

Corporate Empire Building
and the Visible Hand behind China's Growth

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1. Introduction

We examine the structures and growth of China's corporations, hoping to understand basic forces shaping these patterns. We also discuss the role of the corporate sector in the growth of the Chinese economy, and the economic and social wellbeing of Chinese citizen. We address if China continues to rely on its bureaucrat system to allocate resources, how likely would it be able to sustain its growth.

In theory, through market competition, resources flow to most productive managers and corporations. These corporations in terms distribute revenues to their various stakeholders, including workers, governments, shareholders, and so on. The increased income of the stakeholders increases local consumption, which in term encourage more production and consumption, and ultimately economic growth.

This market-based theory has been the mainstream thinking of post-war Western economists and policy makers. The recent Global Financial Crisis reveals weakness of the market based system and forces people to re-think the view that they should leave everything to the market's "invisible hand". The ongoing nationalization and government rescues of financial institutions and large businesses show that the West has drastically change their non-intervention practice, if not ideology.

The astonishing initial growth of the Chinese economy demonstrates the effects of creating markets and allows people to trade their goods. However, China is far from a free market society. Its markets remain quite heavily regulated and transactions are poorly protected by its weak legal system. Given these weaknesses, it has been a puzzle that the Chinese economy has grown so phenomenally. Is there something the West can learn from China?

2. The growth of China's corporate sector

The Chinese corporate sector has experienced phenomenal growth. Based on a National Bureau of Statistics database including the universe of industrial state owned firms and industrial private firms with annual total sales exceeding 500 million RMB, we estimate that the average provincial firm sales is 68 percent of provincial GDP in 1998. In just a decade, the provincial total firm sales increase to 121 percent of GDP in 2007 (Table 1).

Large firms contributed a substantial part of the corporate sector growth. Almost 50 percent of the total firm sales in a province are contributed by the largest 50 firms (Table 2). The top-5 firms still contribute to almost 24 percent of total firm sales in a province. Panel B of Table 1 investigates the importance of business group. As a popular organization, business groups are prevalent in China. It is estimated that there are 2,856 business groups with sales and assets both over 500 million RMB at the end of 2006. The table shows that the average ratios of group sales and assets to GDP are 21.7% and 37.6% respectively. These statistics again show that large enterprises comprise a significant part of local economy and are engines of the corporate sector growth.

In this past decade, the average annual sales growth rate of industrial firms in China's various provinces is an astonishing 22 percent (Table 3). In the same period the average annual provincial GDP growth rate is 14 percent, according to China's official statistics. Apparently, the local economy growth is highly correlated with the corporate sector growth, with a correlation coefficient of 57 percent.

What explain the big bang in the Chinese corporate sector? Shiyan City (Hubei Province, China), the home of Dongfeng Motor since 1969, has a nickname of "Oriental Detroit." In 2007, total automobile production amounted to 10 billion RMB, or 1/4 of total GDP of the City. One out of every 10 citizen is employed by the automobile sector. The automobile company employs 80,000 people, or 4% of total workforce in the City. The company operates 17 primary schools and 10 middle schools. Seven out of the 27 hospitals in the City are funded by the Company. Apparently, the City's and the company's prosperity depend on each other.

The "cradle to grave" style social planning is not unique to the City. Local bureaucrats in many corners of China are enthusiastic about promoting enterprises and hence local GDP growth. Table 4 provides an incomplete list of recent enterprise promotion policies implemented by various local governments in China. These policies typically identify a set of "promising" local firms and provide support in the forms of access to loans, corporate bonds, and equity financing, land rights, tax breaks, administration service convenience, rights of mergers and restructuring to form business groups, debt deduction and even incentive award.

3. Bureaucrat allocation system

When profiling China, one would hardly miss its enormous bureaucratic system. We pay attention to the roles of local (provincial, city, and county) bureaucrats.¹ China's institutional reforms have decentralized decision rights to local governments. Different from the West where markets allocate resources, bureaucrats in China heavily influence, if not decide, which individuals and corporations get what and how much. The markets and firms are very far from being free, as bureaucrats heavily intervene transactions and key firm decisions. Bureaucrats have the rights to allocate key input such as land, public utilities, natural resources, finance are in the hands of bureaucrats either via direct ownership of these resources or regulatory and tax policies to promote or protect certain firms or sectors. In effect, bureaucrats transfer massive resources in the country.

3.1. Incentives of bureaucrats

We are concerned about the set of incentives that affect the bureaucrats' allocation rules. Although receiving low salary, Chinese local bureaucrats' promotion is strongly tied to local GDP growth. By our estimation based on promotion record of almost 109 provincial leaders (party secretaries and governors) between 1980 and 2004, it takes almost 2 percent of extra annual GDP growth over the national average during a provincial bureaucrat's term of service before he can be promoted to the next level (Table 5).

¹ The People's Republic of China is a federal state composed of 31 provinces, 656 cities, and 1,642 counties.

Understandably bureaucrats have strong desire to promote enterprises to help GDP growth and in turn their promotion. Less than benign bureaucrats can use their power to transfer resources to individuals and firms in return to win support of their goals and personal incomes.

3.2. Bureaucrat affiliated firms

Many Chinese firms and entrepreneurs have emerged and grown out of support of local bureaucrats. Some of them have become very large, highly vertically integrated and diversified, and organized themselves into business groups. And these are not just about state owned enterprises. Many so-called “private firms” are an outcome of government support. Even if an entrepreneur has independently become economically significant, he will likely surrender some property rights of his business to bureaucrats to win support and protection.² The close tied between bureaucrats and business makes it difficult to distinguish between public and private ownership. However, it would be safe to call them bureaucrat affiliated firms/groups.

Table 6 presents average provincial total sales of firms divided by GDP, broken up by ownership type. Not surprisingly, SOEs account for the largest shares of local GDP in the early year. The ratio of SOEs sales over GDP is 45.4% in 1998. If we include legal person ownership firms since they are mostly subsidiaries of SOEs, SOEs’ share would be even larger. However, the sales share of SOEs has decreased over time, and reduces to 32.6 percent in 2007. On the contrary, “Private” firms’ share has been increasingly important over the same period. Private firms’ sales account for 46.4% of GDP in 2007. However, if we exclude collectives and Sino-foreign joint ventures which are heavily government influenced, private firms’ share of GDP should have been much smaller.

A case in point

Wanxiang Group is a famous manufacturer of automobile accessory, listing No. 127 of China’s largest 500 companies. The development of Wanxiang Group gets strong support from various governments of Xiaoshan district, Hangzhou city and Zhejiang province. As the first important issue, clean property right of Wanxiang Group is achieved by local government support. The previous entity of Wanxiang Group is a Town-Village enterprise founded in 1969. In 1988 local government sold the whole ownership at price 15 million RMB to Lu Guanqiu, the present chairman of Wanxiang Group. Moreover, the operation of Wanxiang Group also gets government help by entering regulated industries, for example, petrol storage and transportation. To facilitate financing, government provides Wanxiang Group authority to set up non-bank financial institution – Wanxiang Financial Company, priority of listing in stock market and right to issue corporate bond. Other supports include preferential taxation and self-operating import and export authority. Interestingly, we even find an official document ‘Several Policies of Accelerating Development of Wanxiang Group’ issued by Zhejiang province government.

² A famous example is Mr. Wang Tingjiang, No. 169 of 2007 China 500 Richest People. He donated his company and cash worth 6 million RMB to local government in 1989. Later he applied for communist party membership and became the party secretary of village.

While the government actively supports the growth of Wanxiang Group, Wanxiang contributes a lot to the local economy. First, Wanxiang production value accounts for 10 percent of total Xiaoshan industrial output value in 2008. Second, the group turned in total tax of 2.72 billion from 2001 to 2005. Third, we find that Wanxiang Group sales highly correlates with Xiaoshan district GDP and per capita disposable income. Finally, one of every ten local village people works in Wanxiang Group.

Deeply rooted history of bureaucrat-business allies

Close tie between bureaucrats and business is evident in the Chinese history. An early prominent example is Lü Buwei. He is a businessman before meeting with Zichu, the Prince of Qin State. He helped Zichu escape from Zhao State where Zichu was taken as hostage and later assisted Zichu becoming the emperor of Qin State. Lü Buwei was then selected as the Premier of Qin State. He enjoyed the political privilege and accumulated huge amount of properties through trade business. Lü Buwei case exemplifies businessmen's political investment can pay off well. Of course, there have been many methods for businessmen to get connected with bureaucrats, instead of becoming bureaucrats themselves. China history shows that businessmen employ various methods, such as marrying with princess, sponsoring wars and fights, donations and even outright bribery. Conversely, bureaucrats might sometimes become billionaires. A recent example is the pre-liberalization Nationalist government of the Republic of China. Members of the Big-four Family Chiang Kai-shek, Soong Tzu-wen, K'ung Hsiang-hsi and Chan Lifu all serve as top government bureaucrats, with the titles of President, Minister of Finance, Minister of Industry and Commerce and Secretary of Central Executive Committee, respectively. When in office they engaged in a wide range of business, from banking, railway, mining, rubber, textile, real estate, publishing to tobacco. Political power gave them competition advantages, such as purchasing raw material at fairly low price, obtaining low-interest bank loans and monopolizing some lucrative industries. Therefore, Chiang, Soong, Kung, and Chan families accumulated 10 to 20 billion dollar wealth during the 20 years of Chiang's dictatorship.

3.3. Bureaucrat quality

By bureaucrat quality, we do not only mean their intelligence or education levels, we also mean their behaviors were they unconstrained by laws. High quality bureaucrats focus on objectives of their citizen; bad bureaucrats focus on self-interests. Interestingly, bureaucrat quality seems to be above and beyond political and economic system/ideology. Bad bureaucrats thrive in both democracy and dictatorship, and both capitalism and socialism. These suggest that it neither is easy to "cultivate" good bureaucrats in the short run, nor is laws, economic and political systems capable of constrain bureaucrats' behaviors. Therefore it is important for us to separate bureaucrat quality from other institutional variables and examine its roles in China's bureaucrat allocation system. Bureaucrat allocation system can lead to productive firm and economy growth, and better social wellbeing providing bureaucrat quality is high. However, giving unconstrained power to bad bureaucrats can lead to firm and economy growth without profit and productivity, and detriment citizen's wellbeing.

4. Effects of bureaucrat intervention of firms

Our series of research reports substantial evidence of bureaucrat intervention of firms. These interventions clearly affect managerial professionalism, governance, financing, investment, organization, and performance of the firms.

4.1. Corporate governance and professionalism (Table 7)

- Who is in charge, party secretary, chairman, or CEO? (Yu, 2009)
- Bureaucrats and managerial professionalism (Chen, Fan, Wong, 2008; Yu, 2009)
- Bureaucrats as CEOs, is it good for firm performance? (Fan, Wong, Zhang, 2007; Yu, 2009)

4.2. Financing

- Corrupt bureaucrats channel bank loans to help connected firms (Fan, Rui, Zhao, 2008).
- Evidence of corruption in IPO share allocation
- Bureaucrat affiliated firms have trouble of getting out of financial distress (Fan, Huang, Zhu, 2009).
- Financial distortion resulted from the bureaucrat allocation system force firms to transfer scarce financial resources within firms to relieve their financial constraint, but the complex transactions are prone to conflicts of interest problems (Fan, Li, and Zheng, 2009).

4.3. Organizational structures

The Chinese experience suggests that bureaucrat support can be a key reason why big firms/groups emerge. How are these firms organized, how efficient are these firms, and how are the organization and efficiency of the firms affected by local institutional factors?

Chinese firms are interconnected networks. Bureaucrats play a pivotal role in the formation and governance of the network. They exercise control of the networks through ownership, personnel, taxation and regulatory intervention. However, the degree of bureaucrats' influences on corporations varies with the strength of these control devices. Bureaucrats determine the strength of these control devices by trading off control benefits against costs, namely their incomes and career advances against firm value losses. Bureaucrats' control incentives have profound effects on the organizational structures of the Chinese firms.

- Vertical integration (Fan, Huang, Morck, Yeung, 2009)
- Diversification (Fan, Huang, Oberholzer-Gee, Zhao, 2009)
- Pyramidal organization as a device to separate bureaucrat influences (Fan, Wong, Zhang, 2009)

5. Bureaucrat quality, corporate empire building, and economic development

We have shown that China's GDP growth is closely related to its corporate sector growth. In this section, we examine the roles of the quality of local bureaucrats in the association between the corporate sector and the overall economy. Again, we aggregating NBS firm data to provincial level, correlating provincial corporate sector growth variables with local GDP growth, and conditioning the relation between corporate growth and GDP growth on bureaucrat quality. We group China's provinces and special regions by bureaucrat quality, measured by corporate expense on eating, drinking and entertaining with bureaucrats (Cai, Fang, Xu, 2005), and alternatively number of bureaucrats in a province scaled by GDP.

5.1. Firm sales, profits, and economic development

Firm sales and profit growth are both strongly associated with GDP growth, regardless of bureaucrat quality (Table 8). However, examining more economic and social indicators reveal significant effects of bureaucrat quality (Tables 9 and 10). Compared with regions governed by good bureaucrats, a 10 percent increase in firm profit (sales) growth in regions governed by bad bureaucrat is associated with 10 percent slower household income growth, 1 percent slower household consumption growth, 37 percent faster worsening of income inequality (Gini coefficient), 42 percent poorer air quality, 2 percent higher infant mortality rate, and 25 percent lower divorce rate growth. This evidence strongly suggest GDP and firm growth boosted by bad bureaucrats has large detrimental effects on economic and social development.

5.2. Firm productivity growth and economic development

Generally firm productivity growth is positively associated with profit growth (Table 8). However, such correlation is significant only in regions governed by good bureaucrats. In regions ruled by bad bureaucrats, the association between corporate productivity and profit is insignificant. This is a potentially important phenomenon worth further investigation. It might suggest that in poorly governed regions, the key source of corporate profit come not from productivity but the ability to seek rents from bureaucrats. Not surprisingly, firms in regions governed by bad bureaucrats have much slower TFP growth than firms in better governed regions.

However, one should not ignore the effects of firm productivity even in China's poorly governed regions. Compared with regions governed by good bureaucrats, a 10 percent increase in firm productivity growth in regions governed by bad bureaucrat is associated with 2 percent slower GDP growth, 1 percent slower household income growth, 2 percent slower household consumption growth, 3 percent faster narrowing of income inequality, 6 percent poorer air quality, 0.3 percent lower infant mortality rate, and 0.2 percent lower divorce rate growth (Tables 9 and 10). These say that when we examine the effects of firm productivity growth on the several economic/social indicators, we find that the differences between the good and bad regions are much less significant. These statistics show that firm productivity improvement in bad regions, even if its effect on GDP smaller than that of profit growth, has important effects on other aspects of economic and social development.

In summary, while the prosperity of the corporate sector has a strong relation with GDP growth, its effects on the quality of economic and social wellbeing are also significant and can be detrimental. The negative effects of corporate growth is much more significant in China's regions governed by poor quality bureaucrats. However, even in these regions, a small increase in firm productivity can significantly improve the quality of economic growth.

6. Looking forward

6.1. Can bureaucrat quality be improved in China?

Threats of social instability will pressure the Communist Party for changes to improve bureaucrat quality. Unfortunately, this will not come easily or any time soon. There are few effective tools acceptable to China's political leaders. Swift political reforms (such as introducing democracy) is unlikely. Even if it is possible, it takes a long time for a new system to be effective (just look at Taiwan). Introducing political competition within the Party is sometimes mentioned. But the rules of the game are opaque and not clear they are designed for selecting good bureaucrats by conventional wisdom. Corruption enforcement has been selective and often motivated by political reasons. Public pressure is lacking because of heavily regulated media and other forms of public voices. Bureaucrat salary and promotion reform is not only against the communist ideology but also crippled by performance measurement issues (hard to measure quality). Fixed-term bureaucrat rotation has been used to curtail corruption. But it is not clear how moving away a good bureaucrat (instead of re-electing him) can help the region. What is clear is that fixed-term rotation discourage long-term beneficial investment while encourages short-term behaviors. Some economists claim that peer pressure (regional competition) work to improve bureaucrat performance. Again, we need to understand more about how bureaucrats compete and their promotion rules.

These difficulties of improving bureaucrat quality leave the Communist Party little choice but to periodically engage in brain washing exercises, or "spiritual education", to remind Party members and bureaucrats act in the best interest of the Party and the citizen.

6.2. Will China's high growth continue?

If China continues to rely on its bureaucrat system to allocate resources, how likely would it be able to sustain its high growth? We argue not, for the need to balancing the cost of economic growth. The answer also depends on China's regions. For more developed and/or better governed regions, bureaucrats care about the quality of growth and will likely use their executive power to implement policies to achieve their goals. An example is the recent implemented new Labor Law. The Law significantly increase labor costs, forcing many firms migrated away from the Pearl River Delta of Guangdong Province into cheaper labor cost regions. As a result, air quality and life security improve. However, it is to be observed whether Guangdong bureaucrats and entrepreneurs can find a new engine for growth. That is not easy.

For less developed and/or poorly governed regions, government push for labor intensive industries will continue, but citizen's well-being will deteriorate at high

speed and income inequality will be widened fast. Short of formal institutions safeguarding bureaucrat quality, the risk of social instability is high. Wars are unlikely because the Party and its military are powerful to suppress any local unrest. However, as social wellbeing worsens, even a bad bureaucrat can not sustain his marginal productivity of rent extraction. Saturating economic development will likely happen within the next 20 years.

7. Conclusions

We have learned from China's corporate sector and economic development that bureaucrat allocation system is very important to corporate sector and economic growth, and social well-being. Bureaucrat quality is a key to sustainable growth. Both good and bad bureaucrats use firms and business groups to boost local GDP. But bad bureaucrats do it much less efficiently, and lead to worse wellbeing of citizen. Empire building and GDP growth pushed by bad bureaucrats is associated with more environmental, health, and social problems than that orchestrated by good bureaucrats. Environmental problems lead to poor health. Heavy eating, drinking and entertainment lead to unhappy marriages.

Transferring tax payers' money to related parties is fully consistent with the self-interest of bureaucrats and politicians around the world (Shleifer and Vishny, 1993). The self-interest is often sugar coated, in the name of economic growth. Without institutional constraints and effective tools to contain bureaucrats' decisions, the success of the bureaucrat allocation system depends single handed on bureaucrats' inborn quality. Sustainable economic growth and development is overshadowed by good bureaucrats' short lives. History often repeats itself. Indeed, there was never a prosperity lasted longer than 50 years in the Chinese history.

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Joseph P.H. Fan, Jun Huang, Randall Morck, and Bernard Yeung, "Vertical Integration, Institutional Determinants and Impact: Evidence from China"

Joseph P.H. Fan, T.J. Wong, and Tianyu Zhang, “Institutions and Organizational Structure: the Case of State-Owned Corporate Pyramids”

Table 1 Chinese Provincial Corporate Sector Development

This table displays the importance of large industrial firms and business groups in Chinese economy. Panel A presents the mean value of all, top-50, 30, 10 and 5 firms sales over GDP across provinces. Top-50, 30, 10 and 5 denote the largest 50, 30, 10 and 5 firms in a province. 'Firm number' is the number of firms in a province. Panel B shows the mean value of sales, assets, employees and investment ratios of business group across provinces.

Panel A Firm sales over GDP

Year	Firm number	All firms	Top 50	Top 30	Top 10	Top 5
1998	5,326	0.682	0.306	0.266	0.190	0.146
1999	5,226	0.696	0.320	0.279	0.200	0.152
2000	5,253	0.752	0.364	0.320	0.234	0.180
2001	5,524	0.754	0.360	0.316	0.226	0.169
2002	5,856	0.786	0.371	0.324	0.230	0.171
2003	6,329	0.878	0.420	0.367	0.260	0.192
2004	8,918	1.043	0.481	0.422	0.301	0.219
2005	8,768	1.033	0.475	0.420	0.305	0.220
2006	9,740	1.123	0.514	0.456	0.334	0.246
2007	10,862	1.214	0.533	0.471	0.337	0.249
All	7,180	0.896	0.414	0.364	0.262	0.195

Panel B Business group

Year	Group sales/Total GDP	Group assets/Total GDP	Group employees/Total employees	Group investment/Total investment
2001	0.186	0.385	0.0398	0.0391
2002	0.195	0.387	0.0386	0.0428
2003	0.220	0.392	0.0374	0.0482
2004	0.232	0.379	0.0367	0.0542
2005	0.226	0.355	0.0365	0.0530
2006	0.241	0.361	0.0364	0.0491
All	0.217	0.376	0.0376	0.0477

Table 2 Provincial Level Firm Concentration

This table presents the means value of top-50, 30, 10 and 5 firms sale over total firms sales across provinces. Top-50, 30, 10 and 5 denote the largest 50, 30, 10 and 5 firms in a province. 'Sale' is the sum of all firms sales in a province.

Year	Sales (billion)	Top 50	Top 30	Top 10	Top 5
1998	207	0.479	0.417	0.298	0.230
1999	225	0.490	0.428	0.306	0.235
2000	271	0.510	0.448	0.326	0.250
2001	302	0.509	0.446	0.319	0.239
2002	353	0.506	0.443	0.315	0.235
2003	462	0.516	0.453	0.323	0.241
2004	658	0.501	0.441	0.317	0.233
2005	802	0.500	0.442	0.322	0.235
2006	1,011	0.497	0.441	0.325	0.240
2007	1,288	0.481	0.427	0.310	0.231
All	558	0.499	0.439	0.316	0.237

Table 3 Provincial Corporate Sector Growth and GDP Growth

This table presents the correlation between provincial annual corporate sector growth and GDP growth. Panel A reports firm sales growth of all, top-50, 30, 10 and 5 firms in a province. Top-50, 30, 10 and 5 firms denote the largest 50, 30, 10 and 5 firms in a province. Panel B reports business group growth in sales, assets, employees and investment.

Panel A Firms Sales Growth

Year	All firms	Top 50	Top 30	Top 10	Top 5	Total GDP	Per capita GDP
1999	0.081	0.115	0.118	0.125	0.118	0.0582	0.069
2000	0.186	0.248	0.258	0.284	0.307	0.104	0.091
2001	0.097	0.093	0.091	0.073	0.054	0.101	0.090
2002	0.153	0.151	0.150	0.149	0.147	0.106	0.100
2003	0.278	0.304	0.310	0.312	0.306	0.146	0.144
2004	0.418	0.374	0.383	0.409	0.402	0.197	0.197
2005	0.216	0.207	0.208	0.220	0.220	0.215	0.179
2006	0.275	0.259	0.262	0.275	0.289	0.167	0.157
2007	0.287	0.236	0.234	0.219	0.226	0.185	0.122
Total	0.221	0.221	0.224	0.230	0.230	0.142	0.127
Correlation with growth of total GDP	0.5676 (0.000)	0.4153 (0.000)	0.3945 (0.000)	0.3346 (0.000)	0.2984 (0.000)	-	-
Correlation with growth of per capita GDP	0.5708 (0.000)	0.4180 (0.000)	0.3885 (0.000)	0.3164 (0.000)	0.2627 (0.000)	-	-

Panel B Business Group Growth

Year	Sales	Assets	Employees	Investment
2002	0.161	0.140	0.0672	0.330
2003	0.286	0.132	0.0159	0.622
2004	0.289	0.219	0.0466	0.791
2005	0.267	0.194	0.0607	0.337
2006	0.237	0.162	0.0517	0.272
Total	0.248	0.169	0.0484	0.472
Correlation with growth of total GDP	0.2063 (0.010)	0.1064 (0.188)	0.0998 (0.267)	0.3408 (0.010)
Correlation with growth of per capita GDP	0.2847 (0.000)	0.1249 (0.121)	0.1091 (0.176)	0.2079 (0.004)

Table 4 Enterprise Promotion Policies by Local Bureaucrats

This table presents local governments policies to cultivate large enterprises in China. The detailed policies see appendix I.

Province	City	County	Year	Finance	Land	Tax	Admini strate	Others	Merger, reorganiza tion	Award
Hebei	Shijiazhuang		2007	✓		✓	✓			✓
	Tangshan		2006						✓	
Shanxi	-		2006						✓	
Heilongjiang	Suihua		2008	✓					✓	
Shanghai	-		2008						✓	
	Nantong		2008						✓	
Jiangsu	Xizhou		2002						✓	
	Changzhou		2006						✓	
	Suzhou		2006	✓		✓	✓	✓	✓	✓
Zhejiang	Hangzhou		2004	✓		✓			✓	✓
	Ningbo		2006		✓				✓	✓
	Wenzhou		2004	✓	✓		✓			
	Huzhou		2005							✓
Shandong	Yiwu		2008					✓		
	Jiaojiang		2006	✓						✓
	Wenling		2006		✓			✓		
	Qingdao		2006				✓			
Hubei	Jining		2007	✓						
	-		2007						✓	
Guangdong	Wuhan		1996	✓		✓	✓	✓		
	Shenzhen		2005						✓	
Guangxi	-		2006						✓	
	Liuzhou		2008						✓	
Hainan	Yulin		2008			✓		✓		
	Haikou		2008						✓	
Sichuan	-		2007	✓	✓	✓	✓	✓	✓	✓
	Chengdu		2008	✓	✓					✓
	Chengdu	Pixian	2008	✓	✓	✓	✓	✓		✓
	Zigong		2007	✓	✓	✓	✓		✓	✓
	Neijiang		2008	✓			✓		✓	
Yunnan	Bazhong	Nanjiang	2007	✓	✓	✓	✓	✓	✓	✓
	Wenshan		2007				✓	✓		✓
	-		1997	✓			✓	✓		
Shaanxi	Xian		2009						✓	
	Xianyang		2008						✓	
Gansu	Lanzhou		2007					✓		
Ningxia	-		2007			✓	✓		✓	
	Shizuishan		2007			✓			✓	✓
Xinjiang	Urumqi		2004						✓	
	Shanshan		2008						✓	
	Changji		2009						✓	
	hutubi		2006						✓	
	Kashi		2006						✓	
	Aletai		2009					✓		

Table 5 Provincial Bureaucrat Promotion and GDP Growth

This table compares GDP growth of promoted and non-promoted provincial leaders with the national average GDP growth. P values are in parentheses.

	Promote			Non-promote		
	Promote	National	T Test	Non-promote	National	T Test
Panel A Total GDP						
Full sample	0.132	0.113	(0.06)	0.124	0.124	(0.49)
Provincial Governor	0.134	0.113	(0.07)	0.122	0.119	(0.43)
Provincial Communist Party Secretary	0.127	0.114	(0.28)	0.126	0.127	(0.46)
Panel B per capita GDP						
Full sample	0.124	0.105	(0.05)	0.122	0.114	(0.19)
Provincial Governor	0.126	0.104	(0.07)	0.123	0.113	(0.24)
Provincial Communist Party Secretary	0.120	0.109	(0.28)	0.120	0.114	(0.30)

Table 6 Provincial Corporate Sector Development by Ownership

This table presents the ratio of firm sales to GDP by ownership. 'SOE' is the firm whose largest shareholder is government. 'Legal' represents the firm whose largest shareholder is a legal entity. 'Private' denotes the firm whose largest shareholder is a person.

Year	SOE	Legal	Private
1998	0.454	0.108	0.120
1999	0.423	0.133	0.140
2000	0.418	0.166	0.169
2001	0.373	0.184	0.197
2002	0.348	0.214	0.223
2003	0.347	0.252	0.279
2004	0.372	0.310	0.360
2005	0.332	0.335	0.366
2006	0.325	0.389	0.410
2007	0.326	0.423	0.464
All	0.372	0.251	0.273

Table 7 Bureaucrats as Firm Managers

This table presents the background of senior managers and directors of all publicly traded companies in China. Panel A reports all executives, including directors and senior managers. Panel B and C report directors and senior managers, respectively. Panel D focuses on chairman and CEO. ‘SOE’ denotes listed companies whose ultimate owner is government. ‘Private’ represents listed companies whose ultimate owner is a person. ‘Party member’ means that directors or senior managers are communist party members. ‘Bureaucrat’ means that directors or senior managers are now or have ever been bureaucrats. ‘Professional’ means directors or senior managers with finance, accounting, law, and academic background. ‘Directors from top 10 shareholders’ denote directors sent from the ten largest shareholders.

Panel A Directors and Senior Managers

Year	Party members			Bureaucrats			Professionals		
	All	SOE	Private	All	SOE	Private	All	SOE	Private
1992	0.187	-	-	0.194	-	-	0.229	-	-
1993	0.238	-	-	0.213	-	-	0.214	-	-
1994	0.250	-	-	0.237	-	-	0.214	-	-
1995	0.261	0.269	0.264	0.244	0.242	0.238	0.215	0.204	0.243
1996	0.291	0.296	0.263	0.256	0.264	0.269	0.232	0.228	0.261
1997	0.327	0.331	0.258	0.279	0.269	0.273	0.231	0.233	0.284
1998	0.348	0.347	0.284	0.296	0.285	0.275	0.229	0.231	0.283
1999	0.359	0.366	0.265	0.306	0.302	0.276	0.239	0.241	0.291
2000	0.368	0.388	0.283	0.315	0.317	0.267	0.248	0.247	0.291
2001	0.375	0.402	0.310	0.328	0.332	0.297	0.261	0.253	0.299
2002	0.373	0.403	0.322	0.350	0.354	0.316	0.312	0.304	0.342
2003	0.373	0.410	0.307	0.364	0.374	0.329	0.345	0.337	0.382
2004	0.366	0.408	0.297	0.368	0.379	0.334	0.362	0.351	0.401
All	0.317	0.362	0.285	0.288	0.312	0.287	0.256	0.263	0.308

Panel B Chairman and CEO

Year	chairman			CEO			Chairman or CEO		
	All	SOE	Private	All	SOE	Private	All	SOE	Private
1992	0.186	-	-	0.234	-	-	0.282	-	-
1993	0.222	-	-	0.245	-	-	0.293	-	-
1994	0.234	-	-	0.292	-	-	0.328	-	-
1995	0.234	0.275	0.186	0.297	0.270	0.263	0.324	0.281	0.302
1996	0.251	0.269	0.220	0.325	0.302	0.273	0.356	0.325	0.290
1997	0.280	0.292	0.255	0.333	0.323	0.325	0.385	0.370	0.375
1998	0.313	0.333	0.276	0.346	0.329	0.325	0.413	0.389	0.363
1999	0.338	0.354	0.313	0.344	0.341	0.325	0.412	0.419	0.336
2000	0.317	0.347	0.264	0.340	0.346	0.298	0.417	0.433	0.305
2001	0.330	0.357	0.276	0.337	0.355	0.287	0.408	0.436	0.312
2002	0.317	0.349	0.245	0.339	0.353	0.282	0.405	0.429	0.308
2003	0.327	0.361	0.255	0.344	0.356	0.323	0.407	0.430	0.338
2004	0.318	0.363	0.224	0.339	0.356	0.294	0.401	0.434	0.313
All	0.282	0.330	0.251	0.317	0.333	0.300	0.372	0.394	0.324

Table 8 Correlations of Corporate Policies, Performance, and Economic Growth by Bureaucrat Quality

This table shows the correlations of corporate policies with GDP growth, corporate profit growth and TFP growth. Panel A reports results based on industrial firms in a province. Panel B reports results based on business group data. ‘GDP growth’ is the annual growth rate of provincial total GDP. ‘Sales growth’ is the annual growth rate of all firms/groups sales of a province. ‘Investment’ is the annual increase of fixed assets of all firms/groups of a province. ‘Debt growth’ is the annual growth rate of all firms liabilities of a province. ‘Profit growth’ is the annual growth rate of all firms net income of a province. ‘TFP growth’ is the annual growth rate of the provincial median of firms total-factor-productivity (TFP). The estimation method of TFP see appendix IV. ‘Employee growth’ is the annual growth rate of all groups employees of a province.

	GDP growth			Corporate Profit Growth			Corporate TFP growth		
	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats
Panel A Firm									
Sales growth	0.5676 (0.000)	0.5602 (0.000)	0.5913 (0.000)	0.6015 (0.000)	0.6352 (0.000)	0.6032 (0.000)	0.2156 (0.000)	0.5148 (0.000)	0.0823 (0.334)
Investment	0.3303 (0.000)	0.3580 (0.000)	0.3103 (0.001)	0.3085 (0.000)	0.4700 (0.000)	0.1775 (0.033)	0.1876 (0.002)	0.3060 (0.000)	0.1284 (0.130)
Debt growth	0.5040 (0.000)	0.4933 (0.000)	0.5490 (0.000)	0.3579 (0.000)	0.4831 (0.000)	0.3061 (0.000)	0.2021 (0.001)	0.2417 (0.005)	0.1842 (0.029)
Profit growth	0.3167 (0.000)	0.3194 (0.000)	0.3367 (0.000)	-	-	-	0.1397 (0.021)	0.4507 (0.000)	0.0459 (0.590)
TFP growth	0.1532 (0.011)	0.2817 (0.001)	0.1023 (0.229)	-	-	-	-	-	-
Panel B Business group									
Sales growth	0.2063 (0.010)	0.3056 (0.008)	0.1181 (0.297)	-0.0234 (0.773)	0.1021 (0.383)	-0.0910 (0.422)	-0.0253 (0.755)	0.0592 (0.614)	-0.0584 (0.607)
Investment	0.3408 (0.010)	0.4093 (0.000)	0.2461 (0.016)	0.1763 (0.016)	0.3932 (0.000)	0.0495 (0.632)	0.1503 (0.041)	0.2887 (0.006)	0.0489 (0.638)
Employee growth	0.0998 (0.267)	0.2343 (0.043)	-0.0121 (0.915)	-0.0590 (0.466)	-0.0346 (0.769)	-0.0849 (0.454)	0.0203 (0.802)	-0.0294 (0.802)	0.1298 (0.251)

Table 9 Correlations of Corporate Policies, GDP growth, and Household Income and Consumption by Bureaucrat Quality

This table presents the correlations of corporate policies and GDP growth with household income growth and consumption growth. Panel A reports results based on industrial firms of a province. Panel B reports results based on business group data. ‘GDP growth’ is the annual growth rate of provincial total GDP. ‘Household income growth’ is the annual growth rate of provincial per capita disposable income. ‘Household consumption growth’ is the annual growth rate of provincial per capita consumption. ‘Sales growth’ is the annual growth rate of all firms/groups sales of a province. ‘Investment’ is the annual increase of fixed assets of all firms/groups of a province. ‘Debt growth’ is the annual growth rate of all firms liabilities of a province. ‘Profit growth’ is the annual growth rate of all firms net income of a province. ‘TFP growth’ is the annual growth rate of the provincial median of firms total-factor-productivity (TFP). The estimation method of TFP see appendix IV. ‘Employee growth’ is the annual growth rate of groups employees of a province.

	Household income growth			Household consumption growth		
	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats
Panel A Firm						
GDP growth	0.3061 (0.000)	0.4047 (0.002)	0.2256 (0.011)	0.0740 (0.247)	0.3221 (0.000)	0.0474 (0.597)
Sales growth	0.3391 (0.000)	0.4666 (0.000)	0.2418 (0.006)	0.0643 (0.314)	0.3697 (0.000)	0.0307 (0.732)
Investment	0.2858 (0.000)	0.2185 (0.017)	0.3608 (0.000)	0.0291 (0.649)	0.1544 (0.092)	0.0243 (0.786)
Debt growth	0.1139 (0.074)	0.3558 (0.000)	-0.0246 (0.784)	- 0.0674 (0.291)	0.1941 (0.034)	-0.1030 (0.249)
Profit growth	0.1239 (0.052)	0.3559 (0.000)	0.0313 (0.727)	0.114 (0.074)	0.3021 (0.001)	0.0992 (0.267)
TFP growth	0.1540 (0.016)	0.3615 (0.000)	0.0764 (0.401)	- 0.0074 (0.909)	0.3271 (0.000)	-0.0337 (0.711)
Panel B Business group						
Sales growth	0.1078 (0.182)	0.1022 (0.383)	0.1282 (0.257)	0.1437 (0.074)	-0.0725 (0.537)	0.1881 (0.095)
Investment	0.2274 (0.002)	0.1509 (0.156)	0.2830 (0.005)	0.0132 (0.858)	0.1573 (0.139)	0.0032 (0.976)
Employee growth	0.0334 (0.680)	0.1733 (0.137)	-0.0508 (0.654)	0.1588 (0.048)	0.0361 (0.759)	0.1818 (0.106)

Table 10 Correlations of Corporate Policies, GDP Growth, and Citizen Wellbeing indicators by Bureaucrat Quality

This table shows the correlations of corporate policies and GDP growth with divorce rate growth, air quality, infant mortality and income inequality. Panel A reports results based on provincial level industrial firm data. Panel B reports results based on business group level data. ‘GDP growth’ is the annual growth rate of provincial total GDP. ‘Divorce rate growth’ is the annual growth rate of provincial divorce rate. ‘Air quality’ is the provincial percentage of days with good air quality in a year. ‘Infant mortality’ is defined as the number of deaths of infants per 1000 live births in a province. ‘Income inequality’ is the provincial GINI index. ‘Sales growth’ is the annual growth rate of all firms/groups sales of a province. ‘Investment’ is the annual increase of fixed assets of all firms/groups of a province. ‘Debt growth’ is the annual growth rate of all firms liabilities of a province. ‘Profit growth’ is the annual growth rate of all firms net income of a province. ‘TFP growth’ is the annual growth rate of the provincial median of firms total-factor-productivity (TFP). The estimation method of TFP see appendix IV. ‘Employee growth’ is the annual growth rate of groups employees of a province.

	Divorce rate growth			Air quality			Infant mortality			Income inequality		
	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats	All	Good Bureaucrats	Bad Bureaucrats
Panel A Firm												
GDP growth	0.2998 (0.000)	0.2819 (0.002)	0.3401 (0.000)	-0.4761 (0.007)	-0.4891 (0.064)	-0.4812 (0.059)	-0.1246 (0.504)	-0.4201 (0.119)	0.0700 (0.797)	0.2974 (0.111)	0.5771 (0.024)	-0.0190 (0.947)
Sales growth	0.4570 (0.000)	0.5446 (0.000)	0.3892 (0.000)	-0.2116 (0.253)	-0.1367 (0.627)	-0.3628 (0.167)	0.0073 (0.969)	-0.0313 (0.912)	0.1101 (0.685)	0.0459 (0.810)	0.0379 (0.893)	0.1293 (0.646)
Investment	0.2219 (0.000)	0.2325 (0.011)	0.1963 (0.026)	0.0826 (0.659)	0.1736 (0.536)	-0.0781 (0.774)	-0.5361 (0.002)	-0.6588 (0.008)	-0.4414 (0.087)	0.0527 (0.782)	0.0867 (0.759)	0.0901 (0.749)
Debt growth	0.3378 (0.000)	0.4317 (0.000)	0.2791 (0.001)	-0.1357 (0.467)	-0.1124 (0.690)	-0.2182 (0.417)	-0.2663 (0.148)	-0.4636 (0.082)	-0.0681 (0.802)	0.1667 (0.378)	0.5290 (0.043)	-0.0572 (0.840)
Profit growth	0.1490 (0.019)	0.3145 (0.001)	0.0941 (0.291)	-0.0315 (0.867)	0.0929 (0.742)	-0.1603 (0.553)	-0.0265 (0.887)	-0.2009 (0.473)	0.0063 (0.981)	0.3271 (0.078)	-0.2690 (0.332)	0.7461 (0.001)
TFP growth	0.1164 (0.070)	0.1959 (0.032)	0.0834 (0.357)	-0.0708 (0.705)	0.0276 (0.922)	-0.2697 (0.312)	-0.1161 (0.534)	0.0749 (0.791)	-0.1457 (0.590)	-0.4805 (0.007)	-0.3553 (0.194)	-0.5911 (0.020)
Panel B Business group												
Sales growth	0.0721 (0.373)	0.1467 (0.209)	0.0383 (0.736)	-0.1614 (0.386)	-0.4093 (0.130)	0.2268 (0.398)	0.2306 (0.212)	0.1756 (0.531)	0.2334 (0.384)	0.1122 (0.555)	0.4762 (0.073)	-0.3440 (0.209)
Investment	0.1381 (0.060)	0.1083 (0.309)	0.1417 (0.169)	0.0765 (0.683)	0.1311 (0.641)	-0.0289 (0.915)	-0.4713 (0.007)	-0.5586 (0.030)	-0.3988 (0.126)	0.0124 (0.948)	0.0938 (0.740)	-0.0222 (0.937)
Employee growth	-0.0287 (0.723)	-0.0166 (0.887)	-0.0130 (0.909)	0.0051 (0.978)	-0.5480 (0.034)	0.5695 (0.021)	-0.0172 (0.927)	-0.1107 (0.694)	-0.0750 (0.782)	0.1949 (0.302)	0.3193 (0.246)	0.0113 (0.968)