Involuntary Political Connections and Firm Outcomes*

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Abstract

Using a unique setting in China, where the geographic distance between firms and local governments is set exogenously, we investigate the role of government involvement in small firms that lack the resources to cultivate political connections. Distant firms, with weaker government involvement, have better operating performance and higher growth and entry rates. We find similar effects around exogenous government relocations, and weaker effects when the legal system is more developed, when road infrastructure is better, and following adverse economic shocks. Furthermore, distance from government increases firm autonomy, and reduces taxes, protectionism, and anti-competitive behavior.

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Introduction

The popular press and the academic literature have largely focused on political connections that are actively cultivated by firms through board appointments, campaign contributions, or lobbying expenditures. The *Economist* magazine, for example, reported that the 50 companies with the most intensive lobbying activities in the S&P 500 index have outperformed the rest of the index by 11 percent per year.[1] Similarly, academic studies found that firm value increases when firms establish political connections (Roberts (1990), Fisman (2001), Faccio (2006), Akey (2015), and Chen, Parsley, and Yang (2015)).

However, the vast majority of firms are not politically connected based on traditional measures of political activity. Kerr, Lincoln, and Mishra (2014), for example, find that only 10% of U.S. publicly traded firms engaged in lobbying in one year or more over the period 1998-2006. They argue that upfront costs and returns to experience act as barriers to entry to becoming politically active. What role, then, does government involvement play in politically inactive firms?

To answer this question, this paper focuses on Chinese Collective firms with zero state ownership. The analyses focus on Collective firms for several reasons. First, they are owned, managed, and operated by residents of local communities such as local streets, blocks, villages, or townships, whose locations were set decades and even centuries ago. Due to land restrictions, Collective firms must reside within their local communities.[2] As such, the geographic distance between Collective firms and the government is exogenously determined and can serve as an instrument to estimate the causal role of government involvement in firm outcomes.

Second, Collective firms are too small to engage in political activity through political contributions or board appointments. Thus, focusing on these firms provides new evidence on

[1] See: http://www.economist.com/node/21531014.

[2] Furthermore, the Hukou system of household registration in China denies immigrants of social benefits such as ownership of Collective assets, thus mitigating concerns about immigration to start new Collective firms.

the role of government involvement in small, unlisted firms, which were typically assumed to lack political connections and consequently less studied by political economists.

Third, Collective firms, particularly township and village enterprises, experienced a dramatic growth since 1978, and contributed substantially to China's economic reforms (e.g. Putterman, 1997; Jin and Qian, 1998). In 2000, for example, township and village enterprises accounted for 47 percent of total industrial output and 18 percent of the total labor force in China (Fu and Balasubramanyam, 2003). Given China's prominent role in global manufacturing and international trade, understanding the political economy of Collective firms is therefore important in its right.

From a theoretical viewpoint, the distance between firms and the local government can serve a dual role in government involvement. On the one hand, proximity to government can lead to involuntary political connections, with more government intervention, less autonomy, and even a "grabbing hand" behavior, which arises when politicians behave as rent-seekers, expropriating shareholder wealth, or promoting policies to enlist support at the expense of firm efficiency (Dixit, Grossman, and Helpman (1997), Frye and Shleifer (1997), and Shleifer and Vishny (1998)). On the other hand, proximity to government can foster voluntary political connections, with less government intervention, more autonomy, and even a "helping hand" behavior, which enhances firm value (Roberts (1990), Fisman (2001), Faccio (2006), Akey (2015), Chen, Parsley, and Yang (2015), and Akey and Lewellen (2017)) and improves its access to government resources (e.g., Dinç (2005), Khwaja and Mian (2005), Faccio, Masulis, and McConnell (2006), Duchin and Sosyura (2012), and Goldman, Rocholl, and So (2013)).

To distinguish between these hypotheses, the empirical analyses attempt to answer three main questions. First, how does government involvement, proxied by a firm's exogenous distance from government, affect its policies and performance? Second, how do these effects vary in the cross section and through time, across local infrastructure and road conditions, legal

development, and economic conditions? Third, what economic mechanisms, such as government interventions in firms' production, investment, and employment decisions, tax policies, or product market competition, are driving these effects?

We investigate these questions using data from two main sources. The first data source is the Census of manufacturing firms, compiled annually by China's National Bureau of Statistics (NBS) from 1998 to 2007. The Census includes detailed financial data on all State Owned Enterprises (SOEs) engaged in manufacturing regardless of size, and all private, Collective, foreign, and Hong Kong/Macau/Taiwan (HMT) firms engaged in manufacturing with annual revenues exceeding five million Chinese Yuan. The second data source is the Investment Climate Survey (ICS) conducted by the World Bank in 2005, which covers 12,400 establishments across industries and cities in China through face-to-face interviews with firm managers and owners. The survey data include direct questions about the relationship between the firm and the government.

We begin our empirical analysis by investigating the validity of firms' distance from government as a proxy for government involvement. To do so, we hand-collect detailed information on the visits of government officials to firms from four provinces (Hebei, Guangdong, Jiangsu, Sichuan) in the north, south, east, and west of China, respectively. The estimates suggest that the number of such visits decreases with firms' distance from government, consistent with the assertion that government involvement, proxied by politicians' field visits, weakens when the distance from the local government is larger.

In the main analyses, we find that firms' operating performance increases with their distance from government. The average return on assets (ROA) of the most distant Collective firms (top tercile) is 3.3 percentage points higher than that of the closest Collective firms (bottom tercile), and the difference is statistically significant at the 1% level. We find similar effects in

multivariate regressions that control for time-varying firm-level attributes as well as industry-specific time trends and time-invariant geographic heterogeneity.

These findings support theories of involuntary political connections that are not actively cultivated by the firm, and reduce firm value - in sharp contrast to voluntary connections that foster political favoritism and increase firm value. To further isolate the effects of involuntary political connections, we test whether the effect of proximity to government is attenuated for bigger firms, which are less constrained in their ability to cultivate active political connections. We find that the detrimental effect of proximity to government on firm performance is 64.9% - 75.8% smaller for bigger Collective firms.

A non-mutually-exclusive hypothesis is that the government also plays a positive role in firms' operations by providing subsidies to politically connected firms. Under this view, firms located closer to government may enjoy higher subsidies. We test this hypothesis directly using unique measures of firm-level government subsidies in China. The findings are less consistent with this view as distance from government does not affect the level of government subsidies.

A possible concern is that residents (or employees) in distant areas are intrinsically different from residents in areas closer to the government in ways that are correlated with firm performance. To directly address these concerns, we use detailed demographic information about the employees of Collective firms, obtained from Census records, and control for employee gender, education, technical background, and unionization in the analyses. Distance from government continues to exert a positive effect on firm performance even after controlling for employee demographics.

Another possible concern is that the effects are driven by higher barriers to entry in more distant regions. Under this view, fewer, albeit more profitable firms are established in distant regions, and the positive relation between distance from government and firm performance is

driven by selection rather than treatment. The evidence, however, is less consistent with selection since firms' entry rates are higher in more distant regions, suggesting that the government may act as a barrier to entry.

A remaining concern is that distant firms face lower costs because they are located in less expensive regions, such as outside city centers. We present direct evidence that costs are not different in areas more distant from government and show that the results continue to hold after controlling for firms' costs. We also find similar results in rural and urban areas, as well as in small and large jurisdictions, where costs may be different. Finally, we show that regulatory costs, such as those of anti-pollution regulations, are not lower for distant firms.

We further address concerns about selection through an event study in the short window surrounding exogenous government office relocations. This setting mutes the effects of selection by shocking the distance from government of all *existing firms*. We identify 23 instances of exogenous government offices relocations during our sample period. The results indicate that an increase of 10% in the distance from government following office relocations corresponds to an increase of 3.8% in ROA.

Taken together, these findings are most consistent with involuntary political connections, whereby a firm's proximity to the government is expected to have a negative effect on its performance due to government interventions, reduced autonomy, or rent-seeking behavior of government officials. Along these lines, we provide concrete evidence that firms' profitability per employee is higher for more distant firms, consistent with the hypothesis that governments hurt firm performance by focusing on increasing employment rates at the expense of profit maximization.

Next, we examine the factors that weaken or exacerbate the effect of the firm's distance from government.[3] First, we investigate the role of transportation infrastructure. The effect of distance from government on firm performance is expected to be weaker when infrastructure is more developed because the costs of distant government interventions are lower. Consistently, we find that an improvement of one standard deviation in infrastructure and road conditions, as measured by highways and passenger transportation per capita, weakens the distance effect by 24.2 - 30.7%.

Second, we investigate the effects of government size and fiscal conditions. The effect of firms' distance from government is expected to be weaker when the government is bigger and when it has higher fiscal expenditure because the government has more resources to expand the scope of their intervention. Consistent with this hypothesis, we find that when the size of the government relative to the size of the population is 10% higher, the effect of distance from government on performance weakens by 6.0%. Furthermore, an increase of one standard deviation in the government's expenditure leads to a decrease of 21.5% in the effect of distance from government on performance.

Third, we study how the role of government varies with the development of the local legal system. Better legal systems are expected to weaken the effects of firms' distance from government on performance because the risk of detection is higher. To test these predictions, we exploit region-specific shocks to the legal system over the sample period. The analyses indicate that the effect of distance from government varies substantially with changes in legal development. In particular, when legal development is above median, the effect of distance from government on firm performance weakens by 61.4%.

[3] We provide a formal model of government involvement in the Internet Appendix.

Fourth, we study whether being closer to government plays a more positive role following adverse economic shocks. In particular, following prominent adverse economic shocks, such as natural disasters, which draw public attention, the risk of detection is higher, and therefore the effect of a firm's distance from government on its performance is weaker. To test this hypothesis, we study the effect of distance from government across provinces affected by the 1998 flood disaster in China. We find that the effect of distance from government on firm performance was 9.5% - 12.4% weaker following the flood disaster for an increase of one standard deviation in the severity of the damage due to the flood disaster. Taken together, these results suggest that the government expropriates fewer resources during bad times.

The second set of analyses provides direct survey evidence on the effects of distance from government. The goal of these analyses is to uncover the underlying economic mechanisms through which involuntary political connections can influence firm performance.

The evidence suggests that political distance operates along several dimensions. First, distant firms are more autonomous than close firms are. An increase of one standard deviation in the distance between the firm and the government increases its production autonomy by 3.2%, its investment autonomy by 3%, and its autonomy in setting its employment policy by 2.3%.

Second, distant firms appear more shielded from distortive policies enacted by the government. In particular, distant firms perceive the government's policies to be less impeding to their growth. An increase of one standard deviation in distance from government reduces the impeding effects of tax administration and customs policies by 0.09 and 0.05 points (on a scale of 0 to 4), respectively. Further, distant firms report lower levels of local protectionism and anti-competitive behavior. An increase of one standard deviation in distance from government reduces protectionism and anti-competition by 0.1 and 0.11 points (on a scale of 0 to 4), respectively.

Third, we investigate the interactions between firms and the government on a nexus of issues including taxation, public security, environment, labor, and social issues. Across all these issues, the evidence suggests that distant firms maintain better relationships with the government, spend fewer days on interactions with government officials,[4] are less likely to employ specialized staff to handle their relationships with government officials, and are more likely to acknowledge the contribution of government officials to their growth. The magnitudes of these effects are nontrivial and statistically significant at conventional levels.

Overall, this article offers new evidence on the role of involuntary political connections in firm performance and operations. It makes several important contributions. First, it provides clean estimates on the role of involuntary political connections in small firms by exploiting the exogenous distance between Chinese Collective firms and the local government. Such firms lack the resources to invest in lobbying or campaign contributions, and consequently their political connections have not been studied before. Second, it identifies cross-sectional and time-series variation in the effects of involuntary political connections, adding to the evidence on such variation in voluntary political connections (e.g., Faccio, Masulis, and McConnell (2006) and Duchin and Sosyura (2012)). Third, it provides direct evidence on the economic mechanisms that drive the effect of involuntary political connections, including firm autonomy, taxation, and the competitive landscape. Lastly, it provides novel evidence on the political economy of a large cross section of firms in China -- the most important market outside the United States.

[4] The survey evidence that distant firms have fewer interactions with government officials is consistent with the evidence that government officials are less likely to visit distant firms, and further supports the validity of the distance from government as a proxy for government involvement.

1. Institutional Background, Census Data Description, and Empirical Model

A. Collective Firms

In this paper we focus exclusively on Collective firms because their geographic distance from the government is exogenous and because they are relatively small and consequently lack the resources to actively build political connections. At the same time, Collective firms play an important role in China's economy, and experienced a dramatic growth since 1978, which contributed substantially to China's economic reforms (e.g. Putterman (1997), Jin and Qian (1998)).

To provide descriptive background on Collective firms, we discuss their attributes relative to State Owned Enterprises (SOEs). Both SOEs and Collective firms are publicly owned. However, contrary to SOEs, Collective firms belong to the non-state sector and are held and run by the residents of local communities. Since we are interested in politically unconnected firms, we require the Collective firms in our sample to have zero state ownership. Furthermore, unlike SOE that have soft budget constraints, Collective firms have limited access to formal external finance from state-owned banks and consequently face hard budget constraints (Perotti, Sun, and Zou (1999)). Consequently, they are less likely to actively pursue political connections through lobbying, contributions, or board appointments due to their small size and limited resources.

Moreover, 96% Collective firms in our sample have only one plant. This allows us to measure their distance from the local government accurately. Finally, while SOE workers enjoy lifetime job security (typically referred to as "the iron rice bowl"), Collective firms offer no such guarantee. Thus, compared to SOE workers, Collective firms' employees have stronger incentives to work hard.

The paper focuses on city-level governments since they directly oversee the Collective firms that fall under their jurisdiction and collect taxes from them. Higher levels of government, such as the provincial or central government, have little direct interactions with non-state firms.

B. Distance from Government

While a firm's location and its distance from government are generally nonrandom, we argue that the location of Collective firms can be viewed as exogenously determined, or randomly assigned, for several reasons. First, Collective firms are owned and operated by the residents of local communities (Weitzman and Xu, 1994). Therefore, their location is determined by the location of the local workforce that runs and operates them.

Second, the Land Administration Law in China dictates that land is collectively owned. Acquiring land to build plants within local communities is much easier than securing land from other communities due to the common interest of community members. Consequently, Collective firms are located on land within the local community that owns and operates them. Moreover, land is widely used as an ownership stake in Collective firms. The location of Collective firms is therefore limited to the communities from whom they draw upon their land, employees and other capital (Li (2005)).

Third, to regulate and restrict population mobility, the *Hukou* system of household registration in China determines one's right to receive social welfare, including benefits from Collective-owned assets, based on her place of birth (Cheng and Selden (1994), Wang (2004), and Chan and Buckingham (2008)). This makes migration extremely difficult, especially for an

entire family or a group of people.[5] As such, it is virtually impossible for a Collective firm to relocate once it has been established.

A possible concern is that the location of city governments is nonrandom and potentially determined by the location of the Collective firms. However, most Collective firms emerged after 1978 when China began its economic reforms,[6] whereas the locations of city centers and the government offices therein were determined prior to 1978. In fact, the development of Collective firms was neither noticeable nor encouraged by the government before the Reform period (McDonnell, 2004; Perotti, Sun, and Zou, 1999). Thus, their locations unlikely affected the locations of city governments. We therefore treat the distance between Collective firms and city governments as exogenous in our analysis.

We follow the standard method in the literature to calculate the distance between a firm and its local government based on their coordinates, denoted by (X, Y), where X and Y are the latitude and longitude of each coordinate, respectively. The distance between point A, with coordinates (X_1, Y_1), and B, with coordinates (X_2, Y_2), is calculated using the following formula:

$$Distance = R*2*atan2(\sqrt{\alpha}, \sqrt{1-\alpha})$$

$$R = \text{earth radius},\ \alpha = [\sin(\tfrac{Y_1-Y_2}{360}*\pi)]^2 + \cos(\tfrac{Y_1}{180}*\pi)*\cos(\tfrac{Y_2}{180}*\pi)*[\sin(\tfrac{X_1-X_2}{360}*\pi)]^2$$

The coordinates of firms' and governments' addresses are retrieved from the Gaode map, which is considered the most accurate map provider in China. Several online map services are based on the Gaode Map, including Alibaba and Tencent, which are the two largest internet firms in China in terms of their market capitalization. We manually collect governments' addresses from

[5] According to Wang (2004) and Chan and Buckingham (2008), *Hukou* allows migration of people whose circumstances fit one of the following criteria: 1) recruited as permanent employees by a state-owned enterprise; 2) recruited for enrolment in an institution of higher education; 3) joined the army and got demobilized to cities; 4) deemed to belong to special categories - either recipients of compensation for past policy mistakes or people who had endured personal sacrifices and hardships because of their work for the state.

[6] In our sample, 87% Collective firms were established after 1978.

various online sources.[7] Depending on data availability, firms' coordinates are based either on their exact address or on their 12-digit zip code. [8]

C. Sample Construction from the Census Data

We use the Census of manufacturing firms in China compiled annually by China's National Bureau of Statistics (NBS) from 1998 to 2007. The census includes all state-owned enterprises (SOEs) engaged in manufacturing regardless of size, and all private, Collective, foreign, and Hong Kong/Macau/Taiwan (HMT) firms engaged in manufacturing with annual revenues exceeding RMB five million.

We arrive at our final sample of Collective firms as follows. First, we drop firm-year observations with total assets less than total current assets or total fixed assets, as well as observations for which the constituent elements of total assets do not add up to total assets because these are essential for our measures of profitability. Second, we exclude observations with missing information on shareholder structure used to determine firms' ownership type. Third, we drop observations from four municipalities - Beijing, Shanghai, Tianjin and Chongqing - because they include very small districts administratively equivalent to cities in other provinces. The variation of the distance between a firm and its local government in these municipalities is therefore too small to be meaningful. Fourth, we drop observations where the exact address and the 12-digit zip code are both missing. We do so because we cannot accurately calculate these firms' distance from government. Fifth, we exclude non-Collective firms and

[7] The data is mainly obtained from the following two websites on the history of China's administrative divisions: http://t.cn/zHzBLQs and http://t.cn/8slJAxU.

[8] 12-digit zip codes are the finest zip code levels in China. They refer to regions at the village/street block level. According to the zip code system released in 2006, there are 31 provinces, 344 cities, 2,871 counties, 43,970 towns and 719,993 villages/street blocks in China. A city thus comprises 2,093 villages/street blocks on average. Given that villages and street blocks are small geographic units, using the coordinates of a village/street block as the coordinates of the firm provides a high level of accuracy.

Collective firms that have a nonzero state ownership stake because state ownership confounds the definition and analyses of the role of government, which are the focus of our study. Following prior studies (e.g., Dougherty, Richard and Ping (2007); Brandt, Van Biesebroeck, and Zhang (2012)), we classify a firm's ownership based on the type of paid-in capital that exceeds 50% of total capital. If no single type exceeds 50%, we rely on the registration type in the census data. [9]

After imposing the above sample screens, the final sample includes 146,839 observations and 48,043 unique Collective firms, of which 96% have only one plant, ensuring the accuracy of their distance from the local government. [10]

Appendix A provides the definitions of all the variables used in this study. All the continuous variables in this study are winsorized at the 1% and 99% levels.

Table 1 describes the final sample. Panel A provides summary statistics. The average distance between a firm and its city-level local government is 32 kilometers. There is substantial variation in distance: the standard deviation of distance is 28 kilometers and the inter-quartile range between Q1 and Q3 (25^{th} and 7^{5th} percentiles) is 38 kilometers. The average firm has positive return on assets (ROA) of 9.7%, has a leverage ratio of 60.9%, and is 11.5 ($=e^{2.441}$) years old.

Panel B of Table 1 provides the distribution of Collective firms across 13 industries, based on the China Securities Regulatory Commission (CSRC) industry classification at the two-

[9] There are six categories of paid-in capital: SOE, Collective, legal person, private, foreign, and HMT. For the legal person type, we use additional information on the firm's registration type, available from the Census database, to classify it in one of the other five categories following Brandt, Van Biesebroeck and Zhang (2012). We do not rely exclusively on the firm's registration type provided in the Census database for two reasons. First, the official registration status in the census often does not always reflect de facto ownership (Dougherty, Richard, and Ping, 2007). Second, many registration types (there are 23 in total) are not meaningfully distinct (OECD, 2000; ADB, 2003). Basing the ownership type on the controlling shareholder is more meaningful in understanding the variation in firm performance. However, the results throughout the paper are qualitatively similar if we classify Collective firms based on their registration status.

[10] Internet Appendix Table A1 details the sample construction process.

digit level.[11] It shows that Collective firms have a significant presence in all industries, with the Metal & Nonmetal, Machinery, and Gas & Chemistry industries having the largest presence. Panel B also reports the fraction of close and distant Collective firms, split by the median distance of Collective firms from the local government in each city, operating in each industry. In all industries but the mining and electronics industry, at least 40% of the firms are close firms and 40% of the firms are distant firms. These results suggest that there is substantial variation in distance from government within each industry.

Panel C of Table 1 compares between the attributes of Collective firms and those of other firm types operating in China, including SOEs, private firms, and foreign firms. Collective firms are, on average, smaller and more profitable than SOEs or foreign firms, but are similar to private firms. Importantly, the average distance from government is comparable across all firm types: Collective firms (0.032), SOEs (0.033), and private firms (0.035).

[Insert Table 1 here]

D. Identification Strategy

Our empirical design accounts for the selection of government involvement by using a Collective firm's geographic distance from the local government (*Distance*), which is set exogenously by the location of the community that owns the firm, as a proxy for government involvement. We consider a firm to have a stronger local government involvement if it is located closer to it.

[11] For expositional clarity, we reduced the 39 industries at the two-digit level in the Census data, which are based on the "Industrial Classification for National Economic Activities," into the 13 industries at the two-digit level based on the 2001 China Securities Regulatory Commission (CSRC) classification standard. In other empirical analyses, we still use the 39 industry classification in the Census data to better control for industry heterogeneity.

To assess the assertion that government involvement weakens with firms' distance from government, we hand-collect detailed information about the visits of government officials to local firms. In particular, we randomly select four cities (Hengshui, Heyuan, Suqian, Zigong) from four provinces (Hebei, Guangdong, Jiangsu, Sichuan) in the north, south, east, and west of China, respectively. For each city, we search all available news on the city government website related to visits of government officials to local firms.[12] We then identify news reports containing the term 'visit(s)' or 'inspection(s)' and the term 'firm(s)' or 'company/companies', and read through each of these reports to compile a comprehensive list of visits of government officials to local firms.[13]

Next, we count the number of visits of government officials to each firm, and set the number to zero for firms that never show up in the news reports. Table 2 presents regression evidence on the relation between a firm's distance from government and the number of visits of government officials. The dependent variable is the number of visits of government officials to a firm, and the explanatory variable of interest is the firm's distance from government (*Distance*). Column 1 presents estimates for the full sample of four cities, which include city fixed effects. Columns 2-5 report regression estimates for each of the four cities separately.

The results in Table 2 suggest that the number of visits of government officials to local firms decreases with the firm's distance from government. These results are statistically significant at the 1% level and hold in the pooled sample as well as in each of the four cities separately. The estimates are also economically important. Based on column 1 (the pooled sample), and an increase of one standard deviation in distance from government (31.8 kilometers)

[12] In these analyses only, we consider visits of government officials to all types of firms because we don't have a sufficient sample of Collective firms covered by government news reports.

[13] We identify unique firms in the analyses using the fuzzy string-matching Python program 'FuzzyWuzzy' (https://github.com/seatgeek/fuzzywuzzy).

corresponds to a decrease of 0.2 in visits of government officials, which accounts for a half of the average number (0.4) of visits to firms. In Figure 1, we plot the cumulative distribution function (CDF) of firms' geographic locations and visits of government officials by distance from government (*Distance*). Consistent with the regression evidence, the figure shows that officials are more likely to visit close firms than distant firms relative to the distribution of firm locations. Interestingly, the gap between the two CDFs (visits and firm locations) largely decreases with *Distance*.

Overall, these findings support the validity of the *Distance* as a proxy for government involvement. In particular, as the geographic distance between the local government and the firm increases, the government's involvement in the firm weakens, as evident from the smaller number of visits of government officials.

[Insert Figure 1 here]

[Insert Table 2 here]

E. Empirical Model

We use the following model specification to study the effect of distance on firm performance:

$$Performance_{i,t} = \alpha + \beta_1 * Distance_{i,t} + \beta_2 * Leverage_{i,t} + \beta_3 * Size_{i,t} + \beta_4 * Age_{i,t} + \varepsilon_{i,t}$$

where *Performance* is one of four alternative measures of accounting performance: (1) *OPOA* - Operating income divided by total assets; (2) *OPOE* - Operating income divided by total equity; (3) *ROA* - Net income divided by total assets; and (4) *ROE* - Net income divided by total equity. *Distance* refers to the distance between a firm and its affiliated government office in 1000

kilometers to make estimates more readable.[14] *Leverage* is measured as the total liabilities divided by total assets. *Size* and *Age* are defined as the natural logarithm of total assets and the natural logarithm of the number of years since a firm was established.

The empirical model includes city fixed effects for two reasons. First, the distance between firms and their local government may not be comparable across cities. Second, the fixed effects absorb unobservable, time invariant differences across cities that might be correlated with performance and distance from government. We also include industry-year fixed effects to control for industry-specific economic shocks as well as aggregate economic fluctuations (Industry is defined at the two-digit level in the Census data and there are 39 industries in total). Finally, since firms' and government offices' addresses rarely change over time, we cannot include firm fixed effects in our analyses. The standard errors are double-clustered at the firm and city level.

2. Main Results

A. Baseline Performance Results

We begin with univariate analyses studying how a firm's distance from local government affects its performance. In Table 3, we sort firms into terciles based on their distance from the local, city-level government. For each tercile, Panel A reports mean operating performance and Panel B reports median operating performance.

We consider four measures of operating performance. *OPOA* and *OPOE* scale the firm's operating income by the total value of book assets and by the total value of equity, respectively.

[14] The results throughout the paper are qualitatively the same if the distance between a firm and its affiliated government office is defined as the natural logarithm of the distance in kilometers.

ROA and *ROE* focus on the firm's net income and scale it by the total value of book assets and by the total value of equity, respectively.

Panels A and B of Table 3 show that firm performance monotonically increases in the firm's distance from local government. This finding holds across all measures of operating performance, and for both mean and median performance. In both panels, the *Diff* column reports the difference in performance between the top and bottom terciles. As Table 3 shows, all eight differences are highly statistically significant at the 1% level.

Moreover, the differences are economically large. For example, the differences-in-mean estimates in Panel A suggest that firms farthest from local government have *ROA* and *ROE* that are 3.3 percentage points and 8.7 percentage points higher, respectively. These findings suggest that distance from government captures government interventions that erode firm performance.

[Insert Table 3 here]

Panel A of Table 4 presents multivariate regression evidence on the effect of distance on operating performance with a full system of control variables and fixed effects. The regression coefficients of distance are positive and statistically significant at the 1% level across all measures of operating performance. The economic magnitudes are also significant. Based on column 1, for example, *OPOA* increases by 45 basis points (bps) for every additional 10km in distance from the local government, or by about 14.1% of the median firm's operating performance. These results confirm our previous findings that distant firms significantly outperform firms that are closer to government.[15]

[15] In Internet Appendix Table A2, we present estimates from the same regressions for other types of Chinese firms, including SOEs, private firms, and foreign firms. While these firms' distance from government is not exogenous, the

Turning to the control variables, Table 4 shows that all four measures of operating performance are negatively correlated with leverage, size, and age. These findings are collectively consistent with the findings in prior studies such as Harris and Raviv (1991), Rajan and Zingales (1995), Bennedsen et al. (2007), Anderson and Reeb (2003), and Loderer and Waelchli (2010).

To further isolate the treatment effect of *involuntary* political connections on firm performance, we test whether the effect of proximity to government is attenuated for bigger firms, which are less constrained in their ability to cultivate active political connections or undo the effects of involuntary political connections. Panel B of Table 4 augments the regression model in Panel A with the indicator variable *Large firm*, which equals one if a firm's size (measured by book assets) is higher than the median size in its city in a given year, and with the interaction term *Distance x Large firm*. Across all the regressions in Panel B, the coefficient on the interaction term *Distance x Large firm* is positive and statistically significant at the 5% level or better. Furthermore, the effects are economically meaningful: the detrimental effect of proximity to government on firm performance is 64.9% - 75.8% smaller for bigger firms.

[Insert Table 4 here]

B. Robustness and Extensions

The evidence in Table 4 supports theories of negative government interventions, which operate through political interactions between the government and local firms. A non-mutually-exclusive hypothesis is that the government also plays a positive role in firms' operations by providing

association between their operating performance and distance from government is significantly positive, albeit with a smaller magnitude. These findings provide additional external validity for the results.

subsidies to politically connected firms. Under this view, firms located closer to government may enjoy higher subsidies.

In Panel A of Table 5, we test this hypothesis by investigating the effect of distance from government on government subsidies, which are directly observable in our dataset. We regress several measures of government subsidies on distance from government and the same set of control variables as in Table 4. In Column 1, the dependent variable is an indicator that equals 1 if the firm receives a subsidy. In Columns 2-5, the dependent variables are the subsidy amounts, either unscaled (the natural logarithm of one plus the amount of subsidy), or scaled by total assets, equity, and the number of employees. As before, the regressions include industry-year and city fixed effects.

The results in Panel A of Table 5 suggest that distance from government does not affect government subsidies. Across all 5 columns, the coefficients on the variable *Distance* are small, flip signs, and are never statistically significant at conventional levels.[16]

In the Panels B and C of Table 5, we consider additional real effects of distance from government beyond firms' operating performance. In Panel B of Table 5, we consider firms' annual growth in assets, equity, and sales. We find that distant firms experience significantly higher growth rates: An increase of 10km in distance from government corresponds to 1.0%, 2.1%, and 0.7% higher growth rates in assets, equity, and sales, respectively. These effects are all highly statistically significant at the 1% level.

[16] In Panel A of Internet Appendix Table A3, we include the different measures of government subsidies as additional control variables in the baseline performance regressions estimated in Table 4. In these regressions we focus on ROA since it is based on net income, which includes nonrecurring earnings such as government subsidies. Across all measures of government subsidies, we find that government subsidy is related to higher performance, and, more importantly, that the positive effect of distance from government on performance continues to hold even after controlling for subsidies.

In Panel C of Table 5, we investigate the effect of distance from government on firms' entry and exit rates. We find higher entry rates in regions located further away from city-level government. Conversely, exit rates are lower in distant regions. We also find that the growth in the number of firms is higher in distant regions. These effects are all highly economically important and statistically significant at the 1% level. For example, an increase of one decile in distance from government increases firms' entry rates by 1.9%.

The finding that entry rates are higher in more distant regions suggests that the results are unlikely driven by selection. Under this scenario, distant firms are more profitable because of higher barriers to entry in more distant regions and not because of less negative government involvement. Higher entry rates in distant regions, however, are inconsistent with higher barriers to entry. Instead, they suggest that government involvement acts as a barrier to entry in closer regions.[17]

In Panel D of Table 5, we investigate firm expenses as an alternative channel through which distant firms outperform firms located closer to government. Under this view, distant firms face lower costs because they are located in less expensive regions, such as outside city centers. To test this view, Columns 1 and 2 of Panel D regress total administrative and sales expenses (*SG&A*) scaled by assets and equity, respectively, on firms' distance from government. Across both Columns, the coefficient on the variable *Distance* is indistinguishable from zero at conventional significance levels, suggesting that distant firms are not facing different overall costs.[18] In Columns 3 and 4, we consider the costs of anti-pollution regulations scaled by assets

[17] In Internet Appendix Table A4, we show that the results continue to hold in a constant-composition sample that comprises only firms that appear in the census data throughout the entire sample period. These findings further suggest that the effects are not driven by a survivorship bias in the data.

[18] While the overall costs of distant and close firms are similar, we find in unreported analyses that distant firms have lower administrative expenses and higher sales expenses. These findings are consistent with Cai, Fang, and Xu (2011), who show that administrative expenses, which include the entertainment of government officials, reflect political corruption.

and equity, respectively. The purpose of these analyses is to examine whether weaker environmental regulation is driving the higher operating performance of firms located is distant regions. The results are inconsistent with this hypothesis, as anti-pollution costs appear to increase with firms' distance from government.[19]

In Panel E of Table 5, we report sub-sample results for urban and rural Collective firms, which are owned by streets/blocks and townships/villages, respectively. It is possible that distance from city government captures differences, potentially unobservable, between urban and rural firms, which may be correlated with their operating performance. The results in Panel E suggest that the effects of distance from government on firm performance are statistically and economically significant for both urban and rural Collective firms. Thus, the effect of firms' distance from government on their operating performance is not driven by fundamental differences between urban and rural firms.

In Panel F of Table 5, we investigate the role of city size in the effects. In bigger cities, firms are likely more distant from the city-level government because distances are on average bigger. If city size is correlated with the operation and efficacy of both governments and firms, the documented effects may be driven by the size of the city rather than political interactions. The estimates in Panel F suggest that the effects of distance from government on firm performance are statistically indistinguishable between small and large cities. Across all the regression models in Panel F, the coefficient on the interaction term *Distance x Large city* is never statistically significant at conventional levels. Thus, the effect of firms' distance from government on operating performance is not driven by the size of the city.

[19] The anti-pollution expenses are only available in the census data for 2004. In Panels B and C of Internet Appendix Table A3, we regress firms' operating performance (OPOA, OPOE, ROA, and ROE) on distance from government, controlling for SG&A and anti-pollution costs, respectively. We find consistent evidence that *Distance* continues to have a positive effect on operating performance even after controlling for firms' expenses.

A possible concern is that the employees of distant firms are different from those of close firms in ways that are correlated with firm performance. In Panel G of Table 5, we control for employee demographics, including gender, education, and technical background. Note that these analyses are restricted to 2004 because employee demographics are only available in the census data for 2004. As shown in Panel G, the distance effects are unaffected by the inclusion of employee demographics, suggesting that employee attributes are not driving the effect of distance from government on firm performance.

Finally, in Panel H of Table 5, we investigate the role of local employment in firm performance. In particular, the focus of local governments on employment rates is a possible channel through which government involvement can erode firm performance. Under this scenario, political career concerns drive local government officials to impose excess employment on local firms at the expense of profit maximization. To test this hypothesis, we study the effect of distance from government on firms' profitability per employee. As Panel H shows, firms' profitability per employee is higher for more distant firms, consistent with the hypothesis that governments hurt firm performance by focusing on increasing employment rates at the expense of profit maximization.

Taken together, the results in this section indicate that distance from government plays a positive role in firms' operations and performance. At the intensive margin, firms' operating performance increases with distance from government, whereas distance does not affect the level of government subsidies or expenses. At the extensive margin, firms' entry rates are higher in more distant regions, whereas exit rates are lower.

[Insert Table 5 here]

C. Government Office Relocations

In this section, we further address concerns about selection through an event study in the short window surrounding exogenous government office relocations. This setting mutes the effects of selection by shocking the distance from government of *existing firms*. Our identifying assumption is that in the short window surrounding the relocation, the resulting change in the distance from government of existing firms is exogenous due to the adjustment costs associated with relocating the firm. Note that these analyses do not focus on Collective firms, thus demonstrating that our results are not Collective firms-specific.[20]

During our sample period, 23 cities relocated their government offices. We collect the completion year of all office relocations. Since relocations can take a long time, and may start in the year prior to their completion, we use the year prior to the previous year as the pre-relocation year and the year after the relocation completion year as the post-relocation year. Since our control variables are persistent across the post- and pre-relocation years, we investigate the effect of the exogenous change in distance on the change in performance by regressing the latter on the former only using firms with no change in address before and after the relocation.

Table 6 presents the estimates. As we can see, the coefficients of the change in distance are significantly positive throughout all four columns, suggesting that an increase in the distance from the government leads to an improvement in firm performance. These effects are statistically significant at conventional levels and are economically important. An increase of 10% in distance from government following office relocations corresponds to an increase of 5.2%, 5.8%, 3.8%, and 3.5% in OPOA, OPOE, ROA, and ROE, respectively.

[20] In China, the decision to relocate government offices has been driven primarily by the rapid growth of the population and the high density of the old city centers (Wang and Yin, 2018). Thus, the relocation of government offices is unlikely driven by their proximity to certain firms.

[Insert Table 6 here]

These results mitigate the concern that the effects are driven by selection, that is, by higher barriers to entry in more distant regions. Specifically, these findings show that the effects continue to hold in the short window surrounding exogenous government office relocations, a setting that excludes firm entry by focusing on existing firms.

Taken together, the evidence thus far indicates that government involvement, as proxied by firms' distance from the local government, reduce operating performance. The next section provides evidence on the cross-sectional variation in the role of government.

3. Cross Sectional Analyses

In this section, we explore cross-sectional variations in the effect of firms' distance from government on their operating performance. We first provide evidence on the variation across industries, and then consider the role of several factors including road infrastructure, government size, legal development, and local economic conditions.[21] For brevity, these and subsequent analyses focus on *OPOA* as the main measure of operating performance because it is less susceptible to manipulation through tax and payout treatments. However, we obtain similar results using the other three measures of firm performance.

We begin the cross-sectional analyses with an industry-by-industry analysis of the effect of distance from government on firm performance. We estimate the same performance (*OPOA*) regressions as in Panel A of Table 4 separately for each of the 13 industries. The results are presented in Table 7. Each row in Table 7 corresponds to a single-industry regression, and

[21] Internet Appendix B provides a formal model of the role played by these factors.

reports the coefficient on the variable *Distance*, as well as the number of observations and the R^2. For brevity, we do not report the coefficients on the control variables. All the regressions include year and city fixed effects.

The results in Table 7 show that the effect of distance from government on operating performance is not driven by a small number of industries. The coefficient on the variable *Distance* is positive and statistically significant at conventional levels in 9 out of 13 industries, suggesting that distant firms outperform close firms. For the few exceptions, including the mining and utilities industries, the regression coefficients are statistically insignificant.

[Insert Table 7 here]

Next, we consider the role of road infrastructure. When road infrastructure is more developed, the cost of government interventions in distant firms is lower, and therefore the effect of a firm's distance from government on its performance is weaker.

We consider two measures of road infrastructure gathered from the China City Statistical Yearbook: 1) the length of existing highways (in kilometers) per capita in a given city in a given year, and 2) the number of passengers traveling by highway per capita in a given city in a given year. The first measure captures the development of road infrastructure, whereas the second measure considers the quality of road infrastructure. Columns 1 and 2 of Table 8 present the results. The distance effect is weaker when infrastructure is more developed. The interaction terms *Distance x Highway* and *Distance x Passengers* are statistically significant at the 5% level or better, and are economically meaningful. An increase of one standard deviation in the length

of existing highways per capita (the number of highway passengers per capita) corresponds to a decrease of 24.2% (30.7%) in the effect of distance on firm performance.

Next, we consider the role of government size and available resources. When the government has more resources, it is less constrained in its ability to intervene in firms' policies, and consequently, the scope of its interventions is likely bigger. Thus, the effect of a firm's distance from government on its performance would be weaker.

We consider two measures of government size: 1) the number of government staff members per capita in a given city in a given year, and 2) the sum of the government's expenditures, divided by the GDP in a given city in a given year. Columns 3 and 4 of Table 8 present the results. The distance effect is weaker when the government is bigger. The interaction terms *Distance x Government staff* and *Distance x Government expenditure* are statistically significant at the 5% level or better, and are economically nontrivial. An increase of one standard deviation in the number of employees (expenditures) corresponds to a decrease of 11.2% (21.5%) in the effect of distance on firm performance.

Taken together, the results in Table 8 suggest that when road conditions are better or when the government is bigger, being farther away from the government is less beneficial. This is so because the costs of field visits and resource expropriations at distant firms drop when roads are better and when government work force and budgets are more readily available.

[Insert Table 8 here]

Next, we investigate the role of legal system development. When the local legal system is more developed, the risk of detection is higher and the government tends to be more market-

oriented. Consequently, the effect of a firm's distance from government on its performance would be weaker.

To measure legal development, we use the province-level legal development index compiled by the National Economic Research Institute of China. This measure has been used in prior studies, such as Wang, Wong and Xia (2008). The development index is the average of four sub-indices: market intermediary development, producer protection, intellectual property rights protection, and consumer protection. The values of the indices range from zero to ten in the base year 2001, with higher scores indicating systems that are more developed. The index values can fall below zero or exceed ten before and after 2001 to reflect progress or retrogression over time. As these indices are not continuous by design, we convert them into indicator variables that equal one above the median and zero below the median.

Table 9 reports these results. The interaction term *Distance x Developed* is persistently negative across the different indices. The interaction term is statistically significant at conventional levels in 4 of the 5 cases. Based on column 1, which corresponds to the aggregate index of legal development, the effect of distance is weaker by 61.4% when development is above median, and this effect is highly statistically significant at the 1% level. Overall, these findings suggest that legal development attenuates the effects of government interventions on firm performance.

[Insert Table 9 here]

Finally, we investigate whether the role of government is weaker during economic downturns by focusing on natural disasters. Following prominent adverse economic shocks, such

as natural disasters, which draw public attention, the risk of detection is higher, and therefore the effect of a firm's distance from government on its performance is weaker.

Our tests exploit cross-province variation in exposure to the Great Flood of 1998 in China. According to the Disaster Report of the 1998 Flood (DRF) released by the Chinese Flood Control and Drought Relief Department, the flood of 1998 was the most severe natural disaster in China since 1961 in terms of the total economic loss and the size of the affected geographic area. The DRF details the damages caused by the flood along several dimensions at the level of each province: the size of the affected area, the number of affected residents, and the total economic loss.

We use the DRF to construct three measures of the severity of the flood in each province: 1) the number of residents in the flooded areas scaled by the province population, 2) the number of deaths due to the flood scaled by the province population, and 3) the total economic loss scaled by the province GDP. Given the magnitude of the 1998 flood disaster in China, we expect its impact to last several years. We therefore define the first half of our sample period, i.e., 1998 to 2002, as the affected period, and the second half as the unaffected period.

Table 10 reports estimates from difference-in-differences regressions, where the first difference is between affected and unaffected provinces, and the second difference is between the affected and unaffected period. The main variable of interest is the triple interaction term *Distance x Damage x Affected period*, which measures the incremental effect of distance on firm performance in more severely affected provinces during the affected period. Each column in Table 10 provides estimates from a single regression corresponding to a different measure of the severity of the flood (Affected population, Death, Economic loss). The standard errors are clustered at the firm level.

The results in Table 10 indicate that the effect of distance from government on firm performance was weaker following the 1998 flood in affected regions. This finding is evidenced by the negative coefficient on the triple interaction *Distance x Damage x Affected period*. This effect is statistically significant at conventional levels across the three province-levels measures of the severity of the flood, and is economically meaningful. In particular, the effect of distance from government on firm performance was 9.5% - 12.4% weaker in following the flood disaster for an increase of one standard deviation in the severity of the damage due to the flood disaster.

[Insert Table 10 here]

All in all, the effects of distance from government on firm performance weaken or strengthen in the cross-section and in the time-series. The findings suggest that road infrastructure, government size, legal development, and local economic conditions play an important role in the effect of government involvement on firm performance. The next section exploits data from the World Bank Survey to explore the mechanisms through which government interventions affect firm performance.

4. Economic Mechanisms: Evidence from the World Bank Survey

In this section, we provide direct evidence on the economic channels through which government interventions operate. We compare firms' survey responses across Collective firms to explore how their distance from local government affects their interactions with government officials. We explore the role of government along several dimensions, including government

interventions in firms' production, investment, and employment decisions, tax policies, and product market competition.

A. Data Description

The data come from the 2005 Investment Climate Survey (ICS) conducted by the World Bank. This survey covers 12,400 establishments across all industries and cities in China. By interviewing managers and owners face to face, the 2005 ICS collected comprehensive information about the day-to-day operations of firms and managers in China. In addition to standard firm-level indicators, the survey includes managers' and owners' answers to questions that the firm' accounting records do not address. Most important for our study, the survey asks direct questions about the relationship between the firm and the government. It also includes questions about potential factors impeding firm growth, customer-supplier relationships, labor, social security, infrastructure, financing, and the interactions between top management and the board of directors.

We identify Collective firms in the ICS dataset based on their ownership structure, following the same approach that we used to identify Collective firms in the Census data. Since the survey does not disclose firms' identities, we do not know the exact address of each firm. However, the survey does provide the unique county code where each firm is located. We use the coordinates of the district centroid as a proxy for the firm's location, and follow the same approach as before to calculate the distance between the firm and the local government. Our final sample includes 1,021 Collective firms from 28 industries and 114 cities in China.

Table 11 provides summary statistics for the variables used in our analysis, which are defined in Appendix B. The mean distance between the firm and the local government is 25

kilometers. There is substantial variation in distance: the standard deviation of distance is 26 kilometers. The inter-quartile range between Q1 and Q3 (25^{th} and 7^{5th} percentiles) is 38 kilometers. The average firm has a positive profit-to-sales ratio of 1% and is 13.0 ($=e^{2.562}$) years old. As Table 11 shows, the variation in firm-level characteristics in the ICS dataset is substantial and similar to the distribution we observed in the Census data (see Table 1).

[Insert Table 11 here]

B. Results

We first verify that our finding that distance from government improves firm performance continues to hold in the sample of Collective firms surveyed by the World Bank. These results are reported in Table 12. The analysis focuses on firm performance in 2004, the year immediately preceding the survey year, 2005.

We measure the firm's performance using its profit margin, defined as the ratio of total profits to total sales, because the survey dataset does not contain sufficient data to calculate the same measures of operating performance that we used in our previous analyses. The regressions control for the firm's age and fixed assets, and include city and industry fixed effects to absorb the unobservable heterogeneity across regions in China. We cluster the standard errors by industry.

Consistent with the previous findings, Table 12 shows that distant firms outperform firms closer to government. The distance effect is highly statistically significant at the 5% level and is economically important. An increase of 10 kilometers in a firm's distance from local government enhances its profit margin by 73 bps. We therefore conclude that the negative effect of being

close to the local government holds robustly in the sample of surveyed Collective firms, and devote the remainder of the analyses to investigating the mechanisms through which the local government erodes firm performance.

[Insert Table 12 here]

The survey provides direct evidence, based on managers' responses, on the interactions between the firm and the local government. We start by analyzing the response to the following question: "How much autonomy does the general manager have over production, investment, and employment?" To analyze the responses, we construct an indicator variable that equals 1 if the answer is 100% (full autonomy) and 0 otherwise.[22]

The results are reported in Table 13. Panel A provides univariate difference-in-means estimates (following the method of Graham and Harvey (2001) and Graham, Harvey, and Rajgopal (2015)), and Panel B provides multivariate regression evidence. Across both panels, we find that distance from government increases the firm's autonomy in its production, investment, and employment. In Panel A, the average autonomy of distant firms is always higher than that of close firms, and the differences are statistically significant at conventional levels for investment and employment, but not production. In panel B, the coefficients on *Distance* are positive and of similar magnitude across the different measures of autonomy, albeit they are only statistically significant for production autonomy, and are insignificant for the other two measures.

[22] The survey allowed respondents to choose from 8 levels of autonomy. About 50% of the respondents chose level 8 (100% autonomy). We therefore classify level 8 as full autonomy, and all other levels as partial autonomy.

Overall, these results are consistent with the hypothesis that the government is less likely to intervene in the decisions and policies of more distant firms. These firms are therefore able to operate more efficiently and generate higher profit margins.

[Insert Table 13 here]

The survey also provides data on the business obstacles reported by managers. We study four factors potentially impeding firms' growth that are related to government interventions: tax administration, customs, local protectionism, and anti-competitive behavior. The rating ranges from 0 for "no obstacles" to 4 for "severe impediments."

Table 14 reports univariate difference-in-means estimates (Panel A) and multivariate regression estimates (Panel B). The findings in both Panels suggest that managers of distant firms view government policies related to taxes, customs, local protectionism, and anti-competitive behaviors as less impeding than do managers of firms located closer to the local government. These findings hold robustly across the different government policies and are highly statistically significant. Taken together, these results suggest that government interventions hurt firm performance through the inefficacies that arise from the local government's tax policies and its influence on product market competition.

[Insert Table 14 here]

Lastly, in Table 15, we investigate the day-to-day interactions between firms and the government on various issues, including taxation, public security, environment, and labor and

social. The survey includes three related questions about each set of interactions: relationship with the government (rated from 1 for "bad" to 5 for "very good"), total days of interactions, and the percent of government officials who contribute to the development of the company. In addition, the survey asks firms whether they have specialized staff to handle government relationships. Panel A provides univariate difference-in-means evidence, and Panel B provides multivariate regression evidence.

The results in Table 15 suggest that across all these interactions, distant firms maintain a better relationship with the government than close firms do. Distant firms acknowledge the positive contribution of government officials to their growth. Furthermore, distant firms spend fewer days on interactions with the government and are less likely to appoint specific manpower to deal with the government, potentially saving on the costs of government interactions. These results suggest that distance from government helps firms avoid excessive interactions with the government, which often result in rent extraction and hurt firm performance.

Taken together, the evidence presented in Table 15 supports the hypothesis that distant firms enjoy a better relationship with the government along multiples dimensions. They perceive the government as playing a more positive role, spend less time on interactions with government officials, and economize on the labor costs associated with such interactions.

[Insert Table 15 here]

5. Conclusion

We study the role of government in small, unlisted Chinese firms that appear politically unconnected based on standard measures of political activity. Using variation in the exogenously determined distance between firms and city governments in China, we find that distant firms

outperform close firms. The effects are stronger when the government is smaller, when the legal systems and local infrastructure are less developed, and during non-crisis periods. We explore several channels through which the variation in the role of government may affect firm performance, and find evidence consistent with autonomy, tax policies, and anti-competitive behavior.

While most research on political connections has focused on active political connections such as board appointments, lobbying, and campaign contributions, our evidence shows that involuntary political connections that are not necessarily initiated by the firm have an important effect on firm performance. Our findings suggest that further analysis of this different type of political connections, possibly in other countries, can improve our understanding of the multifaceted role that the government plays in corporations.

Our findings have important implications because even though most firms are not politically active according to standard measures, they still have varying degrees of government involvement. While we focus on the effect on firm performance, such involvement could also influence many other firm policies and attributes, such as the firm's investment decisions and financing choices. While we focus on small, unlisted firms, other settings may also allow studying the pricing implications of government involvement.

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Appendix A: Variable definitions for the Census Data

Variable	Definition
Distance	Distance from a firm to the office address of its local government at city level in kilometers divided by 1000.
Distance_decile	A rank variable from 1 to 10 indicates the relative distance to the local government at the city level. The sample is sorted into deciles by the distance to the local government for each city.
OPOA	Operating income divided by total assets.
OPOE	Operating income divided by total equity.
ROA	Net income divided by total assets.
ROE	Net income divided by total equity.
Leverage	Total liabilities divided by total assets.
Size	Natural logarithm of total assets (in 1000RMB).
Age	Natural logarithm of the number of years since a firm was established.
Large firm	A dummy variable set to one if a firm's size is above the median size in its city in a given year.
Subsidy dummy	A dummy variable set at one if a firm received subsidy in a given year and 0 otherwise.
Subsidy	Natural logarithm of one plus the amount of subsidy (in 1000 RMB) in a given year.
Subsidy/TA	The ratio of subsidy divided by total assets.
Subsidy/Equity	The ratio of subsidy divided by total equity.
Subsidy/Employee	The ratio of subsidy divided by total number of employees.
SG&A/TA	The ratio of the sum of sales expenses and admin expenses divided by total assets.
SG&A/Equity	The ratio of the sum of sales expenses and admin expenses divided by total equity.
Anti-pollution/TA	The ratio of anti-pollution expenses divided by total assets in percentage. The anti-pollution expenses are only available in the census data for 2004.
Anti-pollution/Equity	The ratio of anti-pollution expenses divided by total equity in percentage. The anti-pollution expenses are only available in the census data for 2004.
Asset growth	Annual growth in total assets.
Equity growth	Annual growth in total equity.
Sales growth	Annual growth in total sales.
Entry	The ratio (in percent) of the number of new firms to the total number of firms in a given city in a given year.
Exit	The ratio (in percent) of the number of exiting firms to the total number of firms in a given city in a given year.
Growth in # of firms	Annual growth in the number of firms for a given region in percentage.
Urban	A dummy variable that equals one if a firm is located in an urban area and zero otherwise.
Large city	A dummy variable that equals one if a firm is located in a city with territory area above the median and zero below the median.
Union	A dummy variable that equals one if a firm has a union and zero otherwise.
%Female worker	The number of female employees divided by the total number of employees
%University degree	The number of employees with university degrees divided by the total number of employees
%Technical background	The number of employees with a technical background divided by the total number of employees

Operating income/Employee	The ratio of Operating income (in 1000 RMB) divided by total number of employees
Net income//Employee	The ratio of net income (in 1000 RMB) divided by total number of employees
Highway	The length of highway in kilometers per capita in a given city in a given year in percentage.
Passenger	The number of passengers travelling by highway per capita in a given city in a given year divided by 100.
Government staff	The number of government staffs per capita in a given city in a given year in percentage.
Government expenditure	The ratio of fiscal expenditure divided by GDP in a given city in a given year.
Legal development	The average of four sub-indices: market intermediary development, producer protection, intellectual property rights protection and consumer protection. The higher the value the stronger the legal environment.
Market intermediary development	An index measuring the development of law firms and auditing firms in a given province based on the number of lawyers and accountants scaled by local population. The higher the value the more the market intermediary development.
Producer protection	An index measuring the court's efficiency in resolving legal cases based on enterprise surveys. The higher the value the stronger the producer protection.
Intellectual property rights protection	An index measuring intellectual property rights protection based on two aspects: the ratio of R&D researchers divided by local population and the number of patents per R&D researcher. The higher the value the stronger the producer protection.
Consumer protection	An index measuring consumer protection based on the number of consumer complaints received by local Consumer Association scaled by local GDP. The higher the value the stronger the producer protection.
Affected population	The number of affected population by the 1998 flood disaster scaled by the province population in 1998.
Death	The number of deaths due to the 1998 flood disaster per 10, 000 population in 1998 in a given province.
Economic loss	The ratio of total economic loss scaled by the province GDP.

Appendix B: Variable definitions for the World Bank Survey Data

Variable	Definition
Distance	Distance from a firm to the office address of its local government at city level in kilometers divided by 1000.
Total profit/Total income	Total profits divided by total income.
Age	Natural logarithm of the number of years since a firm was established.
Fixed Asset	Natural logarithm of fixed assets value (in 1000 RMB).
Investment autonomy	How much autonomy does the GM has over the investment? 1 if full autonomy and 0 otherwise.
Employment autonomy	How much autonomy does the GM has over the employment? 1 if full autonomy and 0 otherwise.
Production autonomy	How much autonomy does the GM has over the production? 1 if full autonomy and 0 otherwise.
Tax Administration	To what extent tax administration affects your company's operation and growth? The rating ranges from 0 for "no obstacles", to 4 for "very high impeding".
Customs	To what extent customs affects your company's operation and growth? The rating ranges from 0 for "no obstacles", to 4 for "very high impeding".
Local protectionism	To what extent local protectionism affects your company's operation and growth? The rating ranges from 0 for "no obstacles", to 4 for "very high impeding".
Anti-competition behaviors	To what extent anti-competition behaviors affect your company's operation and growth? The rating ranges from 0 for "no obstacles", to 4 for "very high impeding".
Taxation relationship	Your company's interactions (for example receiving inspections, attending conferences) with the taxation department. 1=bad, 2=so-so, 3=average, 4=good, 5=very good.
Public security relationship	Your company's interactions (for example receiving inspections, attending conferences) with the public security department. 1=bad, 2=so-so, 3=average, 4=good, 5=very good.
Environment relationship	Your company's interactions (for example receiving inspections, attending conferences) with the environment department. 1=bad, 2=so-so, 3=average, 4=good, 5=very good.
Labor and social relationship	Your company's interactions (for example receiving inspections, attending conferences) with the labor and social relationship department. 1=bad, 2=so-so, 3=average, 4=good, 5=very good.
Taxation days	Total days of interaction with the taxation department.
Public security days	Total days of interaction with the public security department.
Environment days	Total days of interaction with the environment department.
Labor and social days	Total days of interaction with the labor and social relationship department.
Taxation contribution	Percent of the officials in the taxation department who contributes to the development of the company?
Public security contribution	Percent of the officials in the public security department who contributes to the development of the company?
Environment contribution	Percent of the officials in the environment department who contributes to the development of the company?
Labor and social contribution	Percent of the officials in the labor and social contribution department who contributes to the development of the company?
Specialized staff to handle government relationships	Does your company have specialized staff to handle government relationships (for example, a government relation office)? 1 = Yes, 0 = No.

Figure 1: The Cumulative Distribution Function of Firms' Locations and Officials' Visits

This figure shows the cumulative distribution functions (CDFs) of local firms' geographic locations (in the dashed line) and of visits of local government officials (in the solid line) by distance from local government for a random sample of four cities (Hengshui, Heyuan, Suqian and Zigong) from four provinces (Hebei, Guangdong, Jiangsu, and Sichuan) in the north, south, east, and west of China, respectively.

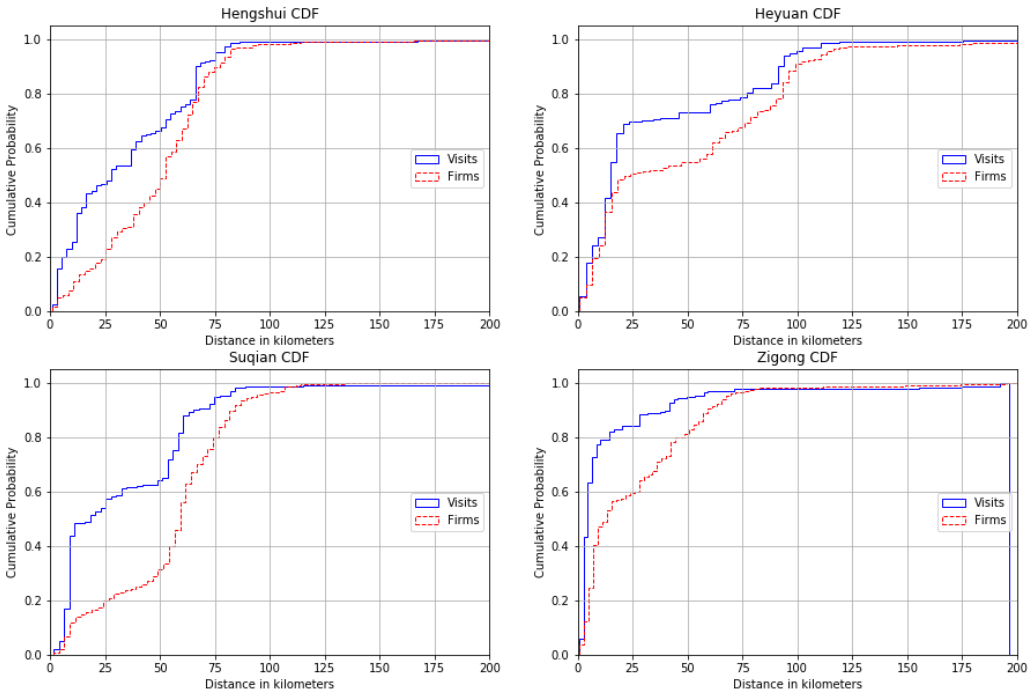


Table 1. Summary Statistics for the Census Data

This table describes the sample of Collective firms. Panel A provides summary statistics for all the variables used in the analyses, which are defined in Appendix A. Panel B describes the industry-by-industry distribution of Collective firms across close and distant firms, which are defined as firms whose distance from government is below or above the median. Panel C compares between Collective firms and other types of firms, including SOEs, private firms, and foreign firms.

Panel A: Description of Variables

Variable	Mean	S.D.	Q1	Q2	Q3
Distance	0.032	0.028	0.009	0.026	0.047
OPOA	0.099	0.203	0.001	0.032	0.117
OPOE	0.275	0.715	0.006	0.098	0.323
ROA	0.097	0.186	0.003	0.034	0.118
ROE	0.264	0.613	0.012	0.104	0.323
Leverage	0.609	0.293	0.405	0.618	0.809
Size	9.616	1.210	8.784	9.524	10.347
Age	2.441	0.795	1.946	2.485	2.996
Large firm	0.505	0.500	0.000	1.000	1.000
Union	0.552	0.497	0.000	1.000	1.000
%Female worker	0.350	0.243	0.154	0.317	0.505
%University degree	0.019	0.042	0.000	0.000	0.020
%Technical background	0.002	0.008	0.000	0.000	0.000
Operating income/Employee	13.996	34.203	0.095	3.333	14.165
Net income//Employee	14.345	32.707	0.252	3.581	14.543
Subsidy dummy	0.144	0.351	0.000	0.000	0.000
Subsidy	0.842	2.145	0.000	0.000	0.000
Subsidy/TA	0.007	0.077	0.000	0.000	0.000
Subsidy/Equity	0.015	0.061	0.000	0.000	0.000
Subsidy/Employee	0.682	3.348	0.000	0.000	0.000
Asset growth	0.177	0.568	-0.051	0.039	0.230
Equity growth	0.352	1.755	-0.106	0.030	0.306
Sales growth	0.256	0.684	-0.068	0.121	0.381
Entry	13.448	24.532	0.000	0.000	20.000
Exit	4.961	15.394	0.000	0.000	0.000
Growth in # of firms	15.205	62.324	-16.667	0.000	27.273
SG&A/TA	0.148	0.189	0.046	0.090	0.170
SG&A/Equity	0.613	1.176	0.115	0.259	0.577
Anti-pollution/TA	0.110	0.393	0.000	0.000	0.038
Anti-pollution/Equity	0.388	1.792	0.000	0.000	0.074
Urban	0.323	0.443	0.000	0.000	1.000
Large city	0.500	0.500	0.000	1.000	1.000
Highway	0.134	0.089	0.078	0.101	0.162
Passenger	0.207	0.157	0.097	0.151	0.290
Government staff	3.114	0.587	2.691	3.013	3.418
Government expenditure	0.081	0.031	0.059	0.076	0.099
Legal development	5.079	2.547	3.200	4.380	6.350
Market intermediary development	3.032	2.042	1.390	2.200	4.660
Producer protection	4.363	2.058	2.840	4.120	5.920
Intellectual property rights protection	5.488	6.150	1.320	3.030	7.640
Consumer protection	7.819	1.973	6.600	8.130	9.410
Affected population	0.099	0.096	0.045	0.091	0.102
Dead population	0.020	0.028	0.003	0.011	0.019
Economic loss	0.025	0.043	0.006	0.011	0.012

Panel B: The distribution of Collective firms' distance from government across industries

CSRC industry classifications	Close (%)	Distant (%)	Observations
Apparel	50.28%	49.72%	15,606
Electronics	64.07%	35.93%	1,954
Food	40.29%	59.71%	9,305
Furniture	46.60%	53.40%	2,193
Gas & Chemistry	50.97%	49.03%	21,668
Machinery	55.75%	44.25%	27,281
Metal & Nonmetal	44.79%	55.21%	31,471
Mining	33.58%	66.42%	14,619
Other Manufacturing	46.70%	53.30%	2,694
Pharmaceutical	54.25%	45.75%	2,059
Printing	53.26%	46.74%	9,249
Transportation	56.12%	43.88%	5,850
Utilities	43.08%	56.92%	2,890

Panel C: Mean comparison between Collective firms and all other firms

Ownership Type	Collective	SOE	Private	Foreign
Observations	146,839	173,055	790,921	271,281
OPOA	0.099	0.003	0.109	0.063
OPOE	0.275	0.056	0.292	0.147
ROA	0.097	0.005	0.099	0.058
ROE	0.265	0.057	0.260	0.132
Distance	0.032	0.033	0.035	0.026
Size	9.614	10.422	9.388	10.322
Leverage	0.608	0.668	0.574	0.508
Employee	219.776	723.692	151.897	361.750
Age	17.751	30.279	8.607	8.306

Table 2. Local Government Officials' Visits

This table provides estimates from OLS regressions for a random sample of four cities (Hengshui, Heyuan, Suqian and Zigong) from four provinces (Hebei, Guangdong, Jiangsu, and Sichuan) in the north, south, east, and west of China, respectively. The dependent variable is the number of local government officials' visits and the explanatory variable is distance between local government and the firm (*Distance*). Column (1) presents estimates for the full sample. City fixed effects are included and the *t*-statistics (reported in parentheses) are based on heteroskedasticity robust standard errors. Columns (2) to (5) reports estimates for four cities, Hengshui, Heyuan, Suqian and Zigong, respectively. The *t*-statistics are reported in parentheses. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Full sample	Hengshui	Heyuan	Suqian	Zigong
	(1)	(2)	(3)	(4)	(5)
Distance	-0.007***	-0.004***	-0.013***	-0.007***	-0.008**
	(-7.647)	(-3.675)	(-3.378)	(-6.166)	(-2.558)
Constant	0.618***	0.450***	2.327***	0.654***	0.803***
	(11.123)	(6.601)	(7.303)	(8.743)	(5.233)
City FE	Yes	NA	NA	NA	NA
Observations	4411	1042	388	2454	527
Adjusted R^2	0.082	0.016	0.021	0.031	0.011

Table 3. Univariate Evidence

This table presents univariate evidence on mean and median operating performance. All firms in the sample are sorted into terciles formed on the geographic distance between firms and the local government. All variables are defined in Appendix A. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	1 (closest)	2	3 (most distant)	Diff = (3) - (1)
Panel A. Mean				
OPOA	0.080	0.102	0.116	0.036***
OPOE	0.230	0.272	0.327	0.097***
ROA	0.080	0.099	0.113	0.033***
ROE	0.225	0.260	0.312	0.087***
Panel A. Median				
OPOA	0.022	0.034	0.041	0.019***
OPOE	0.076	0.102	0.122	0.046***
ROA	0.024	0.037	0.044	0.020***
ROE	0.082	0.109	0.128	0.046***

Table 4. Regression Evidence

This table provides estimates from OLS regressions where the dependent variable is firm performance (OPOA, OPOE, ROA, and ROE) and the key explanatory variable is distance from government (*Distance*). Panel A reports baseline regression results. Panel B investigates the role of firm size. All variables are defined in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Baseline Regressions

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.452***	1.308***	0.413***	1.193***
	(3.733)	(4.028)	(3.604)	(4.122)
Leverage	-0.151***	0.209***	-0.150***	0.178***
	(-15.902)	(9.659)	(-16.563)	(9.528)
Size	-0.027***	-0.073***	-0.025***	-0.065***
	(-8.030)	(-7.511)	(-7.828)	(-7.401)
Age	-0.006***	-0.028***	-0.006***	-0.029***
	(-3.409)	(-5.558)	(-3.721)	(-6.276)
Constant	0.597***	1.491***	0.567***	1.350***
	(20.248)	(15.562)	(20.906)	(17.321)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,839	146,514	146,839	146,514
Adjusted R^2	0.330	0.130	0.342	0.138

Panel B. The Role of Firm Size

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.714***	1.924***	0.660***	1.764***
	(3.468)	(3.296)	(3.385)	(3.396)
Distance x Large firm	-0.532***	-1.250**	-0.500***	-1.157**
	(-2.785)	(-2.021)	(-2.788)	(-2.128)
Large firm	0.009	0.026	0.009	0.026
	(1.081)	(1.001)	(1.169)	(1.129)
Leverage	-0.151***	0.209***	-0.150***	0.179***
	(-16.001)	(9.683)	(-16.669)	(9.561)
Size	-0.024***	-0.068***	-0.022***	-0.061***
	(-7.418)	(-6.757)	(-7.330)	(-6.714)
Age	-0.006***	-0.028***	-0.006***	-0.029***
	(-3.558)	(-5.795)	(-3.879)	(-6.539)
Constant	0.565***	1.429***	0.538***	1.298***
	(21.776)	(16.062)	(22.375)	(17.735)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,839	146,514	146,839	146,514
Adjusted R^2	0.332	0.131	0.343	0.139
Distance + Distance x Large firm	*0.182***	*0.674****	*0.160***	*0.607****

Table 5. Robustness and Extensions

This table provides estimates from several robustness tests and extensions. Panel A considers direct measures of government subsidies. Panel B investigates firms' assets, equity, and sales growth rates. Panel C examines firms' entry rates, exit rates, and the growth in the number of firms. In this panel, we sort the firms in each city into deciles based on their distance from the local city government. The control variables are calculated as the median value in each city-distance decile. Panel D explores firms' expenses (including anti-pollution costs in Columns 3 and 4, which are only available in the Census data for 2004). Panel E compares between rural and urban Collective firms. Panel F compares between large and small cities. Panel G explores employee demographics, which are only available in the Census data for 2004. Panel H investigates local employment. All variables are defined in Appendix A. Industry-year and city fixed effects are included in all regressions, except for Panels C and G, which control for year and city fixed effects and industry and city fixed effect, respectively. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Government Subsidies

	Subsidy dummy	Subsidy	Subsidy/TA	Subsidy/Equity	Subsidy/Employee
	(1)	(2)	(3)	(4)	(5)
Distance	-0.025	0.294	0.023	0.029	1.161
	(-0.161)	(0.290)	(1.188)	(1.272)	(0.927)
Leverage	-0.045***	-0.354***	-0.002	0.008***	-0.588***
	(-3.960)	(-4.330)	(-1.078)	(4.872)	(-4.376)
Size	0.035***	0.275***	-0.002***	-0.001**	0.178***
	(11.272)	(10.092)	(-3.614)	(-2.494)	(5.493)
Age	-0.010***	-0.070***	-0.002***	-0.003***	-0.121***
	(-3.862)	(-4.066)	(-3.164)	(-6.208)	(-5.095)
Constant	-0.248***	-2.183***	0.015***	0.008**	-1.171***
	(-7.435)	(-8.981)	(4.607)	(1.962)	(-4.468)
Industry-year, city FE	Yes	Yes	Yes	Yes	Yes
Observations	146,839	146,839	146,839	146,839	146,839
Adjusted R^2	0.154	0.167	0.025	0.078	0.135

Panel B. Firms' growth in assets, equity, and sales

	Asset growth	Equity growth	Sales growth
	(1)	(2)	(3)
Distance	1.036***	2.067***	0.747***
	(6.159)	(5.387)	(5.029)
Leverage	-0.117***	-0.971***	-0.042***
	(-7.633)	(-23.819)	(-3.231)
Size	0.078***	0.101***	0.020***
	(25.081)	(12.942)	(4.901)
Age	-0.079***	-0.099***	-0.106***
	(-21.748)	(-9.209)	(-19.314)
Constant	-0.382***	0.647***	0.265***
	(-8.801)	(3.663)	(2.628)
Industry-year, city FE	Yes	Yes	Yes
Observations	105,004	104,795	104,926
Adjusted R^2	0.066	0.039	0.056

Panel C: Firms' entry and exit rates

	Entry (%)	Exit (%)	Growth in # of firms (%)
	(1)	(2)	(3)
Distance decile	0.191***	-0.095***	0.373***
	(3.311)	(-2.839)	(2.932)
Leverage (median)	-2.081**	1.883***	-9.209***
	(-2.194)	(4.086)	(-4.635)
Size (median)	-4.632***	-1.226***	-5.634***
	(-16.182)	(-9.908)	(-8.697)
Age (median)	-9.415***	0.432***	-11.206***
	(-23.768)	(2.642)	(-12.779)
ROA (median)	-4.745**	-3.708***	-16.603***
	(-1.967)	(-3.644)	(-3.190)
Constant	61.735***	10.050***	87.924***
	(20.958)	(5.099)	(11.645)
Year, city FE	Yes	Yes	Yes
Observations	22,722	22,722	19,594
Adjusted R^2	0.183	0.135	0.057

Panel D: Firms' expenses

	SG&A/TA	SG&A/Equity	Anti-pollution/TA	Anti-pollution/Equity
	(1)	(2)	(3)	(4)
Distance	0.020	0.101	0.298*	1.297*
	(0.296)	(0.325)	(1.796)	(1.810)
Leverage	0.014***	2.008***	0.015	0.670***
	(3.848)	(42.047)	(1.277)	(10.638)
Size	-0.039***	-0.155***	-0.028***	-0.084***
	(-21.471)	(-24.741)	(-8.249)	(-7.203)
Age	0.005***	0.001	0.007*	0.024
	(3.719)	(0.169)	(1.789)	(1.333)
ROA	0.286***	0.866***	0.194***	0.499***
	(12.349)	(8.581)	(3.379)	(3.492)
Constant	0.471***	0.956***	0.331***	0.624***
	(21.955)	(8.876)	(7.616)	(3.762)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,122	136,759	18,908	18,908
Adjusted R^2	0.209	0.209	0.082	0.045

Panel E. Urban and rural Collective firms

	OPOA		OPOE		ROA		ROE	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Distance	0.618***	0.293**	1.661***	0.868**	0.546***	0.283***	1.451***	0.865***
	(4.029)	(2.536)	(4.623)	(2.518)	(3.550)	(2.698)	(4.304)	(2.927)
Leverage	-0.146***	-0.149***	0.202***	0.226***	-0.148***	-0.146***	0.172***	0.195***
	(-14.406)	(-14.274)	(5.370)	(8.558)	(-15.581)	(-14.556)	(5.253)	(8.761)
Size	-0.022***	-0.028***	-0.061***	-0.077***	-0.021***	-0.026***	-0.058***	-0.067***
	(-6.534)	(-7.648)	(-7.170)	(-6.745)	(-6.489)	(-7.481)	(-7.125)	(-6.668)
Age	-0.011***	-0.002	-0.040***	-0.019***	-0.010***	-0.003**	-0.035***	-0.023***
	(-4.553)	(-1.463)	(-6.073)	(-3.922)	(-4.474)	(-2.276)	(-6.102)	(-5.373)
Constant	0.432***	0.639***	1.016***	1.602***	0.395***	0.611***	0.860***	1.466***
	(11.930)	(19.431)	(8.048)	(15.728)	(11.277)	(19.757)	(7.637)	(16.650)
Industry-year, city FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	55,833	91,006	55,719	90,795	55,833	91,006	55,719	90,795
Adjusted R^2	0.377	0.325	0.136	0.137	0.393	0.335	0.150	0.143

Panel F: Large versus small cities

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.525***	1.453***	0.469***	1.328***
	(2.699)	(2.807)	(2.699)	(3.006)
Distance x Large city	-0.103	-0.204	-0.078	-0.189
	(-0.388)	(-0.289)	(-0.321)	(-0.307)
Large city	0.025**	0.032	0.017*	0.024
	(2.413)	(1.016)	(1.742)	(0.825)
Leverage	-0.151***	0.208***	-0.150***	0.178***
	(-15.866)	(9.647)	(-16.518)	(9.519)
Size	-0.027***	-0.073***	-0.025***	-0.065***
	(-8.027)	(-7.511)	(-7.826)	(-7.402)
Age	-0.006***	-0.028***	-0.006***	-0.029***
	(-3.386)	(-5.534)	(-3.700)	(-6.251)
Constant	0.572***	1.460***	0.549***	1.327***
	(20.469)	(15.053)	(20.526)	(16.275)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,839	146,514	146,839	146,514
Adjusted R^2	0.331	0.130	0.342	0.139
*Distance + Distance * Large city*	0.422***	1.249***	0.391***	1.139***

Panel G. Further control employee demographics

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.581***	1.712***	0.481***	1.471***
	(4.136)	(4.432)	(3.921)	(4.363)
Leverage	-0.156***	0.185***	-0.163***	0.156***
	(-13.211)	(5.976)	(-15.086)	(5.712)
Size	-0.024***	-0.061***	-0.023***	-0.056***
	(-7.634)	(-7.450)	(-7.589)	(-7.404)
Age	-0.002	-0.017**	-0.003	-0.028***
	(-0.664)	(-2.266)	(-1.346)	(-4.003)
Union	-0.014**	-0.043**	-0.013**	-0.040***
	(-2.387)	(-2.490)	(-2.477)	(-2.594)
%Female worker	-0.069***	-0.200***	-0.070***	-0.194***
	(-7.372)	(-6.260)	(-8.220)	(-6.498)
% University degree	-0.022	0.222	-0.042	0.065
	(-0.521)	(1.387)	(-1.043)	(0.443)
%Technical background	-0.179	-0.489	-0.172	-0.672
	(-0.818)	(-0.767)	(-0.868)	(-1.238)
Constant	0.681***	1.527***	0.664***	1.459***
	(18.495)	(18.122)	(19.494)	(19.281)
Industry, city FE	Yes	Yes	Yes	Yes
Observations	18,890	18,850	18,890	18,850
Adjusted R^2	0.316	0.126	0.320	0.130

Panel H. Local Employment

	Operating income/Employee	Net income/Employee
	(1)	(2)
Distance	30.250**	31.539**
	(2.426)	(2.537)
Leverage	-22.906***	-23.329***
	(-16.961)	(-16.668)
Size	3.241***	3.584***
	(10.663)	(10.123)
Age	-2.736***	-2.873***
	(-10.019)	(-9.808)
Constant	10.902***	7.616**
	(3.439)	(2.246)
Industry-year, city FE	Yes	Yes
Observations	146,126	146,126
Adjusted R^2	0.224	0.234

Table 6. Government Offices Relocations

This table presents the effect of the change in the distance between firms and government on the change of firm performance from before to after the government office relocation. The pre-relocation period is defined as two-year before the relocation year and post-relocation period is defined as one year after the relocation. Columns (1) to (4) report the estimates using the change in OPOA, OPOE, ROA, and ROE as the dependent variable, respectively. Δ Distance is the change in the distance between firms and government from before to after the relocation. Variable definitions are provided in Appendix A. Industry and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Δ OPOA	Δ OPOE	Δ ROA	Δ ROE
	(1)	(2)	(3)	(4)
Δ Distance	1.598***	4.930***	1.142*	2.905**
	(3.473)	(4.341)	(1.946)	(2.098)
Constant	0.020	-0.037	0.020	0.119
	(0.983)	(-0.256)	(0.732)	(0.774)
Industry, city FE	Yes	Yes	Yes	Yes
Observations	4,669	4,613	4,693	4,621
Adjusted R^2	0.037	0.021	0.028	0.015

Table 7: Industry-by-Industry Analysis

This table provides estimates from industry-by-industry OLS regressions where the dependent variable is firm performance (OPOA) and the key explanatory variable is distance from government (*Distance*). Each row corresponds to a separate regression. For brevity, we only report the coefficient on *Distance*. Year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Coefficient	t-statistic	Observations	Adjusted R^2
Apparel	0.611***	(4.047)	15,606	0.235
Electronics	0.579	(1.156)	1,954	0.210
Food	0.560*	(1.714)	9,305	0.377
Furniture	0.687	(1.622)	2,193	0.339
Gas & Chemistry	0.674***	(3.852)	21,668	0.261
Machinery	0.782***	(4.809)	27,281	0.275
Metal & Nonmetal	0.381***	(3.696)	31,471	0.274
Mining	-0.080	(-0.217)	14,619	0.400
Other Manufacturing	0.523*	(1.775)	2,694	0.260
Pharmaceutical	0.457*	(1.679)	2,059	0.241
Printing	0.630***	(2.764)	9,249	0.393
Transportation	0.828***	(4.507)	5,850	0.251
Utilities	-0.071	(-0.661)	2,890	0.180

Table 8. Road Infrastructure and Government Size

This table investigates how transportation infrastructure and government characteristics mediate the effect of distance on firm performance, which is defined as operating income divided by total assets (OPOA). *Highway* is defined as the length of existing highways (in kilometers) per capita in percentage. *Passenger* is measured as the number of passengers traveling by high way per capita divided by 100. *Government staff* is defined as the number of government employees per capita in percentage at the city level. *Government expenditure* is measured as the ratio of fiscal expenditure to GDP at the city level. All these variables are defined at the city level. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)
Distance	0.789***	0.680***	1.140***	1.100***
	(4.542)	(4.008)	(2.732)	(3.727)
Distance x Highway	-2.145***			
	(-3.724)			
Highway	0.117**			
	(1.988)			
Distance x Passenger		-1.328**		
		(-2.447)		
Passenger		-0.026		
		(-0.461)		
Distance x Government staff			-0.218**	
			(-2.038)	
Government staff			0.014*	
			(1.952)	
Distance x Government expenditure				-7.630***
				(-3.143)
Government expenditure				0.129
				(1.375)
Leverage	-0.151***	-0.151***	-0.151***	-0.151***
	(-15.911)	(-15.976)	(-15.944)	(-16.052)
Size	-0.026***	-0.026***	-0.026***	-0.026***
	(-8.113)	(-8.041)	(-8.044)	(-8.069)
Age	-0.006***	-0.006***	-0.006***	-0.006***
	(-3.376)	(-3.378)	(-3.391)	(-3.525)
Constant	0.583***	0.594***	0.555***	0.580***
	(20.159)	(20.015)	(19.985)	(21.569)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,839	146,839	146,839	146,839
Adjusted R^2	0.331	0.331	0.331	0.331

Table 9. Legal Development

This table investigates how legal development mediates the effect of distance on firm performance, which is defined as operating income divided by total assets (OPOA). In Column (1), the sorting variable is the overall market and legal development, which is a combined index constructed from four dimensions: market intermediary development, producer protection, intellectual property rights protection and consumer protection. In Columns (2) to (5), we use one of above four dimensions as the sorting variables for each column. For each sorting variable, we split the sample by median and set *Developed* at one for the top half and zero for the bottom half. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Overall Development	Market Intermediary Development	Producer Protection	Intellectual Property Rights	Consumer Protection
	(1)	(2)	(3)	(4)	(5)
Distance	0.580***	0.570***	0.523***	0.532***	0.643***
	(4.429)	(3.588)	(4.769)	(4.117)	(3.900)
Distance x Developed	-0.356***	-0.344**	-0.182	-0.218*	-0.497***
	(-2.759)	(-2.041)	(-1.351)	(-1.795)	(-2.844)
Developed	0.015**	0.012*	0.012**	-0.003	-0.020**
	(2.111)	(1.743)	(2.478)	(-0.480)	(-2.120)
Leverage	-0.153***	-0.153***	-0.153***	-0.153***	-0.153***
	(-15.784)	(-15.873)	(-15.749)	(-15.769)	(-16.130)
Size	-0.026***	-0.027***	-0.026***	-0.026***	-0.027***
	(-8.089)	(-8.050)	(-8.030)	(-8.064)	(-8.051)
Age	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***
	(-3.570)	(-3.534)	(-3.574)	(-3.634)	(-3.484)
Constant	0.709***	0.711***	0.711***	0.711***	0.692***
	(20.999)	(20.895)	(20.781)	(20.602)	(21.599)
Industry-year, city FE	Yes	Yes	Yes	Yes	Yes
Observations	146,839	146,839	146,839	146,839	146,839
Adjusted R^2	0.323	0.323	0.323	0.323	0.326

Table 10. The Historical Flood Disaster in 1998

This table investigates how the historical flood disaster in 1998 mediates the effect of distance on firm performance, which is defined as operating income divided by total assets (OPOA).The severity of the flood disaster is measured from three perspectives: the number of residents in the flooded areas scaled by the province population (*Affected population*), the number of deaths due to 1998 flood disaster per 10,000 population in a given province (*Death*), and total economic loss scaled by the province GDP (*Economic loss*). All these three variables are all defined at the province level. *Affected period* is set at one for the first half period during our sample and zero for the rest years. *Affected period* is absorbed by the industry-year fixed effects. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are clustered at the firm level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Affected population	Death	Economic loss
	(1)	(2)	(3)
Distance	0.755***	0.664***	0.605***
	(12.879)	(13.122)	(12.825)
Distance x Damage x Affected period	-0.663*	-2.474**	-1.380*
	(-1.769)	(-1.962)	(-1.800)
Distance x Damage	-2.192***	-5.778***	-2.508***
	(-6.587)	(-5.168)	(-3.686)
Distance x Affected period	-0.086	-0.107*	-0.112**
	(-1.236)	(-1.770)	(-2.003)
Damage x Affected period	0.037**	-0.084	0.021
	(2.541)	(-1.581)	(0.686)
Damage	-0.355***	0.068	-0.510**
	(-5.113)	(0.177)	(-2.401)
Leverage	-0.153***	-0.153***	-0.153***
	(-61.411)	(-61.443)	(-61.501)
Size	-0.026***	-0.026***	-0.027***
	(-39.390)	(-39.357)	(-39.388)
Age	-0.006***	-0.006***	-0.006***
	(-7.925)	(-7.964)	(-7.931)
Constant	0.783	0.650	0.727
	(0.001)	(0.001)	(0.001)
Industry-year, city FE	Yes	Yes	Yes
Observations	146,839	146,839	146,839
Adjusted R^2	0.324	0.323	0.323

Table 11. Summary Statistics for the World Bank Survey Data

This table presents summary statistics for variables from the World Bank Survey data, which are defined in Appendix B.

Variable	Mean	S.D.	Q1	Q2	Q3
Distance	0.025	0.026	0.003	0.015	0.042
Total profit/Total income	0.012	0.235	0.000	0.015	0.059
Age	2.563	0.628	2.197	2.565	3.045
Fixed Asset	8.457	1.760	7.113	8.465	9.787
Investment autonomy	0.618	0.486	0.000	1.000	1.000
Employment autonomy	0.688	0.463	0.000	1.000	1.000
Production autonomy	0.731	0.444	0.000	1.000	1.000
Tax Administration	0.587	0.895	0.000	0.000	1.000
Customs	0.155	0.447	0.000	0.000	0.000
Local protectionism	0.488	0.800	0.000	0.000	1.000
Anti-competition behaviors	0.985	1.090	0.000	1.000	2.000
Taxation relationship	3.642	1.046	3.000	4.000	4.000
Public security relationship	3.429	1.100	2.000	4.000	4.000
Environment relationship	3.410	1.100	2.000	4.000	4.000
Labor and social relationship	3.502	1.079	2.000	4.000	4.000
Taxation days	22.980	24.510	7.000	15.000	30.000
Public security days	7.215	11.413	1.000	4.000	10.000
Environment days	8.390	11.852	2.000	5.000	10.000
Labor and social days	12.048	16.389	2.000	6.000	15.000
Taxation contribution	39.543	39.135	0.000	20.000	80.000
Public security contribution	33.570	38.672	0.000	10.000	80.000
Environment contribution	35.521	39.004	0.000	10.000	80.000
Labor and social contribution	37.239	39.223	0.000	20.000	80.000
Specialized staff to handle government relationships	0.204	0.403	0.000	0.000	0.000

Table 12. World Bank Survey: Performance and Distance

This table presents OLS estimates from regressing the ratio of total profit to total sales in 2004 on the distance between the firm and local government. Control variables include firm age and fixed assets. Variable definitions are provided in Appendix B. The regression includes industry and city fixed effects. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are clustered at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	Total profit/Total sales
Distance	0.727**
	(2.048)
Age	-0.026**
	(-2.199)
Fixed assets	0.005
	(1.064)
Constant	0.003
	(0.008)
Industry, city FE	Yes
Observations	1021
Adjusted R^2	0.175

Table 13. Firm Autonomy

This table investigates the relationship between firm autonomy and distance. Panel A reports results from univariate analyses. Panel B presents estimates from regressing the index of firm autonomy (1 if full autonomy and 0 otherwise) on the distance between the firm and local government. The control variables include firm age and fixed assets. Three aspects of firm autonomy are examined in columns 1-3, respectively: production, investment, and employment autonomy. Variable definitions are provided in Appendix B. Industry and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are clustered at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Univariate evidence

	Observations	Average	Close	Distant	Diff = Distant – Close
Production	1012	0.731	0.724	0.746	0.022
Investment	1012	0.618	0.596	0.658	0.062**
Employment	1011	0.688	0.673	0.717	0.044*

Panel B: Multivariate regression evidence

	Production autonomy	Investment autonomy	Employment autonomy
	(1)	(2)	(3)
Distance	1.213*	1.165	0.888
	(1.694)	(1.498)	(1.202)
Age	0.014	-0.031	-0.020
	(0.600)	(-1.167)	(-0.824)
Fixed Asset	-0.008	-0.008	-0.014
	(-0.885)	(-0.810)	(-1.473)
Constant	1.019	0.575	0.309
	(1.593)	(0.825)	(0.469)
Industry, city FE	Yes	Yes	Yes
Observations	1012	1012	1011
Adjusted R^2	0.060	0.075	0.085

Table 14. Taxes, Protectionism, and Anti-Competitive Behavior

This table investigates the relationship between distance from government and several government policies: tax administration, customs, local protectionism, and anti-competitive behavior. Panel A reports results from univariate analyses. Panel B reports estimates from regressing government policies (the rating ranges from 0 for "no obstacles", to 4 for "very high impeding") on the distance between the firm and the local government. The control variables include firm age and fixed assets. Variable definitions are provided in Appendix B. Industry and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are clustered at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Univariate evidence

	Observations	Average	Close	Distant	Diff = Distant – Close
Tax Administration	1021	0.587	0.627	0.510	-0.117**
Customs	1021	0.155	0.166	0.133	-0.033
Local protectionism	1021	0.488	0.525	0.416	-0.109**
Anti-competitive behaviors	1021	0.985	1.034	0.892	-0.142**

Panel B: Multivariate regression evidence

	Tax Administration	Customs	Local protectionism	Anti-competitive behaviors
	(1)	(2)	(3)	(4)
Distance	-3.562**	-1.809***	-3.730***	-4.050**
	(-2.510)	(-2.581)	(-2.877)	(-2.378)
Age	0.010	-0.024	-0.045	-0.019
	(0.218)	(-1.036)	(-1.040)	(-0.331)
Fixed Asset	0.062***	0.033***	0.044***	0.041*
	(3.318)	(3.548)	(2.583)	(1.829)
Constant	-0.432	2.148***	0.784	3.723**
	(-0.327)	(3.289)	(0.649)	(2.348)
Industry, city FE	Yes	Yes	Yes	Yes
Observations	1021	1021	1021	1021
Adjusted R^2	0.088	0.106	0.048	0.116

Table 15. Firms' Interactions with the Local Government

This table investigates the relationship between firms' interactions with government and distance. Panel A reports results from univariate analyses. Subpanels A to D of Panel B present estimates from regressing the interactions between firms and different government departments: taxation (Subpanel A), public security (Subpanel B), environment (Subpanel C), and labor and social (Subpanel D) on the distance between the firm and local government. Three aspects of interactions are examined: relationship with the department, rated from 1 for "bad" to 5 for "very good (Column 1), total days of interactions (Column 2), and the percent of the officials in the department who contribute to the development of the company (Column 3). Subpanel E of Panel B presents estimates from regressing the dummy variable of whether the firm has specialized staff to handle government relationships on the distance between the firm and local government. Control variables include firm age and fixed assets. Variable definitions are provided in Appendix B. Industry and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are clustered at the industry level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A: Univariate evidence

	Observations	Average	Close	Distant	Diff = Distant – Close
Tax					
Relationship	1009	3.642	3.597	3.728	0.131**
Days	1008	22.980	24.299	20.489	-3.810***
Contribution	985	39.543	38.523	41.486	2.964
Public Security					
Relationship	938	3.429	3.344	3.585	0.241***
Days	937	7.215	7.404	6.867	-0.538
Contribution	916	33.570	32.251	36.016	3.765*
Environment					
Relationship	965	3.410	3.313	3.590	0.277***
Days	964	8.390	8.379	8.396	-0.017
Contribution	940	35.520	34.202	37.970	3.768*
Labor and social					
Relationship	981	3.502	3.442	3.613	0.171***
Days	980	12.048	13.088	10.101	-2.986***
Contribution	958	37.239	36.098	39.401	3.303
Specialized staff	1021	0.204	0.216	0.182	-0.034*

Panel B: Multivariate regression evidence

	Relationship	Days	Contribution
	(1)	(2)	(3)
Subpanel A: Tax			
Distance	3.751**	-82.960**	76.650
	(2.241)	(-2.119)	(1.448)
Age	-0.102*	-1.444	-3.171*
	(-1.845)	(-1.115)	(-1.811)
Fixed Asset	0.040*	1.217**	0.482
	(1.810)	(2.362)	(0.690)
Constant	1.123	39.330	5.597
	(0.759)	(1.095)	(0.123)
Industry, city FE	Yes	Yes	Yes
Observations	1009	1008	985
Adjusted R^2	0.099	0.102	0.371
Subpanel B: Public Security			
Distance	4.260**	-11.701	63.113
	(2.413)	(-0.600)	(1.183)
Age	-0.100*	0.713	-3.575**
	(-1.708)	(1.094)	(-2.017)
Fixed Asset	0.060**	0.765***	0.852
	(2.484)	(2.878)	(1.180)
Constant	-0.039	1.996	-1.594
	(-0.024)	(0.120)	(-0.034)
Industry, city FE	Yes	Yes	Yes
Observations	938	937	916
Adjusted R^2	0.138	0.022	0.383
Subpanel C: Environment			
Distance	5.273***	4.717	116.413**
	(2.966)	(0.242)	(2.155)
Age	-0.075	-0.111	-2.339
	(-1.266)	(-0.171)	(-1.305)
Fixed Asset	0.071***	1.374***	0.866
	(2.979)	(5.223)	(1.195)
Constant	4.434***	-14.250	7.469
	(2.853)	(-0.837)	(0.155)
Industry, city FE	Yes	Yes	Yes
Observations	965	964	940
Adjusted R^2	0.105	0.071	0.364

Subpanel D: Labor and social			
Distance	3.590**	-84.941***	67.883
	(2.058)	(-3.163)	(1.274)
Age	-0.078	1.815**	-2.167
	(-1.347)	(2.025)	(-1.219)
Fixed Asset	0.055**	1.657***	0.676
	(2.366)	(4.580)	(0.944)
Constant	2.163	-27.880	24.170
	(1.428)	(-1.133)	(0.529)
Industry, city FE	Yes	Yes	Yes
Observations	981	980	958
Adjusted R^2	0.089	0.065	0.372
Subpanel E: If have specialized staff to handle government relationships (1 = Yes, 0 = No)			
Distance		-2.105***	
		(-3.241)	
Age		-0.015	
		(-0.689)	
Fixed Asset		0.022***	
		(2.610)	
Constant		-0.358	
		(-0.590)	
Industry, city FE		Yes	
Observations		1021	
Adjusted R^2		0.058	

Internet Appendix for
"Involuntary Political Connections and Firm Outcomes"

Ran Duchin, Zhenyu Gao, and Haibing Shu

Table A1. Sample Construction Procedure

#Initial sample size (annual census from 1998 -2007)		2,225,295
Step 1	Drop observations with total assets less than total current assets or total fixed assets and for which the con the constituent elements of total assets do not add up to total assets	-3,951
Step 2	Drop observations with missing information on ownership structure	-193,437
Step 3	Drop observations from four municipalities (Beijing, Shanghai, Tianjin and Chongqing)	-254,094
Step 4	Observations with missing detailed address or 12-digit zip code	-390,614
Step 5	Drop Non-collective firms and Collective firms that have nonzero state ownership stake	-1,235,844
Step 6	Drop observations with missing values on variables used in the paper	-516
#Final sample size		146,839

Table A2. Distance and Firm Performance for Other Types of Firms

This table provides estimates for other types of firms from OLS regressions where the dependent variable is firm performance (OPOA, OPOE, ROA, and ROE) and the key explanatory variable is distance from government (Distance). Panels A, B, and C report the estimates for state-owned, private-owned, and foreign-owned enterprises, respectively. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Panel A. State-owned Enterprises				
Distance	0.153***	0.172**	0.118***	0.094*
	(8.749)	(2.565)	(8.315)	(1.719)
Leverage	-0.076***	0.154***	-0.076***	0.142***
	(-39.445)	(24.424)	(-43.582)	(24.823)
Size	0.003***	-0.004**	0.003***	-0.002*
	(5.472)	(-2.226)	(7.146)	(-1.819)
Age	-0.008***	-0.025***	-0.007***	-0.022***
	(-14.487)	(-13.396)	(-13.776)	(-13.108)
Constant	0.048***	0.015	0.050***	-0.004
	(3.657)	(0.387)	(4.335)	(-0.091)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	173,055	172,352	173,055	172,352
Adjusted R^2	0.153	0.024	0.168	0.024
Panel B. Private-owned Enterprises				
Distance	0.341***	0.910***	0.274***	0.728***
	(4.537)	(4.439)	(4.205)	(4.585)
Leverage	-0.149***	0.294***	-0.144***	0.243***
	(-22.697)	(15.897)	(-23.172)	(14.811)
Size	-0.026***	-0.069***	-0.023***	-0.058***
	(-11.428)	(-11.990)	(-10.848)	(-11.494)
Age	0.011***	0.014***	0.011***	0.014***
	(5.050)	(2.713)	(5.437)	(3.098)
Constant	0.595***	1.167***	0.549***	1.072***
	(23.123)	(13.162)	(24.624)	(14.053)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	790,921	789,644	790,921	789,644
Adjusted R^2	0.264	0.108	0.264	0.102
Panel C. Foreign-owned Enterprises				
Distance	0.298**	0.803***	0.231*	0.621**
	(2.250)	(2.606)	(1.790)	(2.164)
Leverage	-0.104***	0.128***	-0.105***	0.104***
	(-14.453)	(8.228)	(-15.845)	(7.844)
Size	-0.003	-0.011**	-0.001	-0.007*
	(-1.450)	(-2.494)	(-0.802)	(-1.872)
Age	-0.002*	-0.002	-0.001	0.001
	(-1.747)	(-0.502)	(-1.057)	(0.191)
Constant	0.094	0.157	0.084	0.150
	(0.711)	(0.652)	(0.647)	(0.670)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	271,281	271,059	271,281	271,059
Adjusted R^2	0.111	0.036	0.115	0.033

Table A3. Robustness Tests with More Control Variables

This table provides robustness tests with more control variables in the baseline performance regressions estimated in Panel A of Table 4. In Panels A, B, and C, we include different measures of government subsidies, SG&A, and anti-pollution costs respectively as additional control variables. The anti-pollution expenses are only available in the census data for 2004. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions in Panels A and B, while industry and city fixed effect are controlled in Panel C. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

Panel A. Controlling for government subsidies (Dependent value = ROA)

	(1)	(2)	(3)	(4)	(5)
Distance	0.413***	0.412***	0.412***	0.410***	0.411***
	(3.601)	(3.582)	(3.590)	(3.564)	(3.570)
Leverage	-0.150***	-0.149***	-0.150***	-0.151***	-0.149***
	(-16.368)	(-16.234)	(-16.541)	(-16.746)	(-16.213)
Size	-0.025***	-0.026***	-0.025***	-0.025***	-0.025***
	(-8.133)	(-8.435)	(-7.784)	(-7.771)	(-8.080)
Age	-0.006***	-0.006***	-0.006***	-0.006***	-0.006***
	(-3.698)	(-3.643)	(-3.656)	(-3.596)	(-3.628)
Subsidy dummy	0.010***				
	(2.793)				
Subsidy		0.003***			
		(4.995)			
Subsidy/TA			0.048**		
			(2.238)		
Subsidy/Equity				0.101***	
				(5.151)	
Subsidy/Employee					0.002***
					(5.097)
Constant	0.569***	0.574***	0.566***	0.566***	0.569***
	(21.379)	(21.861)	(20.793)	(20.807)	(21.271)
Industry-year, city FE	Yes	Yes	Yes	Yes	Yes
Observations	146,839	146,839	146,839	146,839	146,839
Adjusted R^2	0.342	0.343	0.342	0.343	0.343

Panel B: Controlling for SG&A

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.422***	1.317***	0.384***	1.237***
	(4.014)	(4.145)	(3.891)	(4.477)
Leverage	-0.145***	0.083***	-0.144***	0.086***
	(-17.159)	(2.728)	(-17.857)	(3.294)
Size	-0.016***	-0.062***	-0.015***	-0.057***
	(-6.962)	(-7.174)	(-6.545)	(-7.182)
Age	-0.007***	-0.026***	-0.007***	-0.028***
	(-3.974)	(-5.294)	(-4.326)	(-6.083)
SG&A/TA	0.226***		0.216***	
	(10.074)		(10.391)	
SG&A/Equity		0.115***		0.101***
		(9.330)		(9.190)
Constant	0.454***	1.350***	0.430***	1.224***
	(21.792)	(15.365)	(22.556)	(17.133)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	146,122	136,759	146,122	136,759
Adjusted R^2	0.369	0.205	0.384	0.219

Panel C: Controlling for anti-pollution costs

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.424***	1.260***	0.347***	1.107***
	(3.048)	(3.413)	(2.849)	(3.445)
Leverage	-0.151***	0.171***	-0.159***	0.144***
	(-14.049)	(5.573)	(-16.165)	(5.359)
Size	-0.023***	-0.056***	-0.022***	-0.053***
	(-7.308)	(-6.431)	(-7.350)	(-6.618)
Age	-0.004	-0.026***	-0.005**	-0.034***
	(-1.623)	(-3.846)	(-2.325)	(-5.336)
Anti-pollution/TA	0.033***		0.034***	
	(3.213)		(3.566)	
Anti-pollution/Equity		0.035***		0.025***
		(4.954)		(4.606)
Constant	0.754***	1.689***	0.718***	1.597***
	(20.776)	(18.464)	(21.716)	(19.529)
Industry, city FE	Yes	Yes	Yes	Yes
Observations	18,908	18,868	18,908	18,868
Adjusted R^2	0.336	0.140	0.337	0.143

Table A4. Baseline Performance Results Using a Balanced Sample

This table provides robustness test of the baseline performance results in Panel A of Table 4 using balanced sample to mitigate the concern of survivorship bias. Variable definitions are provided in Appendix A. Industry-year and city fixed effects are included in all regressions. The *t*-statistics (reported in parentheses) are based on robust standard errors, which are double-clustered at the firm and city level. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively.

	OPOA	OPOE	ROA	ROE
	(1)	(2)	(3)	(4)
Distance	0.588***	1.809***	0.546***	1.613***
	(3.748)	(3.672)	(3.719)	(3.615)
Leverage	-0.154***	0.223***	-0.149***	0.191***
	(-11.892)	(4.557)	(-12.639)	(4.596)
Size	-0.032***	-0.083***	-0.030***	-0.076***
	(-5.543)	(-5.139)	(-5.527)	(-5.295)
Age	-0.012***	-0.050***	-0.012***	-0.045***
	(-4.543)	(-5.591)	(-4.826)	(-6.054)
Constant	0.654***	1.603***	0.626***	1.477***
	(13.239)	(12.260)	(13.529)	(12.945)
Industry-year, city FE	Yes	Yes	Yes	Yes
Observations	48,470	48,400	48,470	48,400
Adjusted R^2	0.414	0.193	0.432	0.211

Appendix B: A Formal Model of Government Involvement

In this appendix, we present a simple conceptual framework to identify testable implications for the role of government in local firms. In our reduced-form model, government officials extract rents from firms. The model is silent about the nature of the private benefits that government officials extract. These can be direct monetary benefits or indirect political benefits (Dixit, Grossman, and Helpman (1997), Frye and Shleifer (1997), and Shleifer and Vishny (1998)).

Our model incorporates government interactions by focusing on the geographic distance between the firm and the government. This setup highlights the key benefit of our empirical approach, which exploits the exogeneity of the distance between Chinese Collective firms and the local government. The model includes two types of firms. The first type of firm is located close to the local government (a close firm n); the second type of firm is far away from the government (a distant firm *f*).

The local government is non-benevolent. It extracts rents R_n from firm n and R_f from firm f. Importantly, rent seeking is not costless. Let C_n and C_f denote the costs of each unit of rent extraction from the close firm and the distant firm, respectively. A firm's distance from the government captures the strength of government involvement by assuming that it is more costly for the local government to extract rents from the distant firm than from the local firm: $C_n < C_f$. The government has limited resources to spend on rent extraction, reflected in the following resource constraint:

$$C_n R_n + C_f R_f \leq B$$

The model also assumes that government officials face the risk of detection. The likelihood of detection increases in the level of the government's risk-seeking activity. Thus, we assume that the government cannot extract rents that exceed a level ρ. If it does, its rent extraction activities will be discovered. Note that this constraint is equally binding for close and distant firms. For simplicity, we assume that the government is always subject to the detection constraint, that is, we assume that the cost of extracting rents that exceed ρ is infinite:

$$\max(R_n, R_f) \leq \rho$$

Since the firms in this model are passive, and their distance from government (and therefore strength of political interactions) is exogenously determined, the model needs only consider the local government's maximization problem, which is given by:

$$\max_{R_n, R_f} R_n + R_f,$$

subject to

$$C_n R_n + C_f R_f \leq B,$$

and

$$\max(R_n, R_f) \leq \rho$$

We solve this problem focusing on the interesting case in which the constraints are binding. Since $C_n < C_f$, we arrive at the optimal solution:

$$R_n^* = \rho \text{ and } R_f^* = \frac{B - C_n \rho}{C_f}. \quad (1)$$

Next, we examine what the effect of a firm's distance from government is on its performance. Let P denote the firm's baseline performance absent the effect of government interventions. To

derive meaningful comparative statics, we assume that the two types of firms (close and distant) are identical in their baseline performance. After taking into account the rents extracted through political interactions, the performance function becomes $P - R_n$ for the close firm and $P - R_f$ for the distant firm. Substituting the optimal levels of rent extraction from Eq. (1), we arrive at the performance difference between the distant and close firms, which captures the effect of the distance from government:

$$(P - {R_f}^*) - (P - {R_n}^*) = {R_n}^* - {R_f}^* = \frac{(C_n + C_f)\rho - B}{C_f}. \quad (2)$$

Eq. (2) gives rise to the following proposition:

Proposition 1: When the above constraints are binding, distant firms outperform close firms. Furthermore, the effect of a firm's distance from government on its performance is higher when the cost of extracting rents from distant firms C_f is higher, when the government has fewer resources *B*, and when the risk of detection is lower, that is, when ρ is higher.

Discussion

We derive several testable implications based on proposition 1.

1) **Road infrastructure**. When road infrastructure is more developed, e.g., when there are more highways, C_f is lower and therefore the effect of a firm's distance from government on its performance is weaker.

2) **Government size.** When the government is bigger (e.g., when it has more personnel or a bigger financial capacity), it has more resources to spend on rent extraction, i.e., B is higher, and therefore the effect of a firm's distance from government on its performance is weaker.
3) **Legal system development.** When the local legal system is more developed, the risk of detection is higher, i.e., ρ is lower, and therefore the effect of a firm's distance from government on its performance is weaker.
4) **Economic shocks.** Following prominent adverse economic shocks, such as natural disasters, which draw the public's attention, the risk of detection is higher, i.e., ρ is lower, and therefore the effect of a firm's distance from government on its performance is weaker.

To summarize, this setup provides a way to understand the role of government, as captured by the exogenous distance between the firm and the local government, on firm performance. The reduced-form model derives testable implications for the cross-sectional and time-series variation in the role of government. In the next section, we test these predictions using Census data on Collective firms, whose geographic location, and therefore distance from government, is exogenous.