Corruption, Dodd-Frank Whistleblowing, and Corporate Investment*

Qingjie Du Yuna Heo†

School of Accounting and Finance
The Hong Kong Polytechnic University

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ABSTRACT

We examine how local political corruption affects corporate investment. We find firms in corrupt states produce significantly less investment. This effect lasts up to future two years and becomes stronger for firms with more investment frictions and firm which are more political vulnerable. Our results indicate that corruption acts as a barrier to firms' investment. More importantly, we investigate the effects of whistleblowers on the investment behavior of firms in the context of corruption. We find that the negative impact of corruption on investment disappeared after the Dodd-Frank Whistleblower Provision. This implies that the change of legal environment can help firms partially overcome the problems of a corrupted culture. Overall, our results suggest corruption impedes corporate investment but the better policy can help firms reduce the decline in firms' investment located in corrupted states.

Keywords: Dodd-Frank, Corruption, Corporate Investment, Whistleblowers
JEL: G31, G32, G38, D72

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† All authors are from the School of Accounting and Finance, Hong Kong Polytechnic University. Tel: +852 2766-7038, Fax: +852 2330-9845, Qingjie Du (ddvdavid.du@connect.polyu.hk); Yuna Heo (yuna.heo@polyu.edu.hk);

"To attract investment, mining companies can build a solid business, however, investors are most perturbed by corruption … there would be a better investment climate if there was improved governance by the state."

~Steve Phiri, CEO of Royal Bafokeng Platinum, Fin24 (Oct 5th, 2016)

1. Introduction

The relationship between corruptions and corporate investment is a controversial issue. Firms could take advantage of the political corruption to overcome the bureaucracy and to increase administration efficiency. While the corrupted political officers could also solicit the firms, which increases firm's operation burden and policy environment uncertainty. It has been argued that the major effect of corruption is to hinder firms' investment but empirical findings are unclear. More importantly, there's little literature documenting how the financial regulations or legislative changes could affect the role of political corruption in the firm's decision-making. To fill this gap, we study the relation between political corruption and firm investment policy. We also investigate how the Dodd-Frank Whistleblowing program, in the name of anti-corruption, could affect the relation between corruption and corporate investment.

Corruption environment can affect corporate investment decisions through the channel of uncertainty and culture. In particular, the incentives and uncertainties associated with possible changes in government policy have implications for both firms and policy makers. Theoretical literature suggests competing implications to the relation between corruptions and firm-level investment. The seminar papers by Shleifer et al. (1993), Murphy at al. (1993) and Mauro (1995) argue that corruption raises operational cost, creates uncertainty, and deters investment. However, Goldman et al. (2013) find that political connected firms are more likely to win government contracts and obtain government bailouts during financial distress. Ayyagari et al. (2014) argue that firms can benefit from corruptions and can expand their activities by increasing investments. The political corruption could also affects people's perceptions of the trustworthiness of others

and decreases social trust, which in turn reduces the collaboration among all parties involved in an investment.

On this controversial issue, recent empirical studies renewed the interest using the conviction data of public corruption. Butler et al. (2009) find higher state corruption is associated with greater credit risk and higher bond yields. Smith (2016) finds that firms use more leverage and hold less cash when they face more local political corruption. In line with the existing literature, our first test is to examine whether firms in corrupt states produce less investment. If corruptions deter firms' investment and bring a detrimental impact, firms located in states with more public corruption will have an incentive to invest less. Consistent with our prediction, we find a negative relation between corruption and firm-level investment. Our result indicates that corruption acts as a barrier to corporate investment. Firms located in the top 10% corrupt states will invest 10.7% less than firms located in the least 10% corrupt states, which is about 72.6 million less each year. We further show that this negative impact could last up to two years, and our results are robust to different model specification, and different fixed effect.

To establish the causal relation, we use a two-stage least square regression with IV variable. Following Ellis et al. (2019), we use the ethnic fractionalization within each state as the instrumental variable for the state corruption level. When the population ethnicity within the state is more diversified, the corruption should be more pervasive since the person in power are more likely and more readily to expropriate from ethnic groups different from his own (e.g., Glaeser and Saks, 2006). Our first-stage result indicates a positive relation between our IV variable and corruption, and the instrumented corruption is still significantly positive in the second-state regression. The results help to solve our identification issue.

Referring to the cross-sectional variation, we find the impact of political corruption is more significant among firms associated with more investment frictions and firms which are more political vulnerable.

More importantly, we investigate how the change of legal environment affects the corruption on corporate investment. Dodd-Frank Whistleblowers Provision provides an interesting setting to study the effect of corruption on corporate investment. The key feature Dodd-Frank Act Whistleblower Provision is that SEC provides a cash reward incentive for whistleblowers to report violations of the federal securities laws. Motivated by this, we examine whether whistleblower provision had a differential impact on firms' investment located in states with more public corruption. We find that the negative effects of corruption on corporate investment disappears after the Dodd-Frank Whistleblower Provision, which implies that the change of legal environment can help firms partially overcome the problems of a corrupted culture.

We also test the impact of Dodd-Frank Whistleblower Provision on other firm policies, i.e. firm cash-holding and leverage level. Smith (2016) documents firms located in high corruption states will keep less cash and maintain high leverage level to hide and protect their assets from political expropriation. We find similar results as for firm's investment, i.e. the impact of corruption on firm cash-holding (or leverage) becomes weaker or diminish after the Dodd-Frank Whistleblower Provision.

Our paper is related to the literature on corruption and firm investment. Previous studies mainly use survey-based international corruption index. While we focus on the within-US setting, so the firms are more homogeneous and the results are more pure. We find that corruption strongly hinder firm's future investment with an effect up to two years. Our paper also

contributes to the literature by highlighting the role of government policy when the surrounding economic environment is pervasive with corruption. We find that whistleblower incentives can be beneficial for the firms' investment especially when there is more corruption in the local area.

The rest of the paper is structured as follows. We discuss the prior literatures and hypotheses in Section 2. Section 3 presents the data and the sample. We present the empirical analyses and findings in Section 4. We conclude the paper in Section 5.

2. Prior Literature and Hypothesis Development

2.1 Corruption and Corporate Investment

Our study is related to the literatures on both corruption and corporate investment, more broadly, on how law and finance affect real firm outcomes. The impact of corruption has been highlighted in many researches. Specially, the relation between corruptions and firm-level investment is a controversial empirical issue while theoretical literature suggests competing implications. The seminar papers by Shleifer et al. (1993) and Mauro (1995) argue that corruption raises operational cost, creates uncertainty, and deters investment. Murphy at al. (1993) suggest that firms can be negatively affected by rent-seeking behavior for government goods such as permits, licenses, inspections, and patents.[1] However, this negative effect of corruption can be tensioned in situations where corruption creates opportunities for private gains to firms. For example, Ayyagari et al. (2014) argue that firms can benefit from corruptions and can expand their activities by increasing investments. Thus, the empirical implication of corruption on firm-level investment is still unclear.

[1] Recent empirical findings of firm investment suggest that greater uncertainty about firms' returns on investment increases the option of waiting to undertake an irreversible investment (Julio et al., 2012, Gulen at al., 2016, Kim, 2017).

On this controversial issue, recent empirical studies renewed the interest using the conviction data of public corruption. Highlighting recent studies on the conviction data and firm-level behavior, Butler et al. (2009) state corruption and political connections have strong effects on municipal bond sales and underwriting. Smith (2016) finds that firms use more leverage and hold less cash when they face more local political corruption. In addition, Zhang et al. (2017) find that corruption affects earnings management. Huang at al. (2017) and Ellis et al. (2017) find that corruption has a negative impact on firm innovation.

In line with the existing literature on the effects of corruption, the first purpose of our study is to investigate whether corruption acts as a real barrier to firms' investment. If corruptions deter firms' investment and bring a detrimental impact, firms located in states with more public corruption will have an incentive to invest less. Therefore, our first hypothesis is:

Hypothesis 1: firms in corrupt states produce less investment.

We expect to find a negative relation between corruption and firm-level investment.

2.2 Dodd-Frank Whistleblowing

Next, we investigate how the change of legal environment affects the corruption on corporate investment. Our purpose is to quantify the beneficial or detrimental effects of change of legal actions. Dodd-Frank Whistleblower Provision provides an interesting setting to test this effect. The key feature Dodd-Frank Act (Section 922 and Section 924) Whistleblower Provision is a cash bounty. The cash reward provides an incentive for whistleblowers to report violations of the federal securities laws. Anyone who has information concerning a potential securities law violation can submit *tips* to the SEC. According to Skinner (2016), the number of *tips* by whistleblowers has grown in each year of the program's existence. In fiscal year 2015, the SEC

Office of the Whistleblower received nearly 4,000 *tips*, an increase from the 3,620 *tips* in 2014 and 3,238 in 2013, and 3,001 *tips* in 2012 and 334 *tips* in 2011.[2]

Many recent studies provide evidence that whistleblowing indeed plays an important role in uncovering financial fraud. Pioneering by Dyck et al. (2010), Call et al. (2017) find that whistleblowers play a key role in the investigation process by providing valuable information to regulators and facilitating the enforcement actions against corrupted firms. Similarly, Lee (2017) find that whistleblowing reduce accounting fraud and Wilde (2017) finds that firms tend to reduce financial misreporting and tax aggressiveness relative to their matched control firms. More related to Dodd-Frank Act, Dimitrov et al. (2015) find Dodd-Frank has an impact on credit rating and Loon at al. (2016) find that Dodd-Frank affect OTC transaction cost and liquidity. Cumming et al. (2017) also find Dodd-Frank affect to hedge fund returns.

Motivated by this, our study tries to examine whether whistleblower provision had a differential impact on firms' investment located in states with more public corruption. The main prediction is that the effect of Whistleblower Provision would be stronger for firms that are more deeply embedded in a culture of corruption. It is noteworthy to mention Parsons et al. (2016) find that a firm's likelihood of engaging in financial misconduct is related to other unethical behavior in the same local. In a similar vein, Dass et al. (2017) find that the passage of Cardin-Lugar more

[2] Dodd-Frank Whistleblowers Program is implemented by the SEC and serves the "important goals of prevention, timely detection, and effective enforcement of securities law violations." The SEC adopted final rules to implement the Dodd-Frank program in May 2011, which rules became effective in August 2011. The program has three incentives. One is a cash bounty. The program provides that whistleblowers may be entitled to ten to thirty percent of any sanction collected where the amount is over $1 million. The second incentive is protection from workplace retaliation. Recently, the SEC has made clear that it intends to vigorously pursue employers that retaliate. The third incentive is confidentiality. A whistleblower's identity will not be disclosed to the public, absent limited exceptions. A whistleblower can also submit information anonymously through an attorney. (Skinner (2016))

adversely affects extractive industry firms in corrupt states.[3] In this regard, our second hypothesis is:

Hypothesis 2: Dodd-Frank Whistleblower Provision could mitigate the deterrent impact of corruption on firms' investment.

We expect to find that the negative effects of corruption on investment reduce after the Dodd-Frank Whistleblower Provision.

3. Data and Sample

We start the empirical analysis from the universal companies covered by COMPUSTAT during the period 1998–2016. Following previous literature, financial firms (SIC codes 6000–6999) and utilities firms (SIC 4900–4999) are excluded in our sample since these firms have different nature with other firms. We also require the firms to have reasonable accounting information, such as positive total asset, positive sales, and positive book value of equity. Finally, we require the firms to have necessary accounting information to construct all the firm level control variables.

To test our hypotheses, we create a proxy for political corruption level within each state based on the number of corruption-related conviction cases reported by the Department of Justice (DoJ). This measure of corruption has been widely used in the recent literature to study the cost of borrowing for local governments (e.g., Butler et al., 2009), financial policy (e.g., Smith, 2016), earnings management (e.g., Zhang at al., 2017), and firm innovation (e.g., Ellis at al., 2017). The raw conviction numbers are reported based on the judicial district, and we sum up all the numbers within each state to construct the state-level corruption measure. Following

[3] Cardin-Lugar Amendment is a part of the Dodd-Frank Act amendment. It requires firms in extractive industries like oil, gas, and mining companies to disclose payments made to foreign governments for licenses or permits for development. (Dass et al. 2017)

previous literature, we scale the raw number of convictions by the population in that year in that state, and assume that states with more corruption convictions are associated with higher level of local corruption. To link the state level corruption data with the firm level accounting data, we extract the firm headquarter information from the SEC filings, and use the headquarter state as the linkage between firm-level variables and the state-level corruption.[4]

Table 1 reports the summary statistics for the state level corruption data during our sample period. We combine the 90 judicial districts into 50 states and Washington D.C. For each state, we report the average number of firms existing in our final sample, the median, mean, standard deviation, 25%, and 75% of the scaled corruption measure among the 19 years in our sample. The table is ordered by the median level of corruption in each state.

*** Table 1 Here ***

Consistent with previous literature, Washington D.C. has the highest corruption level, which is about 0.581 conviction case among every 1 million population.[5] Different with other states, Washington D.C. is a political center with fewer inhabitants. The average corruption level of the top 5 (i.e. about top 10% states among all the states) highest corrupted states (except Washington D.C.) is about 0.066, which is more than 7 times higher than the average corruption level of the last 5 corrupted states (with corruption level of about 0.008). This large cross states variation provides variation of the corruption measure and also facilitate our cross states analysis.

*** Figure 1 Here ***

[4] COMPUSTAT also reports the firm headquarters information, but the information only contain the current headquarters. Although relocating headquarters are extreme costly to the firms, we do find that each year there are about 2-3% of firms moving between different states. This ratio is comparable with previous literature (e.g., Calluzzo et al., 2015).

[5] This is comparable with previous literature, see for example, Ellis et al. (2017), Smith (2016). Our results are not affected if we exclude Washington DC from our sample.

We further visualize the corruption data of Table 1 into Figure 1 to show an intuitive distribution of the corruption among the whole country. We divide the corruption data into 6 levels as shown in the legend of Figure 1. The corrupted states seems to be concentrated at the east part of America.

*** Figure 2 Here ***

Besides the cross state variation of the corruption level, we also show the time series change of the total conviction cases at the national level in Figure 2. We note that there exists an obvious decreasing trend of the total conviction number after 2011, which is the time that Dodd Frank Act become effective. This trend also provides an intuitive evidence that the Dodd Frack Act improves the corruption situation in USA. To summarize, these descriptive results indicate that there are significant variations both across states and along the timeline in the corruption data.

*** Table 2 Here ***

Besides the corruption measure, in Table 2, we also present some summary statistics of the key variables used in our empirical study. Following previous literature, we winsorize all variables at 1% and 99% level. The definition of the variables is listed in Appendix. For a typical firm with average total asset of 2154 million, the capital expenditure in next year is about 121 million (or 5.6%).

4. Empirical Results

In this section, we present our empirical results on how the state corruption level could affect firms' investment decision. We first show the baseline regression results in section 4.1 where we adopt standard control variables in the investment literature. Following the baseline

results, we further shows some robustness checks and causality tests in section 4.2. In section 4.3, we do some cross sectional analysis to show evidence on how the corruption could affect firm's investment decision. In the last section, we investigate whether the passage of Dodd Frank Act could mitigate the impact of corruption on firm's investment decision and other financial policies.

4.1 Baseline Results

To test our hypothesis, we first analyze the impact of corruption on firm's investment decision by estimating the following regression model:

$$Investment_{i,t+k} = \alpha + \beta * Corruption_{j,t} + \gamma * X_{i,t} + \epsilon \qquad (1)$$

Where $Investment_{i,t+k}$ is the investment measure of firm i in year $t+k$, measured as the capital expenditure for firm i in year $t+k$ scaled by the firm's total asset in previous year. Following Gulen and Ion (2015), we let k equal to 1 or 2 to measure the firm's investment in the leading 1 period or leading 2 periods. $Corruption_{j,t}$ is the corruption level in year t for state j. All firms headquartered in the same state are associated with the same corruption measure. $X_{i,t}$ are the firm-level control variables for firm i in year t. We expected the coefficient β to be significantly negative, indicating that higher corruption environment will impede firm's future investment decision.

*** Table 3 Here ***

Our baseline regression results are presented in Table 3. In Panel A, we report the results based on the continuous corruption variable, and in Panel B, we convert the corruption measure into decile rank variables to mitigate the concern of outliers or the extreme values. In each panel, we report the results using both leading 1 period investment and leading 2 periods investment based on three regression specifications. In column (1) and (4), we conduct a univariate test

without adding any control variables. In column (2) and (5), we only add the basic control variables as used in Gulen and Ion (2015), which are Tobin's Q, sales growth, and cash flow. We further add additional control variables in column (3) and column (6) to establish our baseline results. In all regression, we control for the time fixed effect and industry fixed effect. We also adjust the regression standard errors by clustering at the state-year level.

The results in Table 3 provides strong support for our hypothesis. All the coefficients of corruption under all regression specifications are significantly (at the 1% level) negative, indicating that higher corruption level indeed impedes firm's future investment decision. In details, the coefficient of the corruption is -0.072 (*t*-stat=-3.799) in column (3) of panel A. Given the standard deviation of the corruption is about 0.017, a one standard deviation increase in the state level corruption will lead to about 0.12% decrease in the firm's future investment, which accounts for about 2.19% of the total investment or 2.64 million decrease in the total investment value. Panel B provides more intuitive results by using the decile rank corruption variables. The coefficient in column (3) is about -0.006 (*t*-stat=-3.866), indicating that firms located in the top 5 corrupted states will invest 0.6% less than firms located in the bottom 5 corrupted states, which is about 10.71% less or 72.6 million less in the future 1 year. When we replace the leading 1 period investment measure by leading 2 period measure, all the results are materially the same, while the magnitude and statistical significance level slightly decrease.

Overall, in line with the existing literature on the effects of corruption, we find a negative relation between state-level corruption and firm-level investment. Our baseline regression results indicate that firms in corrupted states produce significantly less investment. The results are both statistically robust and economically meaningful. Firms located in the most corrupted states could invest as much as 10% less than firms located in the least corrupted states. Our baseline

results are consistent with the idea that corruption environment acts as a barrier to firm investment, and this effect could last up to two year.

4.2 Omitted Variable and Reverse Causality Issues

The challenging part of our study is to separate the effects that can be reliably attributed to corruption and not to the effect of various other local economic and institutional factors. For instance, firm policies could be affected by unobserved factors that affect both the level of public corruption and the policies of firms located in a state. To rule out some potential omitted variables, we include additional control variables and extra fixed effects in the following analysis.[6]

*** Table 4 Here ***

We report the analysis results in Table 4. In column (1) and (4), we apply the firm fixed effect rather than the industry fixed effect as in our baseline regress. We further add the state fixed effect in our regression specification in column (2) and (5). Lastly, we add the firm's marginal tax rate and text-based competition measure into our regression.[7]

All the coefficients of corruption in the leading 1 period investment results are still significant at least at the 5% significance level. Although the coefficient magnitude and significant level in column (3) decrease slightly compared with the results in Table 3, the result (coeff.=-0.067; *t*-stat=-2.700) is still robust and meaningful. When using the leading 2 period investment measure, the results become much weaker, and even insignificant in column (6). Together with the firm fixed, state fixed effect, and additional control variables, our results helps to rule out the time-varying, firm-level and state-level explanations. Our results are robust to

6 Including additional control variables may decrease our sample size.
7 We thanks Prof. Gerard Hoberg and Prof. Gordon Phillips for making their text-based competition data publicly available. The marginal tax rate is constructed following Blouin et al. (2010).

these additional tests with statistical and economic significance comparable to our baseline results.

Another challenge of our results may suffer from the reverse causality problem. To address this issue, firstly we use the lead-lag specification in the research design. All the investment measures are future investment. This lead-lag specification in the time alignment help to mitigate the reverse causality problem.

Besides the lead-lag design in the regression specification, we also apply the instrumental variable approach to further address this issue. The instrumental variable we used is the ethnic fractionalization within each state, which reflects to which degree the population within a state is fragmented/diversified across various ethnic groups. Previous literature shows that politicians are more likely to corrupt in the ethnically diverse area (e.g. Glaeser and Saks (2006), Mauro (1995)). While it is unlikely that the ethnic diversification will affect the firm's investment. In details, we define the ethnic fractionalization as 1 minus the ethnic concentration (i.e. HHI index among different ethnic groups). We extract the number of population of different ethnic groups within each state from the US Census Bureau. We use the five race classification, which include 1) White, 2) Black or African American, 3) American Indian and Alaska Native, 4) Asian, and 5) Native Hawaiian and other Pacific Islander. We use the census data for year 2000 and year 2010, and use the estimation data for the other years since the census is conducted every 10 years.

*** Table 5 Here ***

We present the two-stage least square regression results of the IV variable, corruption, and investment in Table 5. We predict that the ethnic fractionalization is positively correlated with the corruption level, and the first state result support our prediction. The coefficient of the IV variable is 0.042 (*t*-stat=6.417), indicating that the more diversified ethnic groups are

associated with higher level of corruption. Both the coefficient magnitude and significance level are comparable with previous literature (e.g. Ellis at el. (2017)).

We report the second-stage regression results using the predicted corruption value from the first-stage. For the leading 1 period investment measure, the coefficient is -0.272 (*t*-stat=-3.321), which is still significantly negative. For the leading 2 period investment measure, both the coefficient magnitude and significance level decrease slightly, while still significant at the 1% level. The weak identification Kleibergen-Raap Wald F-statistic are 41.182 and 42.010 for the leading 1 period investment and leading 2 period investment respectively. Both are greatly larger than the critical value suggested by Stock and Yogo (2005). The Hausman test results (both p-values equal to 0) also provide strong support for our IV selection. Overall, the IV approach analysis results in this section help us to rule out the reverse causation issue.

*** Table 6 Here ***

In the last part of this section, we also propose and test alternative investment measures. The results are presented in Table 6. We first select different scalers used in the construction of the investment measure. We use the fixed asset and sales as alternative scalers to scale the capital expenditure in column (1) and (2). We use R&D expense as alternative investment measure in column (3) and (4). The empirical results show that our results are robust and still hold to these alternative specifications.

Overall, in this section, we use additional fixed effect with extra control variables to mitigate the omitted variable concern, and we adopt the two-stage least square regression with IV variable to solve the reverse causality issue. We also show additional robustness tests using different scalers and alternative investment measures.

4.3 Cross-sectional heterogeneity test on investment friction and political vulnerability

In this section, we further investigate whether all firms are equally impacted by the state level corruption. We explore two aspects which may make the firms display a heterogeneous effect, which are investment friction and political vulnerability. For the first aspect, following Lam and Wei (2011), we select 3 measures to proxy for the investment friction, which are firm age, dividend payout ratio, and credit rating. Younger firms have less information available to the market and will face more investment frictions (e.g., Barry and Brown, 1985; Hadlock and Pierce, 2010). Dividend payout ratio and credit rating are widely used as measures of financing constraints (e.g. Fazzari et al., 1988; Almeida and Campello, 2007). For the second aspect, we also select 3 measures to reflect the firm's political vulnerability, which are distance to capital city, geography concentration, and earnings call political sentiment. Kerr et al. (2014) document that firms located far-away from the political center are less likely to conduct lobbying. Bai et al. (2014) documents firms with more concentrated geographic operation are more costly and more difficult to shift operation to low-bribe districts.[8] Hassan et al. (2019) extract the political risk related words in firms' earnings call transcripts and constructed a second-momentum political uncertainty measure. They also extract the positive words and negative words, and show that firms with more positive words are associated with higher political sentiment and this measure may indicate these firms enjoy political benefit.[9] Thus we predict that the effect of corruption on firm's investment decision should be more pronounced in firms with high investment friction and firms are more vulnerable to politicians.

*** Table 7 Here ***

[8] We thanks Prof. García and his co-author to share their geographic dispersion data. The data is only updated to 2008.

[9] We thanks Prof. Hassan and his co-author to share their political sentiment data. The data only starts after 2003.

We present our cross-sectional analysis results in Table 7. Panel A shows the results based on investment friction measures and Panel B shows the results based on political vulnerability measures. In each test, we partition the whole sample into two subsamples based on the investment friction measures or the political vulnerability measures. In Panel A, the coefficients for young firms, firms do not pay dividend, and firms without an S&P rating are larger and more significant than their counterpart firms. The coefficients differences are all significant at least at the 10% level. In Panel B, we find a similar pattern, i.e. the coefficients are associated with larger magnitude and more significant in firms which are close to the capital city, firms with more concentrated geographic operation, and firm with negative or low political sentiment. We noted that, expect for the result based on distance to capital city, the coefficients difference is not significant for the geography concentration and political sentiment, thus we do not intend to over-interpret our results.[10] Overall, our results provide support that the corruption impact is more pronounced within firms with higher investment friction and firms which are more vulnerable to politicians.

4.4 Dodd Frank Act and the relation between corruption and firm policy

In the section, we conduct another primary test for the effects of local corruption based on the passage of Dodd-Frank (Whistleblower Provision) in 2011. Dodd-Frank Whistleblowers Provision provides an interesting setting to study the effect of corruption on corporate investment. The effects of Dodd-Frank Whistleblower Provision on corruption are especially relevant in light of the recent financial crisis and recession. We test whether the passage of Dodd-Frank including

[10] Although the results are insignificant, the coefficients difference still provides support for our argument. The insignificance may be caused by the limited data period or data availability, i.e. the geographic dispersion data is only update to 2008, and the political sentiment data is only available for larger firms with an earnings call conference (mainly S&P 1500 firms).

Whistleblower Provision in 2011 has a differential impact on the relationship between corruption and firm-level investment.

The rationale is that if Dodd-Frank benefits corporate investment decisions, firms would be more willing to engage in investment. Thus, its passage should have a more adverse impact on firms from more corrupted states. We divide our whole sample into to sub-samples based on the year. If the firm-year is on or before year 2011, we define it as pre-Dodd-Frank sample. If the firm-year is after 2011, we define it as post-Dodd-Frank sample.

*** Table 8 Here ***

The sub-sample regression results are presented in Table 8. The coefficient for the corruption in the pre-Dodd-Frank sample is -0.066 (*t*-stat=-3.109), and the coefficient becomes both insignificant and smaller in the post-Dodd-Frank period. The result shows the negative impact of corruption on investment is mitigated after the passage of Dodd Frank Act, indicating a dramatic change of the relation between corruption and corporate investment. For the control variables, the coefficient and significant level almost does not change, indicating that the Dodd Frank Act only curtail the impact of corruption level on the firm's investment decision. Although the coefficient difference is not statistically significant, the results still provide some positive support of the impact of Dodd Frank Act.

We further conduct additional tests on the impact of the Dodd Frank act on firm's other policy. Specifically, we test the impact of the Dodd Frank Act on firm's cash holding and leverage. As documented in Smith (2016), firms in corrupted states will hold less cash, and use more leverage. We conjecture that if the Dodd Frank Act really curtails the impact of state corruption, we should expect to find a difference between the relationship of corruption and firm's cash holding and leverage. We do similar partition, and divide the whole sample into pre-

and post-Dodd-Frank period, and test the relation between corruption and firm's cash holding and leverage as investigated in Smith (2016).

*** Table 9 Here ***

Table 9 reports our test results. In the pre-Dodd-Frank period, we find consistent results for firm's cash holding and leverage as in Smith (2016), i.e. higher corruption leads firms to hold less cash and more leverage. While, the most impressive results happen in the post-Dodd-Frank period. The relation between corruption and firm's leverage becomes insignificant (coeff.=-0.055, *t*-stat=-0.478) in the post-Dodd-Frank period. The relation between corruption and cash holding also becomes attenuated (from -0.584 to -0.329), and the difference is statistically significant at the 1% level.

These results together show that whistleblower provision induces the change of corporate financial policy for firms located in corrupted states. Firms do not concern so much about the state corruption level after the passage of Dodd Frank Act Whistleblower Provision.

5. Conclusion

Our study explores the relation between corruption and corporate investment. Dodd-Frank Whistleblower Provision provides an interesting setting to study the effect of corruption on investment. In line with the existing literature on the effects of corruption on corporate investment, we find firms in corrupted states produce significantly less investment. Our results indicate that corruption acts as a barrier to firms' investment. More importantly, we investigate Dodd-Frank Whistleblower Provision had a differential impact on firms' investment in more public corruption. We find that the negative impact of corruption on investment disappeared after the Dodd-Frank Whistleblower Provision. This suggests that the change of legal environment

can help firms partially overcome the problems of a corrupted culture. Our results indicate corruption impedes corporate investment but the better governance and policy can help firms reduce the decline in firms' investment located in corrupt states. Overall, our evidence contributes to the literature by highlighting the role of corporate governance mechanisms when the surrounding economic environment is pervasive with corruption. We suggest that corporate governance mechanisms can at least partially overcome the problems of a corrupt corporate culture.

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Appendix

Variable definition

Variable	Description and definition
Corruption	State level total number of corruption convictions in year *t* divided by the population (in 1,000,000) in the state. Source: DOJ and Census Bureau.
Total asset	Total asset [AT] in year *t*. Source: Compustat.
LnAT	Natural log of total asset [AT] in year *t*. Source: Compustat.
Invest1	Capital expenditures [CAPEX] in year t+1 divided by total asset [AT] in year t. Source: Compustat.
Invest2	Capital expenditures [CAPEX] in year t+2 divided by total asset [AT] in year t+1. Source: Compustat.
Tobins' Q	Total assets [AT] – common equity [CEQ] + common shares outstanding ∗ share price at fiscal yearend [CSHO*PRCC_F] divided by total assets. All items are in year *t*. Source: Compustat.
Cash flow	Cash flow from operating activities [OANCF] – cash flow from extraordinary items and discontinued operation [XIDOC] divided by total assets [AT], all items are in year t. Source: Compustat.
PP&E	Property, plant, and equipment [PPEGT] divided by total asset [AT], in year t. Source: Compustat.
Sales growth	Annual sales growth rate from year t-1 to year t. Source: Compustat.
Leverage	Long-term debt [DLTT] plus debt in current liabilities [DLC] divided by total assets [AT], all items are in year t. Source: Compustat.
OP	Operation Profitability, defined as revenue [REVT] – cost of good sold [COGS] – SG&A [XSGA] + R&D expense [XRD], scaled by previous total asset [lag(AT)]. If R&D expense is missing, replace it with 0. All items are in year t. Source: Compustat.
Z score	Altman's Z score, defined as 1.2×(working capital/total assets) +1.4×(retained earnings/total assets) +3.3×(EBIT/total assets) + 0.6×(Public value of equity/Book value of total liabilities) + (Sales/Total Assets). All items are in year t. Source: Compustat.

Figure 1: Map of the State Median Corruption

A map of the state median corruption data from Table 1 is presented below. States are split into groups by the level of corruption.

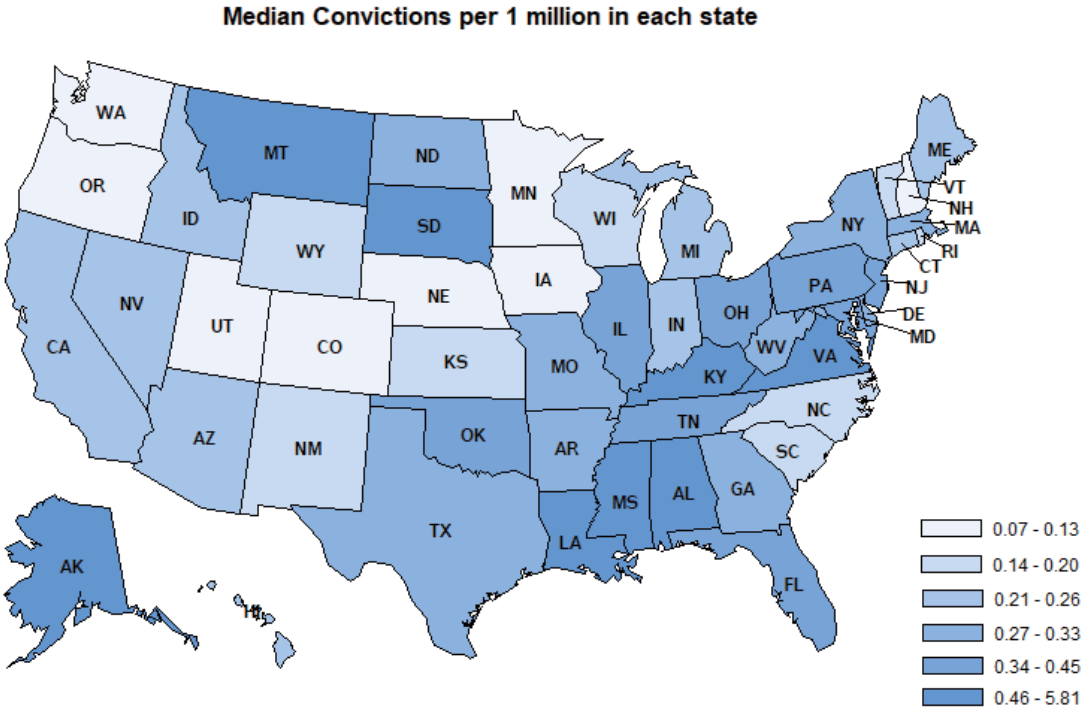

Figure 2: Time trend of the total DOJ conviction cases

This figure shows the total DOJ conviction cases each year. In each year, we add up all the conviction cases among the judicial districts, and report the total number as the national level total conviction cases.

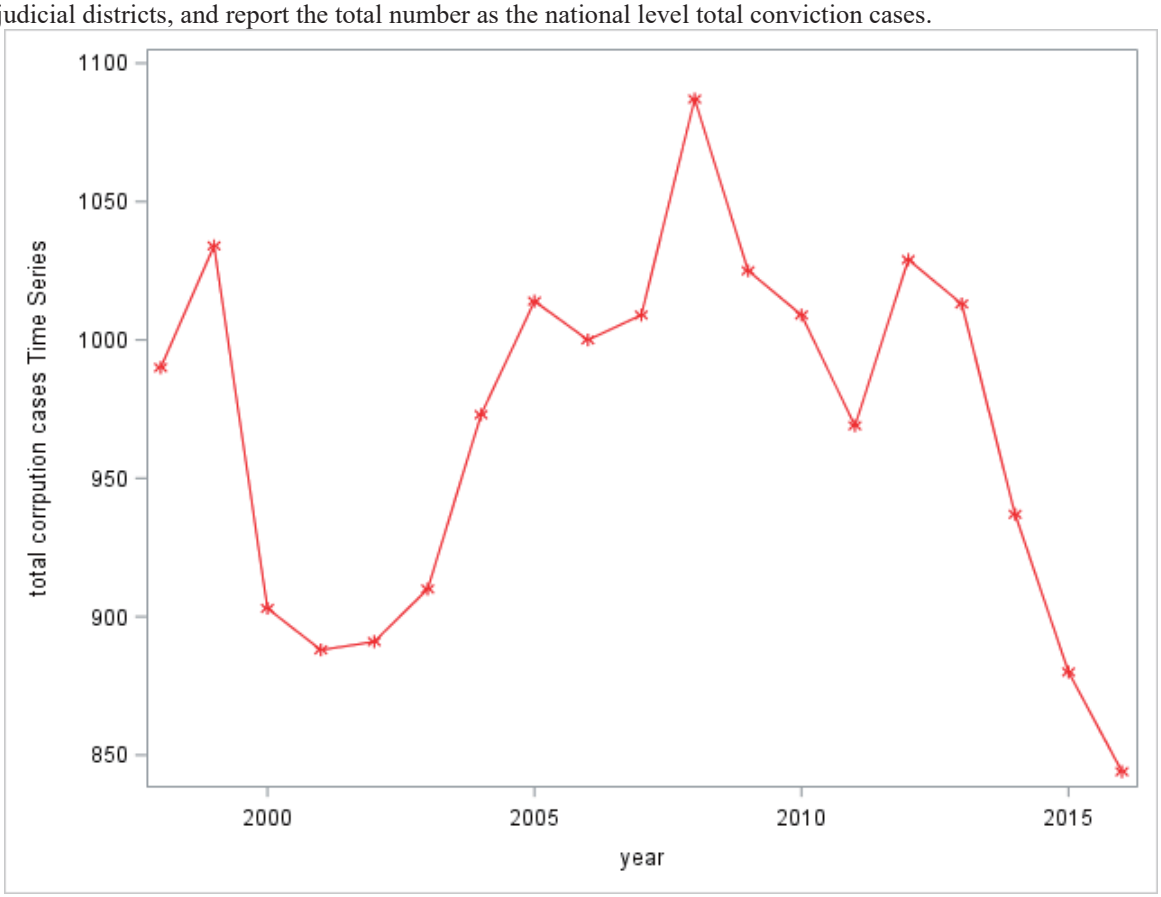

Table 1: Summary Statistics for Corruption per 1,000,000 at State-Level

This table provides the summary statistics for the number of corruption per 1,000,000 for each U.S. state and the average firms in each year in each state. We combine the 90 judicial districts into 50 US state and Washington D.C. We exclude Puerto Rico, Guam & NMI, and Virgin Islands in our analysis. These data are for the 19 years from 1998 to 2016. Data are ordered by median of the corruption.

Rank	State	Code	Firm number	Median	Mean	Std	P25	P75
1	Washington D.C.	DC	8	0.581	0.581	0.337	0.277	0.768
2	Louisiana	LA	23	0.088	0.083	0.024	0.058	0.108
3	Montana	MT	3	0.071	0.085	0.075	0.033	0.101
4	Kentucky	KY	18	0.063	0.060	0.020	0.042	0.073
5	Mississippi	MS	6	0.058	0.063	0.042	0.030	0.081
6	South Dakota	SD	3	0.051	0.064	0.046	0.026	0.099
7	Virginia	VA	78	0.049	0.052	0.019	0.041	0.068
8	Alabama	AL	13	0.046	0.049	0.026	0.031	0.058
9	New Jersey	NJ	137	0.045	0.044	0.013	0.033	0.053
10	Ohio	OH	100	0.043	0.039	0.018	0.026	0.049
11	Maryland	MD	42	0.038	0.042	0.025	0.015	0.064
12	Oklahoma	OK	29	0.037	0.042	0.018	0.026	0.059
13	Pennsylvania	PA	119	0.037	0.039	0.010	0.031	0.046
14	Tennessee	TN	37	0.036	0.038	0.015	0.027	0.051
15	Florida	FL	149	0.036	0.041	0.017	0.028	0.052
16	Illinois	IL	130	0.034	0.038	0.012	0.027	0.048
17	West Virginia	WV	4	0.033	0.042	0.027	0.022	0.050
18	Delaware	DE	9	0.033	0.040	0.031	0.011	0.060
19	North Dakota	ND	1	0.031	0.056	0.064	0.000	0.089
20	Texas	TX	301	0.030	0.032	0.010	0.026	0.038
21	Missouri	MO	43	0.030	0.030	0.011	0.018	0.036
22	New York	NY	262	0.029	0.031	0.010	0.023	0.040
23	Massachusetts	MA	160	0.029	0.030	0.010	0.023	0.041
24	Arkansas	AR	11	0.027	0.030	0.020	0.014	0.047
25	Alaska	AK	1	0.027	0.033	0.020	0.014	0.054
26	Georgia	GA	75	0.027	0.029	0.017	0.014	0.039
27	Arizona	AZ	42	0.026	0.029	0.021	0.014	0.043
28	Michigan	MI	55	0.024	0.022	0.008	0.017	0.027
29	Connecticut	CT	67	0.023	0.024	0.017	0.011	0.034
30	Maine	ME	4	0.023	0.024	0.016	0.015	0.038
31	Indiana	IN	34	0.022	0.023	0.011	0.014	0.030
32	Hawaii	HI	6	0.022	0.028	0.028	0.008	0.035
33	Idaho	ID	9	0.022	0.023	0.017	0.007	0.038
34	Nevada	NV	30	0.021	0.017	0.014	0.000	0.027
35	California	CA	566	0.021	0.020	0.004	0.016	0.023
36	Wisconsin	WI	44	0.020	0.019	0.007	0.012	0.024
37	New Mexico	NM	3	0.019	0.023	0.016	0.011	0.034
38	Rhode Island	RI	10	0.019	0.028	0.022	0.010	0.038

39	Wyoming	WY	2	0.019	0.028	0.039	0.000	0.040
40	North Carolina	NC	51	0.018	0.018	0.007	0.013	0.023
41	Vermont	VT	2	0.017	0.026	0.025	0.000	0.033
42	South Carolina	SC	15	0.014	0.015	0.009	0.007	0.020
43	Kansas	KS	17	0.014	0.015	0.010	0.007	0.022
44	Iowa	IA	13	0.013	0.015	0.011	0.007	0.029
45	Washington	WA	58	0.012	0.014	0.008	0.007	0.019
46	Nebraska	NE	13	0.012	0.014	0.012	0.000	0.021
47	Minnesota	MN	105	0.011	0.012	0.007	0.007	0.016
48	Utah	UT	34	0.009	0.012	0.010	0.004	0.021
49	Colorado	CO	95	0.008	0.014	0.013	0.005	0.017
50	Oregon	OR	34	0.008	0.009	0.007	0.003	0.012
51	New Hampshire	NH	13	0.007	0.009	0.012	0.000	0.015

Table 2: Summary Statistics

This table reports the descriptive summary statistics of the primary variables used in this paper. Invest1 is the firm's capital expenditure in year *t*+1, and Invest2 is the capital expenditure in year *t*+2. Corruption is the total number of convictions in the state scaled by the total population (in Millions). OP is the firm's operating profitability. We exclude financial firms (SIC 6000-6999) and utilities (SIC 4900-4999) from our analysis. We also remove firms with none-positive total asset or sales. All the continuous variables are winsorized at 1% and 99%. The primary sample contains 58,593 firm-year observations with 7860 unique firms from 1998 to 2016. The detailed variable definition is listed in the Appendix.

Variable	N	Mean	SD	P1	P25	P50	P75	P99
Invest1	58594	0.056	0.076	0.000	0.015	0.032	0.064	0.466
Invest2	53580	0.053	0.069	0.000	0.014	0.030	0.061	0.422
Corruption	58594	0.030	0.017	0.000	0.018	0.026	0.038	0.088
Tobin's Q	58594	2.112	2.007	0.534	1.086	1.488	2.293	12.144
Sales Growth	58594	0.230	0.812	-0.642	-0.033	0.077	0.236	5.175
Cash flow	58594	0.034	0.260	-1.231	0.002	0.078	0.143	0.480
Total Asset ($m)	58594	2154	6364	2	49	246	1172	45581
Leverage	58594	0.465	0.226	0.057	0.283	0.461	0.629	0.967
OP	58594	0.112	0.266	-1.248	0.057	0.138	0.223	0.719
PP&E	58594	0.241	0.224	0.004	0.070	0.165	0.342	0.898
Z score	58594	4.501	8.282	-17.216	1.679	3.221	5.516	43.712

Table 3: Baseline Regression on Investment Decision and State Corruption

This table reports the results of our baseline analysis of regression firm's future investment on state level corruption. Panel A shows the results using continuous corruption measure, and Panel B shows the results using ranking measures. Column (1) to (3) reports the results using 1 period leading investment measure, and column (4) to (6) reports results using 2 period leading investment measure. The results using different model specifications are reported. All the variables are winsorized at 1% and 99% to mitigate the outlier problem. Financial firms (SIC 6000-6999) and utilities (SIC 4900-4999) are excluded from our analysis. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: Regression results using continuous corruption measure

	Dependent variable: Investment in year t+1			Dependent variable: Investment in year t+2		
	(1)	(2)	(3)	(4)	(5)	(6)
	Univariate	Basic	Baseline	Univariate	Basic	Baseline
Corruption	-0.089***	-0.069***	-0.072***	-0.065***	-0.056***	-0.061***
	(-3.912)	(-3.209)	(-3.799)	(-3.088)	(-2.731)	(-3.023)
Tobin's Q		0.006***	0.007***		0.003***	0.004***
		(25.956)	(25.825)		(11.661)	(14.739)
Sales Growth		0.008***	0.008***		0.004***	0.004***
		(11.357)	(11.888)		(6.719)	(7.348)
Cash flow		0.030***	0.008**		0.027***	0.012***
		(12.278)	(2.397)		(12.779)	(3.711)
LnAT			-0.000**			-0.001***
			(-2.216)			(-4.672)
Leverage			-0.021***			-0.017***
			(-14.120)			(-11.174)
OP			0.018***			0.014***
			(8.037)			(5.310)
PP&E			0.142***			0.121***
			(45.122)			(41.658)
Z score			-0.000			-0.000***
			(-1.254)			(-3.862)
Intercept	0.059***	0.042***	0.017***	0.055***	0.045***	0.026***
	(66.336)	(49.708)	(13.768)	(70.042)	(47.227)	(18.781)
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	58,594	58,594	58,594	53,580	53,580	53,580
Adjusted R^2	0.281	0.319	0.400	0.289	0.306	0.376

Panel B: Regression results using rank corruption measure

	Dependent variable: Investment in year t+1			Dependent variable: Investment in year t+2		
	(1)	(2)	(3)	(4)	(5)	(6)
	Univariate	Basic	Baseline	Univariate	Basic	Baseline
Corruption	-0.007***	-0.006***	-0.006***	-0.005***	-0.005***	-0.005***
	(-4.318)	(-3.672)	(-3.866)	(-3.599)	(-3.221)	(-3.221)
Control	No	Yes	Yes	No	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	58,594	58,594	58,594	53,580	53,580	53,580
Adjusted R^2	0.281	0.319	0.400	0.289	0.306	0.376

Table 4: Additional analysis with more fixed effect and control variables
This table reports the results of regression of investment on state level corruption with adding more fixed effects. Column (1) and (2) reports the results using 1 period leading investment, and column (3) and (4) reports the results using 2 period leading investment. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

	Dependent variable: Investment in year t+1			Dependent variable: Investment in year t+2		
	(1)	(2)	(3)	(4)	(5)	(6)
Corruption	-0.071***	-0.055**	-0.067***	-0.061**	-0.049*	-0.042
	(-2.913)	(-2.181)	(-2.700)	(-2.320)	(-1.776)	(-1.561)
Tobin's Q	0.007***	0.007***	0.008***	0.002***	0.002***	0.002***
	(19.556)	(19.508)	(17.840)	(5.349)	(5.306)	(4.530)
Sales Growth	0.005***	0.005***	0.006***	0.002***	0.002***	0.002***
	(8.948)	(8.920)	(9.030)	(3.707)	(3.695)	(3.452)
Cash flow	0.007***	0.007***	0.013***	0.008***	0.008***	0.011***
	(2.775)	(2.766)	(3.728)	(3.103)	(3.191)	(3.307)
LnAT	-0.013***	-0.013***	-0.014***	-0.016***	-0.016***	-0.018***
	(-18.294)	(-18.336)	(-16.961)	(-20.609)	(-20.598)	(-19.072)
Leverage	-0.034***	-0.033***	-0.036***	-0.019***	-0.018***	-0.016***
	(-13.647)	(-13.647)	(-14.788)	(-8.441)	(-8.374)	(-7.283)
OP	0.020***	0.020***	0.022***	0.010***	0.010***	0.010***
	(7.113)	(7.089)	(6.725)	(3.744)	(3.785)	(3.005)
PP&E	-0.010*	-0.011**	0.000	-0.039***	-0.040***	-0.043***
	(-1.793)	(-1.984)	(0.068)	(-6.954)	(-7.113)	(-6.808)
Z score	-0.000*	-0.000*	-0.000***	-0.000	-0.000	-0.000
	(-1.798)	(-1.885)	(-5.768)	(-1.123)	(-1.170)	(-1.096)
Tsic3hhi			-0.000			0.001
			(-0.190)			(0.881)
Tax rate			0.047***			0.037***
			(8.097)			(6.069)
Intercept	0.130***	0.130***	0.126***	0.158***	0.159***	0.159***
	(26.758)	(26.544)	(22.731)	(29.942)	(29.735)	(26.302)
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
State fixed effect	NO	Yes	Yes	NO	Yes	Yes
Nobs	58,594	58,594	48,373	53,580	53,580	44,640
Adjusted R^2	0.602	0.603	0.667	0.600	0.601	0.617

Table 5: Regression analysis using instrumental variable

This table reports the results of the two-stage least squares regression results using state-level ethnic fractionalization as the instrumental variable. The Hausman test is the p-value from a Durbin-Wu-Hausman test comparing the OLS specification and the IV specification. The weak identification is a Kleibergen-Paap Wald statistic. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

	First stage regression	Dependent variable: Investment in year t+1	Dependent variable: Investment in year t+2
Ethnic fractionalization	0.042***		
	(6.417)		
Corruption		-0.272***	-0.215***
		(-3.321)	(-2.703)
Tobin's Q	-0.000***	0.007***	0.004***
	(-4.480)	(25.462)	(14.525)
Sales Growth	-0.000	0.008***	0.004***
	(-1.263)	(11.857)	(7.286)
Cash flow	0.002***	0.008**	0.012***
	(4.515)	(2.535)	(3.789)
LnAT	0.000	-0.000**	-0.001***
	(1.435)	(-1.966)	(-4.456)
Leverage	0.003***	-0.020***	-0.017***
	(5.900)	(-13.674)	(-10.826)
OP	-0.002***	0.018***	0.013***
	(-3.685)	(7.764)	(5.080)
PP&E	0.002***	0.142***	0.121***
	(3.854)	(44.699)	(41.451)
Z score	0.000**	-0.000	-0.000***
	(2.124)	(-1.211)	(-3.823)
Intercept	0.014***	0.011*	0.024***
	(6.936)	(1.872)	(3.958)
Time fixed effect	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes
Nobs	58,594	58,594	53,580
Adjusted R^2	0.090	0.398	0.374
Hausman test p-value		0.000	0.000
Weak identification F-test		41.182	42.010

Table 6: Sensitivity analysis using alternative scaler or investment measure

This table reports the regression results using alternative scalers or investment measure. In column (1) and (2), instead of using the total asset as the scaler, we scale our primary investment proxy (CAPEX) by PP&E or Sales respectively. In column (3), we use R&D expense as the alternative investment measure. In column (4), we assign the missing R&D as 0. Only the leading 1 period measures results are reported. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

	Capex in year t+1 scaled by different scaler		R&D expense in year t+1 scaled by total asset	
	(1)	(2)	(3)	(4)
	PP&E	Sales	R&D1	R&D2
Corruption	-0.373***	-0.518***	-0.286***	-0.261***
	(-3.173)	(-4.229)	(-7.160)	(-8.374)
Tobin's Q	0.051***	0.011***	0.021***	0.018***
	(21.640)	(4.778)	(30.885)	(30.045)
Sales Growth	0.060***	0.058***	-0.007***	-0.005***
	(12.037)	(7.372)	(-4.950)	(-6.347)
Cash flow	-0.074***	-0.005	-0.213***	-0.178***
	(-3.212)	(-0.188)	(-21.957)	(-25.177)
LnAT	-0.020***	0.003**	-0.007***	-0.003***
	(-17.709)	(2.333)	(-21.742)	(-16.430)
Leverage	-0.060***	-0.069***	-0.050***	-0.051***
	(-5.449)	(-5.536)	(-14.878)	(-21.770)
OP	0.076***	-0.331***	0.187***	0.157***
	(3.293)	(-10.130)	(18.003)	(20.537)
PP&E	-0.565***	0.373***	-0.048***	-0.034***
	(-34.901)	(17.711)	(-15.253)	(-18.160)
Intercept	0.005***	0.005***	-0.003***	-0.003***
	(5.758)	(6.776)	(-18.840)	(-19.233)
Time fixed effect	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
Nobs	58,594	58,594	37,176	58,594
Adjusted R^2	0.248	0.277	0.463	0.438

Table 7: Cross sectional different based on investment friction and political vulnerability

This table reports cross sectional analysis of the corruption impact among different firms. Panel A partitions the whole sample into high investment friction subgroup low investment friction subgroup. Panel B partitions the whole sample into firms located close to the state capital city and faraway from the capital city. Firm age is defined as the years since the firm first appeared in the Compustat, and we partition the whole sample based on the median in each year. For the dividend payout and S&P rating, we partition the whole sample based on a dummy indicator as shown in the column title. We standardize the firm's headquarter distance to the state capital city, and then use the median distance to partition the whole sample at the state-year level. The geography concentration captures how the firm's operation is concentrated in a state following Garcia and Norli (2012). The earnings call political sentiment measure captures how many positive political risk related words are there in the earnings call transcript, following Hassan et al. (2019). Only the leading 1 period measures results are reported. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

Panel A: investment friction

	Firm Age		Dividend payout		SP Long Term Rating	
	Old Firm	Young Firm	Paying Dividend	No Dividend	With SP Rating	Without SP Rating
Corruption	-0.038*	-0.108***	-0.040*	-0.071***	-0.032	-0.082***
	(-1.718)	(-4.073)	(-1.754)	(-3.087)	(-0.901)	(-4.142)
Baseline Control	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	30,843	27,751	16,115	42,439	14,313	44,281
Adjusted R^2	0.429	0.392	0.480	0.392	0.542	0.372
Chi-square statistic	5.35		2.89		4.65	
p value (diff)	0.020		0.089		0.031	

Panel B: political vulnerability

	Distance to Capital City		Geography Concentration		Earnings Call Political Sentiment	
	Far	Close	Low	High	High	Low
Corruption	-0.025	-0.119***	-0.052*	-0.096***	-0.031	-0.069*
	(-1.199)	(-4.207)	(-1.926)	(-2.897)	(-1.052)	(-1.797)
Baseline Control	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes	Yes	Yes
Nobs	28,396	27,726	16,275	16,031	12,773	12,322
Adjusted R^2	0.363	0.441	0.449	0.380	0.491	0.523
Chi-square statistic	8.53		1.17		0.75	
p value (diff)	0.003		0.280		0.385	

Table 8: The impact of Dodd Frank Act and Investment Decision

This table reports the results of regression of investment on state level corruption in the pre- and post- Dodd Frank Act period. Before is defined as the year in or before 2010, and After is defined as the year 2011 and afterward. Only the leading 1 period measures results are reported. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

	Before	After
Corruption	-0.066***	-0.054
	(-3.109)	(-1.205)
Tobin's Q	0.007***	0.006***
	(22.673)	(12.545)
Sales Growth	0.007***	0.009***
	(10.683)	(5.271)
Cash flow	0.007*	0.010*
	(1.842)	(1.774)
LnAT	-0.000**	-0.000
	(-2.163)	(-0.784)
Leverage	-0.024***	-0.014***
	(-13.334)	(-5.024)
OP	0.019***	0.011**
	(7.698)	(2.299)
PP&E	0.144***	0.144***
	(37.663)	(28.563)
Z score	-0.000	-0.000
	(-1.074)	(-0.657)
Intercept	0.019***	0.012***
	(12.467)	(5.096)
Time fixed effect	Yes	Yes
Industry fixed effect	Yes	Yes
Nobs	43,775	14,819
Adjusted R^2	0.398	0.421
Chi-square statistic		
p value (diff)	0.574	

Table 9: The impact of Dodd Frank Act and firm's other financial policy

This table reports the results of regression of other firm financial policies on state level corruption in the pre- and post- Dodd Frank Act period. Before is defined as the year in or before 2010, and After is defined as the year 2011 and afterward. All regressions include two-digit SIC industry fixed effect and year fixed effect. All the standard errors are clustered by state and year. *t*-statistics are reported in parentheses: *** p<0.01, ** p<0.05, * p<0.1.

	Cash holding in year t+1		Leverage in year t+1	
	Before	After	Before	After
Corruption	-0.584***	-0.329**	0.484***	-0.055
	(-6.053)	(-2.219)	(5.404)	(-0.478)
Tobin's Q	0.018***	0.026***	0.027***	0.035***
	(16.766)	(15.052)	(22.442)	(17.463)
Sales Growth	-0.003*	-0.003	0.003	0.005
	(-1.794)	(-0.990)	(1.015)	(1.175)
Cash flow	-0.025***	-0.088***	-0.037***	-0.062**
	(-3.003)	(-4.835)	(-2.955)	(-2.358)
LnAT	-0.006***	-0.008***	0.021***	0.031***
	(-8.173)	(-9.999)	(24.967)	(24.365)
Leverage	-0.293***	-0.223***		
	(-36.501)	(-18.573)		
OP	-0.002	0.042**	-0.095***	-0.070***
	(-0.210)	(2.309)	(-7.686)	(-3.424)
PP&E	-0.253***	-0.202***	0.128***	0.074***
	(-29.741)	(-15.910)	(15.282)	(6.035)
Z score	-0.001***	-0.001***	-0.015***	-0.015***
	(-3.926)	(-2.710)	(-47.312)	(-30.305)
Intercept	0.405***	0.356***	0.352***	0.297***
	(49.043)	(32.890)	(63.642)	(33.730)
Time fixed effect	Yes	Yes	Yes	Yes
Industry fixed effect	Yes	Yes	Yes	Yes
Nobs	43,765	14,819	43,775	14,819
Adjusted R^2	0.359	0.352	0.278	0.294
Chi-square statistic	7.58		13.76	
p value (diff)	0.006		0.000	