Tournament-Style Political Competition and Local Protectionism: Theory and Evidence from China*

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Abstract

We argue that inter-jurisdictional competition in a regionally decentralized authoritarian regime distorts local politicians' incentives in resource allocation among firms from their own city and a competing city. We develop a tournament model of project selection that captures the driving forces of local protectionism. The model robustly predicts that the joint presence of regional spillover and the incentive for political competition leads to biased resource allocations against the competing regions. Combining several unique data sets, we test our model predictions in the context of government procurement allocation and firms' equity investment across Chinese cities. We find that, first, when local politicians are in more intensive political competition, they allocate less government procurement contracts to firms in the competing city; second, local firms, especially local SOEs, internalize the local politicians' career concerns and invest less in the competing cities. Our paper provides a political economy explanation for inefficient local protectionism in an autocracy incentivized by tournament-style political competition.

Keywords: Political competition, Local protectionism, Government procurement, Firm investment

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1 Introduction

Competition is a central and ubiquitous concept of economic analysis. While market competition between firms typically raises the welfare of consumers, whether competition between political parties has similarly virtuous consequences remains largely underexplored, especially on the effect of political competition in an autocracy regime.[1] In electoral contexts, voters often compare the performance in their own jurisdictions with those in neighboring districts to assess the ability of incumbent politicians, forcing them into a de facto yardstick competition (Besley and Case, 1995). In their seminal theoretical paper, Besley et al. (2010) show that the lack of political competition may lead to policies that hinder economic growth, because swing voters—whose voting decision is based on parties' economic policy choices—only start to gain electoral influence when political competition exceeds a critical threshold. This argument is supported by Padovano and Ricciuti (2009) using data from Italian regions.

Our paper follows this line of inquiry, but with special attention paid to the *economic* consequences of politicians' policy choices in an *autocracy* regime, with China as the leading example. In an influential paper, Xu (2011) argues that the institutional foundation underlying the successful Chinese economic reform can be referred to as regionally decentralized authoritarianism (RDA), which is characterized by a high centralization of political powers and a high decentralization of administrative and economic powers, with the incentives of the local politicians provided via promotion tournaments (Li and Zhou, 2005). Under the RDA, local politicians are incentivized by inter-jurisdictional competition; in order to maximize their chances of career promotion, local government leaders compete against one another in spurring total investment and boosting the growth of the local economy (Yu et al., 2016; Xu, 2011). The key difference between the RDA and democracy lies in the objective of the tournament participants. While local politicians in a democracy regime mainly respond to voters' welfare, politicians in an autocracy regime only need to respond to the upper level governments' objective. In an autocracy regime where local leaders do not need to be accountable to voters, how political competition affects local policies can be more complicated. On the positive side, the powerful career concerns of politicians are considered one of the key drivers of China's economic growth over the last 30 years, and have led many to consider China a model of how a central government can provide officials with efficient career incentives (Li and Zhou, 2005; Maskin et al., 2000; Blanchard and Shleifer, 2001). On the negative side, because economic development of each region is not isolated and can be easily affected by the policies of other regions due to regional spillovers and externalities, tounament-style political competition may lead to socially inefficient resource allocation. The existing literature mostly focuses on the effect of political competition on *local* policies and economic

[1] See Besley et al. (2010) for a detailed literature review on studies of political competition in democratic regime.

performance, and has not fully accounted for the economic consequences of *tournament-style* political competition when the competition affects the *interactions* among different regions. In this paper, we set out to fill this gap.

Specifically, we ask the following questions both theoretically and empirically. First, how does tournament-style political competition affect local politicians' incentives in their economic policies regarding firms from competing regions? Second, to the extent that firms internalize local politicians' career incentives thus their investment decisions, how would political competition shape the landscape of internal economic integration in a country?

We first develop a model in which local politicians compete with each other for promotion in a tournament by selecting projects of varying returns. The model captures the driving forces of tournament-style political competition that can result in local protectionism, and robustly predicts that the joint presence of regional spillover and the incentive for political competition leads to resource allocations inefficiently biased against the competing regions. Our model also yields testable predictions regarding how the politicians' career incentives and their political network impact the inter-jurisdictional resource allocations. We show that, for each pair of competing cities, the inter-city allocation of projects or resources are higher when politicians of the city pairs share political connections, and are lower when politicians are engaged in more fierce political competition. Moreover, our model has a sharp prediction that the effect of political competition on resource allocation should be affected in the opposite directions by the local politicians' political connections and by their tenure.

We then empirically test the model's predictions regarding the relationship between city leaders' competition and the inter-jurisdictional allocation of resources in the context of Chinese cities, focusing on city governments' procurement allocations and firms' equity investment across cities.[2] As the largest emerging economy, China is a particularly important country to study. Because government procurement is often used by local governments to support firms' development, firms from another city whose local leader is in fierce competition with the procuring city will have lower probability of winning the procurement contract, everything else equal. We find that when the mayors in a city pair are closer in their promotion probability, which indicates that they are engaged in more intense political competition, they allocate less government procurement contracts to firms in the competing city. Also interestingly, we find that firms, especially local SOEs, internalizes the local politicians' career concerns and invest less in the competing cities. Both findings are consistent with inefficient local protectionism. These findings are robust to a set of alternative specifications. Our empirical findings also corroborate the model predictions that political network based

[2]In China, there are four hierarchical city levels: provincial, deputy provincial, prefectural, and county. Our sample excludes all county-level cities.

on factional ties, working experience, or personal connections reduces the distortionary bias in the resource allocation, and the distortion is more severe when the local politicians approach the end of their terms and thus have more imminent career concerns. Our analysis suggests that an unintended consequence of the tournament-style political competition under autocracy is the inefficiency in the inter-jurisdictional resource allocation and economic linkages.

Our theoretical and empirical findings highlight the potential downside of the tournament-style political competition in an autocracy. An analysis of the strategic behavior of local politicians sheds light on at least two prominent features of the Chinese economy. First, we highlight a key mechanism through which political competition affects local policies towards firms in other regions: because in the political promotion tournament local officials are assessed by the upper level government on their *relative* GDP performance (Li and Zhou, 2005), they are disincentivized to support the growth of firms from a competitor region. Without regional spillover and the promotion incentive, each city should treat firms from everywhere equally and conduct business with those of the highest quality. However, doing business with firms from other regions generates short-run economic benefits to that region, and thus enhancing the promotion probability of the competing politician. Thus, career-concerned local leaders may distort resource allocation against firms from the competing city, which results in local protectionism where local firms are favorably treated at the cost of efficiency. Lacking adequate formal market-supporting institutions, firms that often have to seek protection from the local government, take into account the local officials' preferences in their investment decisions. As a result, firms tend to invest less in cities whose local leaders are in more intense political competition against leaders of their home city, which can again lead to social inefficiency.

Related Literature. Our paper contributes to the political economy literature in several dimensions. First, we contribute to the literature on the political competition and promotion incentives of local officials in China. There is a vast empirical literature, e.g., Li and Zhou (2005), Chen et al. (2005), Xu (2011), Choi (2012), Maskin et al. (2000), among others, that document the link between promotion of a local government official and the economic performance of the city under his/her administration. Thus local leaders are likely to engage in regional tournament competition in which relative performance is a critical determinant of their promotions. We build on this strand of literature by investigating the hitherto understudied negative *consequences* of such relative performance competition for political promotion. More broadly, we shed light on the welfare implications of competition in bureaucracies (political and otherwise). It is worthwhile to compare the tournament competition among local leaders in China with Western style yardstick competition as studied

in Besley and Case (1995) and the ensuing literature. In both cases, competition involves assessment of relative performance, though in very different ways. In this sense, our paper extends our understanding of the effect of competition in more generalized settings.

The existing evidence on the role of factional ties in China's political system is mixed. Jia et al. (2015), for example, reports a complementary effect of connections and performance in determining provincial leaders' promotions, while Fisman et al. (2020) document a novel "connection punishment" phenomena: personal connections with higher level leaders result in lower promotion probability. In this paper, instead of looking at the role of factional ties in the promotion process, we study the effect of factional affinities between local leaders on their choices in the promotion tournament. Given the extant evidence that social network may promote cooperation (Apicella et al., 2012; Rand et al., 2011; Hanaki et al., 2007), it is reasonable to expect that common factional ties may facilitate cooperation between local leaders from the same factions. Our model and empirical findings confirms the intuition. In addition, we empirically corroborate our theoretical prediction that the effect of political competition on resource allocation should be affected by tenure and political connection in the opposite directions.

This paper is also related to the literature in government-market interactions. Grossman and Helpman (1994) yields clear predictions for trade protection provided by the government to special-interest groups who make political contributions to the government. Politicians make trade-offs between advantages in political competition and social welfare. Goldberg and Maggi (1999) estimates the model of Grossman and Helpman (1994) and finds that government's valuation of welfare relative to contributions is surprisingly high. In this paper, we extend the literature on the government-firm interactions in two directions. First, we also find that, local governments have the incentive to provide preferential treatment to local firms for political competition incentives at the cost of social welfare, though by a completely different mechanism. Local politicians' career concerns lead to local protectionism because they are reluctant to do business with firms from competing regions for fear of boosting political competitor's promotion prospects. Second, because the Chinese local leaders have a larger capacity to influence the local economy and react strategically to their political rivals than their counterparts in a democratic regime (Zhou, 2019; Shi et al., 2018; Shi, 2021), Chinese firms are more likely to internalize, at least partially, the local politicians' preferences in their own investment decisions. Indeed, we find evidence that politicians' career incentives in a tournament-style political competition can also distort firms' decisions.

Our study is related to but differs from the vast literature that uses spatial econometric models to study strategic interactions.[3] Spatial models studies *local* policy response to

[3]Examples include Case et al. (1993), Brueckner (1998), Bordignon et al. (2003), Fredriksson et al. (2004), Baicker (2005), Devereux et al. (2007), Devereux et al. (2007), Caldeira (2012), Revelli and Tovmo (2007), Zheng et al. (2013), Yu et al. (2016), etc.

policy choices of spatial or economic neighborhoods, while we focus on policies and resource allocations towards firms in competing cities. Thus, our unit of analysis is a city pair, and, for each pair of cities, we study how economic linkages between them (measured by allocation of procurement contracts or firm equity investment) are affected by the level of competition between the local leaders of the two cities.

Lastly, our paper is related to the study of local protectionism and internal barrier in China. It is well known that various forms of non-tariff barriers may exist within a country. Local governments' influence over the local regulatory apparatus can allow them to impose significant non-tariff barriers to discourage non-local firms, goods, or investment from entering the local markets. Young (2000) gives many examples of such non-tariff barriers in the Chinese context. Despite its prevalence and high social costs, empirical evidence on local protectionism has been mixed. In the early 2000s, China had substantial policy-induced migration costs (Poncet, 2006; Cai et al., 2008) and internal trade costs (Young, 2000; Poncet, 2005). Tombe and Zhu (2019) quantifies the magnitude and consequences of trade and migration costs with a general equilibrium model of trade and migration, and finds that the costs were high in 2000, but declined afterward. Bai and Liu (2019), on the contrary, documents rising local protectionism and studies the impact on exports and exporting firms. Barwick et al. (2021) quantifies the local protectionism in automobile market. All the papers focused on cross-provincial protectionism; moreover, they take local protectionism as the starting point and study its magnitude and effect on market outcomes. Our paper provides a political economy explanation for local protectionism within the provincial border.[4] In this paper, we provide systematic empirical evidence for China's wide local protectionism in resource allocation initiated by both governments and firms, from a unique angle of government procurement contract allocation and firms' equity investment. More importantly, we provide a political economy explanation for the prevalent and persistent local protectionism in China: political competition among local leaders creates *policy* barriers for firms from competing cities, and thus discouraging investment flows between cities.

The remainder of the paper is organized as follows. Section 2 describes the institutional background of local leaders' career incentives and the government-business relationship in China which motivates our model and empirical design. Section 3 presents a theoretical model of tournament competition that demonstrates city leaders' decision-making processes with regard to inter-jurisdiction resource allocation, and derives testable hypothesis to guide our empirical analysis. Section 4 describes the data and the main variables. Section 5 presents our primary empirical results regarding the consequences of tournament-style po-

[4]Of course, applying the same political economic mechanism one level up to the promotion tournament of provincial governors and party secretaries aiming to be promoted to the central government, we would be able to explain the cross-province protectionism that the literature has so far focused on.

litical competition. Section 6 concludes.

2 Institutional Background

In this section, we discuss three institutional features of China's political system and the government-business relationship which motivate our theoretical model and enable our empirical analysis.

2.1 Political Competition and Career Incentives of Local Leaders

China's centralized personnel control system is characterized by a hierarchical structure, and intense tournament-style promotion competition among local politicians. China adopted a one-level-down appointment system in 1984, under which the evaluation and appointment of the provincial-or-higher ranked officials are conducted by the central government, and in turn the provincial government is in charge of the supervision, evaluation and appointment of the prefectural city leaders. The appointment of a city leader is a deliberative process, and many factors may come into play, for example, political loyalty, educational qualifications, age, expertise, and the economic performance of their regions, etc. Among all these factors, regional economic performance measures (such as total output and capital investment) have been key performance indicators for the career advancement of local leaders, as documented in the literature (Li and Zhou, 2005; Yao and Zhang, 2015; Xu, 2011; Tsai, 2016).

In the hierarchical structure, there are fewer higher-ranked positions than suitable candidates from lower-level governments. Thus, local officials need to compete against their political peers for promotion. On the one hand, this incentive from the promotion tournament serves as a powerful mechanism to drive China's economic growth, as highlighted by the literature on the Chinese economy (Li and Zhou, 2005). On the other hand, the powerful incentives induced by the promotion tournament may also lead local governments to engage in short-termism behavior, whereby would sacrifice long run benefit and shift resources to projects that could quickly boost *local* economic growth to improve their chances of promotion; moreover, motivated by the strong incentives under the relative performance evaluation, local officials have little incentive to choose policies that can benefit the economic growth of competing regions. The lack of political incentives for local leaders in promoting long-run economic growth and regional coordination would be the key driving force for the biased resource allocation towards local firms, and naturally lead to local protectionism.

2.2 Government-business Dynamics

The interaction between local government officials and the business plays an important role in investment facilitation and resource allocation in China. Lacking adequate formal market-supporting institutions, Chinese firms seek protection from the local government, and the local government seeks the informal relational contract with the private enterprises. On the one hand, due to a high level of state control over the market and severe institutional frictions, it is a commonplace for private firms to invest in political connections (known as *Guanxi* in Chinese) with powerful officials in exchange for the security of investment and other preferential treatments. While the central government maintains strict control over the political and personnel governance structure, regional governments have overall responsibility for economic activities such as initiating and coordinating reforms, providing public services, and making and enforcing laws within their jurisdictions (Xu, 2011). This fundamental institutional feature of China suggests that firms have strong incentives to build relations with local governments and to follow government policies and instructions in their investment decisions (Fang et al., 2022). For example, Shi et al. (2018) finds that transfer of a local leader between prefecture cities is associated with an increase in inter-regional investment along the direction of transfer; while Shi (2021) reports that local government officials will bring more investments from their hometown to their workplace. On the other hand, government officials rely on private firms to finance development projects, boost local economy, and provide rents for their private consumption. Zhou (2019) argues that China's high rate of economic growth has been driven by a mutual embeddedness of bureaucratic markets and economic markets.

This intertwined relationship between the government and the market renders a salient role of local leaders to guide the directions of private investments. We may expect that the competition between politicians would affect the way governments interact with firms from different regions differently. In particular, in the empirical analysis, we examine the allocation of government procurement contracts, in which local governments have lots of discretion in the format and rules of bidding, as a measure of local governments' support for the firms. We may also expect that firms' interest to be highly aligned with the local governments, and thus we also examine firms' equity investment decisions to test whether the politicians' incentives are also reflected in firms' investment decisions.

2.3 Factional Ties

The third feature of the Chinese system that we incorporate in our analysis is that informal political network formed by the politicians' personal connections plays an important role in politicians' career advancement. Factions are an informal social contract that enforces a

quid-pro-quo relationship among members of that social group. Unlike party partisanship in the democratic system, factional ties in China's political system are informally formed. The informal factional ties facilitate the formation of a intertwined political network in China's political system. Politicians are connected to each other and to the upper level government through this political network. While factions may be opaque and vary over time, the literature has reached a consensus that this unique network intertwined with the politicians promotion incentive formed the foundation of the dynamic landscape of the Chinese political system (Pye, 1992; Dittmer, 1995; Shih, 2004; Li, 2012, 2013; Meyer et al., 2016; Francois et al., 2016). On the one hand, politicians from the same faction share similar background and ideologies in local policies. For example, Membership of the Communist Youth League of China (CYL), an auxiliary organization to the CCP responsible for the youth, has traditionally operated as an entry point in the CCP. Individuals with a background in the CYL are often referred to as members of the *Tuanpai*. Li (2012) argues that the CYL faction is associates with "populist" policies that benefit the rural poor and recent migrants to cities, as opposed to the policies preferred by more "elitist" groups comprised of CCP cadres connected to the Shanghai municipal administration (*Shanghai Gang*). On the other hand, factional ties affect local politicians' promotion probability and thus shaping their career incentives. Jia et al. (2015), for example, reports a complementary effect of connections and performance in determining provincial leaders' promotions. Persson and Zhuravskaya (2016) explores the role of promotions and thus career concerns in governing the policy choices of provincial leaders. Fisman et al. (2020), on the contrary, studies the intra-faction competition in the competition for China's Politburo positions and finds that sharing a hometown or college connection reduces the probability of success. We thus take into account the heterogeneity in politicians' preferences induced by the informal factional ties in our theoretical model and empirical analysis as detailed in Section 3.1.

3 A Model of Political Competition

In this section, we first build a simple tournament model in the spirit of Lazear and Rosen (1981) that incorporates project selection and economic spillover, then establish comparative statics and derive hypotheses that can be empirically tested. The model incorporates rich ingredients of economic spillover, political factions, and promotion incentives into a simple tournament, and yields rich testable implications that allow us to empirically examine the potential downsides of tournament-style political competition.

3.1 The Setup

The mayor in city $i \in \{1, 2\}$, whom we refer to as politician i, allocates a fixed budget amount – which we normalize to 1 without loss – by selecting projects from his home city i and/or the competing city j to catalyze growth and development. Each city has a unit mass of projects for the politician to choose from. Each project costs 1, and generates the same *short-term* economic benefit to the home city, which we normalize to unity.

However, projects differ in their intrinsic *quality*, which affect the city's *long-run* development. The quality of the projects in city i and j are independently drawn from the same distribution $H(\cdot)$, with support $[\underline{q}, \overline{q}]$, where $H(\cdot)$ admits a positive and continuous density function.

Spillover. Selecting a competing city's project generates positive economic spillover: If a project in city i is selected by a politician in city $j \neq i$, then city i's short-run economic performance would increase by $\tau > 0$.

Short-run Economic Performance and Political Competition Let $x_i \in [0, 1]$ denote the measure of projects that politician i selects from the *competing* city, and the remaining $1 - x_i$ be the measure of projects politician i selects from the home city. Fixing politicians' strategy profile (x_1, x_2), politician i's performance before promotion takes place, which we denote by y_i, is

$$\begin{aligned} y_i := & \underbrace{x_i + (1 - x_i) + \tau x_j}_{\text{city } i\text{'s short-run economic performance}} + \underbrace{a_i}_{\text{politician } i\text{'s ability}} + \underbrace{\epsilon_i}_{\text{noise term}} \\ & = 1 + \tau x_j + a_i + \epsilon_i, \end{aligned} \tag{1}$$

where x_i and $1 - x_i$ are the short-run economic performance generated by projects from the competing city and the home city, respectively; τx_j gives the economic spillover from the competing city; $a_i > 0$ may be interpreted as politician i's "ability," or, as in our empirical analysis, it is proxied by the *ex ante* predicted probability of politician i being promoted in order to capture how far ahead i is in the promotion tournament based on, e.g., his previous experience, performance and connections; and ϵ_i is a noise term that is drawn independently from a common distribution function. We follow Lazear and Rosen (1981) and assume that the PDF of $\epsilon_1 - \epsilon_2$, which we denote by $g(\cdot)$, is unimodal and symmetric around zero. Denote the CDF of $\epsilon_1 - \epsilon_2$ by $G(\cdot)$.

It is noteworthy that y_i is independent of x_i—i.e., the composition of city i's projects $(x_i, 1 - x_i)$ has no impact on its short-run performance but affects the competing city j's performance due to the existence of positive economic spillover.

In the promotion tournament between politicians i and j, the winner is determined by the comparison between the short-term performances of the two politicians, namely y_i and y_j: politician i wins the tournament if and only if $y_i > y_j$.

From (1), it is obvious that if the politicians only care about the probability of winning the promotion tournament, then politician i would not select projects from the competing city j, i.e., he will choose $x_i = 0$. However, we will assume that politicians also put some weight on the long-term development of their city.

Long-run Economic Performance of Selected Projects. Fixing x_i, politician i selects the highest quality projects from each city.[5] The long-run economic performance of the politician's selected projects, measured by the aggregate intrinsic quality of the selected projects in city i, amounts to

$$Q(x_i) := \underbrace{\int_{H^{-1}(1-x_i)}^{\overline{q}} qdH(q)}_{\text{projects selected from home city } i} + \underbrace{\int_{H^{-1}(x_i)}^{\overline{q}} qdH(q).}_{\text{projects selected from competing city } j} \tag{2}$$

It can be verified that $Q(x_i)$ is strictly concave in x_i, and that $Q(x_i) = Q(1 - x_i)$. Therefore, $Q(x_i)$ strictly increases with x_i for $x_i \in [0, \frac{1}{2}]$ and decreases with x_i for $x_i \in [\frac{1}{2}, 1]$. In other words, if politician i were only interested in maximizing the aggregate intrinsic quality of the selected projects, which we use to proxy the city's long-term development, politician i would choose $x_i = \frac{1}{2}$ and equalize the marginal project from the home city and the competing city.

Politician's Preference. We assume that a politician's preference consists of two components. First, politician i's derives utility from his own promotion and possibly the promotion of his competitor; second, the politician cares about his city's long-run economic performance. Specifically, we assume that the politician receives a utility gain of V if he himself wins the tournament and ascends the promotion ladder; however, he also potentially receives some utility gains from the promotion of his opponent represented by αV, where the parameter $\alpha \in [0, 1)$ measures the degree of affinity between the two politicians. In our empirical analysis below, we will use the factional ties between two competing politicians as a proxy for the strength of this affinity; indeed, it is plausible that two politicians from the same faction may benefit each other when one of them is promoted.

More formally, fixing the strategy profile (x_1, x_2), politician i's expected payoff is

$$u_i(x_i, x_j) := \delta \left[\Pr(y_i \geq y_j)V + \Pr(y_i < y_j)\alpha V\right] + (1 - \delta)Q(x_i), \tag{3}$$

[5] It can be verified that this is indeed optimal to the politician if he values the aggregate intrinsic quality, as specified in the politician's utility (3) later.

where $\delta \in (0,1)$ is the weight that the politician attaches to promotion. In our empirical section, we will hypothesize that the parameter δ increases as the politician is closer to the change of his term.

3.2 Equilibrium Analysis

A closer look at the politician' expected payoff (3) unveils the tradeoff he faces when deciding on the investment strategy. Specifically, the politician faces the tradeoff between promotion probability and the benefit he receives from his home city's long-run economic performance. Recall that x_i has no impact on y_i but increases y_j. On the one hand, to maximize his promotion probability $\Pr(y_i \geq y_j)$, politician i would not select projects from the competing city j and choose $x_i = 0$; on the other hand, to maximize the city's long-term economic performance $Q(x_i)$, he has an incentive to choose $x_i = \frac{1}{2}$. The politician's optimal strategy is thus shaped by these two countervailing forces.[6]

Denote the equilibrium strategy profile of the two politicians by (x_1^*, x_2^*). For notational convenience, let $\Delta_a := |a_1 - a_2|$. The following result can be obtained.

Proposition 1 ***(Equilibrium Characterization)*** *Consider two competing politicians with "ability" pair (a_1, a_2) and suppose that $g(\Delta_a) < \frac{\overline{q}-\underline{q}}{(1-\alpha)V\tau} \times \frac{1-\delta}{\delta}$. Then there exists a unique pure-strategy equilibrium in the political tournament, in which*

$$x_1^* = x_2^* = Q'^{-1}\left(\tau \frac{\delta}{1-\delta}(1-\alpha)Vg(\Delta_a)\right) < \frac{1}{2}.$$

The condition $g(\Delta_a) < \frac{\overline{q}-\underline{q}}{(1-\alpha)V\tau} \times \frac{1-\delta}{\delta}$ guarantees that the distribution of noise is sufficiently dispersed such that there exists a pure-strategy equilibrium. The literature (e.g., Nalebuff and Stiglitz, 1983; Drugov and Ryvkin, 2020; Ryvkin and Drugov, 2020) commonly assumes large noise, and it is well-known that a pure-strategy equilibrium may cease to exist if there is too little noise in the tournament.

Two remarks are in order. First, both politicians adopt the same strategy in the equilibrium despite the heterogeneity in their "ability" or ex ante promotion probability. This is indeed a general property in asymmetric two-player contests.[7] Second, the measure of projects that a politician selects from the competing city in the equilibrium is below the op-

[6]Note that x_i resembles "effort" in a stylized tournament model (e.g., Lazear and Rosen, 1981; Dixit, 1987). In the typical setting, a contest organizer values effort (e.g., R&D investment) or wants to reduce it (e.g., rent-seeking activity), depending on the research context. In our framework under the context of project selection, a larger x_i benefits the society if $x_i < \frac{1}{2}$, whereas it reduces social welfare otherwise.

[7]See Bastani et al. (2022) for a thorough investigation on how symmetric equilibria emerge in general asymmetric two-player contests in which ability and effort are combined to produce output according to a general production technology.

timally optimum, i.e., $x_i^* < \frac{1}{2}$. Put differently, a politician tends to select more projects from his own city in equilibrium that is socially optimal, which is an indication of *local protectionism*. Importantly, such a distortion is driven by the *joint* presence of political competition and inter-city spillover; to see this, note that the distortion disappears if politicians do not value promotion (i.e., $\delta = 0$ or $V = 0$) or if there is no economic spillover between the two cities (i.e., $\tau = 0$), because $Q'^{-1}(0) = \frac{1}{2}$.

The following comparative statics can then be established based on the equilibrium characterization established in Proposition 1.

Proposition 2 ***(Comparative Statics)*** *Consider two competing politicians with ability pair (a_1, a_2) and suppose that $g(\Delta_a) < \frac{\overline{q}-\underline{q}}{(1-\alpha)V\tau} \times \frac{1-\delta}{\delta}$. The following statements hold in the unique symmetric pure-strategy equilibrium:*

(i) The equilibrium measure of projects that politician i selects from the competing city, x_i^*, is U-shaped in his opponent's "ability" a_j and reaches the peak at $a_j = a_i$.

(ii) The equilibrium measure of projects that politician i selects from the competing city, x_i^*, increases in α —i.e., when politicians have stronger affinity.

(iii) The equilibrium measure of projects that politician i selects from the competing city, x_i^*, decreases with δ —i.e., when the politician is closer to change of his term.

(iv) The signs of the cross-partial derivatives $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}$ and $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}$ depend on the distributions of the noise term, g, and the project quality H, and are indeterminate. However, the two partials must be of opposite sign, i.e., $sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}\right) = -sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}\right)$.

3.3 Model Interpretations: From Model to Data

In this section, we briefly discuss the empirical implications of our model and derive hypotheses that will be tested in our subsequent empirical investigation.

Model Interpretations. In our model the decision maker is a local politician, say the mayor. In this context, the project selection can be interpreted as procurement by local governments. The key variables can be interpreted as follows: (i) x_i refers to the total number of procurement contracts awarded by city i's government to firms in city j (e.g., infrastructure construction); (ii) τ refers to the short-run profit each project generates (e.g., tax revenue collected from the firm that executes the project); and (iii) q refers to the long-run quality of the project.

An alternative interpretation of our model is that the decision makers are the firms in a city i, who decide on where to make their equity investment – within the home city or across

cities. The key variables can be interpreted as follows: (i) x_i refers to the equity investment from a representative firm in city i to firms in city j; (ii) τ refers to the short-run benefit from such investment on receiving city, such as employment and taxes, etc; and (iii) q refers to future returns from the equity investment. In this context, a firm in city i may care about the its value as well as the payoff of its home-city politician. More formally, suppose that the firm's payoff is given by

$$\pi(x_i, x_j) := \lambda u_i(x_i, x_j) + (1 - \lambda)Q(x_i), \tag{4}$$

where $\lambda \in [0, 1)$ is the weight the firm attaches to the payoff of its home-city politician, and $1 - \lambda$ the weight on its long-run value. The above expression (4) can then be rewritten, by define $\hat{\delta} := \lambda\delta$, as:

$$\pi(x_i, x_j) = \hat{\delta}\left[\Pr(y_i \geq y_j)V + \Pr(y_i < y_j)\alpha V\right] + (1 - \hat{\delta})Q(x_i), \tag{5}$$

which restores the payoff function (3) and the original game considered in Section 3.1. When we take the interpretation of the firms being the decision makers, it is worth pointing out that State-owned Enterprises (SOEs) are typically considered more aligned with the local politician and thus have a higher λ and higher $\hat{\delta}$ than private-owned entperrises (POEs).

Testable Hypotheses. The above discussions regarding the model interpretations, together with Proposition 2, generate the following testable hypotheses:

Hypothesis 1 ***(Proposition 2(i))*** *For each pair of competing cities, the inter-city allocation of procurement contracts and firms' equity investment decrease as politicians in the two cities become more similar in their "ability" as proxied by ex ante promotion probabilities.*

Hypothesis 2 ***(Proposition 2(ii))*** *For each pair of competing cities, the inter-city allocation of procurement contracts and firms' equity investment are higher when politicians from the two cities have higher affinity toward each other as proxied by stronger political connection.*

Hypothesis 3 ***(Proposition 2(iii))*** *For each pair of competing cities, city i reduces its procurement allocated to city j's firms, and firms in city i reduces their equity investments in city j when city i's politician is closer to the change of term, and vice versa.*

Hypothesis 4 ***(Proposition 2(iv))*** *The effect of ex ante political competition (as measured by $\Delta_a \equiv |a_1 - a_2|$) on resource allocation should be affected by politicians' tenure and*

by their political connections in the opposite directions.

4 Data Sets and Descriptive Statistics

4.1 Data Sets

We combine several unique datasets to investigate the effect of political competition and political connections on the allocation of local government procurement contracts and on on firms' equity investment decisions.

The first dataset is the universe of the government procurement contracts in all prefectural-level cities in mainland China from January 2013 to December 2020. We collect this dataset from http://www.ccgp.gov.cn/, which is the official website where the detailed information of *all* government procurement contract in China are publicly released, as required by the Ministry of Finance from 2013 in an effort to increase the transparency of government procurement. For each contract, we observe the government procurer's identity, contract date, the format of the procurement, the winning contractor, the object of procurement, the winning bid, and other detailed requirements in the contract, etc. Overall, we have more than 3.8 million contracts in our data set. From this dataset, we calculate the allocation of local government procurement contracts by the total number of the contracts signed between city i's local government (or its affiliated organizations and offices) and firms in a city j, and vice versa.

Our second dataset is the firm registration database released by the Chinese State Administration for Market Regulation. This dataset covers the universe of all registered firms –over 200 million in total– in China. It contains the detailed information about a firm's location, the year of its establishment and exit (if any), the value of its registered capital, its investment history, its initial main shareholders and the records of any subsequent changes in the main shareholders, etc. We use the firm registration dataset in two ways. First, we merge it with the government procurement data described previously to obtain more information about the awardees of the contracts, especially their registration city and their ownership type. Second, based on the firms' registered location and investment history, we calculate the intercity equity investment flows between any city pair i and j in each year t, which is our second key outcome variable.

Our third dataset is the manually collected data on provincial and prefectural level politicians. The sample includes all provincial and prefectural city chiefs, including both party secretaries and governors/mayors of all Chinese provinces and cities who were in their positions between January 2003 and December 2019. For each official, we have information on his/her key personal attributes such as age, gender, place of birth, educational background,

work experience, factional ties, etc. In Section 4.3, we explain in details how we use this data set to measure local officials' ex-ante promotion probability, which we will use as proxy for a_i in the model. This is the key independent variable for our empirical analysis. We also use this dataset to construct the measures for political connections among politicians, which we will use as a proxy for α in the model. Specifically, we use information on the local politicians' work experience to measure the strong factional ties of each local leader as: Chinese Youth League (CYL), Secretary Gang (*Mishu Bang*), and Party School (*Zhongqing-ban*).[8] We also measure the weak factional ties as: central government working experience, and provincial government working experience. While these shared working experience may not indicate any commonly acknowledged factional ties as the previous ones, they are useful in measuring loose political affiliations. Lastly, we measure prefectural level leaders' local factional ties by their personal connections to the provincial level governors and party secretaries. Following Shih et al. (2012) and Fisman et al. (2020), personal connection is defined as shared hometown, shared work experience, or shared college education background. Because mayors are mainly in charge of economic issues and party secretaries are mainly in charge of political issues, we mainly focus on the competition among city mayors in our empirical analysis. This yields a sample of 1,695 individuals with 5,660 city-year observations during the sample period 2003-2019.

Our final dataset are compiled from the Chinese Prefecture City Yearbooks, from which we obtain information on the cities' population, GDP and its growth rate, etc., which we use in Section 4.3 as factors that predict local politicians' promotion probabilities (Jia et al., 2015). We also use these variables as controls in our empirical analysis.

4.2 Descriptive Statistics

In Table 1 we report the descriptive statistics for city mayors at the city-year and individual level. It shows that at any given year, 20% of the city mayors are promoted, and mayors have an average tenure of 2.6 years. The mayors' ages range from 37 to 61 with an average of 50. At individual mayor level, 94% of the mayors are male (for this reason, we have been referring mayors as "he" in the exposition). In terms of education, 21% of the city mayors have doctor degree at the time of service and 58% have master degree, and 17% have bachelor degree. As for the measure for political connection, 20% are characterized as "CYL", 17% are characterized as "Secretary Gang", and 22% are characterized as "Party school". Based on working experience, 48% of the city mayors have worked in the

[8]Note that our definition here is slightly different from the literature in studying the factional ties of provincial or higher-level leaders, which would also include Shanghai Clique (*Shanghai Bang*) and Princelings (*Taizi Dang*. The reason that we do not include these two factions is that at the prefecture city level, there is almost no members associated with Shanghai Clique or Princelings.

provincial government bureaus, and 5% have working experience in the central government departments. Based on personal connections, 13% are connected to the provincial governor, and 11% are connected to the provincial party secretary.

[Table 1 about here]

In Tables 2 we report the descriptive statistics for prefectural cities in our data sample. In Panel A, we report the summary statistics for the control variables at city level. Panel B reports the statistics for city-pair-year level observations within the same province, which is the main data sample for our empirical analysis. We first report the summary statistics for our dependent variables of interest. The average yearly inter-city equity investment flow between different cities within the same province is 937.5 million CNY, with about 62% from SOEs, and 38% from POEs. Among the investment from SOEs, less than 6% are from central SOEs, and the other 94% is from local SOEs. For the period 2013-2019, the average yearly number of government procurement contracts signed between a city government and a firm registered in a different city is 59.8, with a maximum of 8401. We then report the three measures for political network measured at city-pair level. 12.9% of the city pairs in the same province belong to the same political faction; 23.9% of the city mayor pairs shared the same kind of, albeit not necessarily overlapping, working experience; and 3.2% of them belong to the same personal political network of the provincial governor or provincial party secretary. Panel C reports the statistics for city pairs from different provinces. The average yearly inter-city equity investment flow between cities from different provinces is 38.86 million CNY, which is only about 4% as the size of inter-city equity investment flow between cities from the same province; and the average number of procurement contracts signed is just slightly larger than 1.

[Table 2 about here]

4.3 Predicting Local Politicians' Ex Ante Promotion Probabilities

The theoretical framework in Section 3 shows that the distortion in resource allocation is the most severe when the two politicians have the same "ability", and the distortion gets smaller as the distance between their abilities $|a_i - a_j|$ gets larger. In order to test our model hypothesis, we first need to construct the empirical measure for the politicians' "ability", which we proxy by the ex ante (and exogenous) promotion probability.[9]

The ruling Chinese Communist Party (CCP)'s cadre evaluation system and promotion decisions crucially depend on the personal characteristics including local officials' factional

[9] As can be seen from Eq. 1, a_i indeed represents the ex ante probability of i's promotion probability in tournament competition against j, in the absence of the short-term economic performance considerations.

ties with various top leaders, educational qualifications, age, work experience, and economic performance, etc. (see, e.g., Li and Zhou, 2005; Shih et al., 2012; Jia et al., 2015; Fisman et al., 2020). Motivated by this arguably objective and rigid evaluation system, we construct measures of the incentive for political competition based on the similarities between local officials' personal characteristics and working experience. We follow the literature to construct a single index summarizing all factors that may potentially affect one's promotion probability, such as age, gender, education level, tenure, factional ties, and the cities' economic performance, etc. Our method of constructing the measurement for career incentive is very similar to that of Wang et al. (2020), but we include a full set of variables to take into account all relevant factors documented in the literature.[10] We construct the single index by estimating their likelihood of promotion based on these personal characteristics. We first define a promotion dummy variable for each city-year cell to be equal to 1 if the mayor in the city was promoted to a higher-level position by the end of the year.[11] We then regress the promotion dummy on the set of personal and city characteristics, and we then use the estimated coefficients to predict the *ex ante* promotion likelihood for each of the city leaders in each year. The predicted promotion likelihood serves as the index that captures all important personal characteristics that may affect one's promotion probability, exactly as a_i does in the theoretical model. We assume that the leaders' career incentives increase with the predicted ex ante promotion likelihood. As such, we measure the city leaders' career incentives by their predicted promotion likelihood, which is based on their personal characteristics and the cities' characteristics. We then use the absolute difference between each pair of city mayors' predicted probability as the measure for the intensity of political competition between the two because the model predicts that politicians compete with each other when they become more similar to each other. Lastly, we need to note that we focus on city mayors only as they are the ones in charging of economic issues mainly, and the ones who closely work with firms in economic policies.

To be specific, we first run the following Logit regression, and use the predicted probability $\hat{p}_{it}$ as an empirical measure for a_i, the politician's ability.[12] The shift of the central power in 2013 and the subsequent anti-corruption campaign witnessed a great change in the local politicians as well as the party' promotion rules (Lu and Lorentzen, 2016). Thus we run the regressions separately for the two periods 2003-2012 and 2013-2019.

[10] We have tried to test the robustness of our results by using the vector of variables, such as age, education, tenure, etc., as the empirical measure for "ability" instead of using a single index, and all our results remain robust.

[11] We not only define promoting to a higher-ranked position as promotion, but also moving to a more important and powerful position as being promoted. See **xxx** for a detailed description.

[12] Alternatively, we can also use the linear probability model and all our results remain robust.

$$\log\left(\frac{p_{it}}{1-p_{it}}\right) = \gamma_0 + \gamma_1 X_{it} + \mu_i + \xi_t + \epsilon_{it}, \tag{6}$$

where p_{it} is the probability that the mayor of city i at year t is promoted, X_{it} is a vector of city-level covariates, including its Population and GDP growth rate, and the mayor's characteristics such as age, gender, education, tenure, experience, etc., and μ_i and ξ_t are respectively the city and year fixed effects.

In Table 3, we report the regression results for estimating Eq. (6). Column (1) reports the results for the period 2003-2012, and column (2) reports the results for the period 2013-2019. In both columns, we control for year and city fixed effect. It shows that the years of education have a significant positive effect on ones' promotion probability in both periods. Age and tenure has positive but statistically not significant effect on ones' promotion probability in the first period, and the effect becomes statistically significant in the second period - the politicians that are older and more experienced are more likely to be promoted. The effect of political connections on promotion probability confirms that there is indeed a change in the promotion rationale after 2013. While the "party school" has statistically significant positive effect on promotion likelihood in both periods, CYL and Mishu Gang have contradicting effects: they have positive effect on one's promotion probability before 2013, but negative effect afterwards. This is consistent with the political literature that the central government is trying to "clean up" local politicians from these two factions after Xi took place. Having central government working experience has positive effect on ones' promotion likelihood before 2013, but negative though statistically not significant effect afterwards, and having provincial government working experience has a statistically significant effect on ones' likelihood of being promoted and the magnitude is the largest. Interestingly, being personally connected to either the provincial governor or the provincial party secretary do not have any statistically significant effect on ones' promotion probability. Lastly, the cities' size measured by population and GDP growth rate have no statistically significant effect.

[Table 3 about here]

5 Empirical Results

Propositions 1 and 2 in Section 3 show that the presence of political competition and regional spillover jointly lead to local protectionism and distortions in resource allocation. In this section, we empirically test the four model predictions in the context of governments' allocation of procurement contracts and firms' equity investment decisions as discussed in Section 3.3.

5.1 Political Competition and Distortion in Resource Allocation

We use the measure constructed in Section 4.3 to test our model predictions. Hypothesis 1 predicts that for each pair of competing cities, the inter-city allocation of procurement contracts and firms' investment decrease as politicians in the two cities become more similar to each other in a, representing their *ex ante* promotion probabilities. As the competition for promotion of politicians at city level is mostly within a province and rarely crosses provincial boundaries,[13] we test the hypothesis using city pairs from the same province in our main specification, and we use city pairs from different provinces as falsification test later on. The basic estimation equation is

$$Y_{ijt} = \beta_0 + \beta_1|a_{it} - a_{jt}| + \beta_2 a_{it} + \beta_3 a_{jt} + \gamma_1 X_{it} + \gamma_2 X_{jt} + \iota_{ij} + \delta_t + \rho_k + \epsilon_{ijt}, \tag{7}$$

where Y_{ijt} is the outcome variable. As detailed in Section 3.3, we examine two sets of outcome variables: the first outcome variable measures the total number of procurement contracts signed between firms in city i and government departments in city j in year t; the second outcome variable measures equity investment flows from city j to city i in year t which is explained in more details in Section 4. a_{it} represents the promotion propensity score predicted from the first stage logit regression (6) for city i's mayor in year t; $|a_{it} - a_{jt}|$ measures the similarities in the local politicians' career incentive and thus the intensity of competition as detailed in the theoretical model; X_{it} is a set of city characteristics for city i in year t; ι_{ij} is the city-pair fixed effect; ρ_k is the fixed effect of city j's mayor in year t;[14] and ϵ_{ijt} is the error term.

It is worthwhile to note that sub-national leaders are rotated by their superiors among different regions (Xi, 2019; Yao and Zhang, 2015). The rotation of local officials creates an arguably exogenous shock to the level of political competition and local factional ties. Empirically, we examine how the *change* in the competition measures affect the allocation of government procurement contracts, and furthermore, the firms' equity investment flows between cities. By controlling for city-pair fixed effects, the identification of β_k essentially comes from the *change* of local officials, which we believe subject less to endogeneity concerns.

Remark 1 We tried different sets of fixed effects in our empirical tests, and our results remain fairly robust. All our results below are very robust to the inclusion of city fixed effect, city-by-year fixed effect, mayor fixed effect, and mayors' tenure fixed effect.

To best address endogeneity concerns, we choose to report the results with city-pair fixed effect, and report the results with other specifications in the appendix. In appendix Tables

[13] Only about 5% of the promotions of city mayors in our data sample were cross-province promotions while the remaining 95% were within-province promotions

[14] Note that this is not a city fixed effect, instead it is a mayor fixed effect.

B8 to B20, we report the regression results with province-by-year effects and use the volume of procurement contracts and volume of firm investment as the dependent variable. All results remain robust in statistically significance, and the magnitude of the effect is larger. In appendix Tables B21 to B25, we report the regression results with city-pair fixed effects and use the volume of procurement contracts and the dependent variable. All results remain qualitatively robust, with only a few becoming statistically insignificant.

Remark 2 Because our empirical tests are motivated by the theoretical model characterizing the equilibrium resource allocation among competing cities in the same province, this may lead to intra-province correlation of the outcome variables. Thus, in all our regression analysis, we estimate the standard errors using cluster-bootstrap at the province-year level (Cameron et al., 2008).

Allocation of Government Procurement Contract First, we examine the effect of political competition on the allocation of government procurement contracts. Table 4 reports the baseline estimation results of the regression as specified in Equation (7), with the log of total number of cross-city government procurement contracts being the dependent variable. The data sample include city pairs from the *same* province. We present the regression results separately for a different set of control variables, first controlling for city pair fixed effects only, and then add a set of covariates progressively as discussed in the text following Eq.(7). The results show that the total number of of cross-city government procurement contracts increases as the *difference* between the promotion probability of local politicians becomes larger, suggesting that politicians compete with the ones with similar promotion probabilities by supporting *less* firms from their competitors' regions. In Column (1), we find that increasing the difference between a_i and a_j by 0.1 (which is about 1 standard deviation) will result in an increase in the total number of cross-city allocation of procurement contracts by 3.58%. In Column (2), after controlling for the city mayors' promotion probability measure in the city pair separately, a 10% increase in the competition measure $|a_i - a_j|$ still leads to an 3.71% increase in the cross-city allocation of procurement contracts. In Column (3) we further control for the city pair's GDP and population, and all results remain robust in magnitude and statistical significance. This finding provides evidence that the incentive for political competition distorts the allocation of government procurement contracts.

One may be concerned that the assignment of local politicians are endogenous, and politicians with more intense competition were assigned to cities with less economic linkages to foster competition. To address this concern, we further control for the city mayor fixed effects. In column (4), we control for the procuring city's mayor fixed effect; that is, we assign one dummy for each specific city leader in our data, regardless of the city where

he/she served. The results are almost unchanged, which indicates that the competition effect occurred for the same city chief no matter where he/she served. Thus, the distortion of resource allocation is not driven by the turnovers of city chiefs who may have different preferences regarding which city to interact with. This corroborates our interpretation that the incentive for political competition indeed distorts the allocation of government resources and fosters local protectionism.

Among other factors that may affect local governments' decisions in procurement allocation, we find that the size of the city, measured by total population, in both the procuring city and the supply city are positively correlated with the total number of procurement contracts between the two cities. Economic development of the supply firm's city, measured by total GDP, do not have a statistically significant effect on the allocation of procurement contracts, while economic development of the procuring city are positively correlated with the amount of procurement contracts between the two cities.

[Table 4 about here]

Firms' Equity Investment Flow Second, we test whether the politicians' incentives are passed on to firms' investment decision. Table 5 reports the results of estimating Equations 7, with the log of inter-city investment flows being the dependent variable. As with allocation of procurement contracts, we present the regression results separately for a different set of control variables, first controlling only the city pair fixed effects, and then add a set of covariates progressively. The results show that the volume of firms' cross-city equity investment also increases as the *difference* between the career incentive of local politicians becomes larger. Firms, in making their investment decisions, indeed takes into account the politicians' competition incentives. In Column (1), we find that increasing the difference between a_i and a_j by 0.1 will result in an increase in inter-city equity investment by 5.68%. In Column (2), after controlling for the city mayors' promotion probability measure in the city pair separately, increasing the competition measure $|a_i - a_j|$ by 0.1 still leads to an 3.73% increase in inter-city equity investment. In Column (3) we further control for the city pair's GDP and population, and in Column (4) we further control for mayor fixed effect, and the results remain robust in magnitude and statistical significance. This finding can be driven by firms directly put weight on the politicians' utility. Alternatively, it may also because that firms, knowing that they will be discriminated against in the competing city governments' economic policies, tend to invest less in cities whose local leaders are in more intense political competition with local leaders of their home city.

[Table 5 about here]

Heterogeneous Analysis of Firm Investment As for firms' investment decisions, the theoretical model predicts that firms whose utility are more aligned with the local government are less likely to invest in a political competitor city. In reality, we may expect that the state-owned enterprises (SOEs) are more aligned with local politicians compared to private-owned enterprises (POEs) as they are owned by the government agencies. Thus, we further investigate whether the results on inter-city equity investment are driven by SOEs or POEs. More specifically, for each investing firm, we identify its ultimate shareholder through the circulated tracing process (which is also known as the depth search algorithm). Allen et al. (2019). The investing firm is identified as a SOE if a government bureau is one of the firm's ultimate owners, or a POE if otherwise.

We replicate the main regression based on this ownership type data, with the results shown in Table 6. Column (1) - (2) report the regression results for investment made by SOEs, and Column (3) - (4) report the regression results for investment made by POEs. In Column (1) and (3), we only control for the competition measure and the promotion probability of the city mayors on both sides, and the city-pair and year fixed effects, and in Column (2) and (4), we further control for the cities' characteristics and the investing cities' mayor fixed effects. The results show that the results of the effect of political competition on firm investment are mainly driven by SOEs instead of POEs. Column (2) indicates that increasing the difference between a_i and a_j by 0.1 will result in an increase in the SOE's inter-city equity investment by 18.3%. In contrast, column (4) shows that the effect on POE investment is only 3.3%. This finding corroborates our model prediction that firms whose interest are more aligned with the local government respond more to the politicians' political incentive in their investment decisions.

[Table 6 about here]

We further investigate the heterogeneity of our results on the SOE dimension. We separate the SOE investors into central SOEs, i.e., SOEs controlled by the State-Owned Assets Supervision and Administration Commission (SASAC) of the State Council or other ministries of the central government, and local SOEs, i.e., SOEs controlled by different levels of the local governments. As shown in Table 7, where the independent variables are respective the log of inter-city investment made by central SOE or local SOE, our key result in Table 6 is mainly driven by the local SOEs rather than the central SOEs. Columns (1) - (2) of Table 7 show that the investment made by central SOEs increases by about 4% if local politicians' political competition measure $|a_i - a_j|$ increase by one standard deviation. In contrast, Columns (3) - (4) of Table 7 show that the investment made by local SOEs increase by over 20% if local politicians' political competition measure $|a_i - a_j|$ increase by one standard deviation.

[Table 7 about here]

Adjacent Cities The theoretical model implies that the joint presence of regional spillover and the incentive for political competition leads to a downward biased resource allocation towards the competing regions. In another word, the allocation of government procurement contracts and firm investment should be optimal if there is no regional spillover between the two cities ($\tau = 0$) *or* no incentive for competition ($\delta = 0$). By testing model predictions using city pairs from the same province, we set the two parameters to be non-zero at the same time. Cities in the same province enjoy higher economic spillover from each other as the transaction cost, trade barriers, migration barriers, etc. are lower within the same province. At the same time their politicians engage in more intense political competition with each other – cross-province promotions are rare, and more than 95% of the promotions of city level politicians take place within the province. In order to separately identify the role of the two parameters in distorting resource allocation, we compare cities that are adjacent but not in the same province to the adjacent cities in the same province. Adjacent cities have stronger regional spillover ($\tau > 0$), while the ones that are in the same province compete with each other ($\delta > 0$) in promotion and the ones that are no do not compete ($\delta = 0$). The comparison of the two helps us identify the role of political competition, i.e. δ.

We replicate the main regression based on this adjacent cities sample, with the results shown in Table 9 and Table 8. Table 8 reports the results with the log of total number of government procurement contracts as the dependent variable. Column (1) - (2) report the regression results for the adjacent cities within the same province, and Column (3) - (4) report the regression results for the adjacent cities in different provinces. Column (1) and (2) report the regression results for the adjacent cities within the same province, and Column (3) and (4) report the regression results for the adjacent cities in different provinces. In Column (1) and (3), we only control for the competition measure and the career incentives of the city mayors on both sides, and the city-pair and year fixed effects, and in Column (2) and (4), we further control for the cities' characteristics and the investing cities' mayor fixed effects. The results show that the effect of political competition on the allocation of government procurement contracts is statistically significant for adjacent cities within the same province, and the magnitude is slightly larger than that of the average effect of city pairs within the same province. Column (2) indicates that increasing the difference between a_i and a_j by 0.1 will result in an statistically significant increase in the number of government procurement contracts acquired by firms in city j by 3%, which is of similar magnitude as the result found in the baseline model shown in Table 4. In contrast, the effect is statistically insignificant for city pairs that are cross the province borders as shown in column (3) and (4).

[Table 8 about here]

We then repeat the same exercise with the firms' equity investment being the dependent variable, and the results remain consistent and robust. Column (2) indicates that increasing the difference between a_i and a_j by 0.1 will result in an statistically significant increase in the city i's firms' equity investment to city j by 10.4%, which is larger in magnitude than the 3.8% found in the baseline model shown in Table 5. In contrast, the effect is negative and statistically insignificant for city pairs that are cross the province borders as shown in column (3) - (4).

[Table 9 about here]

To summarize, these findings confirm the role of δ, i.e. the incentive for promotion in the political competition, as the main driving force for the distortion of government resource allocation. Moreover, the larger effect found in the *adjacent* within-province city pairs sample compared to the average effect found for within-province city pairs indicates that the parameter τ, i.e. regional spillover, is also playing an important role in distorting the governments' allocation of procurement contracts and firms' investment decisions. Overall, the presence of political competition and regional spillover jointly lead to local protectionism and distortions in resource allocation.

Falsification Test As the competition for promotion of politicians at city level is mostly within province and rarely goes beyond, one would expect that the allocation of government procurement contract and firm investment should not be affected by the competition measure $|a_i - a_j|$. Thus, we conduct a falsification test and run the regression as specified in Equations (7) using city pairs from different provinces as the data sample for analysis. The results are reported in Table 10. In columns (1) - (3) we report the results for the number of government procurement. In column (1), we control for the competition measure and the career incentives of the city mayors on both sides, the cities' characteristics, and the city pair fixed effects, in column (2) we further control for mayor fixed effect and the mayors' tenure fixed effect, and in column (3) we control for city-by-year fixed effect. As shown in the table, the effect is much smaller in magnitude among cities in different provinces than among the ones in the same province and is never statistically significant. Columns (4) - (6) we repeat the exercise for inter-city firm investment. There is no significant effect of political competition on the inter-city investment flow neither, confirming that the distortion caused by the incentive for political promotion only takes place within the province. As we have shown that the effect of political competition only affect resource allocation within the same province, we use city pairs from the *same* province as the data sample for our empirical analysis below.

[Table 10 about here]

5.2 Political Connection and Competition

Hypothesis 2 predicts that for each pair of competing cities, the inter-city allocation of procurement contracts and firms' investment increase when α increases, i.e., when politicians are more similar in political connections. Intuitively, politicians with similar political connections are personally connected to each other and thus may have stronger incentive to cooperate in economic activities. For example, politicians who are both from the CYL belong to the same faction, and therefore may help each other in the political competition. We first test the hypothesis using city pairs from the same province. The regression equation is

$$Y_{ijt} = \beta_0 + \beta_1 \mathbb{1}(f_i = f_j) + \gamma_1 X_{it} + \gamma_2 X_{jt} + \iota_{ij} + \delta_t + \rho_k + \epsilon_{ijt}, \tag{8}$$

where f_i is a categorical variable measuring the type of political connection for city i's mayor, $\mathbb{1}(f_i = f_j)$ equals 1 if both sides have the *same type* of political connection. More specifically, in the empirical results, we define three types of political connection:

- $Faction = 1$ if both sides are from the CYL, or the Secretary Gang, or the Party School
- $Work = 1$ if both sides have working experience in the center, or in the provincial government
- $Connection = 1$ if both sides are personally connected to governor or provincial party secretary

Other variables are defined as in Equation (7). The coefficient of main interest is β_1, i.e. how investment changes when mayors from both sides have the same type of political connections.

Allocation of Government Procurement Contract We first examine the effect of political connection on the allocation of government procurement contracts. Table 11 reports the estimation results of regression as specified in Equations (8), with the log of total number of cross-city government procurement contracts being the dependent variable. We present the regression results separately for different type of political connections and a different set of control variables, first controlling only the political faction measure, and the city-pair and year fixed effects, and then add a set of covariates and the procuring cities' mayor fixed effect. In general, the results show that the number of cross-city government procurement contracts is higher between cities whose mayors are similar in their political connections, suggesting that politicians who have personal connections help each other as they derive utility from each others' promotion. In columns (1) and (2), we find that the number of cross-city allocation of procurement contracts increases by about 6.1% when mayors in the city pair

are from the same political faction. Columns (3) and (4) show that the number of cross-city allocation of procurement contracts increases by about 5.4% when the mayors in the city pair both have central or provincial working experience, but the effect becomes insignificant after controlling for a set of city characteristics and mayor fixed effect. Columns (5) and (6) show that the number of cross-city allocation of procurement contracts increases by about 12.1% when mayors in the city pair are both personally connected with the provincial governor or secretary. This finding suggest that personal connection to the provincial leaders has the largest effect in distorting government resource allocation. City mayors who are personally connected to provincial level leaders form an informal "faction" within the province and have the strongest ties with each other. Furthermore, these findings are consistent with our conjecture that connections based on common (but may not overlapped) working experience only create weak political ties between two politicians, and that the well-defined "factions" at provincial and higher levels only works weakly at city or lower level. In the Appendix Tables B1-B6, we provide a further breakdown of the results with detailed measures of each kind of political connection. Table B1 shows that being a member of the Party School, or Secretary Gang, or CYL have similar effects in distorting the allocation of government resources. Table B2 shows that provincial working experience, instead of central working experience, is driving the result in Table 11 columns (3) and (4); and Table B3 shows that personal connection to the provincial party secretary and the provincial governor have similar effect in distorting the allocation of government resources. These findings provide consistent evidence that political connections reinforce the quid-pro-quo relationship among members of the same informal social group, and these political connections indeed provide their members the incentive for cooperation in the tournament for promotion.

[Table 11 about here]

Firms' Equity Investment Flow Second, we repeat the exercise with the log of inter-city investment flows being the dependent variable to see whether the politicians' incentives are passed on to firms' investment decisions. Table 12 report the regression results. The results show the same pattern as for government procurement contract – firm invest more in cities whose mayors are similar in their political connections as with its own mayor, suggesting that the quid-pro-quo relationship among politicians are passed on to firms' decisions and incentivizes firms to form stronger equity network.In columns (1) and (2), we find that firms invest by about 18.7% more in cities whose mayors are from the same political faction as their own city mayors. Columns (3) and (4) show that firms invest by 12% more in cities whose mayors have the same provincial or central working experience as their own city mayors. Columns (5) and (6) show that the inter-city equity investment increases by about 11.7% when mayors in the city pair are both personally connected with the provincial governor

or secretary. As with government procurement, this finding also suggest that personal connection to the provincial leaders has the largest effect in distorting the firms' decisions. In the Appendix, Table B5 and Table B6 confirm that provincial working experience, instead of central working experience, and personal connection to the provincial party secretary, instead of to the provincial governor are driving the results in Table 12.

[Table 12 about here]

5.3 Promotion Incentive and Political Competition

Hypothesis 3 predicts that for each pair of competing cities, the inter-city allocation of procurement contracts and firms' investment decreases with δ, i.e. when politicians put higher weight on political promotion. Empirically, we measure δ with the number of years before the politicians' change of term. The closer one is to the change of term, the stronger is his/her concern for political tournament and the less he/she cares about the long-run welfare of local residents. Alternatively, the longer one is away from the change of term, the more years he/she needs to serve the local residents, and thus the more he/she cares about the quality of the projects or the welfare of local people.[15] The basic estimation equation is

$$Y_{ijt} = \beta_0 + \beta_1 BC_{it} + \beta_2 BC_{jt} + \gamma_1 X_{it} + \gamma_2 X_{jt} + \iota_{ij} + \delta_t + \rho_k + \epsilon_{ijt}, \tag{9}$$

where BC_{it} is the number of years before the change of office for mayor of city i in year t, measured as $-5, -4, -3, -2, -1, 0$. Other variables are defined as in Equation (7). The coefficient of main interest is β_2, i.e. how equilibrium allocation of government procurement contract and firm investment change as the procuring or investing city j's mayor is closer to the change of term.

Allocation of Government Procurement Contract We test the hypothesis following the routine by first examining the effect of tenure years on the allocation of government procurement contracts. Table 13 reports the estimation results of regression as specified in Equations (9), with the log of total number of cross-city government procurement contracts being the dependent variable. In column (1), we only control for the key variable of interest BC_i and BC_j, i.e. the number of Years before the change of office for mayors in the city pair and the city pair and year fixed effects, and in column (2) we further control for the city pair's promotion probability (measured by a_i and a_j), and in column (3) we further control

[15] One may believe that relationship between promotion incentive and the politicians' years of tenure is nonlinear because the ones who stay too long in the current position have very low probability of being promoted. We conduct a robustness check by restricting to the sample of politicians within three years before promotion and the results remain robust.

for the cities' characteristics and the procuring city's mayor fixed effect. The results show that one year closer to the change of term of the mayor of the procuring city on average leads to 4.8% decrease in the number of government procurement contracts from government in city j to firms in city i. These findings provide consistent evidence that local protectionism are stronger when politicians have more imminent career concerns.

[Table 13 about here]

Remark 3 In Table B7, we report regression results based on an alternative specification allowing for non-linear effect of the mayors' tenure on inter-city resource allocation. The results show that procurement contract allocation as well as firms' investment exhibit a U-shape with respect to the city mayors' tenure, with the minimum taking place around 3 years as the mayors resume office. This is consistent with the literature finding that local officials have the largest probability of being promoted in the third year and the likelihood becomes lower if he is still not promoted after three years.

Firms' Equity Investment Flow Table 12 report the regression results with the log of inter-city investment flows being the dependent variable. The results show the same pattern as for government procurement contract – firms also exhibit home-bias and invest less in other cities when their city mayors are approaching the change of term. In column (1), we only control for the key variable of interest BC_i and BC_j, i.e. the number of Years before the change of office for mayors in the city pair and the city pair and year fixed effects, and in column (2) we further control for the city pair's promotion probability (measured by a_i and a_j), and in column (3) we further control for the cities' characteristics and the procuring city's mayor fixed effect. The results show that one year closer to the change of term of the mayor of the investing firm's city on average leads to about 2% decrease in the volume of equity investment from firms in city i to firms in city j, though the coefficient becomes statistically less significant as we add in more control variables. Again, the findings corroborate that firms behave in an aligned way as with the government in selecting which city to invest in.

[Table 14 about here]

5.4 Competition Intensity

We have tested model predictions on the comparative statics regarding first order derivatives. Last but not least, we test model predictions regarding the cross-partial derivatives. Hypothesis 4 states that while the signs of the cross-partial derivatives $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}$ and $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}$ depend on the distribution of the noise term and that of the project quality and thus are

indeterminate, however, we have $sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}\right) = -sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}\right)$, i.e. the effect of political competition (as measured by $|a_i - a_j|$) on resource allocation should be affected by tenure and political connection in the opposite directions. The regression equations are

$$Y_{ijt} = \alpha + \beta_1 |a_{it} - a_{jt}| + \beta_2 \mathbb{1}(f_i = f_j) * |a_{it} - a_{jt}| + \beta_3 a_{it} + \beta_4 a_{jt} + \gamma_1 X_{it} + \gamma_2 X_{jt} + \iota_{ij} + \delta_t + \rho_k + \epsilon_{ijt}, \tag{10}$$

and

$$Y_{ijt} = \alpha + \beta_1 |a_{it} - a_{jt}| + \beta_2 BC_i * |a_{it} - a_{jt}| + \beta_3 a_{it} + \beta_4 a_{jt} + \gamma_1 X_{it} + \gamma_2 X_{jt} + \iota_{ij} + \delta_t + \rho_k + \epsilon_{ijt}, \tag{11}$$

where all variables are as previously defined. The coefficient of interest is β_2: How competition intensity change as city j's mayor are closer to the change of term or when city mayors on both sides have the same kind of political connection.

Remark 4 Hypothesis 4 may sound less intuitive compared to the previous three hypothesis. One may be concerned that are our theoretical model is curvatured by our empirical results, and thus not general enough in a broader context. Hypothesis 4 serves as an external validation of our model as it derives predictions that are purely model based, and we have no priors on the predictions at all.

Remark 5 It is worthwhile to note that Hypothesis 4 is not a natural result of Hypothesis 2 and 3. Therefore, testing hypothesis 4 is meaningful in validating our theoretical model.

Allocation of Government Procurement Contract We first examine the effect of the interaction terms on the allocation of government procurement contracts. Table 15 columns (2) - (4) report the estimation results of regression as specified in Equations (10), and columns (1) reports the estimation result of regression as specified in Equations (11), with the log of total number of cross-city government procurement contracts being the dependent variable. In column all regressions, we control for the competition measure, the cities' promotion probability, cities' characteristics, and the city pair fixed effects. columns (2)-(4) show that the coefficients of the interactions of political connection and the competition measure are positive and mostly statistically significant. This is consistent with our model prediction that The effect of political competition on resource allocation should be affected by tenure and political connection in the opposite directions. Column (2) shows that when the mayors of the city pair are not in the same political network defined by political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total number of government procurement contracts acquired by firms in city j from city i's government by 3.34%. In contrast, when the mayors of the city pair are in the same political faction,

increasing the difference between a_i and a_j by 0.1 will result in an increase in the total number of government procurement contracts acquired by firms in city j from city i's government by 6.18% 3.34%+2.84%=6.18%). Column (3) shows that when the mayors of the city pair are not in the same political network defined by common working experience, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total number of government procurement contracts acquired by firms in city j from city i's government by 3.64%. In contrast, when the mayors of the city pair are in the same political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total value of government procurement contracts acquired by firms in city j from city i's government by 3.98% (3.64%+0.34%=3.98%). Column (4) shows that when the mayors of the city pair are not in the same political network defined by personal connection to provincial leaders, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total number of government procurement contracts acquired by firms in city j from city i's government by 2.99%. In contrast, when the mayors of the city pair are in the same political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total value of government procurement contracts acquired by firms in city j from city i's government by 9.23% (2.99%+6.24%=9.23%). This is consistent with our previous finding that personal connections with the provincial leaders have the largest effect in shaping local officials' behavior.

On the contrary, Column (1) suggests that in the year of the change of office, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total value of government procurement contracts acquired by firms in city j from city i's government by 1.78%. Compared to that, one additional year before the change of the office increases the effect of political competition on procurement contract allocation by 1.93%. Thus, for the procuring city, when the mayor is one year before the change of the office, increasing the difference between a_i and a_j by 0.1 will result in an increase in the total value of government procurement contracts acquired by firms in city j from city i's government by 3.71% (1.78%+1.93%=3.71%).

[Table 15 about here]

Remark 6 To understand the economic meaning of the results, it is worthwhile to note that Hypothesis 1-3 suggest that there are three factors distorting resource allocation: the tournament for promotion among local politicians, the politicians' political network formed through different kinds of political connection, and the politicians' change of the term. The first two bias inter-city resource allocation downwards and foster local protectionism, while the latter biases inter-city resource allocation upwards. Hypothesis 4 focuses on the interactions among the three factors. The negative cross-derivative of $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}$ suggests that, while

both factors are biasing investment downwards, the interaction effect is negative, i.e., when the local politicians are closer to the change of term, the bias caused by political tournament is less severe. On the contrary, the positive cross-derivative of $\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}$ suggests that within the same political faction, politicians compete more intensively with each other as their promotion probabilities get closer. In another word, when political connection is biasing investment upwards, political competition may correct for it by downward biasing the resource allocation.

Remark 7 Columns (2)-(4) suggests that, within the same faction, the effect of political competition is stronger, i.e. politicians compete more intensively with each other as their promotion probabilities get closer. This finding is consistent with findings in the literature that members within the political faction compete more intensively with each other compared to politicians that are not in the faction (Jia et al., 2015; Fisman et al., 2020). Interestingly, for our results to reconcile with the literature, we do not need to assume in our theoretical model that politicians' promotion probability depend on their political connection or factional ties in any form. The results that intra-faction tournament for promotion is more intense than the inter-faction one can be supported even if politicians derive positive utility from the promotion of its faction members.

Firms' Equity Investment Flow We then repeat the exercise with the log of inter-city investment flows being the dependent variable. Table 16 report the regression results. The results show the same pattern as for government procurement contract – the competition measure interacting with the number of years before the change of the office have opposite effect to the competition measure interacting with the common political connection measure on inter-city firms' equity investment flow. Table 16 columns (1) - (3) report the estimation results of regression as specified in Equations (10), and columns (4) report the estimation results of regression as specified in Equations (11). Column (2) shows that when the mayors of the city pair are not in the same political network defined by political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 2.60%. In contrast, when the mayors of the city pair are in the same political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 10.65% (2.60%+8.05%=10.65%). Column (3) shows that when the mayors of the city pair are not in the same political network defined by common working experience, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 1.83%. In contrast, when the mayors of the city pair are in the same political faction, increasing the difference between a_i

and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 10.76% (1.83%+8.93%=10.76%). Column (4) shows that when the mayors of the city pair are not in the same political network defined by personal connection to provincial leaders, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 3.54%. In contrast, when the mayors of the city pair are in the same political faction, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 14.31% (3.54%+10.77%=14.31%).

On the contrary, Column (1) suggests that in the year of the change of office, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city i to firms in city j by 2.66%. Compared to that, one additional year before the change of the office increases the effect of political competition on investment by 1.75%. Thus, for the investing firms' city, when the mayor is one year before the change of the office, increasing the difference between a_i and a_j by 0.1 will result in an increase in the volume of equity investment from firms in city j to firms in city i by 4.41% (2.66%+1.75%=4.41%).

[Table 16 about here]

6 Concluding Remarks

Tournament-style political competition is often considered a foundation for institution of Regionally Decentralized Authoritarianism (RDA) underlying the Chinese economics success of the last forty years. In this paper, we examine its potential downside in driving local protectionism and in inefficient resource allocations.

We develop a theoretical model in which local politicians compete with each other in a promotion tournament based on short-term local economic performance, by allocating government contracts to firms in their own city or to firms in competing cities. The model robustly predicts that the *joint presence* of regional spillover and the promotion incentive of the local politicians leads to inefficient resource allocations biased in favor of the local firms, thus explaining local protectionism. Our model also yields testable predictions of the impact of political network and the politicians' change of office on the inter-jurisdictional resource allocation.

In the empirical part of our study, we combine several unique data sets and test four model predictions in the contexts of government procurement contract allocation and firms' equity investment across cities. We find that when the mayors in a city pair are more similar in their *ex ante* promotion prospects, which indicates that they are in more intense political competition, they allocate less government procurement contracts to firms in the competing

city. More interestingly, we find that firms, especially SOEs, who internalizes more of the local politicians' political concern, tend to invest less in the competing cities. These lead to inefficient local protectionism. These findings are robust to a set of alternative specifications. Our empirical findings also corroborate the model predictions that political network based on factional ties, working experience, or personal connections, tend to alleviate the distortion in the resource allocation, but the distortion is more severe as the local politicians approach the change of the office thus have more imminent career concerns. This analysis highlights the inefficiency in the inter-jurisdictional resource allocation and weakening of the vital economic linkages across competing cities as the downside of the tournament-style political competition under an autocracy regime. Our study provides the first systematic empirical evidence and theoretical foundation for local protectionism in China, and thus contributes to our understanding of the potential adverse consequences of political tournament. While our empirical analysis is conducted in the context of competition among prefecture city mayors and party secretaries, and thus explains the within-province protectionism, applying the same mechanism one level up to the promotion tournament of provincial governors and party secretaries aiming to be promoted to the central government, we can explain the cross-province protectionism that the literature has so far focused on.

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Table 1: Summary Statistics for Prefectural Mayors

Variable	Obs	Mean	Std. Dev.	Min	Max
Panel A: City-Year Level Observation					
Promotion	5,652	0.202	0.401	0	1
Age	5,641	50.634	3.866	37	61
Tenure	5,660	2.583	1.559	1	12
Panel B: Individual Level Observation					
Gender (1=Male, 0=Female)	1,690	0.94	0.24	0	1
Education					
College	1,682	0.04	0.21	0	1
Bachelor	1,682	0.17	0.38	0	1
Master	1,682	0.58	0.49	0	1
Doctor	1,682	0.21	0.40	0	1
Political Ties					
Chinese Youth League	1,690	0.20	0.40	0	1
Party school	1,690	0.22	0.41	0	1
Secretary gang	1,690	0.17	0.37	0	1
Central wor experience	1,690	0.05	0.23	0	1
Provincial work experience	1,690	0.48	0.50	0	1
Connection to governor	1,695	0.13	0.34	0	1
Connection to secretary	1,695	0.11	0.31	0	1

Note: This table presents the descriptive statistics of the city mayors' characteristics. The unit of observation for Panel A is city-year, and the unit of observation for Panel is mayor. The sample covers the period between 2003 and 2019.

Table 2: Descriptive Statistics for Cities

	Obs	Mean	Std. Dev.	Min	Max
Panel A: City level observation					
GDP	4,590	160388.400	259380.200	3177.31	3267987
GDP growth rate	4,211	11.746	4.280	-19.38	37.69
Population	4,602	438.532	390.164	16.37	11098.4
Panel B: City-pair level observation, same Province					
Investment	53,774	937.461	12144.310	0	1139267
Investment from SOE	53,710	589.485	7001.299	0	626374.1
Investment from POE	53,710	349.005	5748.366	0	618120.8
Investment from central SOE	53,774	34.722	649.439	0	60004.98
Investment from local SOE	53,710	554.802	6808.408	0	626346.1
Number of procurement contracts	33,586	59.77	286.06	0	8,401
Same faction	53,774	0.129	0.335	0	1
Same working experience	53,774	0.239	0.427	0	1
Same connection	53,774	0.032	0.175	0	1
Panel C: City-pair level observation, different province					
Investment	1,194,626	38.863	6579.998	0	5,001,633
Number of procurement contracts	451,978	1.45	163.30	0	2,864

Note: This table presents the descriptive statistics of the city-level and city-pair level variables used in this study. Panel A corresponds to the city-year level variables, and Panel B and Panel C corresponds to the city-pair-year level variables for city pairs within the same province and from different provinces separately. The sample covers the period between 2003 and 2019.

Table 3: Mayor Promotion Probability

	03-12	13-19
Age	0.0103	0.210***
	(0.0202)	(0.0409)
Male	0.0502	-0.692
	(0.280)	(0.514)
Education	0.301***	0.321*
	(0.0973)	(0.190)
Tenure	0.159	0.552**
	(0.166)	(0.263)
Party school	0.421**	0.561*
	(0.198)	(0.303)
Mishu	0.830**	-0.0123
	(0.331)	(0.431)
CYL	0.291**	-0.472*
	(0.144)	(0.253)
Central exp	0.306*	-0.243
	(0.172)	(0.280)
Province exp	0.751***	0.948***
	(0.0478)	(0.0813)
Governor con	-0.0565	-0.0827
	(0.143)	(0.265)
Secretary con	-0.250	-0.255
	(0.187)	(0.320)
ln(Population)	0.195	-0.350
	(0.276)	(2.146)
GDP growth rate	0.594	0.00882
	(0.731)	(0.105)
Year FE	Yes	Yes
City FE	Yes	Yes
Observations	2,620	1,157

Note: This table reports the results of estimating Equations 6 separately for the time period 2003-2012 and 2013-2019. Standard errors are clustered at city level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 4: Political Competition and Allocation of Procurement Contract

	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	0.358***	0.371***	0.349***	0.293***
	(0.102)	(0.125)	(0.122)	(0.0738)
a_i		-0.0147	0.00524	0.161
		(0.123)	(0.120)	(0.160)
a_j		-0.00866	0.0205	0.0216
		(0.113)	(0.105)	(0.0807)
$\log(\text{Population}_i)$			0.799***	0.670
			(0.284)	(0.478)
$\log(\text{Population}_j)$			1.021*	0.265*
			(0.529)	(0.137)
$\log(\text{GDP}_i)$			-0.0846	0.0741
			(0.0677)	(0.0767)
$\log(\text{GDP}_j)$			0.0804	0.0631*
			(0.0795)	(0.0371)
Constant	1.326***	1.326***	-9.391**	-0.705***
	(0.143)	(0.143)	(3.937)	(0.117)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	No	No	Yes
Observations	20,122	20,122	20,122	20,122
R-squared	0.886	0.886	0.887	0.420

Note: This table reports the results of estimating Equations 7 with log(Number of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 5: Political Competition and Firm Investment

	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	0.568***	0.373*	0.351	0.397**
	(0.183)	(0.219)	(0.216)	(0.190)
a_i		0.390	0.384	0.212
		(0.261)	(0.260)	(0.240)
a_j		-0.0311	-0.0373	-0.153
		(0.199)	(0.202)	(0.193)
$\log(\text{Population}_i)$			-0.0665	-0.145
			(0.148)	(0.227)
$\log(\text{Population}_j)$			-0.00491	-0.0871
			(0.107)	(0.104)
$\log(\text{GDP}_i)$			0.278*	0.439***
			(0.166)	(0.159)
$\log(\text{GDP}_j)$			0.300**	0.105
			(0.144)	(0.0709)
Constant	4.403***	4.398***	-3.817	-0.860***
	(0.195)	(0.196)	(4.710)	(0.281)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	No	No	Yes
Observations	53,774	53,774	53,774	53,774
R-squared	0.639	0.639	0.639	0.270

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 6: Political Competition and Firm Investment

	SOE		POE	
	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	1.823***	1.827***	0.318	0.334**
	(0.276)	(0.250)	(0.195)	(0.167)
a_i	0.832***	0.522*	0.294	0.141
	(0.262)	(0.268)	(0.220)	(0.218)
a_j	-0.156	-0.238	0.0264	-0.101
	(0.243)	(0.231)	(0.167)	(0.160)
$\log(\text{Population}_i)$		-0.0506		-0.177
		(0.277)		(0.219)
$\log(\text{Population}_j)$		-0.0720		-0.119
		(0.0931)		(0.0976)
$\log(\text{GDP}_i)$		0.433**		0.432***
		(0.179)		(0.154)
$\log(\text{GDP}_j)$		0.217**		-0.0114
		(0.0852)		(0.0661)
Constant	3.015***	-0.884***	3.975***	-0.921***
	(0.184)	(0.309)	(0.191)	(0.265)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	53,710	53,710	53,774	53,774
R-squared	0.619	0.234	0.641	0.285

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Column (1) and (2) report the regression results for investment made by SOEs, and Column (3) and (4) report the regression results for investment made by POEs. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 7: Political Competition and Firm Investment - SOE

	Central SOE		Local SOE	
	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	0.393**	0.385**	2.170***	2.204***
	(0.200)	(0.184)	(0.277)	(0.252)
a_i	-0.362**	-0.491**	0.872***	0.477*
	(0.177)	(0.220)	(0.266)	(0.270)
a_j	-0.168	-0.181	-0.159	-0.262
	(0.225)	(0.220)	(0.237)	(0.226)
$\log(\text{Population}_i)$		-0.0338		-0.0369
		(0.117)		(0.286)
$\log(\text{Population}_j)$		0.103		-0.0620
		(0.132)		(0.0905)
$\log(\text{GDP}_i)$		0.300**		0.447**
		(0.144)		(0.178)
$\log(\text{GDP}_j)$		0.694***		0.220**
		(0.0941)		(0.0890)
Constant	0.552***	0.654***	3.050***	-0.853***
	(0.0506)	(0.218)	(0.191)	(0.311)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	53,774	53,774	53,774	53,774
R-squared	0.405	0.073	0.623	0.245

Note: This table reports the results of estimating Equations 7 with $\log(\text{Volume of investment} + 1)$ being the dependent variable. The data sample include city pairs from the same province. Column (1) and (2) report the regression results for investment made by central SOEs, and Column (3) and (4) report the regression results for investment made by local SOEs. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 8: Political Competition and Procurement-Adjacent Cities

	Same Province		Different Province	
	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	0.356	0.296*	0.0455	-0.244
	(0.223)	(0.168)	(0.187)	(0.326)
a_i	-0.0452	0.195	-0.0374	-0.191
	(0.212)	(0.276)	(0.151)	(0.290)
a_j	-0.125	-0.131	0.0457	0.423
	(0.198)	(0.169)	(0.298)	(0.428)
$\log(\text{Population}_i)$		1.058		2.113
		(0.884)		(1.856)
$\log(\text{Population}_j)$		0.137		2.802
		(0.203)		(1.592)
$\log(\text{GDP}_i)$		0.0960		0.128
		(0.0881)		(0.190)
$\log(\text{GDP}_j)$		0.0843		-0.138
		(0.0614)		(0.110)
Constant	1.727***	-0.782***	0.638***	-28.97
	(0.166)	(0.150)	(0.0152)	(18.94)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	5,686	5,686	2,462	2,396
R-squared	0.883	0.499	0.628	0.779

Note: This table reports the results of estimating Equations 7 with log(Number of procurement contracts + 1) being the dependent variable. The data sample include adjacent city pairs. Column (1) and (2) report the regression results for adjacent city pairs from the same province, and Column (3) and (4) report the regression results for adjacent city pairs from different provinces. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 9: Political Competition and Firm Investment-Adjacent Cities

	Same Province		Different Province	
	(1)	(2)	(3)	(4)
$\|a_i - a_j\|$	1.037**	1.063***	-0.969	-0.136
	(0.413)	(0.359)	(0.611)	(0.857)
a_i	0.262	-0.0536	0.272	-1.527
	(0.389)	(0.395)	(0.558)	(0.938)
a_j	-0.200	-0.392	0.590	0.621
	(0.367)	(0.332)	(0.415)	(0.924)
log(Population$_i$)		-0.148		-0.621
		(0.221)		(0.712)
log(Population$_j$)		-0.137		-0.349
		(0.127)		(0.581)
log(GDP$_i$)		0.339		-0.437
		(0.282)		(0.599)
log(GDP$_j$)		-0.205		-0.347
		(0.130)		(0.467)
Constant	5.164***	-1.588***	2.408***	16.00
	(0.229)	(0.441)	(0.0227)	(10.64)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	15,032	15,032	6,444	6,336
R-squared	0.630	0.317	0.470	0.626

Note: This table reports the results of estimating Equations 7 with log(Volume of investment+1) being the dependent variable. The data sample include adjacent city pairs. Column (1) and (2) report the regression results for adjacent city pairs from the same province, and Column (3) and (4) report the regression results for adjacent city pairs from different provinces. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 10: Placebo: Political Competition and Inter-province Allocation

	Procurement			Investment		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	0.0502	0.0471	0.0197	0.183	0.162	-0.0292
	(0.0290)	(0.0259)	(0.0164)	(0.111)	(0.107)	(0.0582)
a_i	-0.0299	-0.0281	-0.0462	-0.392***	-0.396***	-0.288***
	(0.0312)	(0.0263)	(0.0356)	(0.129)	(0.121)	(0.0640)
a_j	0.00520	0.00850	0.0108	-0.451***	-0.452***	-0.326***
	(0.0182)	(0.0147)	(0.0407)	(0.124)	(0.119)	(0.0850)
log(Population$_i$)		0.639	0.239		0.680***	0.186***
		(0.367)	(0.199)		(0.223)	(0.0512)
log(Population$_j$)		0.190	0.0952		0.618**	0.133*
		(0.124)	(0.109)		(0.258)	(0.0683)
log(GDP$_i$)		0.115**	0.0505*		0.460***	0.134***
		(0.0370)	(0.0212)		(0.0837)	(0.0440)
log(GDP$_j$)		0.0218	0.0202		0.391***	0.0998
		(0.0125)	(0.0120)		(0.113)	(0.0682)
Constant	0.219***	-6.093*	-2.481	0.828***	-15.33***	-3.400*
	(0.000666)	(2.495)	(1.383)	(0.00705)	(3.728)	(1.683)
City pair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	Yes	No	No	Yes
Observations	451,978	451,978	451,978	1,194,626	1,194,626	1,194,626
R-squared	0.686	0.689	0.724	0.494	0.496	0.543

Note: This table reports the results of estimating Equations 7. The data sample include city pairs from *different* provinces. Column (1) to (3) report the regression results with log(Number of procurement contracts + 1) being the dependent variable, and Column (4) to (6) report the regression results with log(Volume of investment + 1) being the dependent variable. Standard errors are clustered at city level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 11: Political Faction and Procurement Contract Allocation

	(1)	(2)	(3)	(4)	(5)	(6)
Faction	0.0608**	0.115***				
	(0.0279)	(0.0179)				
Work			0.0537**	0.0176		
			(0.0270)	(0.0159)		
Connection					0.121**	0.0984**
					(0.0516)	(0.0406)
a_i		0.379**		0.373**		0.375**
		(0.163)		(0.163)		(0.163)
a_j		0.197***		0.208***		0.209***
		(0.0663)		(0.0669)		(0.0665)
log(Population$_i$)		0.674		0.677		0.675
		(0.482)		(0.479)		(0.478)
log(Population$_j$)		0.258*		0.262*		0.267*
		(0.138)		(0.137)		(0.138)
log(GDP$_i$)		0.0789		0.0785		0.0813
		(0.0761)		(0.0764)		(0.0763)
log(GDP$_j$)		0.0598		0.0661*		0.0661*
		(0.0374)		(0.0373)		(0.0369)
Constant	0.983***	-0.699***	0.980***	-0.697***	0.989***	-0.697***
	(0.135)	(0.117)	(0.136)	(0.117)	(0.135)	(0.117)
City pair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes	No	Yes
Observations	33,586	20,122	33,586	20,122	33,586	20,122
R-squared	0.884	0.421	0.884	0.420	0.884	0.420

Note: This table reports the results of estimating Equations 8 with log(Number of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 12: Political Faction and Firm Investment

	(1)	(2)	(3)	(4)	(5)	(6)
Faction	0.187***	0.0661*				
	(0.0534)	(0.0385)				
Work			0.120**	0.0620*		
			(0.0598)	(0.0360)		
Connection					0.117	0.179*
					(0.106)	(0.0960)
a_i		-0.142		-0.141		-0.142
		(0.227)		(0.227)		(0.226)
a_j		-0.0847		-0.0858		-0.0841
		(0.105)		(0.104)		(0.106)
log(Population$_i$)		0.443***		0.442***		0.446***
		(0.159)		(0.159)		(0.159)
log(Population$_j$)		0.104		0.108		0.107
		(0.0704)		(0.0699)		(0.0705)
log(GDP$_i$)		0.475**		0.474**		0.474**
		(0.199)		(0.199)		(0.200)
log(GDP$_j$)		0.0728		0.0799		0.0825
		(0.144)		(0.144)		(0.144)
Constant	3.350***	-0.835***	3.349***	-0.833***	3.359***	-0.833***
	(0.170)	(0.280)	(0.169)	(0.279)	(0.172)	(0.281)
City pair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	No	No	No	No
Observations	75,968	53,774	75,968	53,774	75,968	53,774
R-squared	0.697	0.270	0.697	0.270	0.697	0.270

Note: This table reports the results of estimating Equations 8 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 13: Career Incentive and Procurement Contract Allocation

	(1)	(2)	(3)
BC_i	0.0471**	0.0259	0.0232
	(0.0212)	(0.0233)	(0.0235)
BC_j	-0.0487**	-0.0451***	-0.0429***
	(0.0192)	(0.0142)	(0.0138)
a_i		0.615***	0.596***
		(0.237)	(0.221)
a_j		0.0624	0.0721
		(0.118)	(0.105)
$\log(\text{Population}_i)$			0.974*
			(0.550)
$\log(\text{Population}_j)$			1.318***
			(0.237)
$\log(\text{GDP}_i)$			-0.277*
			(0.165)
$\log(\text{GDP}_j)$			0.346***
			(0.0726)
Constant	1.151***	-0.561***	-0.622***
	(0.139)	(0.118)	(0.132)
City pair FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Mayor FE	No	No	Yes
Observations	19,336	16,056	16,056
R-squared	0.708	0.469	0.480

Note: This table reports the results of estimating Equations 9 with log(Number of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 14: Career Incentive and Firm Investment

	(1)	(2)	(3)
BC_i	0.00525	0.00569	0.00504
	(0.0155)	(0.0162)	(0.0161)
BC_j	-0.0200*	-0.0128	-0.0125
	(0.0119)	(0.0133)	(0.0133)
a_i		0.358*	0.390**
		(0.189)	(0.189)
a_j		0.128	0.124
		(0.131)	(0.132)
$\log(\text{Population}_i)$			-0.147
			(0.228)
$\log(\text{Population}_j)$			-0.0649
			(0.0935)
$\log(\text{GDP}_i)$			0.371**
			(0.161)
$\log(\text{GDP}_j)$			0.103
			(0.0787)
Constant	3.906***	-1.452***	-0.935***
	(0.178)	(0.151)	(0.235)
City pair FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Mayor FE	No	No	Yes
Observations	54,988	48,912	48,912
R-squared	0.669	0.260	0.260

Note: This table reports the results of estimating Equations 9 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 15: Competition Intensity and Procurement Contract Allocation

	(1)	(2)	(3)	(4)
$\|a_i - a_j\|$	0.178	0.334***	0.364***	0.299**
	(0.167)	(0.126)	(0.132)	(0.138)
$\|a_i - a_j\|$*BC_j	-0.193*			
	(0.113)			
$\|a_i - a_j\|$*Faction		0.284**		
		(0.129)		
$\|a_i - a_j\|$*Work			0.0342	
			(0.124)	
$\|a_i - a_j\|$*Connection				0.624*
				(0.350)
a_i	0.271	-0.0249	-0.0148	-0.00622
	(0.179)	(0.123)	(0.123)	(0.122)
a_j	-0.266	-0.0188	-0.00870	-0.000144
	(0.182)	(0.113)	(0.113)	(0.113)
Constant	1.299***	1.326***	1.326***	1.327***
	(0.140)	(0.143)	(0.143)	(0.143)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	17,625	20,122	20,122	20,122
R-squared	0.709	0.887	0.886	0.887

Note: This table reports the results of estimating Equations 10 and 11 with log(Number of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table 16: Competition Intensity and Firm Investment

	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	0.266	0.260	0.183	0.354
	(0.258)	(0.222)	(0.240)	(0.219)
$\lvert a_i - a_j \rvert$*BC_j	-0.175*			
	(0.100)			
$\lvert a_i - a_j \rvert$*Faction		0.805***		
		(0.271)		
$\lvert a_i - a_j \rvert$*Work			0.893***	
			(0.343)	
$\lvert a_i - a_j \rvert$*Connection				1.077
				(0.820)
a_i	0.446**	0.372	0.389	0.391
	(0.226)	(0.259)	(0.260)	(0.260)
a_j	-0.265	-0.0482	-0.0313	-0.0300
	(0.241)	(0.198)	(0.198)	(0.199)
Constant	4.386***	4.402***	4.400***	4.398***
	(0.187)	(0.196)	(0.195)	(0.196)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	50,872	53,774	53,774	53,774
R-squared	0.613	0.639	0.639	0.639

Note: This table reports the results of estimating Equations 10 and 11 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Appendix A: Proofs

Proof of Proposition 1

Proof. Politician i's expected payoff (3) can be simplified as

$$\begin{aligned} u_i(x_i, x_j) &= \delta\,(1-\alpha)\,V \Pr\left(\epsilon_i - \epsilon_j \geq \tau(x_i - x_j) - (a_i - a_j)\right) + (1-\delta)Q(x_i) \\ &= \delta\,(1-\alpha)\,V\left[1 - G\left(\tau(x_i - x_j) - (a_i - a_j)\right)\right] + (1-\delta)Q(x_i),. \end{aligned}$$

where the first equality follows from (1).

Recall that $Q(x_i) = Q(1-x_i)$ and $Q(x_i)$ is strictly increasing in x_i for $x_i \in [0, \frac{1}{2}]$ and is strictly decreasing in x_i for $x_i \in [\frac{1}{2}, 1]$. It follows immediately that $x_i^* \leq \frac{1}{2}$ for $i \in \{1, 2\}$. Moreover, it can be verified that

$$Q'(x_i) = H^{-1}(1-x_i) - H^{-1}(x_i),$$

which strictly decreases with x_i. Therefore, $Q(x_i)$ is strictly concave in x_i.

The first-order condition of $u_i(x_i, x_j)$ with respect to x_i, with $i \in \{1, 2\}$, gives

$$\tau\delta\,(1-\alpha)\,Vg\left(\tau(x_1^* - x_2^*) - (a_1 - a_2)\right) = (1-\delta)Q'(x_1^*),$$

and

$$\tau\delta\,(1-\alpha)\,Vg\left(\tau(x_2^* - x_1^*) - (a_2 - a_1)\right) = (1-\delta)Q'(x_2^*),$$

Note that the density function $g(\cdot)$ is symmetric around zero by assumption. Therefore, $g\left(\tau(x_1^* - x_2^*) - (a_1 - a_2)\right) = g\left(\tau(x_2^* - x_1^*) - (a_2 - a_1)\right)$, which in turn implies that $(1-\delta)Q'(x_1^*) = (1-\delta)Q'(x_2^*)$ and hence $x_1^* = x_2^*$.

Substituting $x_1^* = x_2^*$ into the above first-order conditions yields that

$$x_1^* = x_2^* = Q'^{-1}\left(\tau\frac{\delta}{1-\delta}(1-\alpha)Vg(a_1 - a_2)\right) < \frac{1}{2}.$$

Note that the term $Q'^{-1}\left(\tau\frac{\delta}{1-\delta}(1-\alpha)Vg(a_1-a_2)\right)$ is well defined if $\tau\frac{\delta}{1-\delta}(1-\alpha)Vg(a_1-a_2) < Q'(0) = \overline{q} - \underline{q}$, or equivalently, $g(\Delta_a) < \frac{\overline{q}-\underline{q}}{(1-\alpha)V\tau} \times \frac{1-\delta}{\delta}$. This concludes the proof. □

Proof of Proposition 2

Proof. Parts (i), (ii), and (iii) of the proposition is obvious and it remains to prove part (iv). For notational convenience, let $z := g(\Delta_a)$, $w := \tau\frac{\delta}{1-\delta}(1-\alpha)V$, and $t := wz$. Carrying out

the algebra, we can obtain that

$$\frac{\partial x_i^*}{\partial \Delta_a} = \frac{dQ'^{-1}(t)}{dt} \times g'(\Delta_a) \times w.$$

Therefore, we have that

$$\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha} = -g'(\Delta_a) \times \frac{\tau \delta V}{1-\delta} \times \left[\frac{dQ'^{-1}(t)}{dt} + \frac{d^2 Q'^{-1}(t)}{dt^2} \times w \times g(\Delta_a) \right],$$

and

$$\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha} = g'(\Delta_a) \times \frac{\tau (1-\alpha) V}{(1-\delta)^2} \times \left[\frac{dQ'^{-1}(t)}{dt} + \frac{d^2 Q'^{-1}(t)}{dt^2} \times w \times g(\Delta_a) \right],$$

from which we can obtain that $sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \alpha}\right) = -sign\left(\frac{\partial^2 x_i^*}{\partial \Delta_a \partial \delta}\right)$. This concludes the proof. □

Appendix B: Tables

Table B1: Political Faction and Procurement Contract Allocation

	(1)	(2)	(3)	(4)	(5)	(6)
Party school	0.0463	0.100***				
	(0.0409)	(0.0293)				
Secretary gang			0.0882**	0.101***		
			(0.0421)	(0.0315)		
CYL					0.0221	0.125***
					(0.0478)	(0.0298)
a_i		0.377**		0.376**		0.373**
		(0.163)		(0.163)		(0.163)
a_j		0.197***		0.207***		0.207***
		(0.0666)		(0.0664)		(0.0670)
log(Population$_i$)		0.678		0.678		0.674
		(0.477)		(0.479)		(0.482)
log(Population$_j$)		0.257*		0.264*		0.268*
		(0.136)		(0.139)		(0.138)
log(GDP$_i$)		0.0794		0.0784		0.0776
		(0.0760)		(0.0765)		(0.0764)
log(GDP$_j$)		0.0640*		0.0635*		0.0609
		(0.0371)		(0.0373)		(0.0372)
Constant	0.987***	-0.699***	0.988***	-0.696***	0.990***	-0.695***
	(0.136)	(0.117)	(0.136)	(0.117)	(0.135)	(0.117)
City pair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes	No	Yes
Observations	33,586	20,122	33,586	20,122	33,586	20,122
R-squared	0.884	0.420	0.884	0.420	0.884	0.420

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is *log*(Total number of procurement contracts + 1). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B2: Political Faction and Procurement Contract Allocation - Work Experience

	(1)	(2)	(3)	(4)
Central work	-0.186	-0.0362		
	(0.123)	(0.0514)		
Province work			0.0618**	0.0185
			(0.0277)	(0.0163)
a_i		0.373**		0.373**
		(0.163)		(0.163)
a_j		0.207***		0.208***
		(0.0667)		(0.0669)
log(Population$_i$)		0.676		0.677
		(0.479)		(0.479)
log(Population$_j$)		0.264*		0.261*
		(0.137)		(0.137)
log(GDP$_i$)		0.0787		0.0785
		(0.0764)		(0.0764)
log(GDP$_j$)		0.0648*		0.0662*
		(0.0370)		(0.0373)
Constant	0.993***	-0.696***	0.978***	-0.697***
	(0.136)	(0.117)	(0.136)	(0.117)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	33,586	20,122	33,586	20,122
R-squared	0.884	0.420	0.884	0.420

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is log(Total number of procurement contracts + 1). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B3: Political Faction and Procurement Contract Allocation - Provincial Connection

	(1)	(2)	(3)	(4)
Governor connection	0.0438	0.0738		
	(0.0856)	(0.0485)		
Secretary connection			0.0835	0.0861
			(0.0663)	(0.0643)
a_i		0.375**		0.374**
		(0.163)		(0.163)
a_j		0.208***		0.207***
		(0.0666)		(0.0667)
log(Population$_i$)		0.676		0.675
		(0.478)		(0.479)
log(Population$_j$)		0.266*		0.265*
		(0.137)		(0.138)
log(GDP$_i$)		0.0795		0.0800
		(0.0764)		(0.0765)
log(GDP$_j$)		0.0649*		0.0659*
		(0.0371)		(0.0369)
Constant	0.991***	-0.696***	0.991***	-0.697***
	(0.135)	(0.117)	(0.135)	(0.117)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	33,586	20,122	33,586	20,122
R-squared	0.884	0.420	0.884	0.420

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is *log*(Total number of procurement contracts+1). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B4: Political Faction and Firm Investment -Faction

	(1)	(2)	(3)	(4)	(5)	(6)
Party school	0.231***	0.0523				
	(0.0674)	(0.0573)				
Secretary gang			0.341***	0.145**		
			(0.102)	(0.0738)		
CYL					-0.0222	-0.0213
					(0.0917)	(0.0732)
a_i		-0.143		-0.142		-0.143
		(0.227)		(0.227)		(0.227)
a_j		-0.0857		-0.0854		-0.0856
		(0.105)		(0.105)		(0.105)
log(Population$_i$)		0.443***		0.442***		0.443***
		(0.159)		(0.159)		(0.159)
log(Population$_j$)		0.106		0.104		0.106
		(0.0702)		(0.0702)		(0.0704)
log(GDP$_i$)		0.474**		0.475**		0.473**
		(0.199)		(0.199)		(0.200)
log(GDP$_j$)		0.0749		0.0767		0.0787
		(0.144)		(0.144)		(0.145)
Constant	3.353***	-0.835***	3.359***	-0.838***	3.362***	-0.837***
	(0.171)	(0.280)	(0.171)	(0.280)	(0.171)	(0.280)
City pair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes	No	Yes
Observations	75,968	53,774	75,968	53,774	75,968	53,774
R-squared	0.697	0.270	0.697	0.270	0.697	0.270

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is log(Volume of investment + 1). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B5: Political Faction and Procurement Contract Allocation - Work Experience

	(1)	(2)	(3)	(4)
Central work	0.309	0.251		
	(0.198)	(0.159)		
Province work			0.114*	0.0539
			(0.0613)	(0.0375)
a_i		-0.143		-0.141
		(0.227)		(0.227)
a_j		-0.0852		-0.0857
		(0.104)		(0.104)
log(Population$_i$)		0.442***		0.442***
		(0.159)		(0.159)
log(Population$_j$)		0.106		0.107
		(0.0702)		(0.0699)
log(GDP$_i$)		0.473**		0.474**
		(0.199)		(0.199)
log(GDP$_j$)		0.0776		0.0798
		(0.144)		(0.144)
Constant	3.361***	-0.837***	3.350***	-0.834***
	(0.171)	(0.280)	(0.169)	(0.279)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	75,968	53,774	75,968	53,774
R-squared	0.697	0.270	0.697	0.270

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is log(Volume of investment$+1$). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B6: Political Faction and Procurement Contract Allocation - Provincial Government

	(1)	(2)	(3)	(4)
Governor connection	0.0831	0.197**		
	(0.126)	(0.0984)		
Secretary connection			0.331	0.154
			(0.210)	(0.209)
a_i		-0.143		-0.142
		(0.227)		(0.227)
a_j		-0.0843		-0.0850
		(0.106)		(0.105)
log(Population$_i$)		0.444***		0.445***
		(0.159)		(0.159)
log(Population$_j$)		0.105		0.108
		(0.0708)		(0.0705)
log(GDP$_i$)		0.475**		0.473**
		(0.200)		(0.200)
log(GDP$_j$)		0.0817		0.0794
		(0.144)		(0.145)
Constant	3.360***	-0.836***	3.361***	-0.833***
	(0.171)	(0.280)	(0.171)	(0.280)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	75,968	53,774	75,968	53,774
R-squared	0.697	0.270	0.697	0.270

Note: This table provide a further breakdown of the results of estimating Equations 8 with detailed measures of each kind of political connection. The dependant variable is log(Volume of investment+1). The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B7: Tenure and Political Competition

	Procurement		Investment	
	(1)	(2)	(3)	(4)
Tenure_i	0.0177	-0.0656***	0.00683	-0.147***
	(0.0182)	(0.0215)	(0.0348)	(0.0390)
Tenure_i^2	-0.00174	0.0155***	0.00263	0.0293***
	(0.00271)	(0.00353)	(0.00510)	(0.00585)
Tenure_j	-0.0981	-0.155**	-0.642***	-0.750***
	(0.0646)	(0.0624)	(0.126)	(0.137)
Tenure_j^2	0.0214	0.0326**	0.128***	0.153***
	(0.0163)	(0.0157)	(0.0318)	(0.0346)
$\log(\text{Population}_i)$		2.395***		0.343***
		(0.114)		(0.0832)
$\log(\text{Population}_j)$		2.083***		0.0309
		(0.114)		(0.0833)
$\log(\text{GDP}_i)$		-0.601***		0.0361
		(0.0143)		(0.0242)
$\log(\text{GDP}_j)$		0.535***		0.615***
		(0.0142)		(0.0239)
Constant	1.880***	-23.26***	5.813***	-5.989***
	(0.0612)	(1.348)	(0.118)	(0.916)
City pair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes
Observations	22,953	19,482	50,295	44,766
R-squared	0.672	0.748	0.507	0.460

Note: This table reports the results of estimating Equations 9 controlling for the quadratic form of the city mayors' tenure. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B8: Political Competition and Allocation of Procurement Contract

	(1)	(2)	(3)	(4)	(5)
$\lvert a_i - a_j \rvert$	2.978***	1.481**	1.433***	1.463**	1.222**
	(0.779)	(0.670)	(0.547)	(0.603)	(0.571)
a_i	-3.165***	-1.168**	-0.556	-1.284	
	(0.661)	(0.542)	(0.476)	(0.803)	
a_j	-0.803	0.624	0.301	1.572	
	(0.925)	(0.836)	(0.609)	(1.074)	
log(Population$_i$)		4.413***	0.715	1.643***	
		(0.0854)	(0.888)	(0.405)	
log(Population$_j$)		3.416***	5.041***	2.460***	
		(0.191)	(1.842)	(0.616)	
log(per capital GDP$_i$)		3.861***	-0.169	2.057***	
		(0.0821)	(0.226)	(0.345)	
log(per capital GDP$_j$)		1.984***	0.0160	0.934**	
		(0.176)	(0.372)	(0.458)	
Adjacent	2.854***	2.037***	1.871***	1.879***	1.810***
	(0.114)	(0.104)	(0.0968)	(0.0977)	(0.0952)
Constant	8.769***	-99.24***	-23.58*	-47.02***	8.909***
	(0.133)	(2.771)	(12.81)	(9.174)	(0.0674)
Province*Year FE	Yes	Yes	Yes	Yes	No
City FE	No	No	Yes	No	No
Mayor FE	No	No	No	Yes	No
Tenure FE	No	No	No	Yes	No
City*Year FE	No	No	No	No	Yes
Observations	18,378	18,378	18,378	16,046	18,333
R-squared	0.413	0.543	0.670	0.701	0.759

Note: This table reports the results of estimating Equations 7 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B9: Political Competition and Firm Investment

	(1)	(2)	(3)	(4)	(5)
$\|a_i - a_j\|$	1.975***	0.894***	0.407*	0.588***	0.410*
	(0.294)	(0.224)	(0.214)	(0.218)	(0.224)
a_i	-1.294***	-0.122	0.375*	-0.250	
	(0.237)	(0.190)	(0.209)	(0.273)	
a_j	-1.918***	-0.595**	-0.164	-0.656***	
	(0.415)	(0.243)	(0.200)	(0.252)	
log(Population$_i$)		2.106***	-0.234**	1.653***	
		(0.0256)	(0.109)	(0.107)	
log(Population$_j$)		2.408***	-0.0946	2.109***	
		(0.0397)	(0.113)	(0.104)	
log(per capital GDP$_i$)		1.986***	-0.0383	1.629***	
		(0.0238)	(0.0877)	(0.0986)	
log(per capital GDP$_j$)		2.606***	-0.0117	2.088***	
		(0.0377)	(0.0914)	(0.107)	
Adjacent	1.451***	0.967***	0.922***	0.940***	0.897***
	(0.0346)	(0.0314)	(0.0336)	(0.0336)	(0.0305)
Constant	5.884***	-67.05***	8.304***	0.940***	5.940***
	(0.0419)	(0.632)	(2.094)	(0.0336)	(0.0189)
Province*Year FE	Yes	Yes	Yes	Yes	No
City FE	No	No	Yes	No	No
Mayor FE	No	No	No	Yes	No
City*Year FE	No	No	No	No	Yes
Observations	53,774	53,774	48,912	48,900	53,710
R-squared	0.316	0.535	0.610	0.635	0.686

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B10: Political Competition and Firm Investment

	SOE			POE		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	3.803***	2.674***	2.555***	1.468***	0.501**	0.202
	(0.314)	(0.236)	(0.225)	(0.262)	(0.202)	(0.202)
a_i	-0.799***	0.384*	-0.514*	-1.223***	-0.156	-0.262
	(0.252)	(0.200)	(0.284)	(0.211)	(0.171)	(0.250)
a_j	-2.105***	-0.675***	-1.044***	-1.636***	-0.458**	-0.501**
	(0.443)	(0.246)	(0.272)	(0.370)	(0.217)	(0.228)
log(Population$_i$)		1.975***	1.677***		1.977***	1.523***
		(0.0268)	(0.112)		(0.0234)	(0.0982)
log(Population$_j$)		2.497***	2.251***		2.177***	1.850***
		(0.0432)	(0.118)		(0.0352)	(0.0927)
log(per capital GDP$_i$)		1.945***	1.631***		1.849***	1.496***
		(0.0233)	(0.104)		(0.0221)	(0.0901)
log(per capital GDP$_j$)		2.909***	2.258***		2.274***	1.827***
		(0.0419)	(0.114)		(0.0339)	(0.0946)
Adjacent	1.840***	1.358***	1.324***	1.180***	0.735***	0.708***
	(0.0375)	(0.0341)	(0.0363)	(0.0314)	(0.0283)	(0.0302)
Constant	4.202***	-71.13***	-57.98***	5.442***	-60.63***	-47.86***
	(0.0465)	(0.678)	(2.482)	(0.0374)	(0.574)	(2.129)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	Yes	No	No	Yes
Tenure FE	No	No	Yes	No	No	Yes
Observations	53,710	53,710	48,836	53,710	53,710	48,836
R-squared	0.278	0.508	0.617	0.335	0.546	0.642

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Column (1) and (2) report the regression results for investment made by SOEs, and Column (3) and (4) report the regression results for investment made by POEs. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B11: Political Competition and Firm Investment - SOE

	Central SOE			Local SOE		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	1.160***	0.627***	0.409**	3.787***	2.661***	2.544***
	(0.233)	(0.191)	(0.178)	(0.311)	(0.235)	(0.224)
a_i	-0.942***	-0.446***	-0.544**	-0.744***	0.435**	-0.499*
	(0.178)	(0.157)	(0.234)	(0.250)	(0.199)	(0.283)
a_j	-0.972**	-0.243	-1.085***	-2.115***	-0.699***	-1.048***
	(0.379)	(0.263)	(0.250)	(0.440)	(0.245)	(0.270)
log(Population$_i$)		0.656***	0.706***		1.957***	1.645***
		(0.0212)	(0.0852)		(0.0267)	(0.111)
log(Population$_j$)		1.227***	1.262***		2.478***	2.239***
		(0.0436)	(0.112)		(0.0429)	(0.117)
log(per capital GDP$_i$)		0.690***	0.758***		1.933***	1.605***
		(0.0228)	(0.0828)		(0.0233)	(0.103)
log(per capital GDP$_j$)		1.615***	1.503***		2.884***	2.238***
		(0.0472)	(0.118)		(0.0416)	(0.113)
Adjacent	0.665***	0.459***	0.471***	1.830***	1.352***	1.319***
	(0.0281)	(0.0257)	(0.0275)	(0.0372)	(0.0338)	(0.0360)
Constant	0.757***	-33.61***	-33.53***	4.172***	-70.58***	-57.29***
	(0.0336)	(0.809)	(2.222)	(0.0461)	(0.673)	(2.465)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	Yes	No	No	Yes
Tenure FE	No	No	Yes	No	No	Yes
Observations	53,774	53,774	48,900	53,774	53,774	48,900
R-squared	0.063	0.225	0.399	0.280	0.508	0.617

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Column (1) and (2) report the regression results for investment made by central SOEs, and Column (3) and (4) report the regression results for investment made by local SOEs. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B12: Political Competition and Procurement-Adjacent Cities

	Same Province			Different Province		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	3.756***	2.758**	2.347**	-1.054	-0.130	-5.312
	(1.379)	(1.134)	(1.149)	(2.201)	(2.008)	(2.560)
a_i	-4.570***	-2.600***	-1.590	-1.181	-1.475	2.450
	(1.238)	(0.987)	(1.304)	(1.748)	(1.695)	(2.492)
a_j	-2.339*	-0.884	0.161	0.171	-0.235	3.008
	(1.364)	(1.134)	(1.356)	(1.933)	(1.712)	(3.685)
log(Population$_i$)		3.947***	1.667**		2.167***	-1.275
		(0.176)	(0.835)		(0.473)	(2.843)
log(Population$_j$)		3.259***	2.611***		1.695**	3.383
		(0.246)	(0.905)		(0.644)	(2.825)
log(per capital GDP$_i$)		3.253***	1.737***		1.457**	-1.232
		(0.152)	(0.508)		(0.531)	(1.321)
log(per capital GDP$_j$)		2.199***	1.294**		1.023*	3.777
		(0.197)	(0.534)		(0.420)	(2.169)
Constant	11.57***	-89.27***	-46.35***	4.849***	-44.12***	-35.36
	(0.166)	(3.553)	(12.41)	(0.213)	(9.592)	(37.59)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	Yes	No	No	Yes
Tenure FE	No	No	Yes	No	No	Yes
Observations	5,108	5,108	5,053	2,462	2,462	1,546
R-squared	0.468	0.582	0.794	0.422	0.448	0.772

Note: This table reports the results of estimating Equations 7 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include adjacent city pairs. Column (1) and (2) report the regression results for adjacent city pairs from the same province, and Column (3) and (4) report the regression results for adjacent city pairs from different provinces. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B13: Political Competition and Firm Investment-Adjacent Cities

	Same Province			Different Province		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	1.451***	0.765*	0.946**	-2.170***	-1.872***	-0.619
	(0.535)	(0.420)	(0.454)	(0.611)	(0.539)	(1.062)
a_i	-1.074**	0.0681	0.0361	1.110***	1.041**	-1.004
	(0.470)	(0.417)	(0.577)	(0.374)	(0.423)	(1.403)
a_j	-1.839***	-0.696	-0.141	0.820**	0.902**	2.158*
	(0.556)	(0.427)	(0.521)	(0.348)	(0.317)	(1.077)
log(Population$_i$)		1.958***	1.447***		0.599**	0.447
		(0.0571)	(0.232)		(0.221)	(0.732)
log(Population$_j$)		2.191***	1.968***		1.536***	2.135***
		(0.0618)	(0.203)		(0.234)	(0.510)
log(per capital GDP$_i$)		1.791***	1.408***		0.613**	0.708
		(0.0479)	(0.214)		(0.224)	(0.613)
log(per capital GDP$_j$)		2.701***	1.900***		1.670***	1.782***
		(0.0563)	(0.192)		(0.283)	(0.570)
Constant	7.344***	-62.70***	-46.45***	2.430***	-32.97***	-37.86**
	(0.0555)	(0.924)	(4.798)	(0.0961)	(4.943)	(12.83)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	No	Yes	No	No	Yes
Tenure FE	No	No	Yes	No	No	Yes
Observations	15,032	13,642	13,528	6,444	6,444	5,430
R-squared	0.292	0.517	0.687	0.373	0.418	0.663

Note: This table reports the results of estimating Equations 7 with log(Volume of investment + 1) being the dependent variable. The data sample include adjacent city pairs. Column (1) and (2) report the regression results for adjacent city pairs from the same province, and Column (3) and (4) report the regression results for adjacent city pairs from different provinces. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B14: Placebo: Political Competition and Inter-province Allocation

	Procurement			Investment		
	(1)	(2)	(3)	(4)	(5)	(6)
$\|a_i - a_j\|$	0.181	-0.00297	-0.160*	0.181	0.0239	-0.170
	(0.223)	(0.0734)	(0.0790)	(0.124)	(0.0431)	(0.483)
a_i	0.00510	-0.644		-0.238**	-0.470***	
	(0.147)	(0.335)		(0.111)	(0.109)	
a_j	-0.0197	0.389		-0.303**	-0.645***	
	(0.124)	(0.437)		(0.133)	(0.150)	
log(Population$_i$)	1.912***	0.558**		0.570***	0.491***	
	(0.325)	(0.182)		(0.0907)	(0.0566)	
log(Population$_j$)	1.208***	0.525**		0.798***	0.602***	
	(0.195)	(0.192)		(0.119)	(0.0968)	
log(per capital GDP$_i$)	1.890***	1.325***		0.663***	0.532***	
	(0.292)	(0.217)		(0.108)	(0.0536)	
log(per capital GDP$_j$)	0.787***	0.851***		1.007***	0.769***	
	(0.124)	(0.208)		(0.158)	(0.0827)	
Constant	-44.73***	-27.76***	1.876***	-24.04***	-18.67***	0.799***
	(6.197)	(4.317)	(0.00421)	(3.399)	(1.816)	(0.00299)
Province*Year FE	Yes	Yes	No	Yes	Yes	No
Mayor FE	No	Yes	No	No	Yes	No
Tenure FE	No	Yes	No	No	Yes	No
City*Year FE	No	No	Yes	No	No	Yes
Observations	451,978	319,444	451,978	1,194,626	1,043,612	1,194,626
R-squared	0.271	0.342	0.377	0.282	0.344	0.380

Note: This table reports the results of estimating Equations 7. The data sample include city pairs from *different* provinces. Column (1) to (3) report the regression results with log(Total value of procurement contracts+1) being the dependent variable, and Column (4) to (6) report the regression results with log(Volume of investment + 1) being the dependent variable. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B15: Political Faction and Procurement Contract Allocation

	(1)	(2)	(3)	(4)	(5)	(6)
Faction	0.682***	-0.192				
	(0.180)	(0.182)				
Work			1.765***	0.526***		
			(0.157)	(0.151)		
Connection					1.413***	0.979***
					(0.321)	(0.301)
log(Population$_i$)		4.366***		4.345***		4.360***
		(0.0916)		(0.0915)		(0.0915)
log(Population$_j$)		3.413***		3.392***		3.408***
		(0.198)		(0.197)		(0.197)
log(per capital GDP$_i$)		3.911***		3.907***		3.914***
		(0.0872)		(0.0875)		(0.0873)
log(per capital GDP$_j$)		1.794***		1.790***		1.797***
		(0.175)		(0.174)		(0.175)
Adjacent	2.917***	1.980***	2.862***	1.980***	2.943***	1.979***
	(0.108)	(0.112)	(0.107)	(0.112)	(0.108)	(0.112)
Constant	5.625***	-97.39***	5.352***	-97.24***	5.678***	-97.44***
	(0.0843)	(2.828)	(0.0890)	(2.818)	(0.0815)	(2.827)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes	No	Yes
Tenure FE	No	Yes	No	Yes	No	Yes
Observations	27,552	16,129	27,552	16,129	27,552	16,129
R-squared	0.501	0.544	0.506	0.545	0.501	0.544

Note: This table reports the results of estimating Equations 8 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B16: Political Faction and Firm Investment

	(1)	(2)	(3)	(4)	(5)	(6)
Faction	0.496***	-0.0235				
	(0.0586)	(0.0461)				
Work			1.068***	0.145***		
			(0.0529)	(0.0387)		
Connection					0.559***	0.232***
					(0.119)	(0.0893)
log(Population$_i$)		2.052***		2.049***		2.050***
		(0.0268)		(0.0268)		(0.0268)
log(Population$_j$)		2.377***		2.374***		2.375***
		(0.0400)		(0.0399)		(0.0400)
log(per capital GDP$_i$)		1.994***		1.991***		1.994***
		(0.0247)		(0.0247)		(0.0247)
log(per capital GDP$_j$)		2.606***		2.604***		2.607***
		(0.0386)		(0.0386)		(0.0385)
Adjacent	1.754***	0.980***	1.728***	0.980***	1.762***	0.979***
	(0.0356)	(0.0331)	(0.0350)	(0.0331)	(0.0357)	(0.0331)
Constant	4.096***	-66.54***	3.948***	-66.51***	4.132***	-66.54***
	(0.0296)	(0.639)	(0.0311)	(0.639)	(0.0289)	(0.638)
Province*Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Mayor FE	No	Yes	No	Yes	No	Yes
Tenure FE	No	Yes	No	Yes	No	Yes
Observations	75,968	49,401	75,968	49,401	75,968	49,401
R-squared	0.403	0.537	0.409	0.537	0.403	0.537

Note: This table reports the results of estimating Equations 8 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B17: Career Incentive and Procurement Contract Allocation

	(1)	(2)	(3)	(4)
BC_i	-0.182***	-0.209***	-0.0448	
	(0.0387)	(0.0456)	(0.0413)	
BC_j	-0.430***	-0.506***	-0.390***	-0.389***
	(0.0932)	(0.107)	(0.0996)	(0.0488)
a_i		-1.227***	-0.246	
		(0.419)	(0.374)	
a_j		0.972	1.470*	1.468***
		(0.780)	(0.751)	(0.370)
log(Population$_i$)			4.358***	
			(0.0916)	
log(Population$_j$)			3.396***	3.412***
			(0.196)	(0.0937)
log(per capital GDP$_i$)			3.917***	
			(0.0875)	
log(per capital GDP$_j$)			1.847***	1.853***
			(0.177)	(0.0932)
Adjacent	2.635***	2.808***	1.983***	1.850***
	(0.113)	(0.122)	(0.113)	(0.118)
Constant	6.918***	8.074***	-98.49***	-31.28***
	(0.152)	(0.184)	(2.848)	(1.300)
Province*Year FE	Yes	Yes	Yes	No
Mayor FE	No	No	Yes	No
Tenure FE	No	No	Yes	No
City*Year FE	No	No	No	Yes
Observations	18,530	16,056	16,056	16,024
R-squared	0.464	0.417	0.544	0.617

Note: This table reports the results of estimating Equations 9 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B18: Career Incentive and Firm Investment

	(1)	(2)	(3)	(4)
BC_i	-0.0561***	-0.0869***	-0.0171	
	(0.0119)	(0.0133)	(0.0120)	
BC_j	-0.0682**	-0.110***	-0.0197	-0.0201*
	(0.0300)	(0.0324)	(0.0166)	(0.0117)
a_i		-0.182	0.331**	
		(0.163)	(0.140)	
a_j		-0.795**	-0.134	-0.138
		(0.372)	(0.192)	(0.144)
log(Population$_i$)			2.060***	
			(0.0270)	
log(Population$_j$)			2.382***	2.380***
			(0.0400)	(0.0260)
log(per capital GDP$_i$)			2.003***	
			(0.0248)	
log(per capital GDP$_j$)			2.625***	2.619***
			(0.0385)	(0.0233)
Adjacent	1.389***	1.472***	0.988***	0.960***
	(0.0348)	(0.0367)	(0.0333)	(0.0315)
Constant	4.922***	5.543***	-66.94***	-34.51***
	(0.0534)	(0.0626)	(0.639)	(0.324)
Province*Year FE	Yes	Yes	Yes	No
Mayor FE	No	No	Yes	No
Tenure FE	No	No	Yes	No
City*Year FE	No	No	No	Yes
Observations	54,988	48,912	48,912	48,840
R-squared	0.395	0.325	0.531	0.608

Note: This table reports the results of estimating Equations 9 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B19: Competition Intensity and Procurement Contract Allocation

	Faction			Career Incentive
	(1)	(2)	(3)	(4)
$\|a_i - a_j\|$	1.836***	1.491**	1.768**	0.433
	(0.700)	(0.733)	(0.709)	(0.789)
$\|a_i - a_j\|$*Faction	-0.171			
	(0.947)			
$\|a_i - a_j\|$*Work		1.537*		
		(0.789)		
$\|a_i - a_j\|$*Connection			3.842**	
			(1.847)	
$\|a_i - a_j\|$*BC_j				-1.208***
				(0.447)
a_i	-1.599**	-1.555**	-1.596**	-1.184**
	(0.626)	(0.621)	(0.619)	(0.549)
a_j	0.539	0.583	0.542	0.441
	(0.989)	(0.991)	(0.991)	(0.828)
log(Population$_i$)	4.359***	4.356***	4.356***	4.344***
	(0.0916)	(0.0914)	(0.0915)	(0.0867)
log(Population$_j$)	3.399***	3.396***	3.396***	3.417***
	(0.197)	(0.197)	(0.197)	(0.190)
log(per capital GDP$_i$)	3.902***	3.902***	3.902***	3.784***
	(0.0876)	(0.0875)	(0.0876)	(0.0828)
log(per capital GDP$_j$)	1.838***	1.838***	1.838***	1.841***
	(0.178)	(0.177)	(0.178)	(0.172)
Adjacent	1.986***	1.986***	1.983***	2.011***
	(0.112)	(0.112)	(0.112)	(0.106)
Constant	-97.73***	-97.72***	-97.70***	-96.22***
	(2.887)	(2.879)	(2.886)	(2.750)
Province*Year FE	Yes	Yes	Yes	Yes
Mayor FE	Yes	Yes	Yes	Yes
Tenure FE	Yes	Yes	Yes	Yes
Observations	16,056	16,056	16,056	17,625
R-squared	0.544	0.544	0.544	0.546

Note: This table reports the results of estimating Equations 10 and 11 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B20: Competition Intensity and Firm Investment

	Faction			Career Incentive
	(1)	(2)	(3)	(4)
$\|a_i - a_j\|$	1.045***	0.939***	1.015***	0.666**
	(0.236)	(0.237)	(0.235)	(0.260)
$\|a_i - a_j\|$*Faction	-0.0405			
	(0.295)			
$\|a_i - a_j\|$*Work		0.463*		
		(0.263)		
$\|a_i - a_j\|$*Connection			1.719*	
			(0.919)	
$\|a_i - a_j\|$*BC_j				-0.367***
				(0.127)
a_i	-0.178	-0.176	-0.173	-0.212
	(0.219)	(0.218)	(0.219)	(0.192)
a_j	-0.745***	-0.742***	-0.740***	-0.815***
	(0.270)	(0.271)	(0.270)	(0.244)
log(Population$_i$)	2.056***	2.056***	2.055***	2.100***
	(0.0270)	(0.0270)	(0.0270)	(0.0264)
log(Population$_j$)	2.379***	2.378***	2.378***	2.373***
	(0.0399)	(0.0399)	(0.0399)	(0.0399)
log(per capital GDP$_i$)	1.997***	1.997***	1.997***	2.009***
	(0.0248)	(0.0248)	(0.0248)	(0.0244)
log(per capital GDP$_j$)	2.617***	2.617***	2.617***	2.602***
	(0.0386)	(0.0386)	(0.0385)	(0.0384)
Adjacent	0.989***	0.989***	0.989***	0.986***
	(0.0332)	(0.0332)	(0.0332)	(0.0323)
Constant	-66.72***	-66.71***	-66.71***	-66.94***
	(0.642)	(0.642)	(0.642)	(0.635)
Province*Year FE	Yes	Yes	Yes	Yes
Mayor FE	Yes	Yes	Yes	Yes
Tenure FE	Yes	Yes	Yes	Yes
Observations	48,912	48,912	48,912	50,872
R-squared	0.532	0.532	0.532	0.532

Note: This table reports the results of estimating Equations 10 and 11 with log(Volume of investment + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B21: Political Competition and Procurement Contract Allocation

	(1)	(2)	(3)
$\lvert a_i - a_j \rvert$	1.121***	0.272	0.550
	(0.301)	(0.558)	(0.646)
a_i		0.355	0.344
		(0.484)	(0.554)
a_j		1.157	0.786
		(1.482)	(0.737)
ln(Population$_i$)			0.913
			(1.158)
ln(Population$_j$)			6.251***
			(1.399)
ln(per capital GDP$_i$))			-0.0132
			(0.397)
ln(per capital GDP$_j$))			0.318
			(0.452)
Constant	9.415***	9.377***	-36.73***
	(0.0525)	(0.0569)	(12.57)
Citypair FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	18,360	18,360	15,546
R-squared	0.701	0.701	0.767

Note: This table reports the results of estimating Equations 7 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B22: Political Faction and Procurement Contract Allocation

	(1)	(2)	(3)	(4)	(5)	(6)
Faction	0.0863	0.300*				
	(0.118)	(0.172)				
Work			0.396***	0.423***		
			(0.0997)	(0.144)		
Connection					0.729***	0.900***
					(0.125)	(0.188)
ln(Population$_i$)		-0.284		-0.312		-0.212
		(1.182)		(1.181)		(1.181)
ln(Population$_j$)		3.132***		3.092***		3.175***
		(1.127)		(1.127)		(1.126)
ln(per capital GDP$_i$))		-0.226		-0.199		-0.258
		(0.393)		(0.393)		(0.393)
ln(per capital GDP$_j$))		0.00472		0.0307		-0.0189
		(0.394)		(0.394)		(0.394)
Constant	6.356***	-5.468	6.284***	-5.707	6.272***	-5.641
	(0.0320)	(10.42)	(0.0353)	(10.42)	(0.0328)	(10.41)
Citypair FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	27,500	15,611	27,500	15,611	27,500	15,611
R-squared	0.759	0.718	0.760	0.719	0.760	0.719

Note: This table reports the results of estimating Equations 8 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B23: Career Incentive and Procurement Contract Allocation

	(1)	(2)
BC_i	-0.0137	0.155***
	(0.0433)	(0.0570)
BC_j	-0.273***	-0.273***
	(0.0432)	(0.0479)
a_i		-0.250
		(0.571)
a_j		1.676***
		(0.340)
ln(Population$_i$)		3.415***
		(0.908)
ln(Population$_j$)		4.639***
		(0.872)
ln(per capital GDP$_i$))		0.482
		(0.316)
ln(per capital GDP$_j$))		-1.235***
		(0.236)
Constant	8.092***	-25.85**
	(0.0840)	(11.57)
Citypair FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,342	16,048
R-squared	0.736	0.705

Note: This table reports the results of estimating Equations 9 with log(Total value of procurement contracts + 1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B24: Competition Intensity and Procurement Contract Allocation

	(1)	(2)	(3)	(4)
$\lvert a_i - a_j \rvert$	-0.219	-0.547	-0.316	-0.841
	(0.614)	(0.676)	(0.686)	(0.676)
$\lvert a_i - a_j \rvert$*BC_j	-0.375			
	(0.316)			
$\lvert a_i - a_j \rvert$*Faction		0.395		
		(0.865)		
$\lvert a_i - a_j \rvert$*Work			0.504	
			(0.808)	
$\lvert a_i - a_j \rvert$*Connection				2.676***
				(0.982)
a_i	0.535	1.003*	1.001*	1.131*
	(0.496)	(0.582)	(0.581)	(0.581)
a_j	1.445***	2.197***	2.186***	2.310***
	(0.493)	(0.582)	(0.582)	(0.581)
ln(Population$_i$)	-0.371	-0.323	-0.358	-0.243
	(1.102)	(1.179)	(1.179)	(1.178)
ln(Population$_j$)	4.626***	3.329***	3.280***	3.386***
	(1.001)	(1.126)	(1.126)	(1.125)
ln(per capital GDP$_i$))	-0.566**	-0.235	-0.200	-0.270
	(0.226)	(0.393)	(0.393)	(0.392)
ln(per capital GDP$_j$))	-0.838***	-0.0829	-0.0505	-0.102
	(0.231)	(0.394)	(0.394)	(0.394)
Constant	7.731	-5.548	-5.860	-5.852
	(8.784)	(10.40)	(10.40)	(10.39)
Citypair FE			Yes	Yes
Year FE			Yes	Yes
Observations	17,582	15,556	15,556	15,556
R-squared	0.699	0.720	0.720	0.721

Note: This table reports the results of estimating Equations 10 with log(Total value of procurement contracts+1) being the dependent variable. The data sample include city pairs from the same province. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.

Table B25: Political Competition and Procurement-Adjacent Cities

	Same Province		Different Province	
	(1)	(2)	(3)	(4)
$\|a_i - a_j\|$	1.365	1.329	0.308	0.320
	(0.997)	(0.994)	(1.896)	(1.864)
a_i	-1.176	-0.865	-2.601	-2.337
	(0.851)	(0.847)	(1.619)	(1.594)
a_j	0.353	0.152	-0.306	-0.410
	(0.851)	(0.847)	(1.619)	(1.594)
ln(Population$_i$)		1.459		9.055**
		(1.279)		(4.308)
ln(Population$_j$)		2.062		10.59**
		(1.279)		(4.308)
ln(per capital GDP$_i$))		0.562**		0.942**
		(0.253)		(0.430)
ln(per capital GDP$_j$))		-0.815***		-1.581***
		(0.253)		(0.430)
Constant	11.26***	-5.678	4.794***	-103.4**
	(0.0990)	(15.70)	(0.171)	(50.92)
Citypair FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	5,686	5,686	2,462	2,462
R-squared	0.629	0.634	0.360	0.383

Note: This table reports the results of estimating Equations 7 with log(Total value of procurement contracts+1) being the dependent variable. The data sample include adjacent city pairs. Column (1) and (2) report the regression results for adjacent city pairs from the same province, and Column (3) and (4) report the regression results for adjacent city pairs from different provinces. Standard errors are estimated using cluster-bootstrap at the province-year level. ***, **, and * represent significance at 1%, 5% and 10%, respectively.