
Special Deals with Chinese Characteristics

Chong-en Bai, *Tsinghua University*

Chang-Tai Hsieh, *University of Chicago and NBER*

Zheng Song, *Chinese University of Hong Kong*

I. Introduction

A standard explanation for the extraordinary economic growth in China over the last 4 decades is that this growth was driven by the gradual improvement of formal economic institutions. Advocates of this explanation point to reforms such as the restoration of incentives to farmers and opening to foreign investment in the 1980s, the centralization of the banking system that started in the mid-1990s, the restructuring of state-owned firms and cleanup of the bad debts in the late 1990s and early 2000s, accession to the World Trade Organization (WTO) in 2001, and the gradual removal of internal migration barriers.¹

Although these policy reforms are undeniably important, this narrative sits uneasily with other pieces of evidence. Huang (2008) documents that many of the pro-market reforms of the 1980s were later reversed. It is still the case that there is no clear formal legal protection for private property in China, nor is there an independent judiciary that enforces contracts and adjudicates commercial disputes. Acemoglu and Robinson (2012), drawing on the account in McGregor (2010), discuss the case of an entrepreneur who was arrested in 2003, allegedly for competing with a state-owned firm, and jailed for 5 years without a trial or charges being filed. Formal rules and laws facing private business are still opaque and onerous. Many foreign companies find their access to the Chinese market blocked for reasons that are not immediately transparent. The World Bank's *Doing Business* indicators has for many years ranked China near the bottom of the world in terms of the "ease of starting a business," roughly at the same level of countries such as Iraq and the Congo.

But how can economy with such poor institutions grow at the rate and for as long as China has? The answer, we suggest, lies in the set of *informal* institutions that emerged in China in the early 1990s. The key feature of

these informal institutions is that special deals are readily available to private firms. As suggested by Acemoglu and Robinson (2012) and the World Bank's *Doing Business* indicators, formal institutions for private firms are poor in China. Chinese private firms succeed, in part, by obtaining a special deal from a local political leader, which enables them to either break the formal rules or obtain favorable access to resources. The prevalence of special deals is common in countries with poor formal institutions, and China is no different.²

The essence of special deals is that they are only available to some firms, and there is abundant evidence in many settings that the benefits of firms with special deals are outweighed by the costs borne by firms that are left out. In the case of China, however, there are three reasons why the benefits of special deals may exceed the cost. First, Chinese local governments have enormous administrative capacity and use it to provide a "helping hand" to favored firms. This helping hand ranges from providing exemptions to regulations to lobbying the central government for the right to break rules, improving local infrastructure, providing land (and to a lesser extent credit) at below market prices, and blocking entry of other firms that threaten the profits of the favored firms. Some of this help, such as blocking competitors, lowers welfare; however, much of it, such as exemptions to inefficient regulations, is probably growth enhancing.

Second, local political leaders have high-powered incentives to provide special deals. For example, the largest car company in China is a joint venture between General Motors and the City of Shanghai. Dunne (2011, 11), a longtime observer of China's automobile market, describes Shanghai's support for General Motors in the following way: "The commercial goal of selling more GM Buicks and Chevrolets in China becomes a political and economic campaign to enhance the power and might of the City of Shanghai. Think of it as Shanghai Inc. with the Mayor as the Chairman and CEO." Local leaders may support private firms simply out of a sense of duty or because local leaders who show competence in supporting private business are recognized and promoted. The benefits can also be entirely monetary, ranging from tuition payments for their child to (hidden) equity stakes in favored private firms held by family members. Because of the high-powered incentives to support private firms, a large and increasing number of Chinese firms benefit from the special deals. So the Chinese system is best described not simply as a regime of special deals but one where there is almost "free entry" into special deals.

Third, a large number of local governments actively support private firms. Moreover, they compete ferociously with other local governments to attract and support their businesses. As described by McGregor (2010, 175–76), “What is obvious for anyone who travels around the country is how much of the economy is driven by another factor altogether, a kind of Darwinian internal competition that pits localities against each other . . . each Chinese province, city, county, and village furiously compete to gulp down any economic advantage they can lure their way.” Competition between local governments is crucial in limiting the predatory power of protected firms. A local government can block competitors of favored firms in its locality but has no ability to do so in other cities. Competition also gives firms options when faced with incompetent or predatory local governments.

In summary, China has “extractive economic institutions” to borrow Acemoglu and Robinson’s (2012, 439) pithy term, where political elites extract rents from the rest of society. But extractive economic institutions in China come with unique “Chinese characteristics” that have made all the difference. First, local political elites extract rents by enabling favored firms to generate more profits in the first place. They can do this because of the enormous administrative capacity of local governments, and the resulting growth of local businesses enables local elites to extract even more rents. Second, local elites get personal benefits from these rents and, thus, the local administrative apparatus is laser-focused on supporting favored firms. Third, thousands of local governments compete ferociously to attract and support firms, thus limiting the ability of an individual local government to harm other businesses.

Understanding the Chinese system as a regime of special deals also clarifies the risks that China faces. First, special deals rely on the discretion of local officials and their incentives to provide special deals. And here a central fact is the anti-corruption campaign that has been in place since 2014. Although there is limited information on the crackdown, if local officials are motivated by private economic benefits, the crackdown on corruption will dampen their incentive to use their authority to grease the wheel for private firms. If special deals as practiced in China have been growth enhancing, as we suggest they have, the crackdown on corruption will result in lower growth. Second, special deals are at the root of the tension between China and its trading partners. Companies based in countries that do not have access to special deals find themselves disadvantaged when they compete with Chinese companies that do. Foreign companies in the Chinese market either have to make their own special deal or, as is

the case with Chinese firms that do not have a special deal, find that their intellectual property and contracts are not well respected. An important and still unresolved question is how the world trading system can accommodate countries based on rules as well as those based on access to special deals.

Our narrative of special deals with Chinese characteristics is closely related to Huang's (2008) account of "capitalism with Chinese characteristics" and Xu's (2011) description of China as "regionally decentralized authoritarianism." Huang (2008) documents the emergence of special deals in China in the early 1990s and argues that such deals are harmful to economic growth. Xu (2011) argues that powerful local governments are behind the growth of private firms but is silent on the key fact that local support for private firms almost always takes the form of special deals. Our hypothesis is that it is precisely the combination of special deals and powerful local governments that has underpinned China's economic success over the last 30 or so years and, at the same time, has created risks for the future.

The paper proceeds as follows. We first describe how special deals in China work. We then lay out a model of special deals to examine how the Chinese characteristics, such as high administrative capacity, ability to obtain private benefits, and local competition, determine the magnitude of special deals and their effect on economic growth. The next section uses data from multiple sources, including the Chinese Annual Survey of Industrial Firms (ASIF), the Economic Censuses, firm registries from the State Administration of Industry and Commerce (SAIC), micro-data on land sales, and a survey of politically connected firms, to provide suggestive evidence on the nature of special deals that firms grow when they have access to special deals and that local governments support their favored local firms. The last section discusses the risks inherent in an economic institution based on access to special deals.

II. How Do Special Deals Work in China?

We begin by describing how a specific local government supports private business. We visited a city in southern China in 2013 where we had extensive discussions with local officials and private businesses.³ It was abundantly clear that the central focus of the local government was to attract and support private businesses. There were seven vice-mayors in the city and most of their time was spent prospecting for new businesses to set up in the city and solving the problems for a subset of local private firms

already in the city. We estimate that each vice-mayor was the point person for about 30 private firms. The vice-mayors spent most of their time on business development, even if their official portfolio had nothing to do with it. Figure 1 replicates a document handed to us by the city’s vice-mayor who oversees the local department of Education and Civil Affairs, as the vice-mayor proudly explained how the document describes his main job. The city’s Department of Education and Civil Affairs is in charge of local schools, but what the vice-mayor of education actually spends his time on is actively looking for quality prospects and arranging special deals for these businesses. We witnessed a monthly meeting organized by the party-secretary and mayor with the seven vice-mayors to coordinate their activities supporting private business. We estimate that about 200 private businesses in this city, most of them the city’s largest employers, have special deals negotiated by the vice-mayors, the mayor, or even the local Communist Party secretary.

What we witnessed in this city is also evident to anyone who has done business in China that a central priority of Chinese local governments is to attract and support private businesses. We illustrate the consequences by looking at how local governments affected the implementation of China’s formal industrial policy in the last 2 decades. In the late 1990s, the central government designated nine “strategic and pillar” industries that were restricted to a handful of state-owned firms.⁴ In 2015, the central government made explicit an additional list, the so-called negative list, of



Fig. 1. Work program of a vice-mayor of education. The flowchart in Chinese was given to us by the vice-mayor of education and civil affairs of a Chinese city. The translation in the right column is ours.

12 industries in which foreign firms were prohibited.⁵ Of the 12 negative list industries, 7 were also on the list of strategic and pillar industries, so a total of 14 industries were off-limits for private and/or foreign firms.

The goal of these policies was to create powerful state-owned firms in these sectors by restricting entry.⁶ However, despite the official rules that restricted entry by private firms, new private firms established between 1998 and 2007 accounted for 62% of all firms in the “strategic” and negative list sectors in 2007. This number is only slightly lower than the share of new private firms in 2007 (67%) in industries where there were no restrictions on private entry.⁷

The reason private firms were able to enter the strategic industries, despite the official rules that their presence was illegal, was because local governments helped certain private firms circumvent the formal rules. We illustrate how this happened with case studies of two strategic industries: the aluminum and automobile industries.

We begin with the aluminum market in China. In the early 2000s, this market was dominated by the China Aluminum Corporation (Chinalco). As one of the hundred or so state-owned companies directly controlled by the Chinese central government, Chinalco had a 98% share of the aluminum market in China in the early 2000s. Chinalco had two main assets. First, the central government passed a law that gave the company exclusive rights to purchase all bauxite deposits in China when the company became a publicly listed company in 2001. Second, no other company was legally allowed to produce aluminum. Yet, by 2008, the market share of Chinalco dropped to less than 50% due to the entry of large private firms in the aluminum market. One of these companies is the East Hope (Sanmenxia) Aluminum Company, a subsidiary of the East Hope Group. The East Hope Group was created in 1995 in Sichuan as one of the four companies resulting from the breakup of the Hope Group. At the time, the East Hope Group’s main business was as a processor and distributor of animal feed.

The East Hope Group decided to expand into aluminum (and heavy metals more generally) in the early 2000s. McGregor (2010) tells the story of how East Hope saw that Chinalco’s Achilles’ heel was that its exclusive right to purchase Chinese bauxite had been granted by the Chinese central government and not by the local governments with the bauxite mines. East Hope Group was able to make a deal to purchase bauxite with the local government of Sanmenxia, a small city in western Henan Province with large deposits of bauxite. Chinalco fought the

East Hope Group but the local government of Sanmenxia had enough political clout to make the deal stick. With the support of the local government of Sanmenxia, the East Hope Group started to produce aluminum in 2005. Many other private companies in Henan followed a similar path and had taken half of Chinalco's market share by 2008. When asked about the key to his success in the aluminum industry, East Hope's owner said, "Forgive me for being frank, but local officials, even corrupt ones, need to have political achievements" (McGregor 2010, 226).

The automobile industry was also dominated by state-owned firms in the early 2000s with similar restrictions as the aluminum industry on entry by private firms. In the mid-2000s, the largest car producer in China was Shanghai-GM, a joint venture between GM and the Shanghai Automobile Industrial Company (SAIC). SAIC is a publicly traded firm with a majority stake held by the Shanghai local government. SAIC also operates a joint venture with Volkswagen (Shanghai-Volkswagen) as well as a standalone car company. GM's strategy in China was to use the political power of its partner SAIC to obtain exclusive rights to sell "large" sedans (with engines larger than 2500cc), and the local government of Shanghai worked hard to protect GM's monopoly power. As Dunne (2011, 15) put it, "Car-building Chinese cities act almost like sovereign countries, building a fortress around their home markets, while working very hard to 'export' their cars to other Chinese cities," and Shanghai was no exception to this behavior.

However, GM's strategy of exploiting its monopoly power ran into resistance. The third car it wanted to sell in China was a replica of a small car made by GM's Korean subsidiary, the Daewoo Matiz. Another Chinese company, Chery, based in the small city of Wuhu, started to sell exactly the same car a full 6 months before GM was ready to sell the rebranded Daewoo Matiz. Chery had managed to get hold of the blueprints of the Daewoo Matiz and beat GM-Shanghai to market. As a local state-owned firm controlled by the Wuhu government, Chery was started in 1996 by the Wuhu vice-mayor at the time, Zhan Xialai, and an engineer, Yin Tongyao, from FAW in northern China, another large state-owned firm directly controlled by the central government. Dunne (2011) tells the story of the proposed division of labor between Mr. Zhan and Mr. Yin. The vice-mayor reportedly told the engineer: "You let me take care of the licenses; you just focus on getting some cars built here" (Dunne 2011, 129). With the political support of the Wuhu local government, Chery obtained the land, capital, and infrastructure it needed. But getting access to the license from central government to make cars took

longer and was less straightforward. Initially the vice-mayor was only able to get a license to make car engines for Chery. A car engine permit was readily available because car engines were not one of the strategic sectors. Chery then used this license to buy a shuttered Ford engine factory in the United Kingdom and reassembled the engine assembly line in Wuhu. The vice-mayor then lobbied the central government for a license to make cars, which the central government agreed to but only under the condition that the cars were only to be sold in Wuhu. According to the vice-mayor, his next step was to enlist the support of his political patron in the central government, and they decided to pressure Shanghai Automobile (GM's partner in Shanghai) to take a 20% equity stake in Chery. SAIC resisted the move but succumbed to the political pressure from Wuhu's vice-mayor's political patron. So in 2000 SAIC took a 20% equity share in Chery, which the vice-mayor, who was then promoted to the party secretary and mayor of Wuhu, used to lobby the central government for the license to sell cars throughout China. This time they were successful, and one of the initial products of Chery was the replica of GM's Korean car.

Despite Chery's license to sell cars throughout China, however, it has found it very difficult to sell in the Shanghai market and in other Chinese cities where there is a local car company. In 2007, about one-third of Chery's sales were outside of China, where presumably it does not have to compete with companies that have special deals with the local government.⁸ GM-Shanghai is formally registered as a foreign firm in China and is the largest car manufacturer in China. It has been successful financially primarily because it has used the political power of the Shanghai local government to protect its local market. Chery's local market—namely, the city of Wuhu—is simply too small for a similar strategy to be viable; thus, Chery's success is largely built on its sales outside of China. Shanghai-GM, despite being the largest car producer in China, only serves the domestic Chinese market.

Finally, we return to the case of the entrepreneur discussed by Acemoglu and Robinson (2012) who was jailed for 5 years for competing with a state-owned firm. The entrepreneur Dai Guofang had established a large steel company called Jiangsu Tieben in Changzhou City in 2002. However, as was the case with the aluminum and automobile industries, the steel industry was also one of the strategic industries where entry by large private firms was forbidden. Dai Guofang had gotten around this restriction by “breaking up” Jiangsu Tieben into 22 different companies, each of which fell below the official size threshold, and obtained a

separate license for each of the 22 companies. Jiangsu Tieben was shuttered in 2003 on the orders of the central government and Mr. Guofang was arrested and remained in jail for 4 years without a sentence. Acemoglu and Robinson (2012) use this episode to illustrate the effect of Chinese extractive institutions, but there is an interesting epilogue to the story. After Mr. Guofang was released from prison in 2008 he created the Jiangsu Delong Nickel Company, this time with the support of a different local government in Jiangsu.⁹ Mr. Guofang's new company is currently China's largest producer of nickel-iron alloys.¹⁰

We take away the following points. First, formal institutions for growth are poor in China. For example, there was an effort by the central government to protect favored firms in the aluminum and automobile industries. Second, support of local governments, such as the one in southern China we visited, is crucial to the success of the East Hope Group and Chery. Support of the local government was critical for both companies to circumvent the rules imposed by the central government to protect the incumbent firms (e.g., Chinalco in the aluminum industry and Shanghai-GM in the car industry). Third, the story of Chery illustrates how competition between local governments limited the ability of Shanghai-GM to exploit its monopoly power. And the story of Mr. Guofang illustrates the importance of competition in giving options to entrepreneurs whose deals fall through in other cities. Fourth, the allusion to corrupt local officials by East Hope's CEO hints that private benefits may be important in providing local officials with an incentive to support local firms.

III. A Model of Special Deals

This section sketches a model of special deals in an environment with "bad" formal institutions. The key idea is that a subset of firms benefits from special deals to which other firms do not have access. We examine the determinants of the benefits that favored firms obtain, how many firms get access to deals, and the effect of special deals on the real wage.

Preferences are given by

$$U = \left(\int_0^1 C_z^{\frac{\sigma-1}{\sigma}} dz \right)^{\frac{\sigma}{\sigma-1}},$$

where $z \in [0, 1]$ indexes the product. There are two potential technologies for each product given by $(1 - \delta)e^{A(1-z)}$ ("A" technology) and $(1 - \delta)e^{Bz}$ ("B" technology), where $0 < \delta < 1$ represents the Total Factor Productivity

(TFP) loss from bad institutions. We view δ as a reduced-form representation of the productivity loss due to the thicket of official rules and regulations behind China's poor ranking in the World Bank's *Doing Business* indicators. Output is the product of the chosen technology and labor.¹¹ Given preferences and the production function, the profit-maximizing price is the standard markup over marginal cost.

Consider first a benchmark where the chosen technology is the product of $1 - \delta$ and $\max\{e^{A(1-z)}, e^{Bz}\}$. Define \tilde{z} as the cutoff, where the A technology is chosen for $z < \tilde{z}$ and B is chosen for $z > \tilde{z}$. This cutoff is given by

$$\tilde{z} = \frac{A}{A + B}.$$

After imposing profit maximization and labor market clearing, the real wage ω is then

$$\omega = \frac{\sigma - 1}{\sigma} (1 - \delta) \left(\int_0^{\tilde{z}} e^{A(1-z)(\sigma-1)} dz + \int_{\tilde{z}}^1 e^{Bz(\sigma-1)} dz \right)^{\frac{1}{\sigma-1}},$$

where the cutoff product \tilde{z} is defined earlier.¹²

Now consider a special deal regime where some firms get benefits and other firms do not. The political leader provides two types of benefits to a subset of the A firms. First, local political leaders in China help favored firms circumvent burdensome rules. These can take the form of firm-specific exemptions to official rules and the implicit sanctioning of violations of regulations (such as the East Hope Group's foray into the aluminum industry). We model this benefit as an increase in firm TFP from $(1 - \delta)e^{A(1-z)}$ to $(1 - \delta + \gamma)e^{A(1-z)}$ where $0 < \gamma < \delta$. We interpret γ as capturing the ability of the local government to alleviate the effect of poor overall institutions for specific firms. For example, γ would be low in places where the local bureaucracy is incompetent or where the local political leader has other priorities.

A second benefit is that potential competitors of the favored firms are blocked from the market. Chery found it very difficult to sell in Shanghai because the three dominant local automobile manufacturers are supported by the City of Shanghai.¹³ The only taxis in Beijing are the Hyundai Elantra made by Hyundai's joint venture with the City of Beijing. The only taxis in Shanghai are the Volkswagen Santana made by Shanghai-Volkswagen. There is no formal law or regulation that Beijing taxi companies have to use Hyundai cars or Shanghai cab companies have to buy Volkswagen cars, but taxi companies fully understand the incentives of the local taxi regulator.

To capture this idea, suppose all A firms $z \in [0, z_c]$ are favored by the political leader (we will endogenize z_c shortly). If $z_c < \tilde{z}$, then the TFP of all A firms $z \in [0, z_c]$ exceeds the TFP of the corresponding B firms. So blocking has no effect and as long as $\gamma > 0$, the special deal regime raises the real wage. However, if $z_c > \tilde{z}$, then consumers get access to worse technologies for products $z \in [\tilde{z}, z_c]$. In this case, the effect of special deals on the real wage is ambiguous, as it depends on the benefit of $\gamma > 0$ for firms $z \in [0, z_c]$ relative to the loss from blocking better B technologies for $z \in [\tilde{z}, z_c]$.

A third institutional feature of special deals in China is that they are provided by local governments that compete ferociously with each other. Suppose that firms with the A technologies are in city A and firms with B technologies in city B. Further, assume that workers freely move between the two cities, implying that in equilibrium the real wage is the same in the two cities. There are two effects of local competition. First, we now have two cities supporting local firms instead of only one. So some B firms also get supported by their local government. Second, a local government can only protect firms in its locality but has no power in the other locality. Going back to the example of the automobile industry, GM was the favored firm in Shanghai but it did not have any preferences in Wuhu (or in any Chinese city outside of Shanghai).

To isolate this third effect, suppose the political leader in A supports local firms, but the one in B does nothing to support local firms (we can easily relax this assumption). We assume $z_c > \tilde{z}$ and that workers can freely move between the two cities. The key difference is that the political boss in A can only block competitors in his or her jurisdiction but has no power in B. These two assumptions limit the loss due to blocking. Intuitively, when city A blocks better technologies produced in city B, this raises the cost of living in city A and thus lowers the real wage in city A relative to B (for a given relative nominal wage). Workers then reallocate from A to B and the share of products made by A falls until the real wage is equalized in the two cities.¹⁴

Why would a political leader choose to provide special deals to some firms instead of reducing δ , which benefits all firms? One answer is that the political leader can extract rents from providing special deals, whereas he or she has limited ability to do so if all firms are treated equally. To capture this idea, we assume firms with special preferences pay a share $\beta^{\sigma-1}$ of their profits to the political leader (and nonfavored firms do not pay). This assumption implies that, all else equal, the political leader prefers to help more profitable (and presumably larger) firms.

If the political leader can get a share of the firm's profits if he or she provides the firm with a special deal, why does not the local leader make the deal available to all firms? One reason is the nature of a special deal regime in which the deals have to be individually negotiated. Each firm that has a special deal comes with a cost to the political leaders, either in the form of political capital or in the time their bureaucracy spends. This is one way to view the fact that the vice-mayors in the city we described work long hours negotiating deals and solving problems for the favored firms.

We capture this last idea by assuming each special deal entails a fixed cost given by $(Fe^A/w)^{\sigma-1}$. The political leader will therefore provide favors to firms when the return exceeds the fixed cost. Profits of the marginal firm z_c are proportional to $((1 - \delta + \gamma)e^{A(1-z_c)})/w)^{\sigma-1}$. After equating the political leader's return from helping the marginal firm to the fixed cost, we get the following expression for z_c :

$$z_c = \ln \left(\frac{\beta(1 - \delta + \gamma)}{F} \right).$$

So the political leader provides deals to the most productive firms $z \in [0, z_c]$. The number of firms with special deals z_c is larger when the political leader gets more private benefits (β is larger), the local government has more capacity (γ is larger) and can thus provide more assistance, and the fixed cost F is low.

The key variables that determine the number of firms with access to special deals and their effect on the real wage are β ("private benefits"), γ ("state capacity"), and local competition. Figure 2 illustrates the effect on the real wage for different values of these parameters. It is useful to distinguish the following cases:

- **No private benefits:** This is simply the baseline economy. Here the degree of local competition and state capacity does not matter. Even when the local government has high capacity, this is not used because the political leader has no incentive to help.
- **Low capacity and large private benefits:** The *top panel* in figure 2 illustrates the effect of special deals on the real wage when $\gamma = 0$ for different values of β . Here the only effect of more private benefits (higher β) is to increase the number of firms that are protected from competitors. This effect is attenuated with local competition (this is the case labeled "two cities") because workers move from city A to B in response to higher

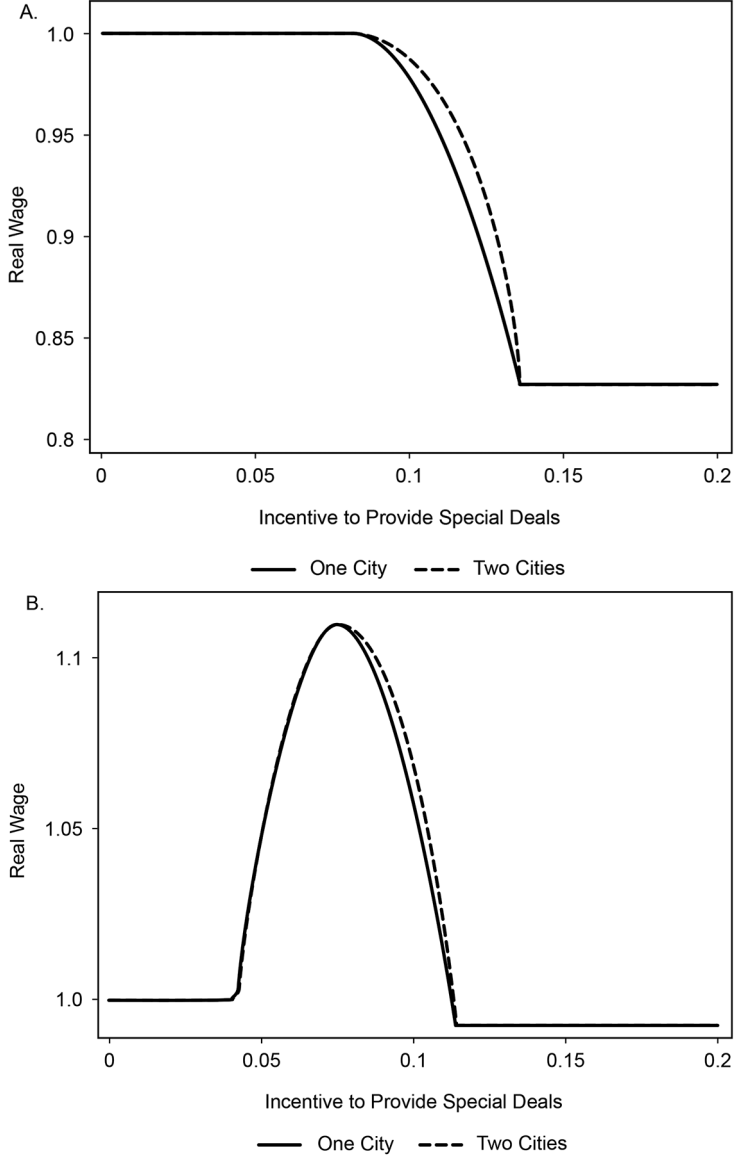


Fig. 2. Effect of special deals on the real wage. (a) Low State Capacity ($\gamma = 0$). (b) High State Capacity ($\gamma = 0.1$). Figures present the real wage when firms with “A” technology have access to special deals relative to the benchmark where $\beta = 0$ and $\gamma = 0$. “One-city” assumes “A” firms with special deals block competitors in cities A and B. Two cities assumes “A” firms with special deals only block competitors in city A. β^{a-1} is the political leader’s share of firm profits. γ is the increase in TFP in the “favored” firms. The *bottom panel* assumes $\gamma = 0.1$.

costs in A. Still, the effect of special deals on the real wage is either nothing (for low levels of β) or negative (for high levels of β).

- **High capacity and large private benefits:** The *bottom panel* of figure 2 presents the case when local governments also alleviate bad institutions for favored firms.¹⁵ Favored firms get two benefits: a boost in TFP and protection from competitors. Here, starting from low levels of β , more private benefits increase the real wage. Intuitively for low levels of private benefits, an increase in β increases the number of favored firms. These firms benefit from higher TFP, and these are already the firms with the best technology so there is no negative effect from blocking better competitors. Beyond the “optimal” level of private benefits (in the figure around $\beta = 0.08$), further increases in β lower the real wage. The negative effect of blocking more competitors outweighs the TFP boost of the marginal favored firms. And here, as in the “low capacity” case, the negative effect is attenuated with competition between cities.

The model is highly stylized and can be extended in many directions. Here we mention three. First, we assume perfect allocation of labor within a city. We can extend the model to allow for other resources such as land and capital, and a benefit the local leader can provide is access to local resources. The aggregate effect depends on whether preferential access to resources improves or worsens the allocation of resources. In the next section, we examine the extent to which favored firms also obtain preferential access to land and capital.

Second, another benefit of local competition is that it gives options to firms that find themselves in cities where the local leader is incompetent or more generally where entrepreneurs do not get the support they need. The story of Dai Guofang, who after trying several times was able to find support for his heavy metals company in a different city, illustrates this. It would be easy to extend the model to allow firms to move between cities and locate in the city that gives them the best deal.¹⁶

Third, the only cost of private benefits of political leaders in the model is the potential loss of better products.¹⁷ The model can be extended to consider other losses. For example, the model is static, but if firms also make a dynamic investment decision, their incentive to invest is lower because a share of their profits goes to the political leader. In contrast, if the political leader indirectly owns some of the equity (and we will provide some evidence later in the paper that this might be the case), then the political leader has the incentive to maximize the present discounted value of the flow of profits of the firm.

IV. Growth with Chinese Characteristics

The period between the early 1990s and 2008 before the onset of the global financial crisis was the highest growth episode in recent Chinese history, with gross domestic product (GDP) growth averaging 11% per year. We suggest that this growth was driven by the emergence of a special deal regime best characterized as a “high capacity and private benefits” regime. We present four types of evidence consistent with this interpretation. First, we present aggregate evidence of the growing importance of large firms, particularly of large conglomerates. Second, we show employment growth rates are higher in cities where returns to special deals are higher. Third, we present direct evidence of political ties and preferences of successful firms. Fourth, we provide evidence that localities block better firms from selling in their markets.

A. *Growth of Large Firms and Conglomerates*

The model described earlier assumes the incentive to provide special deals is that the local leader gets a share of the firm’s profits. This assumption implies that, all else equal, political leaders prefer to provide deals to larger firms. Furthermore, if part of the special deal is that these firms are exempt from inefficient formal rules, then large firms will gain relative to other firms as a consequence of the availability of special deals.

We begin by showing the change in the importance of large firms in China. Table 1 shows the output share of firms in the top 1% of firms in the employment size distribution. The left columns present this information for above-scale firms in the industrial sector in 1998, 2002, and 2007. The right columns show this statistic for all industrial firms in 1995, 2004, and 2008.¹⁸ The sales share of the top 1% above-scale industrial

Table 1
Sales Share of Top 1% Firms

Above-Scale Industrial Firms		All Industrial Firms	
1998	25.2%	1995	31.6%
2002	28.9%	2004	37.5%
2007	33.3%	2008	45.1%

Source: Above-scale industrial firms from the Annual Survey of Industrial Firms. All industrial firms from Economic Census.

firms increased from 25% to 33% between 1998 and 2007. For all industrial firms, the sales share of the top 1% firms increased from 31% to 45% between 1995 and 2008.

The largest firms in the Industrial Survey and Economic Census do not fully capture the extent to which large firms increasingly dominate the Chinese economy. Take the East Hope Group. East Hope is one of the four companies created in 1995 by the breakup of the Hope Group. The original business of the East Hope Group was animal feed processing and distribution, but East Hope is now one of the largest aluminum producers in China. By 2015, there were 213 firms in the East Hope Group, one of which is the East Hope (Sanmenxia) Aluminum Company. The majority of these firms are in the animal feed or heavy metal industries.¹⁹ The Anbang Group is another example. The original company, Anbang Insurance, was founded in 2004. By 2015, Anbang Insurance had controlling stake in 94 companies.

The largest subsidiaries of the East Hope Group and Anbang Group are almost always joint ventures with other companies. The joint ventures of the East Hope Group have three distinctive features. First, they are all located outside of Sichuan Province, the home province of the East Hope Group. Second, almost all are joint ventures with state-owned firms. Third, they are typically the first firm the group established in the province and in a sector that is new to the group. For example, East Hope's initial companies in the coal, nonferrous metals, and chemicals industries were joint ventures with state-owned firms outside of Sichuan Province. These facts suggest that East Hope uses joint ventures with state-owned firms to buy access to special deals. The average equity share of state-owned firms in the joint ventures with East Hope in the animal feed sector is 28.6%. The equity share of state-owned enterprises of the joint ventures in heavy metals is 53.2%. We interpret this number as a rough estimate of the share of profits that East Hope has to give up— β in the model—in exchange for special deals outside of its core locality and business.

Anbang's subsidiaries follow a similar pattern. For example, one of Anbang's subsidiaries is the Chengdu Rural Commercial Bank. Anbang Insurance is the controlling shareholder of this bank. The other shareholders of Chengdu Bank are 10 local state-owned firms (from Chengdu) and 11 holding companies. Chengdu Bank itself owns 40 subsidiaries, all of them financial institutions located in other cities in Sichuan Province and all of them jointly owned by other local state-owned firms and holding companies.

Table 2
Average Number of Firms of Chinese Conglomerates

	1995	2015
Top 100	509	15,322
Top 500	115	5,979
Top 1,000	61	3,120

Source: Firm Registry of State Administration for Industry and Commerce. Entries are average number of firms per conglomerate among the 100, 500, and 1,000 largest conglomerates in 1995 and 2015.

We use the firm registration records from China's SAIC to document systematically the emergence of conglomerates such as the East Hope Group and Anbang Group. These data are a universe of all registered firms in China, and the data are unique in providing information on the owners. The owners can be another firm, a holding shell, or a private individual. Importantly, as long as the shell company is registered in China, the SAIC data identify the owners of the holding shells, and these owners can be individuals or (as is frequently the case) other holding shells.²⁰ But there is very limited economic information; the only information available is the firm's registered capital. Following Bai et al. (2019), we identify conglomerates as groups of firms with common owners. Table 2 presents the average number of firms in the largest Chinese conglomerates in 1995 and 2015. The average number of firms of the largest 100 conglomerates increased from 509 to more than 15,000 from 1995 to 2015. Among the 1,000 largest conglomerates, the average number of firms rose from 61 to more than 3,000 over the same time period.

Table 3 shows that not only has the size of the largest conglomerates increased but the ownership structure of the conglomerates has also changed. The table shows the share of the subsidiaries (i.e., all firms outside of the original core company of the conglomerate) of the conglomerates

Table 3
Jointly Owned Subsidiaries of Chinese Conglomerates

	1995 (%)	2005 (%)
Top 100	39	82
Top 500	25	85
Top 1,000	30	81

Source: Firm Registry of State Administration for Industry and Commerce. Entries are the weighted percentages of subsidiaries of the 100, 500, and 1,000 largest conglomerates that are jointly owned with other companies. Weights are the firm's registered capital.

that are joint ventures with other firms. Among the top 1,000 conglomerates in 1995, about 30% of the conglomerates' subsidiaries were joint ventures. By 2015, the share of joint ventures was more than 80%.

The evidence indicates that the largest Chinese conglomerates have grown by creating joint ventures with other companies. We interpret this pattern as an increase in β or γ that makes possible the entry of these firms. East Hope entered into joint ventures with state-owned firms outside of Sichuan to "buy" access to the political ties of these firms. Anbang entered into joint ventures with state-owned firms in Chengdu when it created the Chengdu Rural Commercial Bank, again presumably to obtain access to that market.

Ownership of the conglomerate's core firm also becomes shared with other parties. Let us go back to the original company of the Anbang Group (i.e., Anbang Insurance). The company was created in 2004 with eight investors, two of which are state-owned firms and six are holding shells.²¹ By 2015, the equity share of the eight original investors had dropped to 19% and the new owners are a complex web of holding companies.

Figure 3 illustrates the ownership structure of Anbang Insurance in 2015. Anbang Insurance is the dark circle in the middle and the circles with other colors represent the owners. We further identify different types of owners by the color: gray for holding shells, white for state-owned firms, and open circles for individual owners. The circles immediately connected with the black circle represent the immediate owners of Anbang Insurance. In 2015, Anbang Insurance had 39 owners, two of which were state-owned firms (white circles) and 37 of which were holding shells (gray circles). And every holding shell in turn was owned by other holding shells, most of which in turn were owned by other holding shells, and so on.

It is clear is that the current owners (the individuals represented by the open circles in fig. 3) have worked really hard to hide their ownership of Anbang behind a series of holding companies. This pattern suggests that Anbang's original shareholders may have grown the company by sharing equity of its core companies in exchange for favorable treatment. We would need to know the price at which the original investors sold their equity stake to know for sure whether this was the case, but what seems clear is that Anbang's new owners have gone to great lengths to hide their ownership of the company.

B. Heterogeneity across Cities in Impact of Special Deals

In the previous section, we showed that large private firms, particularly mixed-ownership conglomerates, increasingly dominate the Chinese

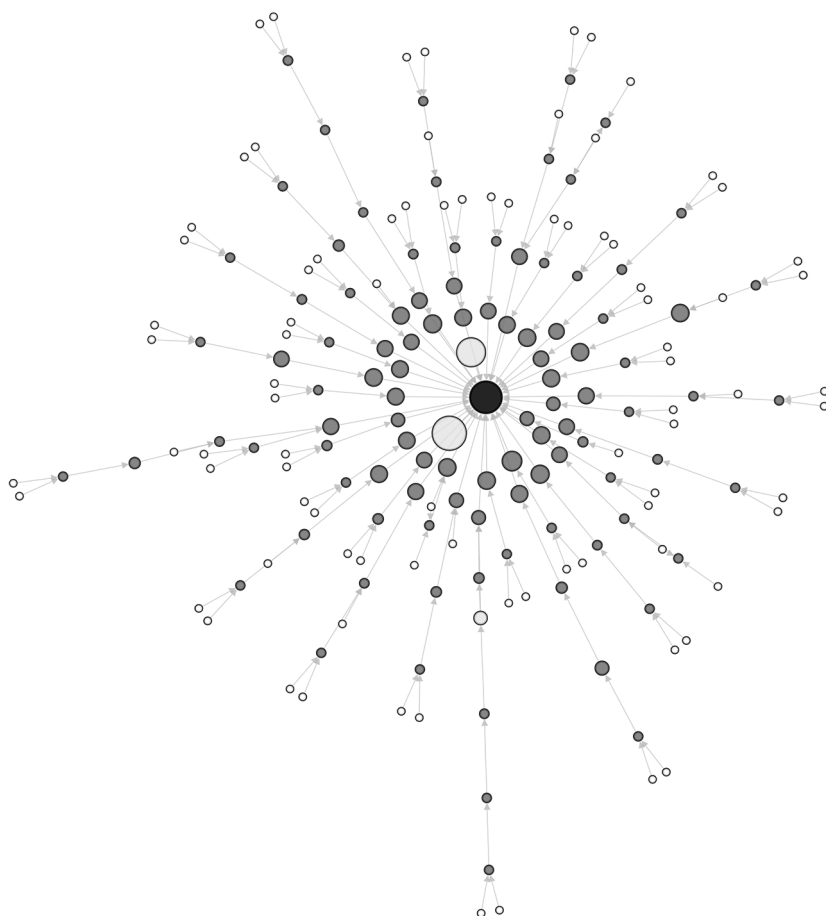


Fig. 3. Owners of Anbang Insurance, 2015. Each circle represents a unique company or individual. Arrows denote ownership links. Black circle is Anbang Insurance (the original company). Grey circles are holding shells. White circles are state-owned firms. Empty circles are individual persons. Subsidiaries of the Anbang Group are not included. Data are from SAIC ownership records.

economy. In the model we laid out in the previous section, favored firms benefit from a proportional increase in their TFP, so the return to a special deal is an increase in firm TFP. We now examine the cross-sectional implication of the same force. Specifically, if high-TFP firms benefit more from special deals, the effect of a city providing special deals on aggregate TFP in the city will be larger in cities where the right tail of the firm TFP distribution is thicker.

Figure 4 examines this hypothesis by showing the scatter plot of the employment growth rate of a city (y -axis) on the initial employment



Fig. 4. Employment growth and initial share of large private firms. Each circle represents a city (size of circle represents the size of the city). The y -axis is the annualized employment growth rate of the city from 1998 to 2007. The x -axis is the employment share of private firms with more than 1,000 workers in 1998. The center, sloping line denotes ordinary least squares regression line. Data are from microdata of Annual Survey of Industrial Firms.

share of private firms with more than 500 employees (x -axis). The data are from the ASIF, so only above-scale industrial firms are included. The employment growth rate of a city is from 1998 to 2007 and is a proxy for aggregate TFP growth of the city.²² The employment share of large private firms is from 1998 and is a proxy for the share of privately owned firms with high TFP. As can be seen, the relationship is clear: cities with a greater number of high-TFP firms initially also grow faster over time. After controlling for the city's initial level of employment, province fixed effects, and distance to the nearest port, the ordinary least squares regression of the city's employment growth rate from 1998 to 2007 on the city's employment share of large private firms yields a precisely estimated coefficient of 0.196 ($SE = .029$).

C. Political Ties and Preferential Treatment

We now turn to more direct evidence of links of ties between political leaders and firms. We begin by using the microdata of a survey of private firms

that are members of the Chinese National Association of Industry and Commerce.²³ The survey identifies whether the firm's owner is a member of the local People's Congress or Political Consultative Committee (PC/PCC), so we use this information to measure the relationship between PC/PCC membership and firm characteristics. About 30%–40% of the firms in the survey are owned by PC/PCC members, and this ratio is roughly constant over the years of the survey (1997 to 2012).²⁴

What has changed over time is the advantage of firms owned by PC/PCC members. The survey distinguishes between members of the PC/PCC at the level of the provinces or above, prefectures, or counties or below. Table 4 shows the sales of firms owned by PC/PCC members (at each level of government) relative to sales of firms whose owners are not in the PC/PCC. Two facts stand out. First, not surprisingly, firms owned by PC/PCC members are larger. Second, the sales gap has increased over time. For owners in county-level PC/PCC, the sales gap increased by 1 log point between 1997 and 2012. And for owners in top-tier provincial-level PC/PCC, the sales gap increased by almost 3 log points over this period.

Table 5 examines whether politically connected firms had better access to capital.²⁵ The table reports results from a regression of log bank loans on indicator variables for PC/PCC membership (at the three levels), log sales, and indicator variables for industry. Controlling for industry and firm sales, firms owned by PC/PCC members have better access to bank loans. But there is no clear evidence that the preferential access increased between 2002 and 2012.

Table 4
Firm Sales and PC/PCC Membership

	1997	2006	2012
(1) Provincial PC/PCC	1.25 (.22)	2.09 (.19)	4.18 (.27)
(2) Prefectural PC/PCC	1.02 (.12)	1.63 (.10)	2.51 (.11)
(3) County PCC/PCC	.70 (.09)	.99 (.07)	1.72 (.08)
N	1,946	3,836	4,616

Note: PC/PCC refers to People's Congress or Political Consultative Committee. Entries are coefficients (and standard errors) of a regression of log sales on indicator variables for whether the firm's owner is a member of a provincial-level or above PC/PCC (row 1), prefectural-level PC/PCC (row 2), or county-level or below PC/PCC (row 3). Omitted firms are those whose owners are not PC/PCC members. All regressions include indicator variables for two-digit industries.

Table 5
Access to Bank Loans and PC/PCC Membership

	2002	2006	2012
(1) Provincial PC/PCC	1.62 (.31)	1.45 (.28)	1.59 (.40)
(2) Prefectural PC/PCC	.77 (.14)	.86 (.14)	1.04 (.16)
(3) County PCC/PCC	.71 (.11)	.62 (.11)	.63 (.12)
N	2,602	3,836	3,566

Note: Entries are coefficients (and standard errors) of a regression of log bank loans on indicator variables for whether the firm's owner is a member of a provincial-level or above PC/PCC (row 1), prefectural-level PC/PCC (row 2), or county-level or below PC/PCC (row 3). Omitted firms are those whose owners are not PC/PCC members. All regressions also include log sales and indicator variables for two-digit industries.

Figure 5 presents the evidence on capital productivity by firm size for a broader sample of firms.²⁶ The figure shows average capital productivity for the balanced panel of privately owned firms in 1998–2007 (*top panel*) and 2007–13 (*bottom panel*) in the Annual Survey of Industrial Production. The *x*-axis shows percentiles of the firm's initial size (in 1998 and 2007), and the *y*-axis shows the firm's capital productivity in the beginning and end years of each panel. Two points seem clear. First, in all time periods, capital productivity is decreasing in firm size. And if capital productivity is proportional to the marginal product of capital, then this suggests that, consistent with evidence shown in table 5, larger firms have preferential access to capital. Second, the advantage of large firms does not seem to change in the 1997–2007 period (the two lines in the *top panel* lie on top of each other). There is some evidence from the 2007–13 period that the relative advantage of large firms is growing, but the magnitude is quantitatively small.

In Bai, Hsieh, and Song (2016), we suggest that the patterns in the 1998–2007 panel can be explained as a consequence of the centralization of the financial system that took place in 1998. This reform removed the control of local governments over appointments to local branches of the state-owned banks. As a consequence, special deals provided by local governments did not include better access to capital. After 2008 these controls were lifted, with the initial purpose of financing the 4 trillion yuan fiscal stimulus in 2009–10, and local governments began to have access to capital through local financial vehicles. To the extent that some of these funds ended up in the hands of large favored private firms, this

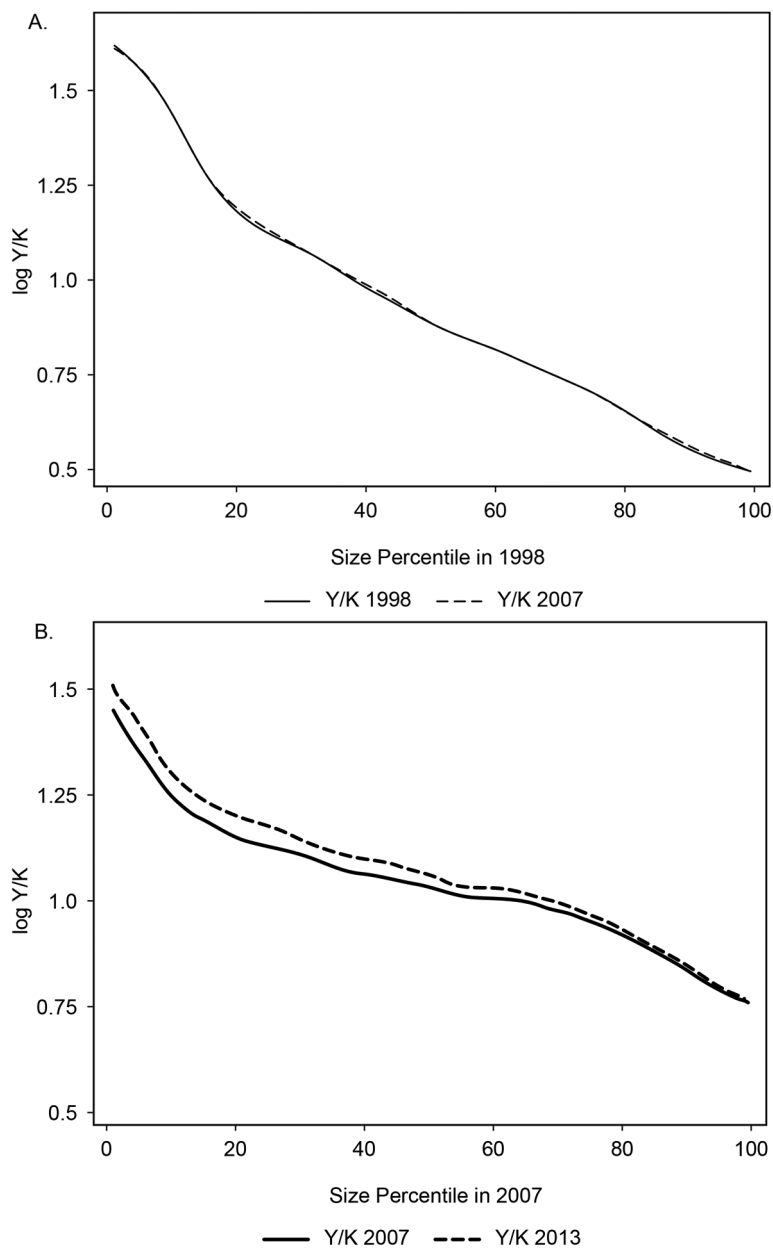


Fig. 5. Return to capital by firm size, (a) Y/K 1998 versus 2007 and (b) Y/K 2007 versus 2013. Firm-level data from Annual Survey of Industrial Firms. *Top panel* presents $\log Y/K$ of balanced panel of firms in 1997 and 2007 in the 2 years. *Bottom panel* shows $\log Y/K$ of balanced panel of firms in 2007 and 2013 in the initial and ending years. The x-axis is the size (measured by employment) percentile of the firm in 1998 (*top panel*) and 2007 (*bottom panel*).

could explain the pattern seen in the 2008–13 panel. But at least as of 2013, the effect is still quantitatively small.²⁷

Local governments also provide land at below market costs to favored firms. Using the power of eminent domain, local governments obtain land from farmers, urban residents, and other channels, and resell the land to developers and firms. This is the main mechanism through which land use has been transformed in China in recent decades. We obtained transaction-level records of these sales from 2000 to 2014 from China's Ministry of Land Resources. For each transaction, we have information on the size of the parcel (in hectares), geographic location, sales price, and indicator variables for whether the land is to be used for housing, commercial real estate, or industrial real estate.

The *top panel* in figure 6 plots the allocation of this land between commercial, industrial, and residential use. Specifically, it shows the share of land (in hectares) sold to three types of end users. Roughly 50%–60% of new land was dedicated for industrial use. The *bottom panel* of figure 6 shows the log price per hectare of land sold for industrial use and commercial use relative to land destined for housing. Industrial land is sold at a substantial discount to residential land. In 2014, for example, the price of industrial land was more than 2 log points lower than that of residential land. In contrast, the price of commercial land is roughly the same as that of residential land.

The obvious problem with interpreting figure 6 as evidence that local governments subsidize favored firms with cheap land is that industrial land may be very different from residential land. Residential land may be mostly located in higher-priced urban locations, whereas industrial land is concentrated in cheaper, more remote locations. Table 6 shows the price gap after we introduce a succession of controls for location. Column 1 replicates the mean gap in prices shown in figure 6. On average, industrial land is 1.7 log points cheaper compared to residential land. Column 2 shows that the price gap drops to 1.5 log points after we introduce indicator variables for counties. So counties with cheaper land allocate more land to industrial use, but within the same county, industrial land is still cheaper than residential land. Column 3 keeps the indicator variables for county and adds controls for the distance of the land from the county center. There is little effect on the price gap. Finally, column 4 looks within narrowly defined neighborhoods and compares the price of land destined for different uses within the same neighborhood.²⁸ There is little change in the implied subsidy for recipients of industrial land.

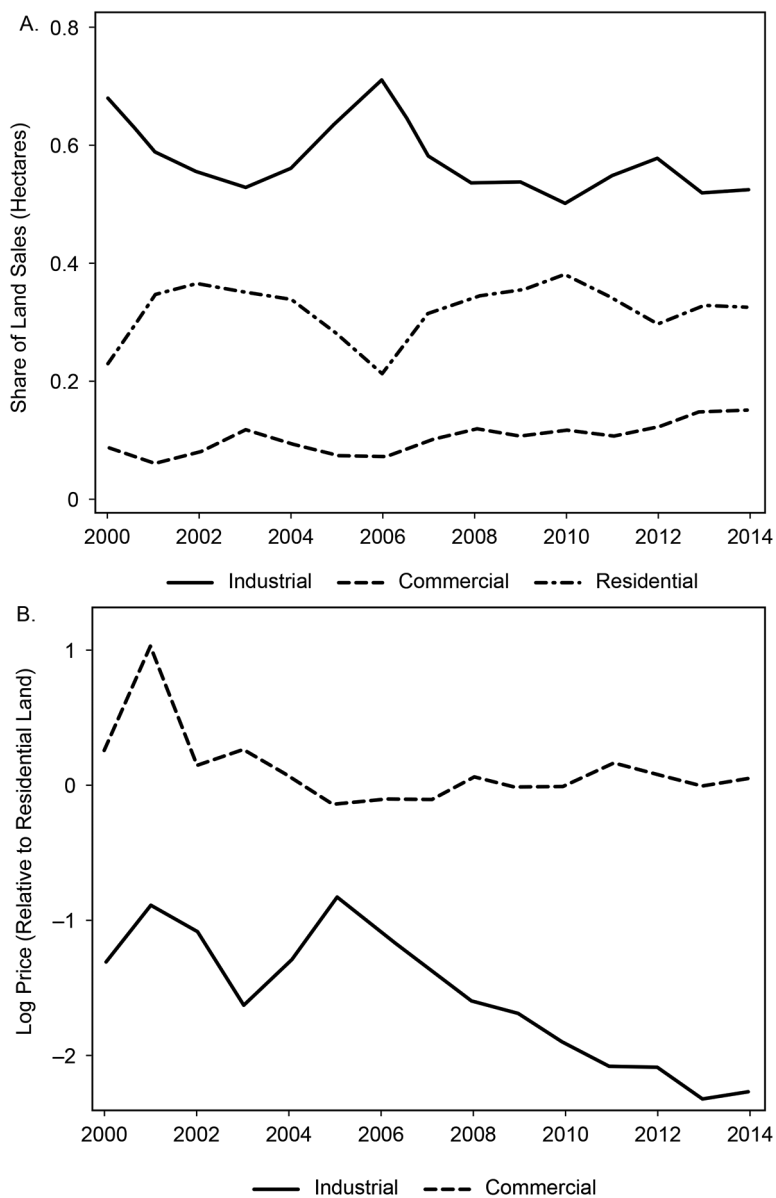


Fig. 6. Allocation and price of land in China (relative to residential land; transaction-level records from Ministry of Land Resources [$N = 979,206$]). (a) Share (in hectares) of land sales by type of user. (b) Average log price per hectare of commercial and industrial land (both relative to the price of residential land).

Table 6
Price of Industrial and Commercial Relative to Residential Land

	1	2	3	4
Commercial land	-.37 (.00)	-.25 (.00)	-.24 (.00)	-.20 (.00)
Industrial land	-1.72 (.00)	-1.51 (.00)	-1.47 (.00)	-1.46 (.00)
Controls:				
County	No	Yes	Yes	No
Distance from county center	No	No	Yes	No
Neighborhood	No	No	No	Yes

Note: Unit of observation is a land sale by a local government from the transaction-level records of the Ministry of Land Resources ($N = 979,206$). Entries are coefficients (and standard errors) of a regression of log price per hectare of the sale on indicator variables for commercial land and industrial land (omitted category is residential land). All regressions include indicator variables for year.

The ultimate question is whether the subsidies in land prices to industrial firms improve efficiency relative to the allocation before local governments started to sell the land. Most of this land comes from farmers, so the question is whether the land is now used more productively by industrial firms compared to its use as farmland. We do not have the data to answer this question, but here we point to evidence that the average labor productivity in the industrial sector is larger than in the agricultural sector.²⁹

D. Local Protection and Exports

We argue that special deals in China are provided by local governments, and part of the deal is that competitors of the favored firms are blocked from the local market. For example, Shanghai-GM is one of the favored car companies in Shanghai and supposedly the Shanghai municipal government blocks nonlocal car companies (such as Chery) from the market. But if Chery produces better cars, it would outcompete Shanghai-GM in markets where Shanghai-GM is not protected. For example, as the largest car manufacturer in China in 2007, Shanghai-GM's export was negligible. In contrast, although Chery only accounted for 5% of domestic car sales, 20% of cars exported from China were produced by Chery. The idea then is that local protection breaks the relationship between productivity and local sales because some productive firms are blocked.

To examine how special deals affect the relationship between domestic sales and export sales, we recast utility as

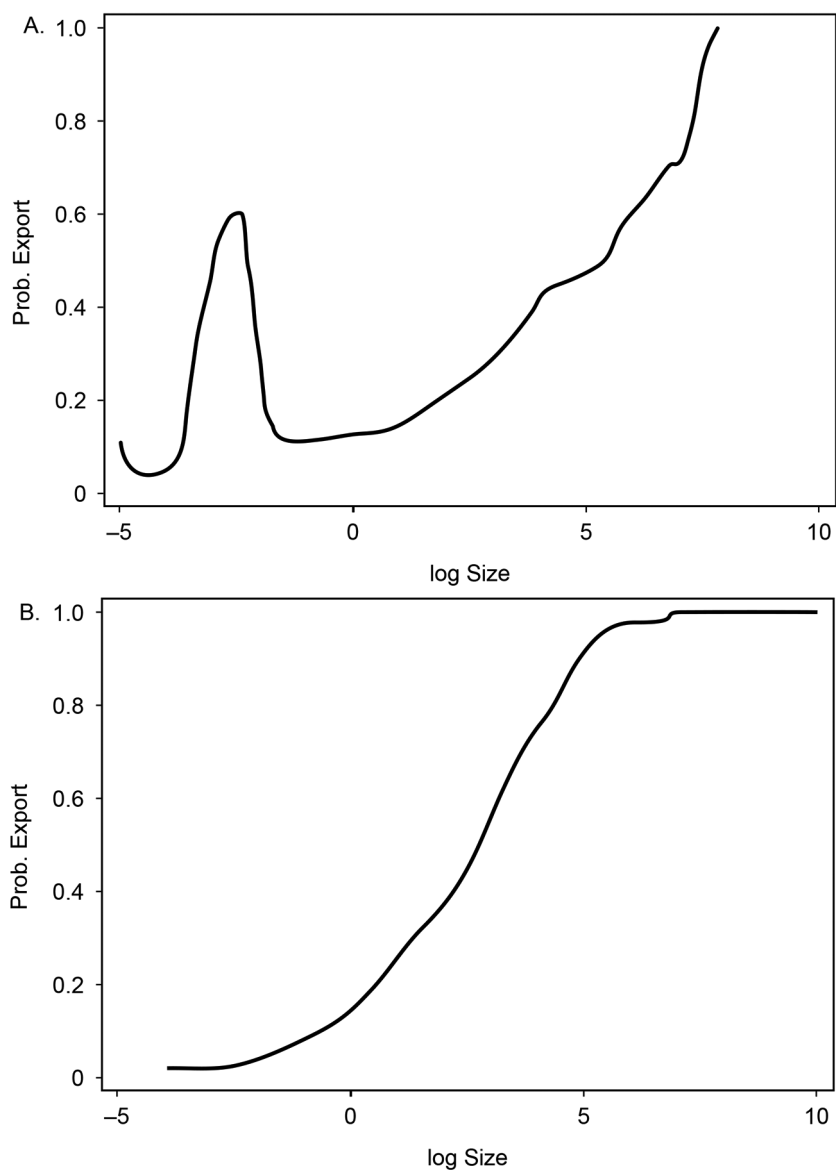


Fig. 8. Probability of exporting by firm size: (a) China versus (b) United States. Figures present probability of export versus log firm size (relative to the mean) in the Chinese (*top panel*) and US (*bottom panel*) data. Chinese data are from 1998 Annual Survey of Industrial Production. US data are from 1987 Manufacturing Census.

These are the firms in B that find their access to other domestic markets blocked. Moving up the size distribution, A's firms $z \in [\tilde{z}, z_c]$ are less productive than their counterparts in B but have larger domestic sales because market A is larger than market B. These firms do not export. We think of these firms as reflecting the case of Shanghai-GM having large domestic sales because of their privileged position in a large domestic market but do not export because they are not competitive without the protection. Lastly, the most productive firms in the two cities sell to all markets (foreign and all domestic markets).

The *top panel* in figure 8 shows the relationship between exporting and domestic sales in the cross section of the Chinese manufacturing data.³¹ As can be seen, a remarkable feature of the Chinese data is that there is a cluster of firms with low domestic sales that also export. For comparison, the *bottom panel* in figure 8 shows the same relationship in the cross section of the US manufacturing data.³² As can be seen, there is no such pattern in the US data.

The model also makes a strong prediction about the elasticity of domestic sales with respect to exports. For the most productive firms in the two cities, the elasticity of the share of the export market with respect to the share of the domestic market should be close to 1. But for the firms in B that find their access to city A blocked, the elasticity will be significantly lower than 1. Intuitively, higher productivity has a larger effect on their sales in the market where they face no barriers compared to their sales in the domestic Chinese market where they are blocked.

The *top panel* in figure 9 illustrates this prediction of the model (the thin line is the 45° line). The elasticity of domestic sales to exports predicted by the model is lower at low levels of exports. The *bottom panel* in figure 9 shows the elasticity in the Chinese data.³³ The elasticity of domestic sales to exports is essentially 0 for small firms and almost 1 for firms with above-mean export sales.

The idea that Chinese local governments protect local firms has a long history. Young (2000) argues that the decentralization of tax revenues in the 1980s coupled with price wedges prompted local governments to protect local industries to retain the revenues implied by the price wedge. The price wedges disappeared by the late 1980s and the 1994 tax reform that centralized tax revenues presumably removed the incentive of local governments to protect firms that generate large tax revenues.

Our argument is that the growth of the special deal regime increasingly became the main incentive for local governments to protect local firms but this time only for the favored firms. Our evidence suggests that many

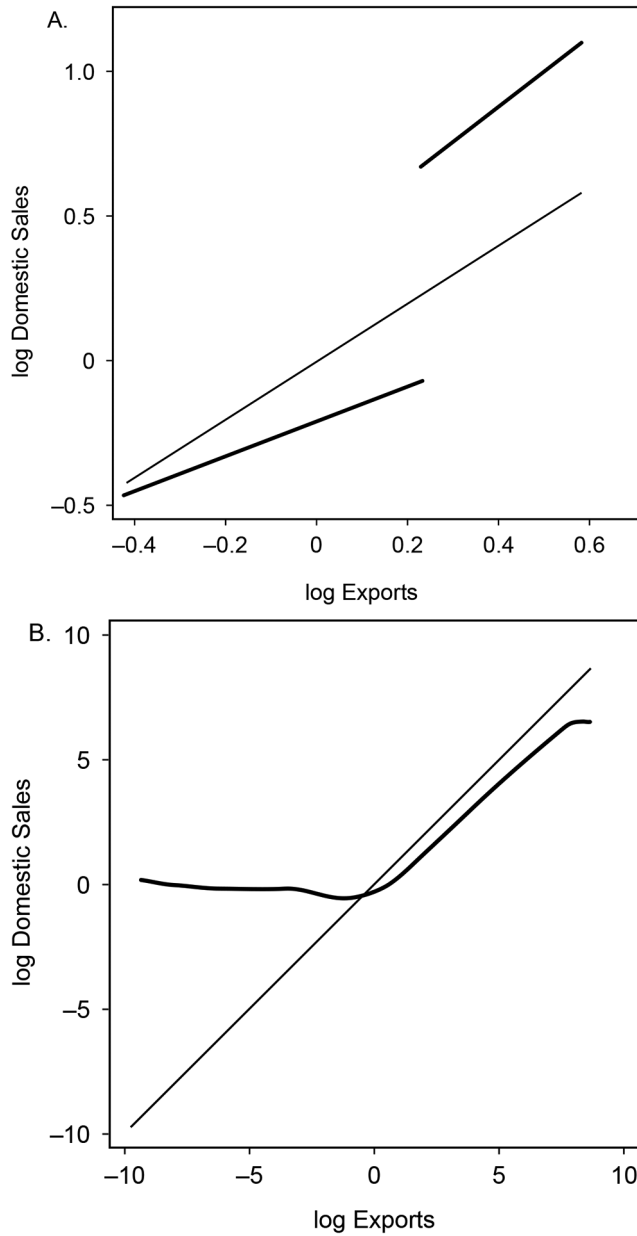


Fig. 9. Domestic sales versus exports: model versus data. (a) Model simulation. (b) Data: China. The relationship between log domestic sales (y -axis) and log exports (x -axis) is shown for exporting firms (firms that only sell to domestic market are excluded). *Top panel* is the model simulation. *Bottom panel* shows the Chinese data from 1998 Annual Survey of Industrial Production. The center, sloping line in both panels is the 45 degree line.

Chinese firms find large segments of the Chinese domestic market closed to them.³⁴ Local protection is welfare reducing, of course, but we argue that this effect is attenuated by the fact that local governments can only protect firms in their cities. In addition, the case of the East Hope Group suggests that many large firms have been able to strike deals with multiple local governments, which in principle can also attenuate the effect of local protection. A more important point though is that local protection is only one of the many effects of special deals, so it is imperative to take all these effects into account. And we argue that the productivity gains among the favored firms may well be significantly larger than the negative effects of local protection.

V. Risks

This paper puts forward the hypothesis that China's growth, particularly since the early 1990s, is due to the increased availability of special deals by competing local governments. We do not provide a formal empirical test of this hypothesis, but we believe that the totality of the evidence we present is consistent with this interpretation.

If our hypothesis is correct, then it suggests that Chinese growth is a high-wire act. The effectiveness of the Chinese special deal system depends on the discretion of local officials and on minimizing the damage borne by firms that do not get special deals. A key question is, What exactly are the incentives of local party officials to support local companies? One possibility is that local party officials provide special deals for local companies because of their devotion to the job. For example, a local party official indicated to us that he values the ability to develop the local economy according to "his likes and dislikes." If so, then the question is the extent to which the selection of intrinsically motivated officials is effective and sustainable.

Another possibility is that local officials provide special deals because local party leaders who generate more "profits for the party" are promoted by the Communist Party's Organization Department. In the absence of access to the personnel files of the Communist Party, we do not know whether this is the case. It is possible, as some authors have done, to examine the correlation of promotion probability and local GDP growth, but the evidence from this work is inconclusive.³⁵

A third possibility is that local party officials work very hard to support favored private firms because they are able to obtain private rents from these firms. If this is the case, the danger is that constraints on the

ability of local officials to obtain private benefits will lower growth. Since 2014, there has been an unprecedented crackdown on corruption. Figure 10 presents the annual flow of new corruption cases of local party officials. The *top panel* shows the number of new corruption cases each year for party officials at the county level (*top panel*), city or prefecture level (*middle panel*), and provincial level (*bottom panel*). There was almost a doubling in the number of corruption cases of officials at the county level in 2014 and 2015. At the city level and provincial level, the number of anti-corruption cases more than quadrupled. The evidence for 2016 and 2017 show that the anti-corruption campaign, at least as seen by the number of arrests, has declined relative to 2014 and 2015.

The corruption crackdown was widely supported in China and has been effective by many accounts. Yet a concern implied by our theory is that the corruption crackdown has diminished the willingness of local officials to help local businesses. This could be because their main incentive was the monetary payoff, or it could be the fear of being accused of receiving a payoff or the resistance of intrinsically motivated officials. All these forces will diminish the extent to which firms get special deals. Figure 11 shows that Chinese growth has slowed down significantly since the onset of the 2008 global financial crisis. We do not know whether the anti-corruption campaign was the main driver of the growth slowdown, as there are other possibilities. Bai et al. (2016), for instance, documents that growing financial distortions due to the growth of local financing vehicles could also be important. At this point, the data we have at our disposal do not allow us to precisely quantify the importance of these forces.

Chinese authorities have made multiple efforts in recent years to move away from a regime of special deals. The Third Plenary Session of the 18th CPC Central Committee in November 2013 issued a resolution to “let the market play the decisive role in the allocation of resources.” The State Council later issued a follow-up document that acknowledged special deals as a double-edged sword, which “promoted the investment growth and industry concentration to some extent” but “have disturbed the market order.” Then it laid out specific policies to stop local leaders from providing special deals. On the government revenue side, local governments are not allowed to provide preferential tax policies, to reduce administrative fees or government funds from firms, or to assign land at a preferential or zero price. On the government expenditure side, local governments are prohibited from developing preferential policies for firms, including those by means of remitting taxes or granting subsidies.³⁶

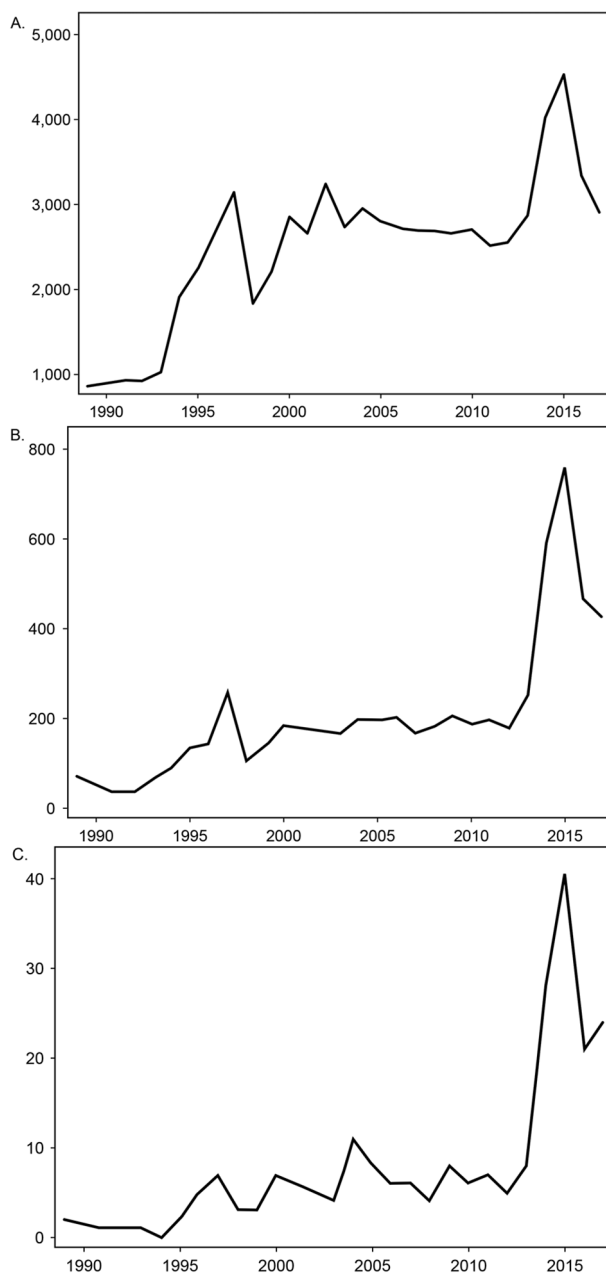


Fig. 10. Corruption cases by level of government. (a) County level, (b) city level, and (c) provincial level (annual reports of the Supreme People's Procuratorate of China).

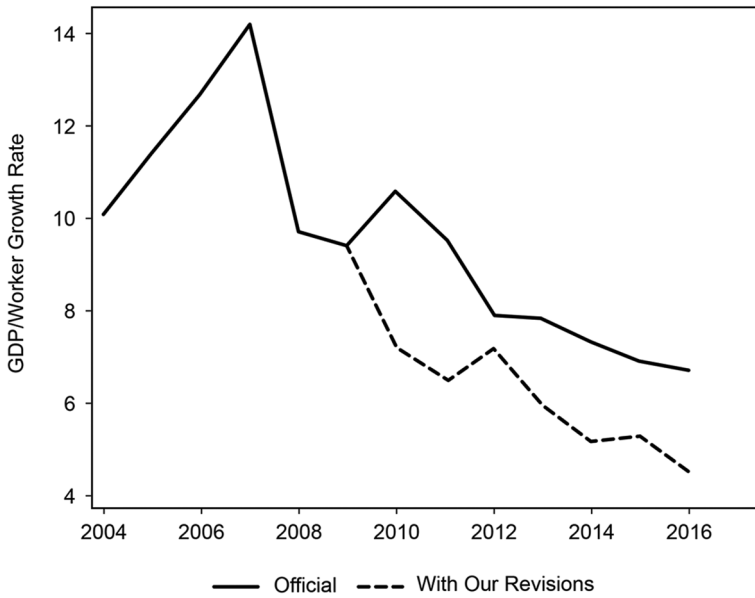


Fig. 11. Growth rate of GDP/worker (official numbers from China’s National Bureau of Statistics. GDP growth labeled “with our revisions” from Bai, Hsieh, and Song 2019). GDP = gross domestic product.

Perhaps in reflection of these policy changes, China’s ranking in the World Bank’s *Doing Business* indicators has improved dramatically since 2013 from about the 80th percentile to about the 20th percentile in the world distribution of ease of starting of starting a business (see fig. 12).³⁷ However, the attempt to roll back the use of special deals appears to have been short-lived. The State Council essentially reversed its earlier decision on the use of preferential policies in 2015.³⁸ In 2015, the State Council issued a new document that recognizes the legitimacy of all the existing preferential policies and authorizes local governments to issue new preferential policies.

The Chinese special deal regime has been enormously successful in moving the Chinese economy to where it is today. We suggest that it has enabled the growth of the large number of Chinese firms that now dominate many world markets. We see, however, three dangers of the current system. First, a special deal system creates powerful entrenched interests that make reforms very difficult.³⁹ After all, a special deal regime, even with the Chinese characteristics that have underpinned high

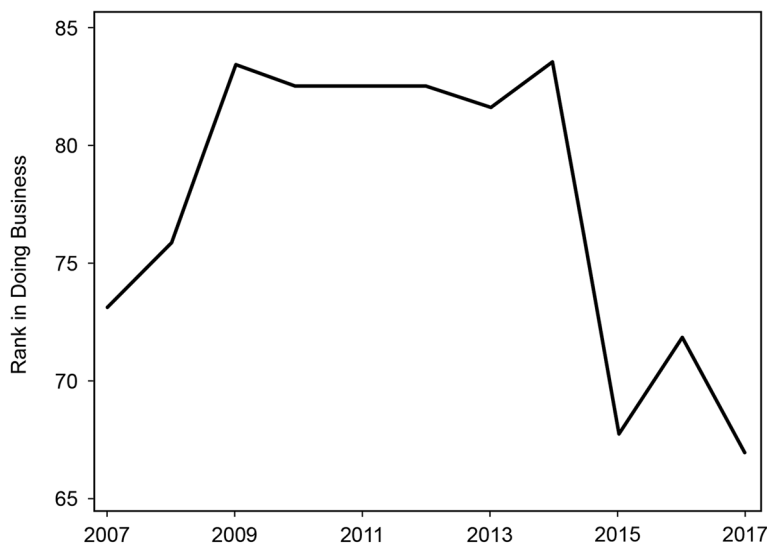


Fig. 12. China's rank in *Doing Business* indicators. Figure reports China's percentile rank in "ease of starting a business" from the World Bank's *Doing Business* project. We scale China's score by the number of countries in the data in each year to convert the score into a percentile rank.

growth for 3 decades, is a second-best solution. In terms of our model, the first best is to reduce δ to 0 with no special deals. But the difficulty is that once a special deal system is in place, local officials and large businesses benefit from these deals, and their interests are threatened with any reform that reduces δ and the extent of the special deals.

Second, some of the characteristics that made the system work in the past, such as unfettered ability to provide special deals, may no longer be present today. At the same time, other features of the special deal regime, such as the presence of powerful vested interest groups, are clearly still present and have a strong interest in blocking precisely the reforms that China may want to undertake in the future.

A third danger of the system is that companies based in other countries find themselves disadvantaged when they compete with Chinese companies with access to special deals that export into their market. At the same time, foreign companies in the Chinese market either have to make their own special deal or, as is the case with any Chinese firm that does not have a special deal, find that their intellectual property and contracts are not well respected. This tension between countries based on rules and one based on special deals is at the root of the conflict

that China currently faces with its trading partners with no clear resolution in sight.

Endnotes

Author email addresses: Bai (baichn@sem.tsinghua.edu.cn), Hsieh (chsieh@chicagobooth.edu), Song (zheng.michael.song@gmail.com). We thank Yasheng Huang, Ruixue Jia, Santiago Levy, Jonathan Parker, Maurice Obstfeld, Raghuram Rajan, Meg Rithmire, Antoinette Schoar, Yingyi Qian, Yong Wang, and Xiaodong Zhu for helpful discussions. We are grateful to Xin Wang for his assistance with the State Administration of Industry and Commerce data. Feng Lin, Kazuatsu Shimizu, and Jihoon Sung provided extraordinary research assistance. The data from the US Census have been reviewed by the US Census Bureau to ensure no confidential information is disclosed. For acknowledgments, sources of research support, and disclosure of the authors' material financial relationships, if any, please see <https://www.nber.org/chapters/c14233.ack>.

1. See Hsieh and Song (2015) on the quasi-privatization of the state-owned firms, Song, Storesletten, and Zilibotti (2011) on resource reallocation between state-owned and private firms, Brandt et al. (2017) on China's accession to the WTO, Lin (1992) on the agricultural reforms in the early 1980s, Kashyap and Dobson (2006) for an assessment of the 1998 reforms of the banking sector, and Tombe and Zhu (forthcoming) on the reduction in internal migration costs.

2. Hallward-Driemeir and Pritchett (2015) document the widespread use of special deals in countries with poor formal institutions.

3. We agreed to not identify the city to have frank discussions.

4. See http://www.gov.cn/jrzq/2006-12/18/content_472256.htm.

5. See "Notice of the General Office of the State Council on Printing and Distributing the Special Management Measures for the Market Entry of Foreign Investment in Pilot Free Trade Zones," State Council, 2015.

6. Brandt, Kambourov, and Storesletten (2018) show that entry barriers are negative related to the size of the state sector across Chinese cities.

7. We calculate these two numbers from the microdata of the Annual Survey of Industrial Production described later in the paper.

8. Chery accounted for 5% of total domestic sales of cars and 20% of Chinese exports of passenger cars in 2007.

9. Jiangsu Delong is located in Yangcheng City. See <http://www.dlnis.com/About-Us/Profile.asp>, accessed on January 29, 2019.

10. Jiangsu Delong also operates several nickel-iron alloy plants in Indonesia.

11. The chosen technology for product z is either $(1 - \delta)e^{A(1-z)}$ or $(1 - \delta)e^{Bz}$.

12. Many readers will recognize the model as Dornbusch, Fischer, and Samuelson (1977) with free labor mobility between two countries.

13. The three dominant local car companies in Shanghai are SAIC, Shanghai-GM, and Shanghai-Volkswagen.

14. The appendix (available online; see <https://www.nber.org/data-appendix/c14233/appendix.pdf>) lays out the details of the model with two cities.

15. Figure 2 assumes $\gamma = 0.1$.

16. We also assume that a firm that is offered a special deal accepts the deal. We can also relax this assumption.

17. It also redistributes profits from the firm's owner to the politician, but this has no effect on the real wage.

18. The data from the industrial sector are the microdata of the Chinese Survey of Industrial Firms. These data are a census of above-scale industrial firms. The sales threshold was 5 million RMB and changed to 20 million RMB in 2011. We do not use the microdata from the Survey of Industrial Firms after 2007 because of the change in the sampling frame. (We do not have the microdata for 2008–10). The data for all industrial firms are from the microdata of the 1995, 2004, and 2008 Economic Censuses.

19. A small number of firms in the East Hope Group are real estate and finance companies. The numbers in this and the following paragraphs are based on the ownership records from the SAIC. We provide more details on these data later in this section.

20. We have no information on shell companies in the SAIC data that are registered outside of China.

21. The state-owned firms are Shanghai Automobile (15%) and Sinopec (7%). Shanghai Automobile is owned by the city of Shanghai and GM's joint venture partner discussed earlier. Sinopec is one of the three centrally owned oil companies created by the breakup of the Ministry of Petroleum.

22. The logic is that with labor mobility aggregate growth in a city shows up on the extensive margin. See Brandt et al. (2018) for cross-city evidence on the size of the state sector, entry, and TFP from the economic census data.

23. The members of this association are generally large and politically connected firms. For example, average sales in 2008 in the survey are about nine times larger than in the 2008 Economic Census.

24. An average 24.4% of the firms in the survey are owned by members of the county or below PC/PCC, 12.6% by prefectural level PC/PCC, and 2.7% by provincial or above PC/PCC.

25. The survey only provides information on bank loans starting in 2002.

26. Firm capital productivity is scaled by the median value in the industry.

27. See also Cong et al. (2018) and Huang, Pagano, and Panizza (2019) for evidence of capital misallocation after 2008.

28. Neighborhoods are defined as square blocks of 9 square kilometers. We also tried squared blocks of 1 and 26 square kilometers and the results are essentially identical.

29. See, for example, Figure 17.1 in Brandt, Hsieh, and Zhu (2008).

30. We provide the details of the model with international trade in the appendix (available online).

31. Figure 8 plots the data for the 2007 cross section of the Chinese Annual Industrial Survey. The pattern is identical in all years of the data. We dropped export-processing plants from the sample.

32. The data are from the 1987 cross section of the US manufacturing census.

33. The data are from the 2007 cross section of the industrial survey.

34. Barwick, Cao, and Li (2017) document strong home (city-level) bias of car purchases using car registration data.

35. Li and Zhou (2005) find evidence from promotion of provincial-level officials that GDP growth is positively correlated with promotion. Shih, Adolph, and Liu's (2012) evidence suggests that personal connections are the primary determinant of promotion. Jia, Kudamatsu, and Seim (2015) find that political connections and economic performance are complements in terms of promotion in the party hierarchy.

36. "Reviewing and Regulating Preferential Policies for Taxation and Other Aspects," State Council Document No. 62, 2014.

37. It is difficult to know whether the improvement shown in figure 12 reflects real improvement or simply changes in methodology by the World Bank. The World Bank's *Doing Business* project revised its methodology in response to issues raised by the Chinese government. See "China Seeks to Water Down Key World Bank Report," *Financial Times*, May 6, 2013 for more details.

38. Document No. 25, State Council, 2015.

39. Song and Xiong (2018) review China's economic and financial risks. Many of them have roots in the vested interests created by special deals.

References

- Acemoglu, Daron, and James Robinson. 2012. *Why Nations Fail: The Origins of Power, Prosperity, and Poverty*. New York: Crown.
- Bai, Chong-En, Chang-Tai Hsieh, and Zheng Michael Song. 2016. "The Long Shadow of China's Fiscal Expansion." *Brookings Papers on Economic Activity* 47 (2): 129–81.

- . 2019. "A Forensic Examination of China's National Accounts." *Brookings Papers on Economic Activity* 2019:77–127.
- Bai, Chong-En, Chang-Tai Hsieh, Zheng Michael Song, and Xin Wang. 2019. "Conglomerate Formation in China." *Brookings Papers in Economic Activity* 2019:77–127.
- Barwick, Panle Jia, Shengmao Cao, and Shanghun Li. 2017. "Local Protectionism, Market Structure, and Social Welfare: China's Automobile Market." Unpublished manuscript.
- Brandt, Loren, Chang-Tai Hsieh, and Xiaodong Zhu. 2008. "Growth and Structural Transformation in China." In *China's Great Economic Transformation*, ed. Loren Brandt and Thomas Rawski, 683–728. Cambridge: Cambridge University Press.
- Brandt, Loren, Gueorgui Kambourov, and Kjetil Storesletten. 2018. "Barriers to Entry and Regional Economic Growth in China." Unpublished manuscript.
- Brandt, Loren, Johannes Van Biesebroeck, Luhang Wang, and Yifan Zhang. 2017. "WTO Accession and Performance of Chinese Manufacturing Firms." *American Economic Review* 107 (9): 2784–820.
- Cong, Lin William, Haoyu Gao, Jacopo Ponticelli, and Xiaoguang Yang. 2018. "Credit Allocation under Economic Stimulus: Evidence from China." Unpublished manuscript.
- Dornbusch, Rudiger, Stanley Fischer, and Paul Samuelson. 1977. "Comparative Advantage, Trade, and Payments in a Ricardian Model with a Continuum of Goods." *American Economic Review* 67 (5): 823–29.
- Dunne, Michael. 2011. *American Wheels, Chinese Roads: The Story of General Motors in China*. Singapore: Wiley.
- Hallward-Driemeir, Mary, and Lant Pritchett. 2015. "How Business Is Done in the Developing World: Deals versus Rules." *Journal of Economic Perspectives* 29 (3): 121–40.
- Hsieh, Chang-Tai, and Zheng Michael Song. 2015. "Grasp the Large, Let Go of the Small: The Transformation of the State Sector in China." *Brookings Papers on Economic Activity* 2015 (1): 295–366.
- Huang, Yasheng. 2008. *Capitalism with Chinese Characteristics*. Cambridge: Cambridge University Press.
- Huang, Yi, Marco Pagano, and Ugo Panizza. 2019. "Local Crowding Out in China." Unpublished manuscript.
- Jia, Ruixue, Masayuki Kudamatsu, and David Seim. 2015. "Political Selection in China: The Complementary Roles of Connections and Performance." *Journal of the European Economic Association* 13 (4): 631–68.
- Kashyap, Anil, and Wendy Dobson. 2006. "The Contradiction in China's Gradualist Banking Reforms." *Brookings Papers in Economic Activity* 2006 (2): 103–48.
- Li, Hongbin, and Li-An Zhou. 2005. "Political Turnover and Economic Performance: The Incentive Role of Personnel Control in China." *Journal of Public Economics* 89 (9–10): 1743–62.
- Lin, Justin. 1992. "Rural Reform and Agricultural Growth in China." *American Economic Review* 82 (1): 34–51.
- McGregor, Richard. 2010. *The Party: The Secret World of China's Communist Leaders*. New York: Harper Collins.
- Shih, Victor, Christopher Adolph, and Mingxing Liu. 2012. "Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China." *American Political Science Review* 106:166–87.

- Song, Zheng, Kjetil Storesletten, and Fabrizio Zilibotti. 2011. "Growing Like China." *American Economic Review* 101 (1): 196–233.
- Song, Zheng, and Wei Xiong. 2018. "Risks in China's Financial System." *Annual Review of Financial Economics* 10:261–86.
- Tombe, Trevor, and Xiaodong Zhu. Forthcoming. "Trade, Migration and Productivity: A Quantitative Analysis of China." *American Economic Review*.
- Xu, Chenggang. 2011. "The Fundamental Institutions of China's Reforms and Development." *Journal of Economic Literature* 49 (4): 1076–151.
- Young, Alwyn. 2000. "The Razor's Edge: Distortions and Incremental Reform in the People's Republic of China." *Quarterly Journal of Economics* 115 (4): 1091–145.