Table 7 Political corruption and corporate risk-taking in mergers and acquisitions

Panel A: political corruption and corporate risk-taking in mergers and acquisitions

	Probability of decrease in total risk	Probability of decrease in systematic risk	Probability of decrease in idiosyncratic risk
	(1)	(2)	(3)
Political corruption	0.016**	0.012	0.022***
	(2.38)	(1.38)	(2.62)
CEO delta	−0.030	−0.046	−0.032
	(1.02)	(0.51)	(0.82)
CEO vega	−0.058	−0.015	−0.077
	(1.47)	(0.36)	(1.54)
Annual sales	−0.007	−0.028	0.004
	(0.34)	(1.35)	(0.17)
Book-to-market	0.059	−0.013	0.091**
	(1.44)	(0.31)	(2.33)
PP&E	−0.002	0.123	−0.017
	(0.02)	(1.56)	(0.20)
Sales growth	−0.038	−0.060**	−0.041
	(1.35)	(2.09)	(1.35)
Book leverage	0.102*	0.073	0.008
	(1.66)	(1.18)	(0.14)
Intercept	0.519***	0.442***	0.527***
	(5.10)	(4.29)	(4.89)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	3729	3729	3729
Pseudo R^2	0.03	0.02	0.03

Panel B: political corruption, CEO ownership, and corporate risk-taking in mergers and acquisitions

	Probability of decrease in total risk	Probability of decrease in systematic risk	Probability of decrease in idiosyncratic risk
	(1)	(2)	(3)
Political corruption	0.019	−0.023	0.006
	(0.50)	(0.58)	(0.15)
Political corruption * CEO ownership	0.015*	0.011	0.024**
	(1.83)	(1.35)	(2.36)
CEO ownership	−0.038	−0.011	−0.034
	(0.23)	(0.06)	(0.20)
CEO delta	−0.014	−0.058	−0.032
	(0.50)	(1.01)	(1.08)
CEO vega	−0.025	−0.031	−0.048
	(0.79)	(0.97)	(1.47)
Annual sales	−0.016	−0.021	−0.013
	(1.18)	(1.54)	(0.99)
Book-to-market	0.071*	0.017	0.085**
	(1.68)	(0.41)	(2.08)
PP&E	0.041	0.033	0.048
	(0.52)	(0.44)	(0.60)
Sales growth	−0.031	−0.070***	−0.042

Table 7 (continued)

Panel B: political corruption, CEO ownership, and corporate risk-taking in mergers and acquisitions

	Probability of decrease in total risk	Probability of decrease in systematic risk	Probability of decrease in idiosyncratic risk
	(1)	(2)	(3)
	(1.19)	(2.71)	(1.49)
Book leverage	0.096	0.105*	0.007
	(1.54)	(1.68)	(0.11)
Intercept	0.543***	0.380**	0.548***
	(2.92)	(2.00)	(2.87)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Number of observations	3729	3729	3729
Pseudo R^2	0.03	0.02	0.03

The table reports the probit regression results of the changes in firm risks associated with acquisitions. The dependent variable in each column is a dummy variable that equals 1 if the level of total, systematic, or idiosyncratic risk of the combined acquirer and actual target is lower than the respective risk of the combined acquirer and potential target, and 0 otherwise. Potential target is matched with actual target based on market capitalization and two-digit SIC industry. Other variables are defined in the "Appendix." *Z*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Total risk standard deviation of 3-year rolling monthly imputed returns, *Systematic risk* square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors, *Idiosyncratic risk* square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three factors, *Political corruption* yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *CEO ownership* ratio of CEO stock ownership to total shares outstanding

The symbols ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively

We follow Coles et al. (2006) and model the relationship between operational risk and political corruption, with the dependent variable being one of the three operational risk measures. We provide estimates for this model in columns 3–5 of Panel A, Table 8. Consistent with managers reducing operational risk, we find that corruption is negatively related to all three measures of operational risk. The results reported in Panel B of Table 8 show that these relationships hold true even when we control for CEO ownership, though higher CEO ownership leads to an even greater reduction in operational risk. Both outcomes support the idea that managers make decisions that reduce operational risk when corruption and CEO ownership are high. As firm risks include investment, financial, and operational risks, our findings suggest that political corruption induces lower firm risks through the investment and operation channels and that firms' risk-decreasing investment and operation behaviors dominate their risk-increasing financial behavior, resulting in the net negative effect of political corruption on firm risks.[13]

[13] In an unreported analysis, we also find that corruption leads to under-investment by a firm, which is a manifestation of suboptimal investment. These results are available on request.

Conclusions

Corruption discourages corporate risk-taking. Companies may restructure their finances to make them less susceptible to corruption and make business decisions to reduce idiosyncratic risk. While classic finance theory would recommend that managers ignore idiosyncratic risk, the presence of undiversified managers exacerbates the connection between corruption and firm risk-taking.

This study contributes to the literature in three ways. First, despite the US' reputation as a low corruption place to do business, local political corruption has a non-trivial impact on firm decisions. Second, corruption's negative effects are more likely when managerial ownership is high. This finding adds to the literature on managerial sensitivity to idiosyncratic risk (e.g., Kim et al., 2013; Lewellen, 2006) by showing that corruption discourages firms from pursuing projects with high idiosyncratic risk and thus from maximizing shareholder wealth in part because managers may be concerned about their personal risk. Third, the findings support prior research demonstrating how firms respond to operating in corrupt environments.

Our study also has implications for managers, investors, and policy makers. Managers of firms located in politically corrupt areas could face a tension between maximizing

Table 8 Political corruption, financial leverage, cash holdings, and operational risk

Panel A: political corruption and financial and operating policies

	Book leverage	Cash-to-assets ratio	Industry-adjusted ROA volatility	Seasonally adjusted industry-adjusted ROA	Operating leverage
	(1)	(2)	(3)	(4)	(5)
Political corruption	0.007***	−0.005***	−0.016**	−0.025**	−0.032**
	(5.75)	(2.97)	(2.20)	(2.49)	(2.21)
CEO delta	−0.006***	0.009	0.007*	0.005	0.009**
	(3.72)	(1.49)	(1.72)	(1.33)	(2.17)
CEO vega	0.048***	0.051	0.021*	0.017*	0.032*
	(6.94)	(1.58)	(1.91)	(1.79)	(1.73)
Annual sales	0.036***	−0.014***	−0.011***	−0.016***	−0.019***
	(40.74)	(8.11)	(4.11)	(4.82)	(19.64)
Book-to-market	−0.023***	0.013***	0.011	0.009	0.023***
	(25.98)	(5.26)	(0.74)	(0.77)	(9.66)
Dividend dummy	−0.016***	−0.022***			
	(6.55)	(5.82)			
Profitability	0.040**				
	(2.17)				
Tangibility	0.152***				
	(20.87)				
Modified *Z*-score	−0.019***				
	(11.85)				
Cash flow		−0.043			
		(1.49)			
NWC		−0.167***			
		(9.29)			
R&D		0.034***	0.161***	0.154***	0.181***
		(3.16)	(5.97)	(5.30)	(16.57)
Capex		−0.258***	0.121	0.277	0.222**
		(8.69)	(0.77)	(1.25)	(2.32)
Book leverage		−0.111***	0.065**	0.140***	0.212***
		(5.40)	(2.79)	(3.80)	(5.76)
Acquisition		−0.138***			
		(8.44)			
Industry sigma		0.040**			
		(1.98)			
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682	17,682	16,181
Adjusted R^2	0.31	0.34	0.09	0.08	0.17

Panel B: political corruption, CEO ownership, and financial and operating policies

	Book leverage	Cash-to-assets ratio	Industry-adjusted ROA volatility	Seasonally adjusted industry-adjusted ROA	Operating Leverage
	(1)	(2)	(3)	(4)	(5)
Political corruption	0.005***	−0.005**	−0.009*	−0.011*	−0.017
	(5.06)	(2.48)	(1.69)	(1.76)	(1.57)
Political corruption * CEO ownership	0.023	−0.016**	−0.006**	−0.007*	−0.019**
	(0.84)	(2.25)	(2.15)	(1.90)	(2.01)

Table 8 (continued)

Panel B: political corruption, CEO ownership, and financial and operating policies

	Book leverage	Cash-to-assets ratio	Industry-adjusted ROA volatility	Seasonally adjusted industry-adjusted ROA	Operating Leverage
	(1)	(2)	(3)	(4)	(5)
CEO ownership	−0.057***	0.023*	−0.009	−0.002	−0.008
	(2.71)	(1.69)	(1.01)	(0.57)	(1.33)
Other control variables	Yes	Yes	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
Number of observations	17,682	17,682	17,682	17,682	16,181
Adjusted R^2	0.29	0.33	0.07	0.08	0.17

The table reports results of the financial leverage, cash holdings and corporate cash flow volatility regressions. The dependent variable in column 1 is Book leverage, which is estimated as the ratio of the book value of debt to the book value of assets. The dependent variable in column 2 is cash-to-assets ratio. The dependent variables are cash flow volatility measured as returns on assets (ROA) volatility over the 5-year period in column 3 and seasonally adjusted industry-adjusted ROA volatility in column 4. The dependent variable in column 5 is firm operating leverage measured as the elasticity of a firm's earnings before interest and taxes to its sales over the 15-quarter period. Other variables are defined in "Appendix." *t*-statistics based on heteroscedasticity-robust standard errors clustered by firms are reported in parentheses

Political corruption yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered, *CEO ownership* ratio of CEO stock ownership to total shares outstanding, *CEO vega* natural logarithm of the dollar change in the CEO's wealth for a 0.01 change in standard deviation of returns, *CEO delta* natural logarithm of the dollar change in the CEO's wealth for a 1% change in stock price, *Annual sales* natural logarithm of total annual sales, *Book-to-market* market value of assets divided by the book value of assets, *Profitability* ratio of income before extraordinary items including depreciation and amortization to the book value of assets, *Tangibility* ratio of property, plant, and equipment to the book value of assets, *Dividend dummy* indicator variable that takes a value of 1 if a firm pays dividend in a given year, and 0 otherwise, *Modified Z-score* is calculated as $1.2\times(\text{wcap/at})+1.4\times(\text{re/at})+3.3\times(\text{EBIT/at})+(\text{sale/at})$, *Cash flow* ratio of earnings after interest, dividends, and taxes but before depreciation to the book value of assets, *NWC* ratio of working capital excluding cash to the book value of assets, *R&D* ratio of R&D expenses to the book value of assets, *Capex* capital expenditures divided by the book value of assets, *Acquisition* ratio of corporate acquisition expenditure to the book value of assets, *Industry sigma* average of the standard deviation of the ratio of cash flow to book value of assets over the last 10 years for firms in the same 2-digit SIC code industries

The symbols ***, **, and * denote significance at the 1%, 5%, and 10% levels, respectively

shareholder value and maximizing their own utility. Boards of directors typically grant stock to managers to motivate them to take risks aligned with shareholders' interest. In corrupt environments, however, stock ownership could motivate risk-averse managers to pursue suboptimal corporate policies. Stock compensation may be less advisable in this environment, and anti-corruption programs could diminish the distortionary effects of political corruption on corporate policies.

A limitation of our study is that our sample includes only publicly listed firms, which are typically larger than private firms, given the availability of data. Furthermore, managers of private firms tend to have a larger proportion of their wealth tied to their firms, which could induce greater managerial risk aversion. Private firms also have fewer regulatory filings, potentially increasing their opacity to non-managerial shareholders and their susceptibility to political corruption. To the extent that these factors matter, this study may under-estimate the effects of political corruption. In addition, political corruption may affect other corporate policies, such as information disclosure, earnings management, tax planning, and executive compensation, which could be explored by future research.

Appendix

Variables definition

Variable names	Construction	Data source
Book leverage	The ratio of book value of short-term and long-term debts to book value of assets	Compustat
Book-to-market ratio	The ratio of book value to market value of total assets	Compustat
Political corruption	The yearly number of convictions per 100,000 residents of the judicial district in which the firm is headquartered	Hand collected
Plant, property, and equipment (PP&E)	The net plant, property, and equipment scaled by total assets	Compustat

Variable names	Construction	Data source
Sales growth	The growth in annual sales over the prior year	Compustat
Annual sales	The natural logarithm of the firm's annual sales	Compustat
Total risk	The standard deviation of 3-year rolling monthly imputed returns	CRSP
Systematic risk	The square root of the explained variance of the regression of the imputed monthly returns on Fama–French (1993) three factors	CRSP
Idiosyncratic risk	The square root of the unexplained variance of the regression of the imputed monthly returns on Fama–French three-factor model	CRSP
CEO ownership	The ratio of CEO stock ownership to total common shares outstanding	Execucomp
CEO delta	The dollar change in the CEO's wealth for a 1% change in stock price	Execucomp
CEO vega	The dollar change in the CEO's wealth for a 0.01 change in standard deviation of stock returns	Execucomp

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Declarations

Conflict of interest The authors declare that they have no conflict of interest.

References

Abdoh, H., & Liu, Y. (2020). Executive risk incentives, product market competition, and R&D. *Financial Review, 56*(1), 133–156.

Ades, A., & Di Tella, R. (1999). Rents, competition, and corruption. *American Economic Review, 89*(4), 982–993.

Armstrong, C. S., & Vashishtha, R. (2012). Executive stock options, differential risk-taking incentives, and firm value. *Journal of Financial Economics, 104*, 70–88.

Ayyagari, M., Demirgüç-Kunt, A., & Maksimovic, V. (2014). Bribe payments and innovation in developing countries: Are innovating firms disproportionately affected? *Journal of Financial and Quantitative Analysis, 49*, 51–75.

Barro, R. J., & Lee, J. W. (1993). Losers and winners in economic growth. *The World Bank Economic Review, 7*, 267–298.

Bhagat, S., & Welch, I. (1995). Corporate research and development investments international comparisons. *Journal of Accounting and Economics, 19*, 443–470.

Bhattacharya, U., Hsu, P.-H., & Tian, X., & Xu, Y. (2017). What affects innovation more: Policy or policy uncertainty? *Journal of Financial and Quantitative Analysis, 52*(5), 1869–1901.

Boylan, R., & Long, C. X. (2003). Measuring public corruption in the American states: A survey of state house reporters. *State Politics and Policy Quarterly, 3*, 420–438.

Brown, N., Smith, J., White, R., & Zutter, C. (2019). Political corruption and firm value in the US: Do rents and monitoring matter? *Journal of Business Ethics, 168*, 1–17.

Butler, A., Fauver, L., & Mortal, S. (2009). Corruption, political connection, and municipal finance. *Review of Financial Studies, 22*, 2873–2905.

Campante, F., & Do, Q. (2014). Isolated capital cities, accountability, and corruption: Evidence from US states. *American Economic Review, 104*, 2456–2481.

Caprio, L., Faccio, M., & McConnell, J. (2013). Sheltering corporate assets from political extraction. *Journal of Law, Economics, and Organization, 29*(2), 332–354.

Chen, H., Kacperczyk, M., & Ortiz-Molina, H. (2011). Labor unions, operating flexibility, and the cost of equity. *Journal of Financial and Quantitative Analysis, 46*, 25–58.

Coles, J., Daniel, N., & Naveen, L. (2006). Managerial incentives and risk-taking. *Journal of Financial Economics, 79*(2), 431–468.

Collins, J., Uhlenbruck, K., & Rodriguez, P. (2009). Why firms engage in corruption: A top management perspective. *Journal of Business Ethics, 87*, 89–108.

De Soto, H. (1989). *The other path: The invisible revolution in the third worlds*. Harper and Row Publishers.

Dincer, O. (2019). Does corruption slow down innovation? Evidence from a co-integrated panel of U.S. states. *European Journal of Political Economy, 56*, 1–10.

Ellis, J., Smith, J., & White, R. (2020). Corruption and corporate innovation. *Journal of Financial and Quantitative Analysis, 55*, 2124–2149.

Emerson, P. (2006). Corruption, competition and democracy. *Journal of Developmental Economics, 81*(1), 193–212.

Faccio, M., & Hsu, H. (2017). Politically connected private equity and employment. *Journal of Finance, 72*, 539–574.

Faccio, M., Marchica, M., & Mura, R. (2016). CEO gender, corporate risk-taking, and the efficiency of capital allocation. *Journal of Corporate Finance, 39*, 193–209.

Faccio, M., Masulis, R., & McConnell, J. (2006). Political connections and corporate bailouts. *Journal of Finance, 61*, 2597–2635.

Fama, E., & French, K. (1993). Common risk factors in the returns on stocks and bonds. *Journal of Financial Economics, 33*, 3–56.

Ferris, S. P., Javakhadze, D., & Rajkovic, T. (2017). CEO social capital, risk-taking and corporate policies. *Journal of Corporate Finance, 47*, 46–71.

Florackis, C., Kanas, A., Kostakis, A., & Sainani, S. (2020). Idiosyncratic risk, risk-taking incentives and the relation between managerial ownership and firm value. *European Journal of Operational Research, 283*, 748–766.

Friend, I., & Lang, L. (1988). An empirical test of the impact of managerial self-interest on corporate capital structure. *Journal of Finance, 43*(2), 271–281.

Fulmer, S., Knill, A., & Yu, X. (2012). *Political contributions and the severity of government enforcement*. Unpublished manuscript. Florida State University.

Garcia, D., & Norli, Ø. (2012). Geographic dispersion and stock returns. *Journal of Financial Economics, 106*, 547–565.

Ghosal, V., & Loungani, P. (1996). Product market competition and the impact of price uncertainty on investment: Some evidence from U.S. manufacturing industries. *Journal of Industrial Economics, 44*(2), 217–228.

Goldman, E., Rocholl, J., & So, J. (2013). Politically connected boards of directors and the allocation of procurement contracts. *Review of Finance, 17*, 1617–1648.

Gompers, P., Ishii, J., & Metrick, A. (2003). Corporate governance and equity prices. *Quarterly Journal of Economics, 118*, 107–156.

Gormley, T., & Matsa, D. (2016). Playing it safe? Managerial preferences, risk, and agency conflicts. *Journal of Financial Economics, 122*, 431–455.

Guay, W. (1999). The sensitivity of CEO wealth to equity risk: An analysis of the magnitude and determinants. *Journal of Financial Economics, 53*, 43–71.

Habiyaremye, A., & Raymond, W. (2013). *Transitional corruption and innovation in transition*. UNU-MERIT Working Paper Series #2013-050. United Nations University.

Hartzell, J. C., & Starks, L. T. (2003). Institutional investors and executive compensation. *Journal of Finance, 58*(6), 2351–2374.

Hoberg, G., & Phillips, G. (2016). Text-based network industries and endogenous product differentiation. *Journal of Political Economy, 124*(5), 1423–1465.

Holmstrom, B. (1979). Moral hazard and observability. *Bell Journal of Economics, 10*(1), 74–91.

Hossain, A., & Kryzanowski, L. (2020). Political corruption shielding and corporate acquisitions. *Financial Review, 56*(1), 55–83.

Huang, Q., & Yuan, T. (2021). Does political corruption impede firm innovation? Evidence from the United States. *Journal of Financial and Quantitative Analysis, 56*(1), 1–36.

Huntington, S. (1968). *Political order in changing societies*. Yale University Press.

John, K., Litov, L., & Yeung, B. (2008). Corporate governance and risk-taking. *Journal of Finance, 63*, 1679–1728.

Kato, A., & Sato, T. (2015). The effects of corruption on the manufacturing sector in India. *Economics of Governance, 15*(2), 155–178.

Kim, C., Pantzalis, C., & Park, J. (2013). Do family owners use firm hedging policy to hedge personal undiversified wealth risk? *Financial Management, 43*(2), 415–444.

Kim, E. H., & Lu, Y. (2011). CEO ownership, external governance, and corporate risk-taking. *Journal of Financial Economics, 102*(2), 272–292.

Kothari, S. (2001). Capital markets research in accounting. *Journal of Accounting and Economics, 31*(1–3), 105–231.

Kroszner, R., & Stratmann, T. (1998). Interest-group competition and the organization of congress: Theory and evidence from financial services' political action committees. *American Economic Review, 88*(5), 1163–1187.

Leff, N. (1964). Economic development through bureaucratic corruption. *American Behavioral Science, 8*(2), 8–14.

Leland, H. (1998). Agency costs, risk management, and capital structure. *Journal of Finance, 53*(4), 1213–1243.

Lewellen, K. (2006). Financing decisions when managers are risk averse. *Journal of Financial Economics, 82*, 551–589.

Li, K., Griffin, D., Yue, H., & Zhao, L. (2013). How does culture influence corporate risk-taking? *Journal of Corporate Finance, 23*, 1–22.

Mandelker, G., & Rhee, S. (1984). The impact of the degrees of operating and financial leverage on systematic risk of common stock. *Journal of Financial and Quantitative Analysis, 19*(1), 45–57.

Mauro, P. (1995). Corruption and growth. *Quarterly Journal of Economics, 110*, 681–713.

Murphy, K., Shleifer, A., & Vishny, R. (1993). Why is rent-seeking so costly to growth? *American Economic Review, 83*, 409–414.

Nguyen, N., Doan, Q., Nguyen, N., & Tran-Nam, B. (2016). The impact of petty corruption on firm innovation in Vietnam. *Crime, Law, and Social Change, 65*(4–5), 337–394.

Nguyen, N., Phan, H., & Simpson, T. (2020). Political corruption and mergers and acquisitions. *Journal of Corporate Finance, 65*, 101765.

Ovtchinnikov, A., Reza, S., & Wu, Y. (2020). Political activism and firm innovation. *Journal of Financial and Quantitative Analysis, 55*(3), 989–1024.

Panousi, V., & Papanikolaou, D. (2012). Investment, idiosyncratic risk, and ownership. *Journal of Finance, 67*, 1113–1148.

Shleifer, A., & Vishny, R. (1993). Corruption. *Quarterly Journal of Economics, 108*, 599–617.

Smith, J. (2016). U.S. political corruption and firm financial policies. *Journal of Financial Economics, 121*, 350–367.

Stigler, G. (1971). The theory of economic regulation. *The Bell Journal of Economics and Management Science, 2*(1), 3–21.