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# **China**

## **Governance, Investment Climate, and Harmonious Society: Competitiveness Enhancements for 120 Cities in China**

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## CURRENCY EQUIVALENTS

(As of October 8, 2006)

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Renminbi (Yuan) 1.00	=	US\$0.126465418
US\$1.00	=	Renminbi (Yuan) 7.9073

## ABBREVIATIONS

CCIQ	China Customs, Inspections, and Quarantine
CEO	Chief Executive Officer
FDI	Foreign Direct Investment
FIAS	Foreign Investment Advisory Service
FIE	Foreign-Invested Enterprises
GDP	Gross Domestic Product
GDPPC	Gross Domestic Product, Per Capita
HR	Human Resources
IC	Investment Climate
IT	Information Technology
NDRC	National Development and Reform Commission
NICE	Nearest to Investment Climate Excellence
R&D	Research & Development
RMB	Renminbi
SEZs	Special Economic Zones
SME	Small and Medium Enterprises
SOE	State-Owned Enterprise
TFP	Total Factor Productivity
TVE	Township and Village Enterprise
VAT	Value-Added Tax
WTO	World Trade Organization

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## EXECUTIVE SUMMARY

A survey of 120 cities (and 12,400 firms) in China shows that city-level investment climate varies widely. Business law and regulation are basically the same throughout China. Hence, differences mainly reflect local government efforts (or lack of efforts) to operate efficiently. For instance,

- Taxes and fees average 3.1 percent of sales revenue at the top 10<sup>th</sup> percentile of cities, versus 6.9 percent at the bottom 10<sup>th</sup> percentile.
- Firm interactions with major bureaucracies average 36 days/year at the top 10<sup>th</sup> percentile of cities and 87 days/year at the bottom 10<sup>th</sup> percentile.
- Firm expenditures on entertainment and travel, which can be a vehicle for corruption, average 0.7 percent of revenues at the top 10<sup>th</sup> percentile of cities and 1.9 percent of revenues at the bottom 10<sup>th</sup> percentile.
- Combined time for customs clearance of exports and imports averages 5.4 days at the top 10<sup>th</sup> percentile and 20.4 days at the bottom 10<sup>th</sup> percentile.

University-educated workers account for 28.5 percent or more of workforces in the top 10<sup>th</sup> percentile and 10.8 percent or less in the bottom 10<sup>th</sup> percentile of cities.

While comparability with earlier surveys is extremely limited, it does appear that losses due to power/transport problems have increased since 2001/2002, especially in southern China; that informal payments by firms, relative to sales, may have declined; and that taxes/fees relative to sales have increased in many cities.

The survey also finds significant (or noteworthy) differences in the importance of state-owned enterprises (SOEs) in local industry; labor over-staffing; firm access to bank loans; confidence in protection of property and contract rights; and adequacy of local power and transport. The prevalence of different types of industry or ownership in a particular locale seems to have some effect on tax/fee burdens, bureaucratic behavior, overstaffing, and other measures of government effectiveness.

In general, the investment climate of China's regions can be ranked from best to worst as follows:

1. Southeast (Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong);
2. Bohai (Shandong, Beijing, Tianjin, and Hebei);
3. Central (Anhui, Henan, Hubei, Hunan, and Jiangxi);
4. Northeast (Heilongjiang, Jilin, Liaoning);
5. Southwest (Yunnan, Guizhou, Guangxi, Sichuan, Chongqing, and Hainan); and

6. Northwest (Shanxi, Shaanxi, Neimenggu, Ningxia, Qinghai, Gansu, and Xinjiang).

Six cities offer outstanding performance in overall investment climate (both for domestic firms and for foreign firms), in government effectiveness (toward both domestic firms and foreign firms), *and* in progress toward achieving a “harmonious society.” These “golden cities” are Hangzhou, Qingdao, Shaoxing, Suzhou, Xiamen, and Yantai.

Cities in the bottom quintile of “government effectiveness” could expect near-term gains off 25-35 percentage points in firm productivity and 15-25 percentage points in foreign ownership by improving local government efficiency, labor flexibility, and financing to those of the leading cities in Shandong, Guangdong, Zhejiang, and Jiangsu.

Significant gains in firm productivity and/or foreign investment could result from the following reforms:

- Further simplification of licensing and other procedures to start a business;
- Greater transparency and simplification of approvals for urban land use;
- Elimination of tax preferences, for instance, for foreign investors;
- Elimination of many city-specific administrative fees and adoption of objective measures for remaining fees;
- Adoption of best-practice customs clearance procedures at inland customs posts;
- More consistent labor practices, by tightening enforcement where necessary to improve worker protections and loosening labor rules where possible to enhance labor flexibility;
- Completing the ownership transformation of small/medium state-owned enterprises (SOEs) that are viable; liquidating non-viable SOEs; and improving governance at large SOEs;
- Encouraging foreign investment in local banks, e.g., city commercial banks;
- Providing additional legal/regulatory protection for lenders; encouraging more widespread credit reporting; and making it easier for small and medium enterprises (SMEs) to use assets other than real estate as collateral; and
- Encouraging wider use, by local banks, of international best-practices in SME lending.

In addition, the survey finds a correlation between local government efforts to achieve a good investment climate and local progress toward achieving a harmonious society. For cities in the bottom quintile of investment climate, improvements in education/technical training, healthcare, and environmental quality to the levels of the leading Southeast and Bohai cities could lead to a 25 percentage point gain in firm productivity and a 10 percentage point gain in foreign ownership. This would require sustained spending on education, health, and environmental protection/remediation.

The survey finds that about one-third of observed differences in firm productivity, and one-fifth of differences in the extent of foreign ownership, are associated with differences in “city characteristics” – such as population size, GDP and GDP growth rate, and

transport costs. Government reforms and/or medium-term investments can bring about improvements in important city characteristics:

- Firms in more-populated cities tend to be more productive, due perhaps to greater competition and agglomeration benefits. This offers support for continued migration, especially to Southeast cities where water scarcity is less an issue.<sup>1</sup> To absorb migrants without worsening urban poverty and unemployment, destination cities will have to invest in infrastructure, housing, and public services, while creating an investment climate that stimulates private sector investment and business development.
- Through both physical improvements and local income gains, continued investment in urban infrastructure and services could make lagging cities more appealing to investors, especially foreign investors. Investment in urban infrastructure has been shown to support growth and to counteract urban unemployment and poverty. State-of-the-art information technology is necessary for cities seeking to cultivate high-tech industry. Greater reliance on private providers of public services offers opportunities for increasing competition, counteracting urban poverty, and enhancing local quality of life.
- Transport costs for moving goods to/from seaports is a key consideration, especially for foreign investors. Survey data indicate that a 50 percent reduction in overland transport costs could raise foreign ownership by perhaps 5 percentage points in such deep-interior cities as Lanzhou and Wulumuqi. Key measures to reduce transport costs include major improvements in China Rail's governance and management, including full or partial privatization; development of *real* nationwide trucking companies; more regular air cargo service for interior cities; and regulatory reforms to encourage domestic and international integrated logistical service providers to expand into interior regions.

Lastly, to encourage local governments to pursue sustained improvements in government effectiveness, urban development, and progress toward a harmonious society, it would make sense to repeat this survey regularly (e.g., bi-annually) in order to track progress or deterioration over time.

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<sup>1</sup> Dismantlement of the *hukou* system could also reduce urban-rural income differences.

## I. INTRODUCTION

Market potential and investment activity vary widely throughout China (Table I-1). For instance, per capita GDP in Southeast China averages more than 50 percent above the Northeast's and 150 percent above the averages for Central and Southwest China. Attracted by richer markets and cheaper access to ocean transport, per capita foreign direct investment (FDI) in the Southeast provinces averaged \$128 in 2004. This is 130 percent above per capita FDI for the Northeast, more than 7 times the average for Central China, and more than 25 times the average for western China. Consistent with this pattern, foreign-invested enterprises (FIE) account for 43 percent of industrial assets in the Southeast, versus 15 percent in the Northeast, 9-10 percent in Central and Southwest China, and 5 percent in the Northwest.

	Population (millions)	GDP (RMB millions)	Per capita GDP (RMB)	Per capita FDI (US \$)	FIE industrial assets
Liaoning	42.2	687,265	16,286	128	19%
Jilin	27.1	295,821	10,916	7	14%
Heilongjiang	38.2	530,500	13,887	9	6%
<i>Northeast</i>	<i>107.5</i>	<i>1,513,586</i>	<i>14,080</i>	<i>55</i>	<i>15%</i>
Beijing	14.9	428,331	28,747	171	28%
Tianjin	10.2	293,188	28,744	168	34%
Hebei	68.1	876,879	12,876	10	13%
Shandong	91.8	1,549,073	16,874	94	15%
<i>Bohai</i>	<i>185.0</i>	<i>3,147,471</i>	<i>17,013</i>	<i>74</i>	<i>20%</i>
Shanghai	17.4	745,027	42,818	362	53%
Jiangsu	74.3	1,540,316	20,731	120	35%
Zhejiang	47.2	1,124,300	23,820	121	21%
Fujian	35.1	605,314	17,245	55	55%
Guangdong	83.0	1,603,946	19,325	121	56%
<i>Southeast</i>	<i>257.0</i>	<i>5,618,903</i>	<i>21,863</i>	<i>128</i>	<i>43%</i>
Anhui	64.6	481,268	7,450	7	12%
Jiangxi	42.8	349,594	8,168	48	11%
Henan	97.2	881,509	9,069	4	8%
Hubei	60.2	630,992	10,482	29	13%
Hunan	67.0	561,226	8,377	21	8%
<i>Central</i>	<i>331.8</i>	<i>2,904,589</i>	<i>8,754</i>	<i>18</i>	<i>10%</i>
Shanxi	33.4	304,241	9,109	3	5%
Shaanxi	37.1	288,351	7,772	4	5%

Gansu	26.2	155,893	5,950	1	2%
Qinghai	5.4	46,573	8,625	5	1%
Ningxia	5.9	46,035	7,803	11	11%
Xinjiang	19.6	220,015	11,225	2	2%
Neimengu	23.8	271,208	11,395	14	8%
<i>Northwest</i>	<i>151.4</i>	<i>1,332,316</i>	<i>8,800</i>	<i>5</i>	<i>5%</i>
Guangxi	48.9	332,010	6,790	6	15%
Chongqing	31.2	266,539	8,543	8	15%
Sichuan	87.3	655,601	7,510	4	7%
Guizhou	39.0	159,190	4,082	2	3%
Yunnan	44.2	295,948	6,696	3	5%
Hainan	8.2	76,936	9,382	15	16%
<i>Southwest</i>	<i>258.8</i>	<i>1,786,224</i>	<i>6,902</i>	<i>5</i>	<i>9%</i>

Sources: CEIC Data Company Ltd.; *China Statistical Yearbook, 2005*; and staff calculations.

This diversity highlights the importance of investment climate for economic development throughout China. In lagging regions, FDI could provide a powerful boost to growth. For a foreign investor interested in access to a lagging region's markets or resources, city-level differences in investment climate could have a decisive effect on city selection. Domestic private investment is likely to play a much greater role, however, in the development of China's lagging regions. Thus, the investment climate for domestic business start-up and development is vitally important for China's lagging regions. As for China's vibrant coastal areas, city-level differences in investment climate may also exert a powerful influence on the choice of investment destination.

Given the importance of both domestic and foreign investment for growth, previous World Bank investment climate surveys of Chinese cities attracted substantial interest. Ease of entry or exit for domestic businesses, skill and technology endowments, labor flexibility, access to finance, private sector participation, and courts efficiency emerged as significant factors in business investment decisions.<sup>2</sup> These earlier surveys suffered from some limitations, however, including the exclusion of some important cities and provinces; insufficient consideration of important "city characteristics" (e.g., market size, transport costs); and a lack of attention to linkages among investment climate, urban infrastructure and quality of life, and social benefits consistent with progress toward a harmonious society.<sup>3</sup>

Hence, the current survey collected city-specific data on 120 cities. Included are data on each city's characteristics and quality of life, local economy, health, education, and environment.<sup>4</sup> Cities are included from all provinces in mainland China except Tibet.<sup>5</sup>

<sup>2</sup> David Dollar, Shuilin Wang, Lixin Colin Xu, and Anqing Shi, "Improving City Competitiveness Through the Investment Climate: Ranking 23 Chinese Cities," January 2005, [www.worldbank.org/cn/](http://www.worldbank.org/cn/), summarizes results from a 2001 survey of 1500 firms in five cities (Beijing, Tianjin, Shanghai, Guangzhou, and Chengdu) and a 2002 survey of another 2400 firms in an additional eighteen cities.

<sup>3</sup> Because of changes in survey method and analysis, *ratings from the current survey and the previous survey cannot and should not be compared.*

<sup>4</sup> These data are drawn from the National Bureau of Statistics and have not been independently verified for this study.

For each province, the capital city is included. The inclusion of additional cities for a particular province depends on provincial GDP. The 120 cities included in this survey account for 70-80 percent of China's GDP. The current survey controls for each city's GDP, factor costs, and cost of access to ocean-shipping. The current survey also includes various measures of urban infrastructure and quality of life and evaluates progress toward a harmonious society

**Table I-2. Cities Surveyed, 2005**

<u>Province</u>	<u>City</u>	<u>Province</u>	<u>City</u>	<u>Province</u>	<u>City</u>
<b>Anhui</b>	Anqing	<b>Henan</b>	Luoyang	<b>Neimenggu</b>	Baotou
	Chuzhou		Nanyang		Huhehaote
	Hefei		Shangqiu	<b>Ningxia</b>	Wuzhong
	Wuhu		Xinxiang		Yinchuan
<b>Beijing</b>	Beijing	Xuchang	<b>Qinghai</b>	Xining	
<b>Chongqing</b>	Chongqing	Zhengzhou	<b>Shaanxi</b>	Baoji	
<b>Fujian</b>	Fuzhou	Zhoukou		Xian	
	Quanzhou	<b>Hubei</b>	Huanggang	Xianyang	
	Sanming		Jingmen	<b>Shandong</b>	Jinan
	Xiamen		Jingzhou		Jining
Zhangzhou	Wuhan		Linyi		
<b>Gansu</b>	Lanzhou	Xiangfan		Qingdao	
	Tianshui	Xiaogan		Taian	
<b>Guangdong</b>	Dongguan	Yichang		Weifang	
	Foshan	<b>Hunan</b>	Changde	Weihai	
	Guangzhou		Changsha	Yantai	
	Huizhou		Chenzhou	Zibo	
	Jiangmen		Hengyang	<b>Shanghai</b>	Shanghai
	Maoming	Yueyang	<b>Shanxi</b>		Datong
	Shantou	Zhuzhou		Taiyuan	
	Shenzhen	<b>Jiangsu</b>	Changzhou	Yuncheng	
Zhuhai	Lianyungang		<b>Sichuan</b>	Chengdu	
<b>Guangxi</b>	Guilin			Nanjing	Deyang
	Liuzhou	Nantong		Leshan	
	Nanning	Suzhou		Mianyang	
<b>Guizhou</b>	Guiyang	Wuxi		Yibin	
	Zunyi	Xuzhou	<b>Tianjin</b>	Tianjin	
<b>Hainan</b>	Haikou	Yancheng		<b>Xinjiang</b>	Wulumuqi
	<b>Hebei</b>	Baoding	Yangzhou		<b>Yunnan</b>
Cangzhou		<b>Jiangxi</b>	Ganzhou	Qujing	
Handan			Jiujiang	Yuxi	
Langfang			Nanchang	<b>Zhejiang</b>	Hangzhou
Qinhuangdao		Shangrao	Huzhou		
Shijiazhuang		Yichun	Jiaxing		
Tangshan		Changchun	Jinhua		

<sup>5</sup> According to the Survey Service Center, insufficient time, resources, and enterprises meeting survey criteria made it impractical to include Tibet in this survey. For similar reasons, Tibet is not usually included in monthly, quarterly, and special surveys by the National Bureau of Statistics.

<b>Heilongjiang</b>	Zhangjiakou	<b>Liaoning</b>	Jilin	Ningbo	
	Daqing		Anshan		Shaoxing
	Haerbing		Benxi		Taizhou
	Qiqihaer		Dalian		Wenzhou
			Fushun		
			Jinzhou		
			Shenyang		

Survey data are also aggregated and organized around six regions:

1. Southeast includes Jiangsu, Shanghai, Zhejiang, Fujian, and Guangdong. While this is a wide swathe of territory, the analysis shows consistently good investment climate all across the Southeast.
2. Bohai includes Beijing, Tianjin, Hebei, and Shandong. Following the Pearl River delta and Yangtze River delta, Bohai Bay has emerged as a third center for growth.
3. Northeast includes Liaoning, Jilin, and Heilongjiang. Geographically distinct, the Northeast remains dominated by state-owned industry.
4. Central includes Anhui, Henan, Hubei, Hunan, and Jiangxi. While also dominated by state-owned industry, many cities in these interior provinces could benefit from cheap river-borne access to ocean shipping.
5. Southwest includes Yunnan, Guizhou, Guangxi, Sichuan, Chongqing, and Hainan. Exports from these western cities are more typically oriented toward overseas markets in Southeast Asia, often through such ports as Guangzhou and Shanghai.
6. Northwest includes Shanxi, Shaanxi, Neimengu, Ningxi, Qinghai, Gansu, and Xinjiang. Exports from these cities would more naturally move through ports in Bohai Bay (e.g., Tianjin) or overland to markets in Central Asia.

In addition to collecting city-level data, the current survey has collected firm-level data. For all but the four directly-governed cities, the survey samples 100 firms. For each of the four mega-cities (Beijing, Tianjin, Shanghai, Chongqing), the survey samples 200 firms. Thus, the sample includes 12,400 firms. Of these, 8 percent are registered as majority state-owned; 28 percent as foreign-invested; and 64 percent as domestic non-state.

All firms are from industry (Table I-3). This is intended to promote consistency since some services (e.g., financial services) are prone to greater regulation and the inclusion of higher numbers of such service businesses in some cities (e.g., Beijing, Shenzhen, Shanghai) could distort survey results. For each city, the top 10 industries in terms of sales revenue are drawn. For each industry, all firms in the sample universe are divided into large, middle and small firms, each accounting for 1/3 of total industry revenue. Then from each of three types of firms, an equal number of firms are drawn.<sup>6</sup> Firms are required to have a minimum of 10 employees.

<sup>6</sup> In case the segment of large firms do not have sufficient number of firms, local Survey Centers re-divide the remaining sample into large, medium and small firms, and draw from the new segment of large firms, continuing to do so until the required number of large firms are drawn.

**Table I-3. Distribution of Industrial Firms Surveyed in China, 2005**

Code	Industry	#	%.
13	agricultural and side-line food processing	969	7.81
14	food production	243	1.96
15	beverages production	178	1.44
16	tobacco production	46	0.37
17	textiles manufacturing	952	7.68
18	garment, shoes, and caps manufacturing	206	1.66
19	leather, furs, down, and related products	139	1.12
20	timber processing, bamboo, cane, palm fiber and straw products	141	1.14
21	furniture manufacturing	55	0.44
22	papermaking and paper products	235	1.90
23	printing and record medium reproduction	62	0.50
24	cultural, educational and sports goods	41	0.33
25	petroleum processing and coking	182	1.47
26	raw chemical materials and chemical products	1441	11.62
27	medical and pharmaceutical products	426	3.44
28	chemical fiber products	47	0.38
29	rubber products	21	0.17
30	plastic products	329	2.65
31	nonmetal mineral products	1299	10.48
32	smelting and pressing of ferrous metals	491	3.96
33	smelting and pressing of non-ferrous metals	345	2.78
34	metal products	366	2.95
35	general machinery	1077	8.69
36	equipment for special purposes	486	3.92
37	transportation equipment	989	7.98
39	electrical equipment and machinery	864	6.97
40	electronic and telecommunications equipments	598	4.82
41	instruments, meters, cultural and office machinery	60	0.48
42	handicraft products and other machinery	109	0.88
43	renewable materials processing	3	0.02
<b>Total</b>		<b>12400</b>	<b>100</b>

Analysis of survey data focuses on the relationship between the total factor productivity (TFP) or foreign ownership of firms and various investment climate factors.<sup>7</sup>

Section II compares the investment climate of the six regions. City characteristics, government effectiveness, and progress toward a harmonious society all contribute to investment climate. In addition to cross-regional comparisons of these contributors, industry-specific investment climate issues are discussed. City-level performance data on government effectiveness and progress toward a harmonious society are presented – by region – in Appendix A.

Section III ranks the 120 cities in terms of investment climate, government effectiveness, and progress toward a harmonious society. In order to provide benchmarks, this section

<sup>7</sup> TFP should be understood as the productivity level of a firm after netting out the effects of capital, labor, and industry-specific technology. For a discussion of the estimation of TFP from the data collected in this survey, see the Annex B. TFP is subsequently referred to simply as “firm productivity.”

also presents objective performance data for the Top 20 Cities in government effectiveness and in progress toward a harmonious society.

Section IV offers policy and program recommendations, both national and local, to improve investment climate at the city level. These include a mix of short-term measures to enhance government effectiveness and medium- or longer-term measures to address health, education, and environmental issues; upgrade urban infrastructure; and address transportation issues.

## II. REGIONAL COMPARISONS

Investment climate is the result of a process. A city starts with certain characteristics and endowments – e.g., market size and relative prosperity; location; mix of businesses (domestic and foreign, private and state-owned); a local government; human resources; and some level of urban infrastructure and quality of life. Some factors, such as market size and transport costs, may change only slowly. Other factors, especially the efficiency of local government, are more easily remedied in the short term. Improvement of other factors – such as education and technical skills, environmental quality, and urban infrastructure – may require sustained government spending. Short-term government reforms and medium-term government spending on public goods will ideally result in additional business investment and economic growth over the long term.

This section presents survey findings on (a) city characteristics; (b) local government effectiveness; and (c) progress toward achieving a harmonious society.

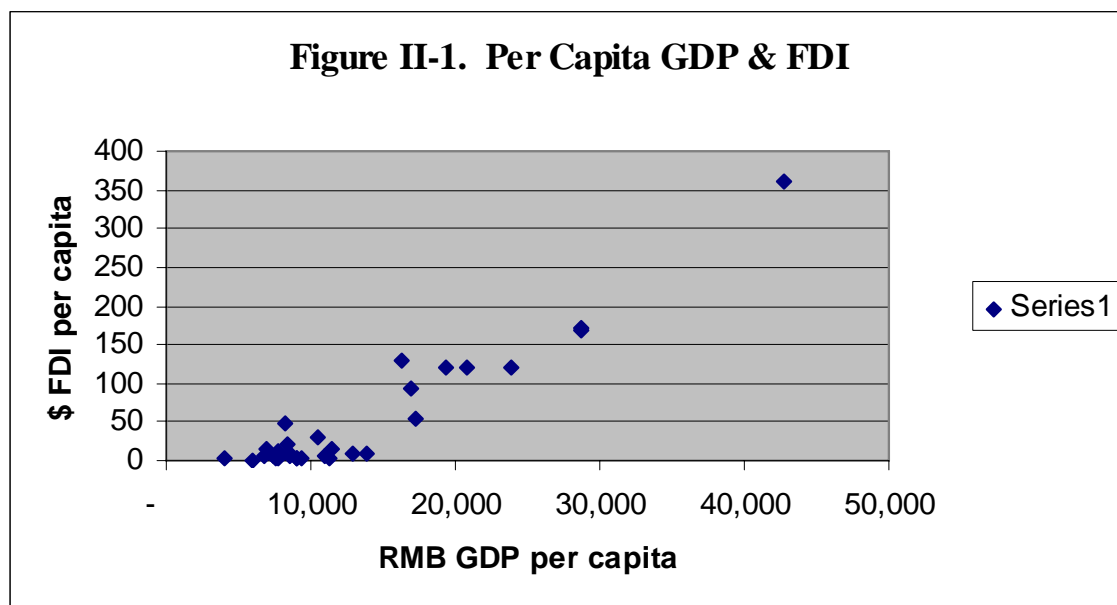
### A. CITY CHARACTERISTICS

Differences in “city characteristics” – per capita GDP, economic growth, and transport costs – explain about one-third of observed differences in firm productivity.<sup>8</sup> This is not surprising, since market opportunity and costs are key considerations in business.

*GDP.* China’s richest regions tend also to be premier destinations for domestic and foreign business investment. Among provinces, the correlation between per capita GDP and FDI, for instance, is quite high (Figure II-1). This reflects the greater ability of residents in richer regions to afford the products supplied by foreign firms. Similarly, richer local governments are better able to afford the investments in infrastructure, environmental quality, and education needed to attract foreign investors.

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<sup>8</sup> Survey data indicate that city characteristics are much less important in explaining differences in foreign ownership. For more detail, see Table B-7, Annex B.



*Costs.* The survey finds that factor costs vary widely, but tend to be lower in interior cities. For instance, compared with some of China's major seaports, real estate costs in interior cities may be 25-50 percent lower.<sup>9</sup> Labor costs appear to be consistently lower in interior cities (Table II-2).

**Table II-2. Representative Factor and Transport Costs  
For Typical City-Pairs, 2005 (in RMB)**

<u>Interior city</u>	<u>Land</u>	<u>Labor</u>	<u>Transport</u>	<u>Designated seaport</u>	<u>Land</u>	<u>Labor</u>	<u>Transport</u>
Changchun	5,240	10,491	3,948	Dalian	10,556	14,061	3/
Ha'erbin	12,341	9,080	5,244	Dalian	10,556	14,061	3/
Taiyuan	16,539	8,666	3,342	Tianjin	19,274	14,429	3/
Huhehaote	8,014	7,983	4,176	Tianjin	19,274	14,429	3/
Xi'an 1/	10,188	10,786	6,684	Shanghai	24,603	21,095	3/
Lanzhou 1/	5,899	8,695	11,016	Shanghai	24,603	21,095	3/
Wulumuqi 1/	13,930	9,937	22,710	Shanghai	24,603	21,095	3/
Chengdu	19,049	10,618	15,048	Shanghai	24,603	21,095	3/
Changsha	8,911	9,917	4,770	Guangzhou	6,760	20,772	3/
Guiyang 2/	8,824	8,987	5,058	Guangzhou	6,760	20,772	3/
Kunming 2/	11,850	10,967	6,432	Guangzhou	6,760	20,772	3/

Sources: survey data; World Bank (2003); ADB (2005); Institute of Comprehensive Transportation of the NDRC; and staff calculations.

Note: Land cost is average monthly rent for 1000 square meters. Labor is monthly wages for ten workers, assumed to include 6 full-time and 4 part-time. Transport costs are assumed to be 6 RMB per kilometer to truck a 20-foot container to the seaport designated by the Institute of Comprehensive Transportation, except as follows:

1/ Transport costs are to Lianyungang.

2/ Transport costs are to Fancheng.

3/ Negligible; analysis assumes RMB 400 for handling costs within each seaport.

<sup>9</sup> Some land prices in some coastal cities, however, appear to have been distorted by artificially low rents in development zones.

The survey finds that transport costs more clearly affect foreign investment and – to a lesser extent – firm productivity.<sup>10</sup> Numerous factors contribute to high transport costs in China (Box II-1).

### **Box II-1. Transport Sector Issues**

While rail shipment can be 40-60 percent cheaper than truck shipment over longer distances (e.g., >700 kilometers), China Rail's near monopoly on rail transport has discouraged development of a service orientation. For instance, freight wagons are in short supply. Loading times are subject to extensive delays and uncertainty. Loading can be subject to approval of the consignor's loading plan, one or more inspections of containers, and loading fees that represent 20-30 percent of actual transport fees. Access to service may depend upon relationships with local rail authorities. Transit times are variable and beyond the consignor's control. Additional fees may be incurred in-transit and upon off-loading. China Rail has been slow to introduce new services (e.g., inter-modal transport) that would enhance the competitiveness of customers.

Trucking has remained largely a cottage industry. Historically, manufacturers have provided their own trucking. Hence, utilization has tended to be inefficient. For-hire trucking has largely remained limited to informal leasing from unofficial local operators. Development of modern trucking networks suffered from local protectionism. Cities may prohibit entry by outside trucks without tedious city-specific licensing and registration. Hence, many trucks traversing provincial borders haul goods only one way. There are still no clear procedures and qualifications for obtaining a "national" license for cargo trucking. Toll road tolls can increase trucking costs by as much as 20 percent.

Domestic air cargo still relies mainly on space in the belly of passenger aircraft and remains under-developed.

Many warehouses are poorly designed and equipped (e.g., for climate control, segregation, automation). This increases actual inventory losses and impedes efficient inventory management.

In general, China Rail and other "legacy" carriers do not provide real-time tracking and tracing of cargoes, estimates of travel time, or reports of en-route service failures. Legacy carriers are not prepared to provide "proof of delivery" to facilitate payment. The enforcement of cargo liability can be difficult. Few carriers are prepared to act as reliable custodians for cargoes or advise customers on such issues as damage prevention, pallet or container exchange, or insurance. Carriers are generally unwilling to "deconstruct" services and allow customers to reassemble service components in ways that support customers' planning and distribution requirements.

While WTO has facilitated entry by international providers of logistical services, their expansion into less-lucrative interior markets is discouraged by multiple licensing requirements (e.g., for different business segments, for new branch offices), possible minimum capital requirements, and requirements for actual ownership of assets (e.g., trucks, warehouses) that may discourage the development of genuine 3<sup>rd</sup> party and 4<sup>th</sup> party logistics services that rely on in-house systems to manage externally-owned assets.

Sources: Woetzel (2003); World Bank (2004); AmCham (2005); and industry interviews.

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<sup>10</sup> See Table B-1, Annex B.

The impact of transport on the competitiveness of manufacturers in interior cities will tend to depend on their products. At least for now, interior cities are more likely to be able to compete in the production of bulk goods (e.g., coal) suitable for leisurely shipment by rail or high-value goods (e.g., computer chips) suitable for air cargo. Transport will tend to have the most deleterious impact on medium value/high volume goods that are too valuable to ship by rail but not worth shipping by air. Transport burdens are magnified for firms in interior cities seeking to import low or medium-value inputs from the coast.

In cases where globalization leads to more-or-less uniform worldwide prices for products and material inputs, transport costs will also tend to depress labor prices in interior cities.<sup>11</sup> Hence, to enhance competitiveness and raise incomes in interior cities, nationwide transport sector reforms and initiatives to make local government more effective are both important.

## B. GOVERNMENT EFFECTIVENESS

Not surprisingly, the survey reveals China's Southeast cities as making the best efforts in investment climate; followed by the Bohai cities; with Northeast and Central cities typically somewhere in the middle; and with Southwest and Northwest cities lagging.

*Government efficiency.* The survey measured taxes and fees, firm expenditures on entertainment and travel, time spent on bureaucratic interactions, and customs clearance performance.

Taxes and fees relative to sales appear to be lowest in the Southeast and Bohai and highest in the Southwest and Northwest (Table II-3). The generally lower VAT burden for Southeast and Bohai firms may reflect several factors: e.g., greater reliance on component purchases (versus in-house production); a higher number of VAT-advantaged high-technology firms; and higher export sales (with VAT refunds for exports). Corporate income tax burdens appear to be higher in Southeast and Bohai, however, which is somewhat surprising given the larger number of foreign-invested enterprises (FIEs) in these regions and lower income tax rates for many FIEs.<sup>12</sup> Hence, the apparently lower income tax burden among firms in North, Central, and Southwest China may reflect lower profits (and more unprofitable enterprises, including state-owned). Since the actual tax burden of individual firms may mainly reflect firm characteristics (e.g., industry, ownership, exports, or "make vs. buy" preferences), other taxes and

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<sup>11</sup> World Bank, *China: Promoting Growth with Equity*, Country Economic Memorandum, 2003, pp. 20-1.

<sup>12</sup> In many locations (e.g., special economic zones, coastal cities, river delta zones, high-technology zones), corporate tax rates for FIEs are 15-24 percent, versus the standard 33 percent for other enterprises. PricewaterhouseCoopers, *Doing Business and Investing in the People's Republic of China*, 2002.

administrative fees – while small – could be significant.<sup>13</sup> City-specific administrative fees (e.g., for construction, land use, enterprise registration, water, road transport) may be less numerous and lower in coastal cities than in lagging regions. A “virtuous circle” may be at work whereby more-prosperous cities receive sufficient financial resources (e.g., corporate income taxes) so that they are better able to eliminate or reduce city-specific administrative fees.

**Table II-3. Average Taxes and Fees Relative to Sales, 2005**  
(in percent)

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
Value-added tax (VAT)	2.8	3.1	3.9	3.5	4.5	4.1
Income tax	0.8	0.8	0.6	0.6	0.7	0.5
Other taxes and fees <u>1/</u>	<u>0.5</u>	<u>0.6</u>	<u>0.9</u>	<u>0.9</u>	<u>1.1</u>	<u>1.2</u>
Total	4.1	4.5	5.4	5.0	6.3	5.8

1/ Consumption, business, resource, land, and real estate taxes, plus miscellaneous administrative fees.

Taxes/fees sometimes differ with type of industry or type of ownership. The burden from taxes/fees appears pretty similar across regions for manufacturers of low-value products (e.g., processed food, textiles, garments) (Table II-4). Taxes/fees are consistently higher for producers of bulk goods (e.g., chemicals, minerals, metals), which *may* reflect additional resource depletion or environmental charges. Regional differences in taxes/fees are greatest for manufacturers of high-value goods (e.g., pharmaceuticals, electronics, telecoms equipment). For manufacturers of such high-value goods, the taxes/fees burden is lowest in the Southeast (3.0 percent) and highest in the Southwest, Northwest, and Central China (6.6-8.7 percent). This may reflect a combination of tax concessions for foreign firms in coastal cities (especially in the Southeast) and a tendency among coastal producers of high-value products to buy inputs – versus a presumed tendency among such producers in interior cities to produce inputs/components in-house and thereby create more value-added subject to VAT. Low average taxes/fees for the Southeast may partly reflect the presence of a disproportionately large number of high-value manufacturers and small number of bulk goods producers.

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<sup>13</sup> Survey data indicate that combined land taxes, real estate taxes, and administrative fees average 0.27 percent of sales for Southeast and Bohai firms, versus 0.45 percent for Northeast firms and 0.60 percent for Northwest firms.

**Table II-4. Average Taxes and Fees Relative to Sales, By Type of Industry**

<u>Type of industry</u>	(in percent)					
	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
All firms	4.1	4.5	5.4	5.0	6.3	5.8
Low-value	3.3	2.4	3.6	3.3	3.2	3.1
Bulk goods	5.0	4.6	5.7	5.7	6.1	6.1
High-value	3.0	5.5	5.6	6.6	8.7	7.8

Note: Low-value includes firms in agricultural and side-line food processing; food production; textile manufacturing; and garments, shoes, and caps. Bulk goods producers include raw chemical materials and chemical products; nonmetal mineral products; and smelting and processing of ferrous metals and/or nonferrous metals. High value includes pharmaceuticals, medical equipment, and electronics and telecoms equipment. These sectors include 6,970 of the 12,400 firms surveyed.

For foreign-invested enterprises (FIEs), the average taxes/fees burden varies modestly (4.2-5.6 percent of sales) across most of China. For the Southeast, however, the taxes/fees burden for FIEs is much lower (2.8 percent). Again, this likely reflects a combination of tax concessions and preferences for outsourcing. Compared with FIEs, the taxes/fees burden tends to be higher for SOEs, especially in the Southwest (7 percent). Small domestically-invested enterprises generally enjoy a lower taxes/fees burden, except in the Southeast where the average for such enterprises (5 percent) is higher than the burden for SOEs (4.6 percent) or for FIEs (2.8 percent). The lower overall average for the Southeast reflects inclusion of a large number of FIEs in the survey sample.

**Table II-5. Average Taxes and Fees Relative to Sales, By Type of Ownership**  
(in percent)

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
State-owned	4.6	4.4	5.2	5.4	7.0	6.2
Foreign-invested	2.8	4.7	5.1	4.2	5.6	4.9
Small domestic	5.0	4.7	4.4	3.9	4.5	4.1

Note: Ownership is based on actual share ownership, rather than enterprise registration. State-owned includes 4,808 firms where >50% of shares are owned by the state or legal person(s). Foreign-invested includes 1,681 firms where >50% of shares are owned by a foreign firm or a firm from Hong Kong, Macau, or Taiwan. Small domestic includes 1,425 firms where >70% of shares are privately owned by domestic investor(s) and with fewer than 100 workers.

While laws and regulations tend to be consistent nationwide, the amount of time enterprise staff must spend interacting with government bureaucracies is not. Reported interactions with four major government bureaucracies (tax administration, public security, environmental protection, and labor and social security) vary widely. For the top 90<sup>th</sup> percentile of surveyed cities, surveyed firms reportedly average 36 days/year or less of bureaucratic interaction. For the bottom 10<sup>th</sup> percentile, the reported average is 87

days or more. On a regional basis, the low “time tax” for Southeast cities is consistent with their pro-business reputation. The similarly low figure for Central cities is somewhat surprising. It is also noteworthy that the average for Northeast cities falls below that for Bohai cities,<sup>14</sup> despite the Northeast’s legacy of greater government intervention in the economy (Table II-6).

From an industry perspective, producers of high-value goods have the most exposure to major bureaucracies) – followed by bulk goods producers – in the Southeast, Bohai, Northeast, and Central. This *may* reflect greater interaction with tax administration which administers various tax preferences. In Southwest and Northwest, bulk goods producers report the most interactions, followed by producers of high-value goods. This may reflect greater interactions on environmental protection. Manufacturers of low-value goods face the least demand from local bureaucracies in all six regions. Thus, the nature of local industry likely has some effect on local bureaucratic behavior and demands.

**Table II-6. Average Annual Bureaucratic Interaction, By Type of Industry**  
(in days)

<u>Type of industry</u>	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
All firms	52	72	63	52	66	78
Low-value	45	61	57	43	48	63
Bulk goods	55	74	65	52	73	74
High-value	63	79	86	59	68	69

In all regions, SOEs face the highest demands for bureaucratic interaction (Table II-7). Demands on FIEs are somewhat lower. Compared with SOEs and FIEs, small domestically-invested firms report the lowest levels of bureaucratic interaction in all six regions. Again, the nature of the local enterprise sector will tend to affect the overall average for this investment climate factor.

**Table II-7. Average Annual Bureaucratic Interaction, By Type of Ownership**  
(in days)

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
State-owned	58	84	74	62	76	89
Foreign-invested	56	71	69	50	60	87
Small domestic	30	45	34	31	43	45

A third measure of government efficiency is firm expenditures on travel and entertainment. Such expenditures can serve as a conduit for informal payments to

<sup>14</sup> Because the survey included only industrial firms and excluded service firms, including financial service firms, the higher figure for Bohai cities does *not* reflect greater regulatory oversight of financial service firms.

officials. Averages reportedly range from 0.7 percent or less of sales revenue in the top 90<sup>th</sup> percentile of cities to 1.9 percent or more of sales revenue in the bottom 10<sup>th</sup> percentile of cities. Regionally, expenditures on entertainment and travel are reported to be lowest in Bohai and Southeast cities and highest in Northeast (Table II-8).

**Table II-8. Average Travel & Entertainment Costs Relative to Sales, By Type of Industry**  
(in percent)

<u>Type of industry</u>	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
All firms	1.0	0.9	1.4	1.2	1.2	1.3
Low-value	0.8	0.5	1.1	0.7	0.8	1.0
Bulk goods	0.9	0.6	1.1	1.1	0.8	1.0
High-value	0.6	1.6	3.0	2.2	3.2	2.7

Compared with similar producers in other regions, Northeast manufacturers of low-value goods and bulk goods spend the most on entertainment and travel. Among manufacturers of high value goods, spending for entertainment and travel in the Southwest and Northeast is 2-5 times higher than among similar firms in the Southeast and Bohai. In general, manufacturers of high-value products appear to spend more on entertainment/travel than do other types of manufacturers. This may reflect valid marketing costs to some extent. The Southeast, where high-value manufacturers spend less than do low-value or bulk goods producers, is an exception. This likely reflects several factors – including a good local investment climate and effective local government, as well as greater prevalence of well-developed brands and integration into global supply chains, the latter reducing requirements for entertainment and travel.

Looking at ownership, small domestically-invested firms typically have the highest rates of expenditure on entertainment and travel (Table II-9). FIEs spend less, and in Southeast and Bohai have the lowest rates of expenditure. Compared with Southeast and Bohai, entertainment/travel costs are about 3x higher for FIEs in the Northwest.

**Table II-9. Average Travel & Entertainment Costs Relative to Sales, By Type of Ownership**  
(in percent)

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
State-owned	1.1	1.0	1.5	1.2	1.2	1.3
Foreign-invested	0.7	0.9	1.5	0.9	1.3	2.3
Small domestic	1.6	1.1	1.5	1.5	1.6	1.8

Another study has found that entertainment and travel expenditures tend to be higher where local government provides poorer service or where the tax burden is higher.<sup>15</sup> This

<sup>15</sup> Cai, Fang, and Xu (2005) also find that higher entertainment/travel expenditures tend to be associated with poorer firm performance and that the “quality” of entertainment/travel expenditures is correlated with corporate governance.

pattern also appears in current survey, especially for Southeast, Central, Southwest, and Northwest cities (Table II-10).

**Table II-10. Informal payments, bureaucracy, taxes & fees**

	Travel & entertainment/ <u>sales</u>	Days of bureaucratic <u>interactions</u>	<u>Taxes &amp; fees/sales</u>
Southeast	1.0%	51.6 days	4.1%
Bohai	0.9	71.9	4.5
Northeast	1.4	63.1	5.4
Central	1.2	51.7	5.0
Southwest	1.2	65.9	6.3
Northwest	1.3	78.3	5.8

Looking at customs clearance, a vital business service provided by government, the survey finds that combined times for export clearance and import clearance average 5.4 days or less in 90<sup>th</sup> percentile cities and 20.4 days or more in 10<sup>th</sup> percentile cities. Regionally, survey data indicate that customs clearance tends to be 33-50 percent faster in Southeast or Bohai cities than in the rest of China (Table II-11).

**Table II-11. Average Days for Customs Clearance,  
By Region, 2005**

	<u>Exports</u>	<u>Imports</u>	<u>Combined</u> <sup>1/</sup>
Southeast	3.5	4.2	7.3
Bohai	4.4	5.0	8.6
Northeast	6.4	8.0	12.6
Central	6.8	8.5	13.8
Southwest	7.4	8.3	14.0
Northwest	9.0	7.8	16.8

<sup>1/</sup> Combined time reflects weighting of responses on exports and imports.

The superior performance of Southeast and Bohai cities in customs clearance appears to extend to all types of industry (Table II-12). Customs clearance times can be surprisingly long for bulk goods and low-value goods in the Northeast, Central, Southwest, and Northwest regions. High-value goods seem to receive more expedited customs clearance in the Southeast, Bohai, and Northeast.

**Table II-12. Average Days for Customs Clearance, Exports & Imports Combined, By Type of Industry**

<u>Type of industry</u>	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
All firms	7.3	8.6	12.6	13.8	14.0	16.8
Low-value	7.9	7.7	15.1	13.1	17.2	16.5
Bulk goods	9.6	10.7	13.8	17.6	15.9	18.1
High-value	4.7	6.6	8.5	13.7	12.6	16.4

SOEs and FIEs in the Southeast and Bohai similarly seem to enjoy faster customs clearance than do similar firms elsewhere in China (Table II-13). Customs clearance often takes the longest for small domestically-invested firms, including in the Southeast where reported average customs clearance time (9.7 days) is slower than times for similar firms in Bohai cities (6.9 days) and Central cities (8.5 days).

**Table II-13. Average Days for Customs Clearance, Exports & Imports Combined, By Type of Ownership**

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
State-owned	8.3	10.1	13.8	14.0	13.4	16.3
Foreign-invested	5.4	6.8	8.4	10.2	8.2	10.1
Small domestic	9.7	6.9	14.4	8.5	22.7	17.1

*Balance between private sector firms and state-owned enterprises.* In each region, three-quarters or more of survey respondents are private-sector firms, either foreign-invested or domestic-invested. Not surprisingly, the proportion of private sector respondents is highest in the Southeast and lowest in the Northeast:

- Southeast 92%
- Bohai 80
- Northeast 71
- Central 82
- Southwest 81
- Northwest 76

Private firms are more numerous, but typically smaller than state-owned enterprises (SOEs). SOEs account for 50-75 percent of industrial sales revenue in Northeast, Central, Southwest, and Northwest provinces (Table II-14).<sup>16</sup> SOEs account for less than

<sup>16</sup> While value-added would be a preferable measure, provincial-level data on the value-added from SOEs is not available.

half of industrial sales revenue in only two regions: the Southeast (23 percent) and Bohai (43 percent).

**Table II-14. State-Owned Enterprise (SOE)  
Share of Industrial Sales Revenue, 2004**

Liaoning	61%
Jilin	76
Heilongjiang	81
<i>Northeast average</i>	73
Beijing	54
Tianjin	39
Shandong	34
Hebei	44
<i>Bohai average</i>	43
Jiangsu	19
Shanghai	40
Zhejiang	12
Fujian	22
Guangdong	20
<i>Southeast average</i>	23
Anhui	59
Henan	47
Hunan	54
Jiangxi	61
Hubei	62
<i>Central average</i>	57
Yunnan	71
Guizhou	68
Guangxi	56
Sichuan	48
Chongqing	52
Hainan	43
<i>Southwest average</i>	56
Shanxi	56
Shaanxi	81
Ningxia	60
Neimengu	58
Qinghai	86
Gansu	81
Xinjiang	83
<i>Northwest average</i>	72

Source: *China Statistical Yearbook, 2005*.

Unable to rely on a soft budget constraint or guaranteed sales, private firms have greater incentives to innovate and respond to market signals. Private firms have significantly

higher rates of investment and returns on investment. Thus, the current survey finds substantially higher returns on capital for private firms:

- Majority state-owned enterprises 7%
- Domestic non-state enterprises 19
- Foreign-invested enterprises 22

Competition among privately owned firms is also more likely to occur on a level playing-field, with resources flowing to the most productive users. SOEs can continue to operate despite their lower efficiency because of preferential access to finance and the possibility of bailout – thereby taking up resources and distorting competition among firms. Cities free from state domination of local industry are likely to be more dynamic and more likely to bolster the investment climate.

*Labor flexibility.* Surveyed firms were asked what share of their workforce they would lay off if no penalties (e.g., severance payments or outright restrictions) were associated with worker redundancy. Reported over-staffing averages were lowest in the Southeast and Bohai and highest in the Northwest and Northeast (Table II-15).

**Table II-15. Average Labor Over-staffing, By Type of Industry**

Type of industry	(in percent)					
	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
All firms	0.9	2.5	3.7	3.3	3.2	4.1
Low-value	0.8	1.8	1.3	2.6	2.6	2.9
Bulk goods	1.4	2.2	4.0	4.1	3.2	4.0
High-value	0.1	2.1	6.2	2.6	1.6	3.2

In all regions, over-staffing tends to be highest among bulk goods producers (Table II-15). These are often SOEs, which also tend to have higher over-staffing (Table II-16). Manufacturers of high-value goods in the Southeast report virtually no over-staffing (0.1 percent). By contrast, high-value manufacturers in the Northeast have the highest reported over-staffing (6.2 percent). In all regions, over-staffing tends to be lowest among FIEs and small domestically-invested enterprises.

**Table II-16. Average Labor Over-staffing, By Type of Ownership**

	<u>Southeast</u>	<u>Bohai</u>	<u>Northeast</u>	<u>Central</u>	<u>Southwest</u>	<u>Northwest</u>
State-owned	1.9	4.0	3.9	5.5	4.2	5.5
Foreign-invested	0.3	0.4	0.5	0.5	1.5	1.0
Small domestic	0.6	0.6	0.9	1.3	1.5	1.0

These patterns may reflect differences in regional demand and state ownership, more than legal or regulatory issues. While China’s laws and regulations on the treatment of labor are stringent, a survey of actual practices in one region indicates that labor laws and

regulations are not consistently enforced.<sup>17</sup> Thus, variations in overstaffing may mainly reflect higher demand for labor in the faster-growing Southeast and Bohai regions; the prevalence of SOEs in the other regions; and a disinclination among SOEs to lay off redundant workers.

*Access to bank loans.* In thinking about access to finance, it is important to distinguish between foreign-invested enterprises (FIEs) or state-owned enterprises (SOEs), which often enjoy preferential access to finance, and private domestically-owned small and medium enterprises (SMEs). Such SMEs may find it difficult to access finance, despite the important role that SMEs may play in providing critical products or services for industrial clusters.

The survey generates some interesting findings:

- Looking just at private domestically-owned businesses with 100 or fewer workers that have bank loans, the average for Southeast cities (43 percent) somewhat lags behind the averages for the slower-growing Southwest (49 percent) and Central region (46 percent) (Table II-17). Given the Southeast's growth rates, SME access to finance is apparently not a problem. Southeast SMEs likely find it easier to meet financing needs from cash flow and other sources (e.g., trade credits, leasing, equity investment)
- But this pattern provides additional evidence of some "stickiness" in bank lending, whereby slower-growth regions (e.g., Central, Southwest) have greater access to finance than what would be expected based on their growth and growth prospects relative to faster-growing regions (i.e., Southeast, Bohai).<sup>18</sup>
- The particularly low level of access to bank loans by Northeast SMEs reflects a broader problem – the de-capitalization of Northeast bank branches by loss-making SOEs.<sup>19</sup> This suggests that unresolved non-performing loans to SOEs make it difficult for Northeast bank branches to lend to SMEs
- Among *all* surveyed firms, 5-10 percent responded affirmatively when asked whether there is a need for informal payments to bank staff in order to obtain loans. The lower average for Southeast firms provides further indication that access to finance is less of an issue in Southeast cities. The high rate for the Northwest (10.4 percent) is consistent with the Northwest's pattern of high taxes

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<sup>17</sup> World Bank, *China: Facilitating Investment and Innovation: A Market-Oriented Approach to Northeast Revitalization*, Report 34943-CN, 15 February 2006, p. 63.

<sup>18</sup> World Bank, *China: Integration of National Product and Factor Markets – Economic Costs and Policy Recommendations*, 13 June 2005, pp. 50-3.

<sup>19</sup> Bad assets (e.g., un-saleable inventory, uncollectible receivables) accounted for 31-37 percent of the assets of locally-administered industrial SOE assets in the three Northeast provinces at end-2003, versus just 4 percent for Zhejiang and 14 percent for Guangdong. Bad assets of locally-administered SOEs totaled RMB 307 billion at end-2003, while their liabilities totaled RMB 765 billion, which – since bank debts may account for 60-70 percent of SOE liabilities – could include RMB 500 billion or so of bank debt. The implication is that perhaps 60 percent of loans to locally-administered SOEs in the Northeast were non-performing as of end-2003. World Bank, *China: Facilitating Investment and Innovation: A Market-Oriented Approach to Northeast Revitalization*, Report 34943-CN, 15 February 2006, pp. 14-17.

and fees, high firm expenditures on travel and entertainment, high time demands by government bureaucracy, and slow customs clearance – a key service.

**Table II-17. Access to Finance by Region, 2004**

	<u>Small domestic-private firms with bank loans</u>	<u>Expectation of need for informal payment to obtain bank loans</u>
Southeast	43.3%	4.9%
Bohai	51.2	6.6
Northeast	24.8	5.6
Central	45.7	9.9
Southwest	48.5	5.8
Northwest	39.7	10.4

Much of the previous discussion suggests that SOEs tend to crowd out private sector development. Many less-competitive SOEs in lagging regions (e.g., the Northeast) with high excess capacity may be kept on financial “life support.” Distressed SOEs may be overly willing to sell at low prices in order to cover variable costs (e.g., suppliers, utilities, labor). Investing little or nothing in R&D, modern facilities, product development, or “soft” supply chain assets, SOEs are less able to compete in terms of product quality, brand recognition, flexible production, responsive delivery, or after-sales service. Hence, SOEs may tend to rely too much on price competition. Especially if customers are less-discriminating, excessive price competition will tend to depress profit opportunities for other more-competitive firms. Lastly, especially in the Northeast, SOEs likely crowd out private sector access to finance.

*Skills and technology.* Evidence of the impact of human resource endowments on investment is mixed. On the one hand, some observers note that the Southeast developed rapidly without much of a starting HR endowment,<sup>20</sup> while the Northeast and Northwest have lagged despite higher education and technology levels. The current survey shows, for instance, that percentages of workers with a university education are highest in the North and lowest in the Southeast (Table II-18).

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<sup>20</sup> For instance, Shenzhen has grown from a small fishing village of 20,000 in the late 1970s to a megalopolis whose total population (migrants included) may now exceed 10 million.

**Table II-18. University-educated Workers,  
Among Surveyed Firms**  
(in percent)

Southeast	15.3
Bohai	20.3
Northeast	22.5
Central	17.2
Southwest	19.9
Northwest	20.2

As a result of the relative slowness of SOE reform in the Northeast, the educational advantage of Northeast workers has likely been under-utilized. By contrast, given appropriate policies, the Southeast has grown more rapidly since the early 1990s with a lesser (albeit adequate) supply of trained and technical personnel.

*Protection of property and contract rights.* The survey asks about the likelihood that the responding firms' property and contract rights would be protected and enforced. Firms' confidence seems highest in Bohai and the Southeast and lowest in the Northwest (Table II-19).

**Table II-19. Expectations for Protection of Property and Contract Rights**  
(in percent)

Southeast	66
Bohai	68
Northeast	56
Central	64
Southwest	61
Northwest	46

The survey tried to determine whether local parties to a commercial dispute enjoy an advantage over non-local firms, but results from the current survey are inconclusive. An earlier study found evidence of local protectionism, arising from administrative decrees ostensibly designed for other purposes.<sup>21</sup> A more recent 2003 survey of 3,500 firms nationwide highlighted the following "legal protectionism" concerns as relatively common:

- Reluctance of local courts to respond to commercial lawsuits brought by firms from outside the province;
- Tendency of courts to favor local firms in judicial proceedings;
- Passivity of local courts in enforcing judgments against local firms in favor of firms from outside the province;

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<sup>21</sup> C. Bai, Y. Du, Z. Tao, S. Tong, "Local Protectionism and Regional Specialization: Evidence from China's Industries," *Journal of International Economics*, 2003, pp. 3-6, 19. This study, however, analyzed data from 1985-1997.

- Preferential treatment toward local construction companies in government contract awards; and
- Unwillingness of local authorities to protect the intellectual property of firms from outside the province.<sup>22</sup>

Thus, concerns about local protectionism or fair treatment by the legal system in another city or province may still discourage firms from investing or doing business elsewhere in China.

*Adequacy of power and transport.* Respondents were asked about output losses due to inadequate power or transport infrastructure. Consistent with news reports and popular expectations, the survey found that reported output losses are lowest in the Northeast and Bohai and highest in the South (Table II-20).

**Table II-20. Reported Output Losses Due to Inadequate Power or Transport Infrastructure**  
(in percent)

Southeast	3.1
Bohai	1.4
Northeast	0.9
Central	2.4
Southwest	5.6
Northwest	3.0

### **C. PROGRESS TOWARD A HARMONIOUS SOCIETY**

Progress toward a harmonious society tends to be correlated with government efforts to achieve a good investment climate, as indicated by regional differences in the environment, health, and education.

*Environment.* Air quality tends to be best in the South and worst in the Northwest (Table II-21). The latter likely reflects a combination of climate and industrial emissions, including from extractive industries. The proportion of industrial waste disposals meeting environmental standards tends to be lower outside China's coastal cities. Average per capita green space, another measure of urban quality of life, is relatively similar among coastal, central, and southern cities, but somewhat low in the Northeast and Northwest.

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<sup>22</sup> World Bank, *China: Integration of National Product and Factor Markets*, 2005, pp. 15-20.

**Table II-21. Environmental Indicators**

<u>Region</u>	<u>Days with good or excellent air quality</u>	<u>Industrial waste disposals meeting environmental standards</u>	<u>Green space per capita</u> (square meters)
Southeast	86%	96%	9.5
Bohai	83	98	10.7
Northeast	81	92	6.8
Central	80	88	10.4
Southwest	89	87	9.6
Northwest	69	88	6.7

*Health.* Health insurance coverage for permanent workers appears relatively high in the Southeast and Southwest (Table II-22). The former may reflect faster economic growth and greater competition for labor. Regional averages for infant mortality closely correspond with both broad and narrow investment climate indicators.

**Table II-22. Health Indicators**

	<u>Permanent workers with health insurance</u>	<u>Infant mortality per 1000</u>
Southeast	78%	7.4
Bohai	70	7.9
Northeast	69	8.2
Central	64	11.7
Southwest	76	12.6
Northwest	66	14.4

*Education.* Regional averages for female share in total school enrollment do not vary much (Table II-23). Per capita expenditures on education are highest in Southeast and about 40 percent lower in the Northeast and Southwest, which are the lowest-ranking regions.

**Table II-23. Education Indicators**

<u>Region</u>	<u>Per capita expenditures on education (RMB)</u>	<u>Female enrollment</u>
Southeast	715	46%
Bohai	593	47
Northeast	425	49
Central	690	46
Southwest	457	47
Northwest	538	48

### III. CITY RANKINGS

The potential investor selecting a site from among alternative cities would typically consider a broad set of factors – including city characteristics (e.g., per capita GDP, coastal access and transport costs), local government effectiveness and efficiency, and local quality of life (e.g., environment, health care). This section provides city rankings for overall investment climate, government effectiveness, and progress toward a harmonious society.

#### A. OVERALL INVESTMENT CLIMATE

Both common experience and survey data suggest that domestic firms and foreign firms are sensitive to somewhat different sets of investment climate issues. For instance, in China we would expect domestic firms to be more sensitive to taxes, local bureaucracy, corruption, and access to finance; and foreign firms to be more sensitive to transport costs, customs clearance, quality of local management, and urban quality of life. These expectations are confirmed by survey data (see Table B-1, Annex B). Hence, the discussion here uses a ranking based on total factor productivity (TFP) to indicate the investment climate for domestic firms (Table III-1) and a ranking based on foreign ownership to indicate the investment climate for foreign firms (Table III-2).

The quintile of cities ranked highest for investment climate for domestic firms includes, not surprisingly, twenty coastal cities (14 Southeast, 5 Bohai Bay, and the Northeast city of Dalian) (Table III-1). But the top quintile also includes four inland cities (1 Northeast, two Central, and 1 Southwest), which indicates that *location and transport costs are not necessarily critical for domestic firms*.

No Southeast cities are in the quintile of cities ranked lowest for investment climate for domestic firms. Included are 12 cities from Central, 6 from Northwest, and 2 each from around Bohai Bay, Northeast, and Southwest. All cities in the lowest domestic investment climate quintile are located inland.

**Table III-1. Investment Climate for Domestic Firms,  
City Rankings**

<i>Rank</i>	<i>City</i>	<i>Expected TFP Gain</i>	<i>Lower bound at 95% confidence</i>	<i>Upper bound at 95% confidence</i>	<i>Standard error</i>
1	beijing	0.038	-0.021	0.097	0.03
2	hangzhou	0.096	0.038	0.154	0.03
3	suzhou	0.105	0.061	0.149	0.023
4	guangzhou	0.150	0.091	0.209	0.03
5	dalian	0.213	0.168	0.257	0.023
6	shanghai	0.233	0.178	0.289	0.028
7	shenzhen	0.266	0.180	0.353	0.044
8	dongguan	0.292	0.223	0.362	0.035
9	tianjin	0.327	0.279	0.376	0.025
10	yantai	0.335	0.298	0.373	0.019
11	jiangmen	0.351	0.306	0.396	0.023
12	qingdao	0.358	0.318	0.398	0.020
13	nanjing	0.359	0.275	0.444	0.043
14	chengdu	0.369	0.305	0.433	0.033
15	xiamen	0.370	0.303	0.436	0.034
16	ningbo	0.370	0.323	0.417	0.024
17	zibo	0.392	0.341	0.442	0.026
18	wuxi	0.397	0.342	0.452	0.028
19	wuhan	0.397	0.328	0.467	0.035
20	foshan	0.400	0.349	0.451	0.026
21	hefei	0.417	0.359	0.474	0.029
22	shenyang	0.444	0.392	0.496	0.026
23	shaoxing	0.450	0.396	0.505	0.028
24	fuzhou	0.454	0.404	0.504	0.026
25	jinan	0.455	0.394	0.516	0.031
26	chongqing	0.458	0.371	0.545	0.044
27	nanchang	0.459	0.394	0.524	0.033
28	nantong	0.459	0.407	0.512	0.027
29	jinhua	0.462	0.400	0.523	0.031
30	weihai	0.465	0.404	0.525	0.031
31	huizhou	0.469	0.42	0.518	0.025
32	haerbing	0.475	0.415	0.534	0.03
33	xian	0.48	0.412	0.547	0.034
34	changchun	0.481	0.428	0.534	0.027
35	taian	0.497	0.432	0.562	0.033
36	liny	0.498	0.425	0.57	0.037
37	changzhou	0.504	0.453	0.556	0.026
38	huzhou	0.505	0.446	0.565	0.03
39	zhengzhou	0.506	0.458	0.554	0.025
40	shijiazhuang	0.515	0.463	0.568	0.027
41	taizhou	0.525	0.458	0.593	0.034
42	weifang	0.529	0.477	0.581	0.026
43	tangshan	0.532	0.478	0.586	0.027
44	zhuhai	0.547	0.464	0.63	0.042
45	changsha	0.548	0.471	0.624	0.039

46	quanzhou	0.548	0.497	0.6	0.026
47	jiaxing	0.551	0.484	0.618	0.034
48	qinhuangdao	0.551	0.49	0.612	0.031
49	zhangzhou	0.56	0.506	0.615	0.028
50	langfang	0.562	0.505	0.619	0.029
51	jining	0.57	0.517	0.624	0.027
52	guiyang	0.577	0.517	0.637	0.031
53	haikou	0.578	0.468	0.688	0.056
54	lianyungang	0.587	0.499	0.676	0.045
55	kunming	0.596	0.516	0.675	0.04
56	wenzhou	0.604	0.514	0.694	0.046
57	huhehaote	0.605	0.539	0.672	0.034
58	liuzhou	0.616	0.552	0.681	0.033
59	maoming	0.626	0.56	0.691	0.034
60	xuzhou	0.626	0.559	0.693	0.034
61	xianyang	0.626	0.561	0.691	0.033
62	baoding	0.631	0.566	0.697	0.033
63	guilin	0.632	0.578	0.685	0.027
64	shantou	0.634	0.561	0.707	0.037
65	yichang	0.638	0.582	0.694	0.028
66	jinzhou	0.64	0.58	0.699	0.03
67	nanning	0.642	0.578	0.707	0.033
68	taiyuan	0.643	0.569	0.717	0.038
69	daqing	0.647	0.579	0.714	0.034
70	deyang	0.652	0.583	0.722	0.035
71	yangzhou	0.655	0.595	0.715	0.031
72	anshan	0.66	0.59	0.73	0.036
73	wuhu	0.662	0.603	0.722	0.03
74	mianyang	0.672	0.602	0.742	0.036
75	zhoukou	0.677	0.605	0.75	0.037
76	baotou	0.679	0.592	0.766	0.044
77	yinchuan	0.684	0.615	0.752	0.035
78	yancheng	0.694	0.63	0.757	0.033
79	yueyang	0.704	0.608	0.8	0.049
80	sanming	0.708	0.645	0.772	0.032
81	jingzhou	0.71	0.648	0.771	0.031
82	jilin	0.712	0.65	0.774	0.032
83	xiangfan	0.715	0.656	0.775	0.03
84	yuxi	0.728	0.656	0.801	0.037
85	jingmen	0.732	0.673	0.791	0.03
86	cangzhou	0.733	0.665	0.801	0.035
87	shangqiu	0.735	0.668	0.802	0.034
88	nanyang	0.735	0.645	0.825	0.046
89	shangrao	0.742	0.663	0.821	0.04
90	leshan	0.749	0.675	0.823	0.038
91	fushun	0.75	0.683	0.817	0.034
92	changde	0.752	0.694	0.811	0.03
93	wulumuqi	0.757	0.647	0.866	0.056
94	qujing	0.757	0.687	0.827	0.036
95	baoji	0.758	0.693	0.824	0.033

96	luoyang	0.762	0.681	0.842	0.041
97	yuncheng	0.762	0.688	0.836	0.038
98	qiqihaer	0.765	0.703	0.826	0.031
99	handan	0.769	0.697	0.842	0.037
100	ganzhou	0.779	0.707	0.851	0.037
101	lanzhou	0.789	0.704	0.875	0.044
102	xuchang	0.799	0.735	0.862	0.032
103	zhuzhou	0.799	0.716	0.882	0.042
104	chuzhou	0.801	0.738	0.864	0.032
105	chenzhou	0.802	0.741	0.863	0.031
106	zhangjiakou	0.808	0.74	0.876	0.035
107	anqing	0.809	0.744	0.874	0.033
108	zunyi	0.813	0.727	0.899	0.044
109	xiaogan	0.824	0.757	0.892	0.034
110	xining	0.826	0.746	0.907	0.041
111	xinxiang	0.831	0.728	0.933	0.052
112	jiujiang	0.851	0.781	0.921	0.036
113	datong	0.853	0.768	0.938	0.043
114	wuzhong	0.863	0.787	0.94	0.039
115	yibin	0.873	0.779	0.966	0.048
116	yichun	0.876	0.815	0.937	0.031
117	hengyang	0.878	0.798	0.959	0.041
118	benxi	0.922	0.844	1	0.04
119	tianshui	0.998	0.888	1.109	0.056
120	huanggang	1.088	1.005	1.171	0.042

Note: Results expressed in percentage points of TFP gain.

The quintile of cities ranked highest for investment climate for foreign firms includes only coastal cities – 17 in Southeast, 5 around Bohai Bay, 1 Northeast, and Haikou in Southwest (Table III-2). This is consistent with the apparent importance of transport costs and coastal access to foreign firms.

The lowest-ranked quintile includes only inland cities – 10 in Central, 8 in Northwest, 5 in Southwest, and 1 in Northeast. No Southeast or Bohai cities are in the lowest quintile.

**Table III-2. Investment Climate for Foreign Firms,  
City Rankings**

<i>Rank</i>	<i>City</i>	<i>Expected Foreign Ownership Gain</i>	<i>Lower bound at 95% confidence</i>	<i>Upper bound at 95% confidence</i>	<i>Standard error</i>
1	dongguan	-0.095	-0.120	-0.071	0.012
2	shenzhen	-0.094	-0.125	-0.064	0.016
3	suzhou	-0.060	-0.075	-0.044	0.008
4	zhuhai	-0.059	-0.091	-0.028	0.016
5	huizhou	-0.057	-0.080	-0.035	0.011

6	foshan	-0.022	-0.042	-0.003	0.010
7	qingdao	-0.005	-0.022	0.011	0.009
8	jiangmen	-0.001	-0.022	0.020	0.011
9	xiamen	0.005	-0.021	0.030	0.013
10	guangzhou	0.005	-0.015	0.026	0.010
11	dalian	0.005	-0.010	0.021	0.008
12	weihai	0.007	-0.018	0.031	0.012
13	hangzhou	0.009	-0.012	0.030	0.011
14	shantou	0.046	0.016	0.076	0.016
15	yantai	0.057	0.044	0.071	0.007
16	shaoxing	0.059	0.038	0.080	0.011
17	shanghai	0.060	0.042	0.079	0.010
18	ningbo	0.087	0.070	0.104	0.009
19	tianjin	0.094	0.080	0.109	0.007
20	fuzhou	0.106	0.088	0.124	0.009
21	nanjing	0.125	0.089	0.161	0.018
22	haikou	0.127	0.080	0.174	0.024
23	beijing	0.129	0.109	0.150	0.010
24	wuxi	0.133	0.111	0.154	0.011
25	zibo	0.135	0.117	0.153	0.009
26	weifang	0.136	0.117	0.156	0.010
27	nantong	0.145	0.126	0.163	0.010
28	tangshan	0.145	0.126	0.164	0.010
29	zhangzhou	0.145	0.124	0.167	0.011
30	daqing	0.150	0.131	0.170	0.010
31	langfang	0.153	0.133	0.174	0.010
32	maoming	0.157	0.133	0.180	0.012
33	huzhou	0.159	0.136	0.181	0.011
34	nanchang	0.160	0.137	0.184	0.012
35	quanzhou	0.161	0.142	0.180	0.010
36	ganzhou	0.165	0.137	0.192	0.014
37	qinhuangdao	0.167	0.145	0.189	0.011
38	lianyungang	0.169	0.130	0.207	0.020
39	changzhou	0.169	0.150	0.189	0.010
40	jiaxing	0.177	0.150	0.205	0.014
41	shijiazhuang	0.178	0.160	0.195	0.009
42	xuchang	0.178	0.152	0.204	0.013
43	shenyang	0.179	0.162	0.197	0.009
44	taian	0.181	0.156	0.205	0.012
45	jinan	0.186	0.166	0.205	0.010
46	kunming	0.187	0.158	0.217	0.015
47	jining	0.192	0.173	0.212	0.010
48	taizhou	0.193	0.168	0.218	0.013
49	hefei	0.195	0.173	0.216	0.011
50	baotou	0.201	0.171	0.232	0.016
51	linyi	0.203	0.176	0.229	0.013
52	jinhua	0.204	0.181	0.226	0.011
53	changchun	0.205	0.188	0.222	0.009
54	jingmen	0.209	0.185	0.232	0.012
55	anshan	0.212	0.186	0.238	0.013

56	huhehaote	0.213	0.190	0.236	0.012
57	shangrao	0.214	0.184	0.244	0.015
58	yangzhou	0.214	0.192	0.236	0.011
59	wuhan	0.214	0.191	0.237	0.012
60	zhengzhou	0.217	0.200	0.234	0.009
61	wuhu	0.222	0.197	0.246	0.012
62	jinzhou	0.222	0.198	0.246	0.012
63	fushun	0.227	0.203	0.250	0.012
64	guilin	0.236	0.216	0.255	0.010
65	shangqiu	0.236	0.212	0.260	0.012
66	sanming	0.239	0.215	0.262	0.012
67	nanning	0.240	0.218	0.262	0.011
68	chengdu	0.240	0.218	0.262	0.011
69	jiujiang	0.243	0.217	0.268	0.013
70	xian	0.244	0.221	0.267	0.012
71	deyang	0.245	0.221	0.270	0.013
72	zhoukou	0.247	0.221	0.274	0.014
73	yuxi	0.248	0.222	0.273	0.013
74	guiyang	0.250	0.227	0.273	0.012
75	baoding	0.250	0.228	0.272	0.011
76	xuzhou	0.252	0.230	0.275	0.011
77	xianyang	0.255	0.231	0.278	0.012
78	xiangfan	0.255	0.232	0.279	0.012
79	anqing	0.265	0.240	0.291	0.013
80	cangzhou	0.266	0.242	0.290	0.012
81	haerbin	0.267	0.247	0.288	0.010
82	wulumuqi	0.268	0.232	0.303	0.018
83	chuzhou	0.274	0.249	0.299	0.013
84	liuzhou	0.277	0.252	0.302	0.013
85	jilin	0.279	0.258	0.299	0.010
86	yichun	0.280	0.256	0.305	0.012
87	yichang	0.284	0.262	0.306	0.011
88	qiqihaer	0.287	0.263	0.309	0.012
89	jingzhou	0.288	0.263	0.312	0.012
90	wenzhou	0.289	0.258	0.319	0.016
91	hengyang	0.295	0.267	0.323	0.014
92	taiyuan	0.295	0.268	0.322	0.014
93	handan	0.300	0.275	0.326	0.013
94	xiaogan	0.301	0.274	0.328	0.014
95	yancheng	0.301	0.277	0.326	0.012
96	zhangjiakou	0.302	0.277	0.327	0.013
97	changsha	0.306	0.279	0.333	0.014
98	chongqing	0.306	0.274	0.339	0.016
99	wuzhong	0.307	0.277	0.338	0.016
100	yueyang	0.313	0.279	0.347	0.017
101	baoji	0.314	0.289	0.340	0.013
102	qujing	0.315	0.289	0.342	0.013
103	lanzhou	0.322	0.292	0.352	0.016
104	xinxiang	0.324	0.286	0.361	0.019
105	changde	0.326	0.303	0.350	0.012

106	luoyang	0.334	0.307	0.361	0.014
107	mianyang	0.336	0.310	0.362	0.013
108	zhuzhou	0.339	0.308	0.369	0.016
109	yinchuan	0.354	0.325	0.384	0.015
110	yuncheng	0.355	0.327	0.383	0.014
111	leshan	0.360	0.331	0.389	0.015
112	xining	0.361	0.333	0.389	0.015
113	datong	0.366	0.336	0.396	0.015
114	chenzhou	0.372	0.345	0.399	0.014
115	benxi	0.380	0.346	0.414	0.017
116	tianshui	0.402	0.363	0.442	0.020
117	nanyang	0.403	0.372	0.433	0.016
118	zunyi	0.414	0.381	0.446	0.016
119	yibin	0.427	0.392	0.462	0.018
120	huanggang	0.440	0.408	0.472	0.016

Note: Presented as percentage point change in foreign ownership. Reflects application of a 0.317 standard deviation in foreign ownership to standardized results in Table B-4.

## B. GOVERNMENT EFFECTIVENESS

Analysis of survey data shows a statistically significant relationship between several measures of government effectiveness – extent of state vs. private ownership, burden from taxes/fees, labor redundancy, travel/entertainment expenditures, access to bank loans, bureaucratic time demands, and customs clearance – and firm productivity or foreign ownership.<sup>23</sup>

The quintile of cities ranked highest for government effectiveness vis-a-vis domestic firms includes mostly coastal cities – 13 Southeast, 7 Bohai Bay, and 1 Northeast. But this highest quintile also includes three inland cities – 2 Southwest and 1 Central (Table III-3). Thus, *an inland location does not necessarily preclude effective government outreach to domestic businesses.*

The quintile of cities ranked lowest for government effectiveness vis-a-vis domestic firms includes cities from all regions – 7 Central, 7 Northwest, 6 Northeast, 2 Southwest (including Haikou), 1 Bohai, and 1 Southeast.

**Table III-3. Government Effectiveness vis-a-vis Domestic Firms, City Rankings**

<u>Rank</u>	<u>City</u>	<u>Expected TFP gain</u>	<u>Lower bound at 95% confidence</u>	<u>Upper bound at 95% confidence</u>	<u>Standard error</u>
1	linyi	-0.018	-0.036	0	0.009
2	jiangmen	-0.013	-0.032	0.007	0.01
3	hangzhou	-0.005	-0.02	0.01	0.008
4	weihai	-0.004	-0.014	0.006	0.005
5	suzhou	0	-0.017	0.017	0.009

<sup>23</sup> See Table B-1 in Annex B.

6	jiaxing	0.034	0.022	0.047	0.006
7	yantai	0.037	0.024	0.049	0.006
8	huzhou	0.041	0.03	0.053	0.006
9	zibo	0.042	0.022	0.061	0.01
10	zhangzhou	0.053	0.04	0.065	0.006
11	jinhua	0.053	0.032	0.073	0.01
12	qingdao	0.055	0.043	0.067	0.006
13	xiamen	0.057	0.035	0.079	0.011
14	leshan	0.06	0.047	0.074	0.007
15	nantong	0.062	0.04	0.085	0.011
16	weifang	0.063	0.042	0.085	0.011
17	taian	0.063	0.049	0.078	0.007
18	dalian	0.065	0.038	0.092	0.014
19	shaoxing	0.066	0.053	0.08	0.007
20	ningbo	0.07	0.05	0.089	0.01
21	fuzhou	0.074	0.06	0.088	0.007
22	deyang	0.077	0.062	0.092	0.007
23	wuxi	0.077	0.061	0.093	0.008
24	shangqiu	0.083	0.061	0.105	0.011
25	zhoukou	0.085	0.069	0.102	0.008
26	tangshan	0.087	0.063	0.112	0.012
27	langfang	0.088	0.069	0.107	0.01
28	jining	0.089	0.074	0.104	0.007
29	dongguan	0.089	0.058	0.12	0.016
30	guangzhou	0.094	0.066	0.121	0.014
31	foshan	0.094	0.075	0.113	0.01
32	shantou	0.095	0.08	0.111	0.008
33	nanchang	0.097	0.081	0.113	0.008
34	huizhou	0.101	0.074	0.128	0.014
35	shangrao	0.101	0.081	0.12	0.01
36	shenzhen	0.102	0.062	0.142	0.02
37	changzhou	0.102	0.083	0.122	0.01
38	hefei	0.106	0.081	0.131	0.013
39	sanming	0.11	0.094	0.126	0.008
40	quanzhou	0.114	0.096	0.132	0.009
41	yinchuan	0.114	0.09	0.138	0.012
42	jingzhou	0.118	0.097	0.139	0.011
43	taizhou	0.12	0.094	0.146	0.013
44	maoming	0.122	0.103	0.142	0.01
45	zhengzhou	0.123	0.105	0.14	0.009
46	mianyang	0.125	0.105	0.145	0.01
47	chongqing	0.125	0.102	0.148	0.012
48	yangzhou	0.125	0.104	0.146	0.011
49	wuzhong	0.129	0.111	0.147	0.009
50	xuchang	0.129	0.108	0.151	0.011
51	wenzhou	0.13	0.104	0.155	0.013
52	jinan	0.132	0.112	0.151	0.01
53	wuhu	0.132	0.112	0.153	0.01
54	qinhuangdao	0.134	0.103	0.164	0.015
55	yibin	0.134	0.11	0.159	0.013

56	shijiazhuang	0.135	0.108	0.163	0.014
57	jingmen	0.135	0.113	0.157	0.011
58	anqing	0.135	0.113	0.157	0.011
59	yichang	0.136	0.113	0.159	0.012
60	kunming	0.137	0.103	0.171	0.017
61	lianyungang	0.14	0.119	0.161	0.011
62	yuncheng	0.141	0.113	0.169	0.014
63	yueyang	0.141	0.114	0.169	0.014
64	chengdu	0.143	0.114	0.172	0.015
65	yancheng	0.145	0.114	0.175	0.016
66	baoji	0.146	0.12	0.172	0.013
67	cangzhou	0.151	0.122	0.18	0.015
68	liuzhou	0.151	0.129	0.173	0.011
69	xiangfan	0.152	0.126	0.177	0.013
70	nanyang	0.158	0.131	0.185	0.014
71	chuzhou	0.158	0.127	0.189	0.016
72	beijing	0.159	0.128	0.19	0.016
73	jinzhou	0.162	0.138	0.186	0.012
74	baoding	0.167	0.137	0.197	0.015
75	anshan	0.168	0.136	0.2	0.016
76	ganzhou	0.17	0.143	0.197	0.014
77	shanghai	0.172	0.144	0.2	0.014
78	wuhan	0.172	0.134	0.21	0.019
79	yuxi	0.182	0.152	0.213	0.016
80	qujing	0.184	0.155	0.213	0.015
81	zhuhai	0.189	0.148	0.23	0.021
82	nanjing	0.191	0.158	0.225	0.017
83	xiaogan	0.194	0.163	0.225	0.016
84	xianyang	0.197	0.16	0.233	0.019
85	guilin	0.199	0.171	0.227	0.014
86	xinxiang	0.199	0.168	0.231	0.016
87	guiyang	0.203	0.164	0.242	0.02
88	chenzhou	0.204	0.175	0.233	0.015
89	jiujiang	0.204	0.175	0.233	0.015
90	huhehaote	0.207	0.164	0.25	0.022
91	lanzhou	0.209	0.17	0.247	0.02
92	tianjin	0.211	0.174	0.249	0.019
93	zhangjiakou	0.217	0.177	0.256	0.02
94	changchun	0.218	0.184	0.253	0.018
95	qiqihaer	0.219	0.178	0.26	0.021
96	zunyi	0.222	0.184	0.261	0.02
97	taiyuan	0.228	0.186	0.271	0.022
98	yichun	0.232	0.199	0.264	0.017
99	shenyang	0.232	0.195	0.269	0.019
100	handan	0.235	0.191	0.278	0.022
101	xining	0.237	0.2	0.274	0.019
102	changde	0.239	0.201	0.277	0.019
103	xuzhou	0.239	0.204	0.275	0.018
104	changsha	0.241	0.196	0.286	0.023
105	jilin	0.246	0.208	0.284	0.019

106	fushun	0.248	0.213	0.283	0.018
107	luoyang	0.249	0.208	0.289	0.021
108	xian	0.251	0.201	0.3	0.025
109	nanning	0.257	0.22	0.294	0.019
110	datong	0.26	0.217	0.302	0.021
111	baotou	0.265	0.21	0.32	0.028
112	tianshui	0.266	0.226	0.307	0.021
113	wulumuqi	0.267	0.226	0.307	0.021
114	hengyang	0.291	0.24	0.342	0.026
115	haerbing	0.3	0.247	0.353	0.027
116	benxi	0.303	0.258	0.348	0.023
117	zhuzhou	0.316	0.269	0.362	0.024
118	huanggang	0.329	0.285	0.373	0.023
119	haikou	0.336	0.282	0.389	0.027
120	daqing	0.341	0.292	0.391	0.025

Note: Results expressed in percentage points of TFP gain.

The quintile of cities ranked highest for government effectiveness vis-a-vis foreign firms includes mostly coastal cities – 17 Southeast, 3 Bohai Bay, and 1 Northeast. But this highest quintile also includes three inland cities in Central Region (Ganzhou, Yuchang, Nanchang) (Table III-4). Thus *an inland location does not necessarily preclude effective government outreach to foreign businesses.*

The quintile of cities ranked lowest for government effectiveness vis-a-vis foreign firms includes only interior cities – 9 in Central, 7 in Northwest, 5 in Southwest, and 3 in Northeast. No Southeast or Bohai cities are included in this lowest quintile.

**Table III-4. Government Effectiveness vis-a-vis Foreign Firms, City Rankings**

<i>Rank</i>	<i>City</i>	<i>Expected</i>	<i>Lower bound at</i>	<i>Upper bound at</i>	<i>Standard</i>
		<i>Foreign</i>			
		<i>Ownership</i>	<i>95% confidence</i>	<i>95% confidence</i>	<i>error</i>
1	huizhou	-0.078	-0.088	-0.068	0.005
2	dongguan	-0.072	-0.081	-0.063	0.004
3	shenzhen	-0.070	-0.083	-0.057	0.006
4	jiangmen	-0.065	-0.073	-0.056	0.004
5	qingdao	-0.049	-0.057	-0.041	0.004
6	shantou	-0.047	-0.055	-0.040	0.004
7	zhuhai	-0.036	-0.046	-0.026	0.005
8	suzhou	-0.024	-0.031	-0.018	0.003
9	shaoxing	-0.013	-0.018	-0.007	0.003
10	foshan	-0.008	-0.015	-0.002	0.003
11	weihai	-0.004	-0.007	-0.001	0.002
12	hangzhou	0.008	0.003	0.013	0.003
13	ganzhou	0.009	0.005	0.013	0.002
14	guangzhou	0.011	0.003	0.020	0.004
15	maoming	0.012	0.009	0.016	0.002

16	xiamen	0.013	0.007	0.018	0.003
17	dalian	0.016	0.007	0.026	0.005
18	fuzhou	0.028	0.024	0.032	0.002
19	yantai	0.031	0.025	0.036	0.003
20	zhangzhou	0.036	0.030	0.041	0.003
21	xuchang	0.042	0.035	0.049	0.003
22	lianyungang	0.044	0.038	0.050	0.003
23	nantong	0.046	0.037	0.055	0.004
24	nanchang	0.048	0.042	0.054	0.003
25	linyi	0.055	0.046	0.065	0.005
26	shanghai	0.055	0.048	0.063	0.004
27	weifang	0.056	0.046	0.065	0.005
28	langfang	0.063	0.055	0.070	0.004
29	tianjin	0.064	0.052	0.077	0.006
30	taian	0.067	0.058	0.075	0.004
31	jining	0.067	0.059	0.075	0.004
32	beijing	0.068	0.058	0.079	0.005
33	ningbo	0.070	0.061	0.079	0.005
34	tangshan	0.071	0.060	0.082	0.006
35	quanzhou	0.072	0.063	0.081	0.004
36	shangqiu	0.075	0.065	0.085	0.005
37	huzhou	0.075	0.066	0.084	0.004
38	zhoukou	0.078	0.069	0.088	0.005
39	jinan	0.079	0.070	0.088	0.005
40	nanjing	0.082	0.069	0.094	0.006
41	wulumuqi	0.082	0.071	0.093	0.006
42	shijiazhuang	0.082	0.070	0.094	0.006
43	sanming	0.082	0.073	0.092	0.005
44	zibo	0.084	0.074	0.095	0.005
45	yangzhou	0.085	0.074	0.095	0.005
46	anqing	0.085	0.074	0.095	0.005
47	qinhuangdao	0.085	0.074	0.097	0.006
48	jingmen	0.089	0.078	0.100	0.005
49	baoding	0.091	0.079	0.103	0.006
50	jinhua	0.092	0.080	0.103	0.006
51	jinzhou	0.094	0.082	0.106	0.006
52	taizhou	0.094	0.082	0.106	0.006
53	wuzhong	0.094	0.084	0.106	0.006
54	haikou	0.096	0.080	0.112	0.008
55	changzhou	0.096	0.084	0.108	0.006
56	shangrao	0.096	0.084	0.108	0.006
57	xi'an	0.097	0.079	0.114	0.009
58	hefei	0.099	0.086	0.112	0.007
59	deyang	0.099	0.087	0.111	0.006
60	wuxi	0.100	0.088	0.112	0.006
61	fushun	0.101	0.089	0.113	0.006
62	xuzhou	0.103	0.089	0.116	0.007
63	guilin	0.103	0.091	0.115	0.006
64	chengdu	0.103	0.090	0.116	0.007
65	yichun	0.104	0.091	0.118	0.007

66	zhengzhou	0.105	0.093	0.117	0.006
67	chongqing	0.107	0.093	0.120	0.007
68	wenzhou	0.108	0.094	0.121	0.007
69	yuxi	0.109	0.095	0.123	0.007
70	cangzhou	0.109	0.095	0.123	0.007
71	baotou	0.109	0.089	0.129	0.010
72	xiangfan	0.110	0.096	0.123	0.007
73	wuhan	0.110	0.094	0.125	0.008
74	kunming	0.112	0.096	0.127	0.008
75	jiujiang	0.112	0.099	0.125	0.007
76	jingzhou	0.113	0.099	0.126	0.007
77	jiaxing	0.113	0.099	0.126	0.007
78	huhehaote	0.113	0.098	0.128	0.008
79	changchun	0.117	0.103	0.131	0.007
80	shenyang	0.119	0.104	0.134	0.008
81	yueyang	0.124	0.109	0.139	0.008
82	xiaogan	0.125	0.109	0.140	0.008
83	daqing	0.126	0.110	0.141	0.008
84	wuhu	0.128	0.113	0.143	0.008
85	nanning	0.131	0.115	0.146	0.008
86	lanzhou	0.131	0.113	0.148	0.009
87	qiqihaer	0.131	0.114	0.148	0.009
88	handan	0.135	0.116	0.154	0.010
89	hengyang	0.135	0.116	0.153	0.010
90	guiyang	0.139	0.122	0.157	0.009
91	anshan	0.141	0.123	0.159	0.009
92	baoji	0.141	0.124	0.158	0.009
93	zhangjiakou	0.141	0.123	0.159	0.009
94	xinxiang	0.144	0.127	0.161	0.009
95	qujing	0.146	0.128	0.163	0.009
96	chuzhou	0.147	0.129	0.165	0.009
97	luoyang	0.148	0.130	0.166	0.009
98	jilin	0.150	0.133	0.167	0.009
99	xianyang	0.150	0.132	0.169	0.010
100	yuncheng	0.153	0.134	0.172	0.010
101	yancheng	0.153	0.135	0.172	0.010
102	changsha	0.156	0.136	0.176	0.010
103	xining	0.157	0.138	0.175	0.009
104	haerbin	0.157	0.136	0.177	0.010
105	liuzhou	0.159	0.140	0.177	0.010
106	mianyang	0.164	0.145	0.184	0.010
107	leshan	0.165	0.145	0.184	0.010
108	yichang	0.165	0.146	0.185	0.010
109	zhuzhou	0.166	0.146	0.187	0.010
110	taiyuan	0.171	0.149	0.193	0.011
111	changde	0.172	0.152	0.192	0.010
112	datong	0.182	0.160	0.203	0.011
113	yibin	0.183	0.161	0.205	0.011
114	nanyang	0.185	0.163	0.207	0.011
115	tianshui	0.189	0.166	0.210	0.011

116	yinchuan	0.197	0.174	0.222	0.012
117	zunyi	0.209	0.184	0.234	0.013
118	huanggang	0.222	0.197	0.248	0.013
119	chenzhou	0.239	0.210	0.267	0.014
120	benxi	0.276	0.244	0.308	0.016

Note: Presented as percentage point change in foreign ownership. Reflects application of a 0.317 standard deviation in foreign ownership to standardized results in Table B-5.

An overall ranking of government effectiveness for both domestic investors and foreign investors may be developed simply by averaging the TFP and FDI rankings (see Table B-6, in Annex B).

A comparison of rankings for overall investment climate and for government effectiveness suggests that some cities are resting on their inherent advantages, while other cities are actually trying harder. Several cities in the 1<sup>st</sup> quintile for overall investment climate end up in the 3<sup>rd</sup> quintile for government effectiveness: e.g., Beijing, Nanjing, Shanghai, and Tianjin. More admirably, several coastal cities in the 2<sup>nd</sup> quintile for overall investment climate appear in the 1<sup>st</sup> quintile for government effectiveness: e.g., Linyi, Taian, and Weifang.

At the other end of the spectrum, the twenty-four cities ranked lowest for government effectiveness include 9 from the Central region, 6 from the Northwest, 5 from the Northeast, 2 from the Southwest, and 2 from the Bohai Bay region. Of the 13 cities ranked in the lowest quintile for both domestic firm and foreign firm investment climate, 9 are also ranked in the lowest quintile for government effectiveness: Zhuzhou, Chenzhou, Zunyi, Xining, Xinxiang, Datong, Benxi, Tianshui, and Huanggang. Even in this investment climate “cellar,” however, the other four cities are more highly-ranked (in the 3<sup>rd</sup> or 4<sup>th</sup> quintile) for government effectiveness: Yuncheng, Lanzhou, Wuzhong, and Yibin. These cities appear to be trying to make the best of a difficult situation. Other cities are ranked lower for government effectiveness than for investment climate, and thus appear to be making a difficult situation worse. Cities ranked lower for government effectiveness than for overall investment climate (both domestic- and foreign-firm) include the Northeast cities of Daqing, Haerbin, and Jilin; the Northwest cities of Baotou, Xianyang, and Taiyuan; the Central city of Changsha; and the Southwest city of Nanning.

***To encourage local government reforms, it is useful to have objective benchmarks for performance improvements.*** Even among the Top 20 Cities in terms of government effectiveness, not every city is outstanding in every measure (Table III-5). However, a useful and realistic set of benchmarks for government effectiveness could include the following:

- *Total taxes and fees represent 2-4 percent of sales revenue.*
- *Firm expenditures on entertainment and travel represent 0.5-1.0 percent of sales revenue.*

- *Firms interact less than 60 days per year with major bureaucracies (e.g., tax administration, public security, environmental protection, labor and social security).*
- *At least half of small domestically-owned enterprises have access to bank loans.*
- *Less than 5 percent of businesses perceive a need for informal payments to obtain loans.*
- *An export shipment or an import shipment can be cleared through customs in 3 days or less.*
- *Problems with power or transport cost firms less than 1 percent of output.*
- *Firms consider less than 1 percent of their workforce to be redundant.*
- *More than 75 percent of firms expect that the courts will protect legitimate property and contract rights.*
- *15-20 percent of workers are university-educated.*
- *Local industry and commerce is dominated by private (i.e., non-state) enterprises.*

**Table III-5. Top Twenty Cities for Government Effectiveness:  
Objective Performance Measures**

Cities & Rankings	Taxes & fees (%)	Entertainment Costs (%)	Bureaucratic interaction (days)	Private SMEs with bank loans (%)	Expectation of informal payments for loans (%)	Combined times for export & import clearance (days)	Output losses from power or transport (%)	Labor Over-staffing (%)	Confidence in courts (%)	University-educated workers (%)	Private firms surveyed (%)
Jiangmen 2/4	1.1	0.6	43.4	42.9	4.1	3.4	2.2	0.7	94	17	92
Suzhou 5/8	2.5	0.4	70.6	50.0	4.0	4.6	2.2	0.1	93	21	97
Hangzhou 3/12	4.0	0.6	8.1	100.0	2.0	6.2	0.0	0.0	98	26	96
Weihai 4/11	3.1	0.4	49.9	75.0	2.0	4.9	0.5	0.2	83	12	79
Qingdao 12/5	3.5	1.1	35.8	53.1	3.1	4.1	1.1	1.4	95	18	85
Linyi 1/25	2.4	0.4	75.1	81.3	4.1	7.8	1.8	0.7	71	16	89
Yantai 7/19	3.9	0.6	60.7	57.1	6.3	6.5	0.7	2.2	83	19	74
Shaoxing 19/9	4.4	0.8	46.0	48.0	0.0	4.1	4.5	1.7	78	13	93
Xiamen 13/16	2.6	0.6	68.1	25.0	0.0	6.5	3.0	0.0	83	17	98
Zhangzhou 10/20	2.9	1.2	41.4	36.0	6.2	8.8	2.1	0.2	69	13	93
Dongguan 29/2	1.7	0.3	47.8	50.0	3.4	3.1	5.1	0.0	39	12	93
Dalian 18/17	3.1	0.7	91.4	n.m.	2.1	6.7	0.5	1.2	65	26	84
Huizhou 34/1	2.8	0.7	30.9	40.0	6.3	2.9	2.8	0.5	75	13	93
Nantong 15/23	4.0	1.2	74.9	47.6	4.3	7.5	1.4	0.4	75	15	97
Shantou 32/6	3.7	0.7	31.3	42.9	2.2	3.1	0.0	1.1	96	13	94
Fuzhou 21/18	3.4	0.7	45.5	42.3	3.2	6.3	2.6	0.1	76	15	90
Shenzhen 36/3	2.0	0.5	89.6	0.0	4.6	4.0	5.1	0.1	74	17	99
Foshan 31/10	4.6	0.7	67.2	66.7	5.5	5.3	4.1	0.8	53	15	94
Weifang 16/27	3.8	0.7	80.4	50.0	9.6	8.8	0.8	1.0	75	13	91
Guangzhou 30/14	4.3	0.7	84.9	0.00 a/	2.0	6.5	3.8	1.8	61	26	79

Note: Ranking is based on average of TFP-based and FDI-based ranking, as presented in Table B-6 . Notation next to city name indicates TFP ranking/FDI ranking.

*Comparability with previous surveys is extremely limited.* Due to changes in survey method, it is impossible to compare rankings in this 120-city survey with relative rankings in the previous 23-city survey. Because of changes in the wording of survey questions or in ways of evaluating survey data, even objective performance indicators cannot be compared in most cases.

In the case of output losses due to problems with power/transport infrastructure, firm expenditures on entertainment and travel, and taxes/fees burden, however, it is reasonable to make comparisons between findings in the World Bank's 2001/2002 survey of 23 cities and findings for these cities in this 2005 survey (Table III-6):

- It appears that output losses due to power/transport infrastructure shortcomings have increased in about two-thirds of the 23 cities. The increase in losses is particularly large in such Southeast, Central, and Southwest cities as Guangzhou, Chengdu, Changsha, Chongqing, Guiyang, Jiangmen, Kunming, Nanning, Shenzhen, and Wenzhou. This presumably reflects the inability of local power and transport infrastructure to keep up with these regions' surge in economic activity and growth.
- In almost all of the 23 cities, firms appear to be spending less on entertainment and travel. This *may* indicate greater transparency in government (i.e., fewer informal payments by business) as well as a more mature business environment.
- In almost half the previously-surveyed cities, firms report that taxes/fees relative to sales have increased. The rise in taxes/fees burden appears especially sharp in Beijing, Chengdu, Guangzhou, Shanghai, and Tianjin – although the absolute burden is not extreme in comparison with the suggested 4 percent maximum benchmark. Firms report lower taxes/fees in several Northeast cities – Benxi, Dalian, and Haerbin. Already high in 2002, taxes/fees in Guiyang are reported to have increased further to 8.1 percent of sales.

**Table III-6. Comparison of 2001/2 vs. 2004 Objective Performance For 23 Cities, Selected Measures**

	<u>Output Losses Due to Infrastructure</u>			<u>Entertainment &amp; Travel vs. Sales</u>			<u>Taxes/fees vs. sales</u>		
	2001/2	2004	change	2001/2	2004	change	2001/2	2004	change
Beijing	2.0	1.6	-0.4	3.4	1.2	-2.2	1.6	5.2	<b>3.6</b>
Chengdu	1.6	5.3	<b>3.7</b>	3.6	1.6	-2.0	2.1	5.1	<b>3.0</b>
Guangzhou	2.1	4.4	<b>2.3</b>	0.4	0.7	<b>0.3</b>	0.8	4.3	<b>3.5</b>
Shanghai	1.4	2.3	<b>0.9</b>	3.5	1.3	-2.2	0.7	5.4	<b>4.7</b>
Tianjin	1.8	1.4	-0.4	1.1	1.2	<b>0.1</b>	1.3	6.3	<b>5.0</b>
Benxi	1.2	1.6	<b>0.4</b>	2.8	1.6	-1.2	9.6	6.3	-3.3
Changchun	1.7	0.3	-1.4	3.4	1.6	-1.8	5.5	6.8	<b>1.3</b>
Changsha	1.6	7.8	<b>6.2</b>	1.7	2.3	<b>0.6</b>	8.3	6.8	-1.5
Chongqing	0.6	3.4	<b>2.8</b>	3.2	0.7	-2.5	5.1	5.1	0.0
Dalian	0.4	0.7	<b>0.3</b>	2.6	0.7	-1.9	7.4	3.2	-4.2
Guiyang	4.1	7.0	<b>2.9</b>	3.3	1.8	-1.5	7.8	8.1	<b>0.3</b>
Haerbin	2.2	1.9	-0.3	4.6	1.9	-2.7	8.6	5.4	-3.2

Hangzhou	0.2	0.0	-0.2	3.5	0.6	-2.9	7.3	4.0	-3.3
Jiangmen	1.4	3.5	<b>2.1</b>	1.5	0.6	-0.9	5.8	1.1	-4.7
Kunming	4.4	9.5	<b>5.1</b>	1.9	1.1	-0.8	7.7	5.9	-1.8
Lanzhou	1.5	2.9	<b>1.4</b>	2.4	1.0	-1.4	7.6	5.9	-1.7
Nanchang	1.8	2.1	<b>0.3</b>	1.4	0.9	-0.5	7.3	4.3	-3.0
Nanning	2.8	9.1	<b>6.3</b>	3.8	1.4	-2.4	7.8	7.6	-0.2
Shenzhen	1.3	6.2	<b>4.9</b>	2.0	0.5	-1.5	5.6	2.1	-3.5
Wenzhou	0.9	6.0	<b>5.1</b>	2.4	1.1	-1.3	4.9	5.5	<b>0.6</b>
Wuhan	1.4	2.7	<b>1.3</b>	3.1	1.6	-1.5	6.7	6.9	<b>0.2</b>
Xi'an	2.3	2.9	<b>0.6</b>	3.7	1.7	-2.0	6.0	6.1	<b>0.1</b>
Zhengzhou	0.5	0.8	<b>0.3</b>	3.0	0.9	-2.1	5.9	5.1	-0.8

Note: To facilitate comparability, only results for manufacturing firms from the 2001/2002 survey are included here. Performance deterioration is indicated in **bold**.

### C. PROGRESS TOWARD A HARMONIOUS SOCIETY

Analysis of survey data shows a statistically significant relationship between several measures of progress toward a harmonious society. One measure, the percentage of days that a city has good or excellent air quality, reflects *environmental quality*. A second measure, the percentage of females in total student enrollment, addresses *education*. A third measure, the share of permanent workers with health insurance, is one indicator of quality of *health care*.

To provide a more complete picture, this index and rankings for progress toward a harmonious society include additional performance measures. The percentage of industrial waste disposals that meet environmental standards and per capita green space are two additional measures of *environmental quality*. Per capita spending on education is an additional measure for *education*, while infant mortality is an additional *health care* indicator. Finally, to reflect each city's ability to provide a decent livelihood for residents, the index includes two indicators of *prosperity*: the rate of unemployment and the annual average wage.

Of the twenty-four cities ranked as having made the greatest progress toward a harmonious society, 15 are in the Southeast, 7 are in the Bohai region, 1 is in the Southwest, and 1 is in the Central region (Table III-7). Nineteen of the cities ranked highest for progress toward a harmonious society are also ranked in the highest quintile for overall investment climate.

**Table III-7. City Rankings for Progress Towards a Harmonious Society**

<i>Rank</i>	<i>City</i>	<i>Index</i>
1	shanghai	1.061939
2	shenzhen	0.984165
3	beijing	0.931717

4	dongguan	0.909169
5	weihai	0.850343
6	hangzhou	0.830047
7	nanchang	0.819729
8	guangzhou	0.748055
9	ningbo	0.690786
10	suzhou	0.670736
11	zhuhai	0.645995
12	mianyang	0.633359
13	jinan	0.630521
14	zibo	0.540083
15	yantai	0.529748
16	huizhou	0.527538
17	qingdao	0.511149
18	jinhua	0.490865
19	foshan	0.490246
20	shaoxing	0.479552
21	xiamen	0.478936
22	jiaxing	0.471405
23	nantong	0.421684
24	tianjin	0.42019
25	langfang	0.414212
26	haikou	0.377484
27	qinhuangdao	0.365267
28	weifang	0.363009
29	kunming	0.348942
30	shangrao	0.341884
31	dalian	0.340027
32	shantou	0.327857
33	jiangmen	0.313584
34	quanzhou	0.31334
35	wuxi	0.308075
36	daqing	0.302631
37	taian	0.284385
38	changzhou	0.273488
39	huzhou	0.267457
40	changde	0.231451
41	guilin	0.172883
42	chengdu	0.170967
43	hengyang	0.150785
44	xiangfan	0.145738
45	fuzhou	0.129403
46	taizhou	0.12709
47	nanjing	0.125553
48	linyi	0.086413
49	jingmen	0.078772
50	nanning	0.045978
51	haerbing	0.027019
52	wuhu	0.011115
53	cangzhou	0.00352

54	taiyuan	-0.0233
55	jining	-0.02847
56	zhengzhou	-0.04275
57	tangshan	-0.04405
58	hefei	-0.04729
59	changchun	-0.04906
60	qiqihaer	-0.05762
61	xuzhou	-0.06361
62	xianyang	-0.0656
63	yuxi	-0.07119
64	yuncheng	-0.07273
65	yangzhou	-0.07767
66	changsha	-0.07876
67	jiujiang	-0.08131
68	wuhan	-0.0901
69	zhangzhou	-0.09231
70	lianyungang	-0.10685
71	shijiazhuang	-0.10714
72	yueyang	-0.11711
73	baoding	-0.12014
74	zhoukou	-0.15907
75	wulumuqi	-0.19638
76	leshan	-0.19798
77	jilin	-0.21655
78	maoming	-0.21976
79	shenyang	-0.22676
80	wenzhou	-0.23101
81	chuzhou	-0.25001
82	deyang	-0.25222
83	yinchuan	-0.25477
84	yichun	-0.2555
85	xiaogan	-0.27171
86	xian	-0.27742
87	yancheng	-0.28004
88	xuchang	-0.29035
89	chenzhou	-0.2918
90	guiyang	-0.29471
91	xining	-0.30373
92	baotou	-0.30574
93	yichang	-0.30815
94	liuzhou	-0.32921
95	anqing	-0.3326
96	handan	-0.34947
97	jingzhou	-0.36328
98	xinxiang	-0.36612
99	shangqiu	-0.3681
100	benxi	-0.4001
101	baoji	-0.41251
102	datong	-0.41268
103	fushun	-0.4284

104	huhehaote	-0.42947
105	yibin	-0.43611
106	chongqing	-0.44517
107	qujing	-0.44954
108	lanzhou	-0.45051
109	sanming	-0.45417
110	zhuzhou	-0.61236
111	anshan	-0.63826
112	jinzhou	-0.71543
113	zhangjiakou	-0.73838
114	tianshui	-0.78822
115	luoyang	-0.83651
116	nanyang	-0.8576
117	wuzhong	-0.90965
118	ganzhou	-1.01069
119	zunyi	-1.02721
120	huanggang	-1.08377

Note: This index is an average of the normalized values of nine harmonious society indicators presented in Table III-7.

Among the twenty-four cities in the lowest quintile, 8 are in the Central region, 6 are in the Northwest, 4 are in the Southwest and 4 in the Northeast, while 1 each are in the Southeast and Bohai Bay regions. Fifteen of these cities are also in the lowest quintile for overall investment climate. Several cities are ranked higher in terms of investment climate (Ganzhou, Sanming, Chongqing, Anshan, Fushun, and Huhehaote), but appear not to have translated this into commensurate progress toward a harmonious society.

***To focus attention on development of an all-around well-off society, it is useful to have objective benchmarks for progress.*** Not every top-rated city is outstanding in every measure of progress toward a harmonious society (Table III-8). However, a useful and realistic set of benchmarks for progress toward a harmonious society could include the following:

- *Per capita government spending on education exceeds RMB 1100*
- *More than 95 percent of disposals of industrial waste meet environmental standards.*
- *Green space exceeds 10 square meters per capita.*
- *Air quality is good or excellent at least 300 days each year.*
- *Unemployment is 3 percent or less.*
- *Annual wages average RMB 20,000 or more.*
- *Infant mortality is 6 or less per 1,000.*
- *At least 85 percent of permanent workers have health insurance.*
- *Total student enrollment is at least 47 percent female.*

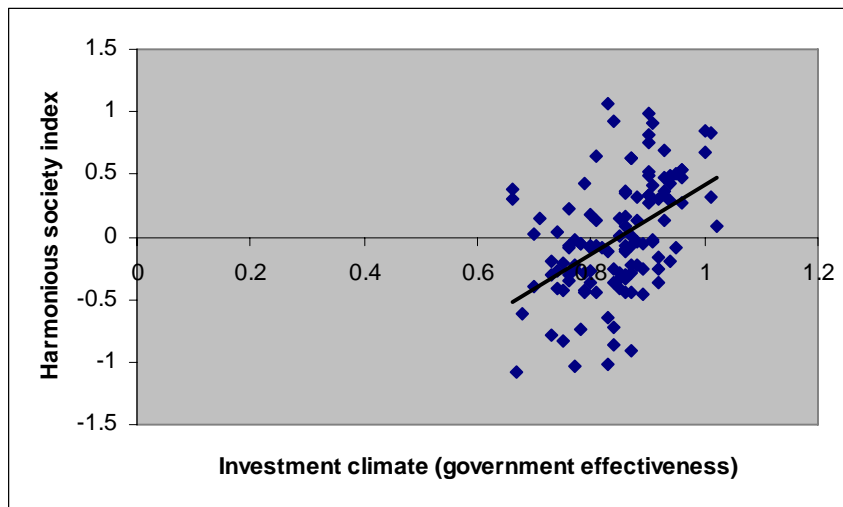
**Table III-8. Top Twenty Cities for Progress Toward a Harmonious Society:  
Objective Performance Measures**

City	Per capita education spending (RMB)	Adequate industrial waste disposal (%)	Per capita green space (m2)	Days good or better air quality (%)	Unemployment (%)	Annual average wage (RMB)	Infant mortality (per 1000)	Permanent workers with health insurance (%)	Female enrollment (%)
Beijing	1044	99	11.5	63	1.3	29674	4.6	97	48
Dongguan	860	90	20.4	98	1.7	25326	9.0	99	44
Foshan	606	89	9.2	95	2.3	19562	5.5	94	46
Guangzhou	754	92	10.3	83	2.4	31025	6.6	96	46
Hangzhou	2169	97	10.5	80	4.3	28186	6.3	94	47
Huizhou	400	95	11.9	100	2.5	14439	3.7	90	47
Jinan	2034	98	28.4	58	3.9	18029	9.8	72	47
Jinhua	499	96	10.4	68	0.8	23262	7.4	76	46
Mianyang	143	97	30.0	93	1.8	12954	11.9	80	48
Nanchang	4222	95	7.2	90	3.0	15558	8.9	56	47
Ningbo	1244	96	10.4	92	3.8	23101	6.7	87	51
Qingdao	424	100	11.2	90	3.1	17190	5.1	91	48
Shanghai	3277	96	10.1	85	4.5	24398	3.8	97	48
Shaoxing	488	97	13.5	83	3.9	21281	5.8	96	48
Shenzhen	703	96	16.0	94	2.5	31928	4.8	89	44
Suzhou	458	99	8.6	84	1.7	22510	6.8	98	49
Weihai	1631	100	17.5	100	1.7	13070	6.0	71	46
Yantai	277	100	12.1	100	3.4	16270	5.5	91	49
Zhuhai	702	95	13.7	100	2.8	20087	7.5	99	45
Zibo	600	99	9.3	84	0.8	14135	3.8	68	48

#### D. CHINA'S "GOLDEN CITIES"

Among the 120 cities in this survey, there is a reasonably close correlation among overall investment climate, government effectiveness, and progress toward a harmonious society. For instance, cities ranked higher in terms of government effectiveness also tend to be ranked higher in terms of progress toward a harmonious society (Figure III-1).

**Figure III-1. Government Effectiveness and Progress Toward a Harmonious Society**



Only 6 cities are ranked in the highest quintile for all five measures – overall investment climate, for both domestic and foreign firms; government effectiveness, toward both domestic and foreign firms; and progress toward a harmonious society. All are in the coastal Southeast or Bohai Bay regions, with two in Zhejiang, two in Shandong, one in Jiangsu, and one in Fujian.

*These 6 “golden cities” cities*, in alphabetical order, are:

- Hangzhou
- Qingdao
- Shaoxing
- Suzhou
- Xiamen
- Yantai

Another 12-13 cities could be characterized as “silver medal finalists”:

- Beijing
- Dalian

- Dongguan
- Foshan
- Fuzhou
- Guangzhou
- Jiangmen
- Ningbo
- Shanghai
- Shenzhen
- Tianjin
- Weihai
- Zhuhai

Almost all these cities are ranked in the highest quintile for both measures (TFP and FDI) of overall investment climate, but fall short elsewhere. Dongguan, Foshan, Guangzhou, Shenzhen, and Zhuhai could hope to raise their ranking by improving government effectiveness vis-a-vis domestic investors; Ningbo, by making government more effective for foreign investors; Beijing, Shanghai, and Tianjin, by improving government effectiveness for both domestic and foreign investors; and Dalian, Fuzhou, and Jiangmen by achieving greater progress toward a harmonious society. Weihai receives top scores for government effectiveness, but narrowly missed the top quintile for investment climate for domestic firms.<sup>24</sup>

Of course, there is no single “right” approach to such measurement. Hence, this survey compensates by employing multiple criteria (firm productivity and foreign ownership) to measure overall investment climate and government effectiveness; by emphasizing rating quintiles rather than absolute rankings; and by basing “golden city” status on top-quintile rankings in five measures: overall investment climate, for both domestic and foreign firms; government effectiveness, toward both domestic and foreign firms; and progress toward a harmonious society.

The assessment of investment climate, like the valuation of companies, ultimately depends on the investor. An investor may have a particular goal – such as access to a market, raw materials, or human resources – that inclines the investor toward a particular region or city.

Thus, rather than focusing on rankings, it will likely be more productive for cities to communicate with potential domestic and foreign investors and to focus on improving objective performance for indicators that potential investors identify as most significant.

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<sup>24</sup> Survey data point to worker education and training as an issue for Weihai. For instance, university-educated workers average just 12% of the labor force at surveyed firms.

## IV. RECOMMENDATIONS

This survey's finding of a correlation among overall investment climate, government effectiveness, and progress toward a harmonious society is consistent with the earlier characterization of investment climate as a process. Among China's coastal cities, favorable geography and market mass have contributed to prosperity. International trade/investment and local prosperity has, in turn, facilitated local government reforms and investment in urban quality of life that encourage further investment. While this might suggest a perpetual "virtuous cycle," in fact, the Southeast's rapid post-1979 growth was spurred by policy reforms and government programs.<sup>25</sup>

Time horizons for enhancing the components of investment climate will vary. Through concentrated efforts at reform, the municipal government of a lagging city may become more *effective* in a short time, perhaps 1-2 years. Gains typically associated with *progress toward a harmonious society* – such as improvements in education and health, environmental protection and remediation, and urban infrastructure and quality of life – may require sustained government spending over the medium term, for example, 3-5 years. Other *city characteristics* – such as market size and prosperity, or location-related transport costs – are usually assumed to change only over the long-term (if at all). Through appropriate transport/logistics sector reforms and sustained investment in urban infrastructure, however, it may be possible to improve such city characteristics sooner rather than later.

Gains in firm productivity and foreign ownership from short-term improvements in administrative and medium/long-term gains in harmonious society attributes and city characteristics could be substantial, as indicated below.

### A. SHORT-TERM IMPROVEMENTS IN GOVERNMENT EFFECTIVENESS

Cities in the bottom quintile of government effectiveness could expect near-term gains of 25-35 percentage points in firm productivity and 15-25 percentage points in foreign

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<sup>25</sup> It is worth recalling that over one-quarter of China's entire industrial capital stock was concentrated in Liaoning province by 1957 and that China's Northeast provinces were ahead of Guangdong, Zhejiang, and Jiangsu in per capita GDP until the early 1990s. The Southeast's rise is attributed to a *laissez faire* approach that allowed comparative advantage to determine the composition of industry, supported by the post-1979 development of five special economic zones (SEZs) and complementary policies on trade reform, fiscal decentralization, and enterprise – especially township and village enterprise (TVE) – ownership. Shahid Yusuf, "Two Tales of Regional Development in China: the Pearl River Delta vs. the Northeast," September 2005, cited in World Bank, 2006, pp. 5-7.

ownership by improving government efficiency, labor flexibility, and financial access to those of the leading cities of Shandong, Guangdong, Zhejiang, and Jiangsu.<sup>26</sup>

*Government efficiency.* Some combination of regulatory simplification (e.g., in business licensing, land use, taxes/fees, customs), rule of law, and increased service orientation by local government is needed to improve the investment climate of lagging cities.

While an October 2005 amendment of China’s company law has made new business registration more flexible and less expensive, additional licensing requirements are relatively complex. In addition to company registration, twelve additional procedures are standard for starting a business in China. Half of these procedures are *not* required in most other countries around the world (Table IV-1). In addition, many other special-purpose approvals may be required.<sup>27</sup>

**Table IV-1. Worldwide Frequency of Additional Business Start-up Procedures**

<u>Procedure</u>	<u>Percent of countries requiring the procedure</u>
Tax registration	93
Labor registration	87
Administrative registration	76
Bank deposit	68
Notarization	63
Health benefits	63
Publication of notice in newspaper	38
Company seal	36
Court registration	32
Chamber of commerce registration	27
Statistical office	17
Environmental registration	12

Source: World Bank, *Doing Business 2004*, table 2.1

<sup>26</sup> These estimates and estimates of the impact of particular investment climate factors should be viewed with some caution. Such estimates should be seen as indicative of the relative importance of various investment climate factors, rather than as exact predictors of how performance will change after the enactment of reforms.

<sup>27</sup> Before registration, approvals may also be required from the Party Discipline Committee; Foreign Trade Committee; Public Security; Fire Control; Sanitation; Quality Examination; Cultural; Commerce; Property; Capital Examination. After registration, approvals may be required from Public Security; Quality Examination; the company’s bank; State Administration of Foreign Exchange; and Customs in order to complete such procedures as making seals, code registration, activation of bank accounts, and registration. Foreign Investment Advisory Service (FIAS), *China: Policy, Legal and Administrative Framework for Investment in Liaoning Province: Volume II: Assessment of Administrative Procedures for Doing Business in Liaoning Province*, January 2005.

While China's system of land use rights generally provides sufficient security of tenure, massive urban development has aroused fears about the accelerated loss of agricultural land. This has led to tighter enforcement of central government policies on land use. Municipal officials may be uneasy about the potential conflict between faster economic development and rural safeguards, while entrepreneurs may worry about the risks (e.g., confiscation, extortion) of illegally granted land.<sup>28</sup> Hence, municipal governments should ensure that businesses are protected from entering "development zones" or receiving usage rights for land whose transfer to construction land has not been duly approved. Municipal governments should verify whether current land use practices conform to central government policies and whether the rights of legitimate land users are sufficiently protected.<sup>29</sup>

Land approval remains one of the least transparent processes that businesses must engage in to implement and investment project. In China, the project approval process is not just a technical review to ensure compliance with building and zoning laws, but also a process for allocating a public asset. The latter aspect may provide an excuse for local interference in business decisions that would be left solely to private investors elsewhere. Land use and project approval processes may involve factors other than the merits of the proposed project and may lack sufficient clarity, transparency, and predictability. Moreover, after approval of a land use application or investment project, any significant change by the investor may require re-approval by the municipal government. In general, review and approval of investment projects should be limited in focus and scope. The focus should be on broad requested land-use categories, such as "commercial" or "industrial." The scope of municipal government involvement should be limited to those agencies specifically concerned with land use – and, in specifically defined cases, protection of the environment, roads and traffic, and perhaps fire protection access.<sup>30</sup>

Taxes and fees involve two main issues: tax concessions to foreign investors and local administrative fees that may be excessive and/or non-transparent.

Since 1979, China has introduced various tax preferences to encourage investment. As of 2002, 110 regions or zones offered tax preferences, most frequently involving lower corporate income tax rates for foreign-invested enterprises (FIEs).<sup>31</sup> Tax preferences raise many issues. For instance, tax preferences for FIEs would seem to disadvantage domestically-invested enterprises. In reality, tax preferences may not make much of a difference to foreign investors covered by treaties to prevent double-taxation. Indeed, data from this survey suggest that foreign investment is not so sensitive to tax rates.<sup>32</sup> It may be that many localities in China have been engaged in a "race to the bottom," giving

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<sup>28</sup> For instance, according to press reports, between March and June 2004, 3,763 development zones were abolished and about 1100 square kilometers of land were returned to farmers.

<sup>29</sup> FIAS, 2005.

<sup>30</sup> Ibid.

<sup>31</sup> Typically, tax preferences involve corporate income tax rates of 15-24 percent for FIEs, versus the standard rate of 33 percent. PricewaterhouseCoopers, 2002.

<sup>32</sup> Among the 120 surveyed cities, each one standard deviation increase (decrease) in tax rates is associated with a 3 percentage point decrease (increase) in foreign ownership, versus a 6 percentage point decrease (increase) for overall firm productivity.

away tax revenues that could have been better spent on infrastructure, education, international-standard health facilities, or other public goods.<sup>33</sup> Lastly, by creating additional complexity and opportunities for discretion, tax and other preferences for foreign investors or encouraged industries may actually discourage investment and undermine good governance.

While perhaps too low in some localities, taxes and fees are clearly too high elsewhere. Firms report that taxes and fees average 5.8-8.7 percent of sales in the most-burdened quartile of surveyed cities, versus 3.1 percent or less in the top 10<sup>th</sup> percentile. Locally-imposed administrative fees can be an issue. The problem of local administrative fees in China is well-known.<sup>34</sup> For less-prosperous lagging cities, administrative fees may be an important source of revenue. Methods of assessing fees vary widely (Box IV-1). In “good” examples, the fee structure is simple and the fee base is objectively measurable, with no ambiguity and virtually no room for abuse by either side. Among “bad” examples, the fee structure is more complex and the fee base is changeable and often dependent on another value (e.g., land value, business revenue, project investment) that may not be easy to define. The latter situation encourages abuse, of both payers and collectors.

**Box IV-1. Good and Bad Administrative Fee Structures**

Good Examples

- Construction permit cost based on square meters of construction, e.g., RMB 1.38 per square meter for a “brick and concrete structure outside the city planning area”
- Fixed cost for a certificate, such as a land registration certificate at RMB 20 per certificate

Bad Examples

- For enterprise registration: 0.8% of total registered capital, with 0.4% for the excess over RMB 10 million and no charge for the excess over RMB 100. Minimum charge of RMB 50.
- Quality supervision fee for water conservancy project: 1.0-2.5% of project investment.
- Road transportation management fee: 0.8% of business revenue
- Per cubic meter of surface water: RMB 0.1 for residents; RMB 0.25 for industry and administrative institutions; RMB 0.4 for catering businesses; RMB 3.0 for special industries
- One-time takeover of farmland: fee based on land “value”

Source: FIAS, 2005.

Regulatory complexity may encourage intrusive inspections by the local authorities. A 2002 survey found that businesses in one western province were subject to an onerous

<sup>33</sup> World Bank, *World Development Report 2005: A Better Investment Climate for Everyone*, pp. 107-8, 168-70.

<sup>34</sup> See, for example, “Would You Like That With Fees?” in World Bank, *China: National Development and Sub-National Finance: A Review of Provincial Expenditures*, CHA-22951, 9 April 2002, p. 12. One city provided a list of 94 different types of fees, in addition to local and national taxes. FIAS, 2005.

volume and variety of official inspections – including police, technical supervision, tax, sanitation, business registration, environmental, neighborhood committee, fire safety, and labor.<sup>35</sup> Useful fixes would include following the new Administrative Law’s requirements for at least two functionaries to participate in any inspection, allowing inspected firms to access inspection records, and using some sort of risk assessment methodology to eliminate needless inspections.<sup>36</sup>

Customs efficiency is of critical importance, especially for foreign investors. Customs procedures are generally more demanding in China, compared with nearby economies (Table IV-2).

**Table IV-2. Ease of Foreign Trade**

	<u>China</u>	<u>Taiwan, China</u>	<u>Hong Kong, China</u>	<u>South Korea</u>	<u>Japan</u>	<u>Singapore</u>
Export documents	6	8	6	5	5	5
Export signatures	7	9	4	3	3	2
Import documents	11	8	8	8	7	6
Import signatures	8	11	3	5	3	6

Source: World Bank, *Doing Business, 2006*

But customs clearance times vary widely throughout China. Firms report combined times of 3-4 days for export and import clearance in Huizhou, Dongguan, Shantou, Jiangmen, Shenzhen, Qingdao, Shaoxing, and Zhuhai. Combined clearance times are about 5 days for 90<sup>th</sup> percentile cities (Suzhou, Weihai, Foshan, Ganzhou). Combined clearance times reportedly average 17-35 days for the slowest cities. At the bottom 10<sup>th</sup> percentile, combined clearance times are about 20 days. Such cities (e.g., Changsha, Yuncheng, Taiyuan, Benxi, Anshan, Tianshui, Xining) could anticipate a 17 percentage point increase in foreign ownership by reducing combined customs clearance times to 5 days.

Although General Administration of Customs has rationalized procedures, automated more systems, and increased professionalism in recent years, the lack of uniform systems and procedures throughout China creates disparities in efficiency. Some customs posts use EDI links and streamlined procedures, while others still rely on transfer of documents.<sup>37</sup> Key recommendations for resolving issues identified in some cities include the following:

- Further updating customs law, regulations, and procedures to provide further clarity, transparency, and simplification, especially for import clearance documentation, guarantees, and inspection/quarantine clearance;

<sup>35</sup> China Project Development Facility, December 2002, processed. Fines were relatively common, especially from technical inspections and tax inspections. Inspections, especially tax inspections, sometimes gave rise to “gifts and banqueting.”

<sup>36</sup> FIAS, 2005.

<sup>37</sup> American Chamber of Commerce, *White Paper 2005: American Business in China*, pp. 162-66.

- Increasing accessibility to customs laws, regulations, procedures, and guidelines;<sup>38</sup> Official written notifications and refusals for all issues that cannot be immediately resolved;
- Relying more on computerized and remote clearances;
- Methodically tracking elapsed time between goods arrival and release, to enable customs authorities to identify and correct clearance problems;
- Facilitating inland clearance by training inland customs officials in methods used by highly efficient posts – such as Jiangmen, Suzhou, and Qingdao;
- Introducing an automated risk management system to guide physical inspections;<sup>39</sup> and
- Considering merger of Customs Administration and CCIQ processing in order to provide one-stop service.

Excessive licensing and compliance requirements can distract local businesses and create opportunities for graft. In the lagging cities in central and western China, firms report interactions with major local bureaucracies average anywhere from 45-130 days a year. In addition, compared with leading cities along the coast, the firm outlays on entertainment and travel is 3-4 times higher in central/west China's lagging cities. Foreign investors appear better-able to avoid such burdens.<sup>40</sup>

While business law and regulations are broadly similar across China, implementation by progressive municipal governments in coastal cities is more “business-friendly.” Examples include the following:

- Establishment of “one stop halls” to facilitate contact between entrepreneurs and the various agencies that may need to provide licenses and permits;<sup>41</sup>
- Local efforts at streamlining business start-up procedures; elimination of regulatory ambiguities and opportunities for bureaucratic discretion; and public dissemination of standard procedures for business start-up;
- Public dissemination of information on the status of the land quota for development and how land development quotas are applied to decisions on specific investment projects;
- Public education on key tax rules and tax rule changes;
- Promotion of electronic filing for tax submissions;
- Elimination of some administrative fees, or simplification through adoption of unambiguous fee structures;

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<sup>38</sup> International best-practice is to provide a comprehensive website from which all relevant laws, regulations, process manuals, guidelines, and forms can be downloaded. For one of the best examples, see Sweden Customs' at [www.tullverket.se](http://www.tullverket.se)

<sup>39</sup> FIAS, 2005, pp. 115-29.

<sup>40</sup> Interaction time with major bureaucracies and entertainment/travel expenditures are significant in explaining variations in TFP, but not variations in FDI.

<sup>41</sup> One stop halls apparently work well as initial points of contact and information providers, but not at solving complex inter-agency issues. FIAS, 2005, pp. 18-24. Hence, simplification of business entry requirements remains the preferable solution.

- Providing newly-registered companies with a definitive list of administrative fees that can later be charged; and
- Encouraging new-style business associations, genuinely representative of member interests, in place of old-style industrial associations, in order to foster more government-business dialogue on local/national-level measures to improve investment climate.

To encourage city officials to serve as “helping hands” rather than “grabbing hands,” it is important to create appropriate incentives whereby officials are rewarded for positive steps (e.g., reduced waiting time) rather than just for punitive measures (e.g., issuance of fines).

Since inter-provincial trade and investment may be affected, some attention should also be paid to concerns about potential unfair treatment in commercial disputes outside a business’ home locality. For starters, this could involve some empirical analysis as to whether place of business origin has an impact on court rulings, their enforcement, and contract awards by local governments. Given findings in the previous survey that courts in some cities are particularly slow-moving,<sup>42</sup> assessments of the adequacy of resources and training for commercial courts may also be appropriate.

*Labor flexibility.* China’s rules on employment are generally more flexible than those in Taiwan (China) and South Korea, but less flexible than those in Hong Kong (China), Japan, and Singapore. By law, it is more difficult to fire workers in China than in any of those other East Asia economies and the cost of dismissal in China can amount to 30 weeks of salary.<sup>43</sup> This may well contribute to overstaffing in some cities in China, and hurt both foreign investment and firm productivity.

It appears, however, that labor laws and regulations are not consistently enforced in China. In actual practice, firms may enjoy considerable autonomy in dismissing employees as well as in setting wages and arranging overtime.

Inconsistent enforcement of employment rules is undesirable for several reasons. First, the legitimate interests of workers may not receive sufficient protection. Second, those firms that rigorously adhere to employment rules may incur a competitive disadvantage. Multinational companies – who often must also answer to shareholders, international media, and non-governmental organizations – may feel compelled to honor labor laws/regulations and be disadvantaged by competing firms who do not. Third, “differential compliance” will expose firms to some risk of selective harassment and rent-seeking.

*State-owned enterprises (SOEs).* Since SOEs appear to crowd out private sector development – for instance, through excessive reliance on price competition and preferred access to finance – it makes sense to reduce SOE dominance of industry,

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<sup>42</sup> Dollar, et al, 2005, p. 31.

<sup>43</sup> World Bank, *Doing Business 2006*. Severance costs average 90 weeks of wages in Taiwan, China and South Korea, but just 4 weeks in Singapore, 13 weeks in Hong Kong, China, and 21 weeks in Japan.

especially in China's northeast, central, and western regions. Small and medium-sized SOEs that are viable as going concerns should be sold, using commercial best practices to minimize the loss of state assets. While distressed but probably-viable large SOEs may be restructured, non-viable SOEs should be liquidated. Large or strategic SOEs that are healthy and destined to remain in the State portfolio should follow international best practices in corporate governance.<sup>44</sup> This segmented approach is consistent with the 4<sup>th</sup> Plenum Decision of the 15<sup>th</sup> Central Committee of the CPC in 1999 to “grasp” large SOEs and “let go” the small.

Both labor flexibility and ownership transformation of SOEs – as well as broader goals for achieving a harmonious society – would benefit from additional development of worker safety nets. In most parts of the country, pension schemes are still at city level and pension accounts are not portable. It is usually difficult for an employee to leave a firm and move to work in another city. Inadequate social protection hinders further labor market reform. Inclusion of all types of firms in a universal and nationally-portable system of pensions, medical insurance, unemployment insurance, and other necessary support would facilitate labor mobility and market flexibility. SOEs could more readily reduce over-staffing, since laid-off workers would have more flexibility to pursue opportunities in the private sector or elsewhere in the public sector.

*Access to finance.* While access to finance does not appear to affect foreign investment, since foreign firms can more readily tap offshore sources of funds, there is a strong correlation between access to bank loans and firm productivity. Bank lending is especially important for small and medium enterprises (SMEs), which increasingly provide critical material inputs and services to other firms in industrial clusters.

The October 2004 liberalization of interest rates should help, but a number of factors still discourage lending to small domestically-invested enterprises:

- Banks perceive that risks are lower for large SOEs or public infrastructure projects.
- Relative to loan size, loan processing and administration costs are lower for large SOEs and infrastructure projects.
- Legal protections for creditors are still weak. SME borrowers sometimes disappear. Enforcement of court orders is uncertain.
- SME financial statements and audits are unreliable.
- The profitability of formerly state-owned SMEs may be constrained by hold-over contractual obligations from ownership transformation, for example, to retain redundant workers or excessive debt.
- While banks prefer real estate as collateral for secured loans, SME assets tend to be mostly inventory, receivables, and intellectual property.
- Banks lack access to reliable credit information on enterprises that are not already clients.

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<sup>44</sup> For further description, see World Bank, *China: Facilitating Investment and Innovation: A Market-Oriented Approach to Northeast Revitalization*, report 34943-CN, 15 February 2006, pp. 18-29.

- The credit assessment skills of bank loan officers remain underdeveloped and based on assessments of collateral rather than company cash flow. Lack of familiarity with good SME lending practices makes SME lending seem more risky.

To improve SME access to finance, the authorities should focus on measures to encourage additional competition in lending; create a more supportive legal and regulatory environment; disseminate best practices in SME lending; and promote non-bank sources of SME finance.<sup>45</sup>

- To attract qualified foreign investment – e.g., into city commercial banks – it will be necessary for bank financial statements to be presented according to international accounting standards and be audited.
- Key legal/regulatory enhancements would include a new law on enterprise bankruptcy that reflects international best practices, including priority for secured creditors; more widespread development and use of credit reporting systems; and revision of the secured transactions part of the Property Law to provide better protection to both creditors and borrowers as well as greater opportunities for using movable assets (e.g., receivables, inventory, equipment, vehicles) as collateral.
- In other countries, successful SME lending typically involves specialized practices. Loans typically are based not on SME assets, but on judgments regarding the SME's cash flow, debt service capacity, and character of its owners and management. Since confidence regarding these judgments naturally increases as borrowers repay loans, default risk is often controlled in part by the practice of “graduating” SME borrowers to larger, longer-term, and sometimes less-expensive loans as their repayment performance is established. Frequent (e.g., monthly) repayments make it easier to monitor cash flow and repayment performance and to minimize risk.
- Lastly, while banks will likely continue to provide the biggest share of financing for SMEs, additional efforts to expand SME access to non-bank financing could help. This would require legal, regulatory, and institutional developments to support more use of factoring and leasing (which a new leasing law would help), venture capital, private equity, and small public share offerings.

## **B. PROGRESS TOWARD A HARMONIOUS SOCIETY**

Over the medium-term, by improving education/technical training, healthcare, and environmental quality to the levels of leading Southeast and Bohai cities, cities now in the bottom quintile of investment climate could anticipate gains of about 25 percentage points in firm productivity and 10 percentage points in foreign ownership.

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<sup>45</sup> Many localities have established credit guarantee schemes to support SME access to finance. Worldwide experience indicates, however, that such credit guarantee schemes are not a panacea and may simply create moral hazard and distortions, especially in an underdeveloped financial system.

*Education* endowments and programs appear to have various effects on firm productivity and foreign investment. TFP is somewhat sensitive to mean years of CEO schooling and more sensitive to the education level of employees. Foreign ownership is sensitive to information technology skills/usage and to the level of female enrollment, the latter of which serves as a measure of progress toward a harmonious society.

As seen earlier, per capita education expenditures vary widely between cities. A significant part of the public school budget is self-financed by local governments. This increases the disparity in educational attainment between rich and poor regions, which is undesirable for both equity and efficiency reasons. Central government resource allocations to poor provinces would facilitate educational competitiveness by now-lagging cities.

Since government resources for education are often constrained, private initiatives in running schools and other training centers should be further encouraged, especially for those schools that provide vocational training for skilled jobs. Recently, China passed a law governing management of schools by private entities. Through such measures, more funds can be mobilized and allocated to education and training. In addition, a voucher scheme for education also warrants consideration, particularly for poorer cities. A voucher scheme could enable participating children to attend either a public or a private school, and promote competition in the development of educational services.

Public-private partnerships to provide demand-driven vocational training could also enhance firm productivity, especially in lagging regions.

Additional nationwide policies and programs to move all of China toward becoming a “knowledge economy” would include the following:

- Exploiting opportunities for learning based on information and communications technologies;
- Improving the regulatory framework, including freer access to the Internet;
- Diffusing new technologies throughout China by strengthening technical standards, encouraging new businesses and other agents of technology dissemination, and multiplying local support structures for information and technical assistance;
- Reforming government R&D programs to align incentives with the business sector, and increase funding to selected networks of public and private universities;
- Attracting foreign investors in strategic areas, especially service businesses; facilitating global technological alliances for Chinese enterprises; and raising incentives for Chinese experts overseas to return to China; and
- Training public officials to adapt public management to more knowledge-based development.<sup>46</sup>

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<sup>46</sup> World Bank, *China and the Knowledge Economy: Seizing the 21<sup>st</sup> Century*, 2001, p. xxv.

*Health.* Health insurance coverage for permanent workers tends to be more common, and infant mortality tends to be lower, in cities or regions with higher productivity and higher foreign ownership. Faster growth and higher demands for labor likely generate both the incentives and the financial resources for improvements in local healthcare.

The availability of international-standard health care and educational services is often a particular consideration for foreign investors. In such major destinations as Beijing, Shanghai, Suzhou, and Guangzhou, foreign employees and their families have access to medical facilities and schools oriented toward the needs of expatriate staff. Elsewhere, a smaller market and higher costs may discourage similar for-profit schools or health care providers from setting up operations.<sup>47</sup>

Education and health sectors are dominated by public service units (*shiye danwei*). Reform of public service units; improving finances through better alignment of intergovernmental fiscal relations, resources, and priorities; devolution of some services to the private sector or SOEs; strengthened accountability; and workforce rationalization have been proposed as measures that could have far-reaching benefits for health and education.<sup>48</sup>

*Environmental.* Reductions in air pollution and increases in urban green space would be among the most readily-noticed improvements. Recommendations for reducing air pollution focus broadly on adoption of a “clean development mechanism” for China.<sup>49</sup> At the city-level, this may involve improvements in traffic management and use, development of public transport, fiscal policies to encourage fuel conservation and cleaner fuels, and improvements in vehicle technology, vehicle maintenance, and fuel quality.<sup>50</sup>

Measures to eliminate or clean up water pollution and solid waste could also improve perceptions about each city’s quality of life. Key recommendations for addressing solid waste have included waste minimization strategies; legislation and policies to promote inter-regional and inter-agency coordination; upgrading of local recycling industry; more development of sanitary landfills; increased planning and service provision for “special” (e.g., hazardous) waste; and remediation of an estimated 5,000 “brownfield” sites already contaminated from inadequate disposal practices or chemical spills.<sup>51</sup>

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<sup>47</sup> It was suggested earlier that tax concessions for foreign investors are probably a waste. It might be more productive to collect the additional taxes which could be used for such public purposes as additional investment in urban infrastructure and initial subsidies for international-standard schools and medical facilities.

<sup>48</sup> World Bank, *China: Deepening Public Service Unit Reform to Improve Service Delivery*, 2005.

<sup>49</sup> World Bank, *Clean Development Mechanism for China: Taking a Proactive and Sustainable Approach*, 2004.

<sup>50</sup> World Bank, *Reducing Air Pollution From Urban Transport*, 2004.

<sup>51</sup> World Bank, “Waste Management in China: Issues and Recommendations,” Working Paper #9, May 2005.

### C. ENHANCING CITY CHARACTERISTICS

Firm productivity and foreign ownership are also related to city population, per capita GDP and GDP growth, and transport costs.

*Population.* Firms in larger cities tend to be more productive, probably due to greater competition and benefits from agglomeration and clustering. This offers support for continued migration, especially to Southeast cities where water scarcity is less of an issue. Other analyses suggest that dismantlement of the *hukou* system would reduce urban-rural income differences. To absorb migrants without worsening urban poverty and unemployment, destination cities will have to invest in infrastructure, housing, and public services, while creating an investment climate that stimulates private sector investment and business development.<sup>52</sup>

*GDP.* Firms located in cities with higher per capita GDP tend to have much higher productivity and foreign ownership. The rate of GDP growth also appears to have a small beneficial effect on firm productivity.

Thus, continued investment in urban infrastructure and services would likely make many cities more appealing to investors, especially foreign investors. More generally, investment in urban infrastructure may counteract urban unemployment and poverty. Investment in urban transport and infrastructure has been shown to support growth, while state-of-the-art information technology infrastructure is now viewed as a practical necessity for cities seeking to cultivate high-tech industry. Lastly, greater reliance on private providers of public services offers opportunities for increasing competition, counteracting urban poverty, and enhancing quality of life – especially in lagging cities.<sup>53</sup>

*Transport costs.* Foreign investment, in particular, is sensitive to transport costs to access seaports. Survey data indicate, for instance, that a 50 percent reduction in overland transport costs could raise foreign ownership in such deep-interior cities as Lanzhou and Wulumuqi by perhaps 5 percentage points.

Since shipment by rail can be 40-60 percent cheaper than shipment by truck over longer distances (> 700 kilometers), reform of China Rail into a customer-oriented flexible service organization would do a lot to improve the competitiveness of interior cities. This could involve, for instance, partial or full privatization and major improvements in China Rail's governance, management, procedures and information systems, performance monitoring and incentive compensation.

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<sup>52</sup> World Bank, *Policies for the 11<sup>th</sup> Five-Year Plan*, 15 December 2004, processed, pp. 37-9.

<sup>53</sup> Shahid Yusuf, "Two Tales of Regional Development in China: The Pearl River Delta vs. the Northeast," August 2005, processed. For support, Yusuf cites Sylvie Demurger, "Infrastructure Development and Economic Growth: An Explanation for Regional Disparities in China?" *Journal of Comparative Economics* (29) 1:95-117; and Diane Coyle, Wendy Alexander, and Brian Ashcroft, eds., *New Wealth for Old Nations: Scotland's Economic Prospects*, (Princeton University Press, 2005).

Other reforms by the national authorities that might serve to reduce transport/logistical costs and improve service include the following:

- Establishing clear procedures and qualifications for obtaining a “nationwide” road transport license for the cargo business;
- Passing unified legislation on warehousing, to reduce regulatory overlap;
- Preparing to meet future demand in interior cities for air cargo services, by promoting faster development of hub-and-spoke systems for China’s regional airlines;
- Reducing or eliminating requirements for integrated logistics providers to obtain regulatory approvals or meet minimum capital requirements for distinct business activities or individual branch offices or facilities; and
- Abolishing requirements for logistics companies that use information technology and advanced management systems for managing external assets to actually own such assets as vehicles and warehouses.
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In general, a shift in emphasis from investment in fixed assets to better use of people, systems, and management would hasten development of China’s logistics sector, cost reductions, and service improvements.

#### **D. MONITORING PROGRESS**

Lastly, to encourage local governments to pursue sustained improvements in government effectiveness, progress toward a harmonious society, and city characteristics amenable to local redress, it would make sense to repeat this survey on a bi-annual basis. To track progress or deterioration across time, it would be essential to maintain more consistency in the survey instrument and analysis of survey data.

## **ANNEX A: CITY PERFORMANCE, BY REGION**

To provide some perspective in intra-regional competitiveness, this Annex compares cities within each region. Such comparisons would be particularly relevant to an investor interested in a particular region, but unsure of which city to select. For government effectiveness, cities are ranked based on the average of their TFP and FDI rankings (see Table B-6) and objective performance measures are provided for each city. For progress toward a harmonious society, cities are ranked according to an index based on nine indicators covering economic well-being, health, education, and the environment (see Table III-7). Transport costs (to and from the coast) are an issue for interior cities, but less so (or not at all) for Southeast and Bohai cities. Hence, the discussion for Southeast and Bohai also includes a comparison of government effectiveness and costs for land and labor.

### **A. SOUTHEAST**

While transportation costs are similar, survey data indicate that factor costs and local government efforts at creating a good investment climate vary noticeably. Some cities – such as Suzhou and Jiangmen – are ranked above-average in government effectiveness, but also appear to be above-average in land/labor costs (Table A-1). The Southeast’s better-known cities of Shenzhen, Guangzhou, Shanghai, and Nanjing also have high costs, but government effectiveness is rated only average or below-average. Other cities – Zhangzhou and Shantou – appear to offer both an above-average investment climate and below-average costs, compared with other cities surveyed in the Southeast region. In general, other apparently low-cost cities (Sanming, Huzhou, Maoming, Quanzhou, Jiaying, Yancheng, Taizhou, and Lianyungang) might have the most to gain through more vigorous efforts by the local government to improve investment climate.

<b>Table A-1. Government Effectiveness and Land/Labor Costs Among Southeast Cities</b>				
		<u>Land/labor costs</u>		
		<i>Below average</i>	<i>Average</i>	<i>Above average</i>
<u>Government effectiveness</u>	<i>Above average</i>	Zhangzhou Shantou	Nantong Hangzhou Xiamen Dongguan Huizhou	Suzhou Jiangmen Shaoxing
	<i>Average</i>	Sanming Huzhou Maoming Quanzhou Jiaying	Fuzhou Foshan Ningbo Jinhua	Shenzhen Wuxi Guangzhou
	<i>Below average</i>	Yancheng Taizhou Lianyungang	Yangzhou Wenzhou Changzhou	Shanghai Xuzhou Nanjing Zhuhai

While relatively low throughout the Southeast, average taxes and fees are reportedly higher relative to sales in Xuzhou (7.5 percent), Nanjing (5.4 percent), Wenzhou (5.5 percent), Shanghai (5.3 percent), and Taizhou (5.8 percent) than in Jiangmen (1.1 percent) and Suzhou (2.5 percent) (Table A-2).

Entertainment and travel expenditures also vary, from 0.4-0.8 percent of sales revenues for the five highest-ranked cities to 1.1-1.9 percent of sales for the ten lowest-ranked Southeast cities.

Average interaction with important government agencies (i.e., tax administration, public security, environmental protection, labor and social security) shows no obvious patterns in the Southeast. Top-ranked cities vary widely (e.g., Suzhou at 70.6 days and Hangzhou at 8.1 days), as do bottom-ranked cities (e.g., Nanjing at 85 days and Changzhou at 28.9 days). This may at least partly reflect differences in the composition of local industry.

Reported customs clearance times vary widely. Average combined clearance times for exports and imports are less than five days for Jiangmen, Suzhou, Shaoxing, Dongguan, Shantou, Huizhou, and Shenzhen. The average is ten days or more for twelve cities – including Yancheng, Xuzhou, Wenzhou, Taizhou, Yangzhou, and Changzhou.

Costs from power or transport failures reportedly average 2.2 percent of output or less in Hangzhou, Jiangmen, and Suzhou. Reported losses are more than two times higher in Jiaying (6.1 percent), Jinhua (6.9 percent), Ningbo (7.7 percent), Dongguan and Shenzhen (both 5.1 percent), Taizhou (6.9 percent), and Wenzhou (5.3 percent).

Overstaffing is generally 1.0 percent or less. Notable exceptions are Nanjing (4.4 percent) and Xuzhou (4.0 percent).

Access to finance seems not much of an issue for the Southeast, except for high expectations of a need for informal payments to obtain loans in Jiaxing (7.1 percent), Jinhua (9.5 percent), Maoming (15.4 percent), Yancheng (10.5 percent), Nanjing (8.2 percent), and Xuzhou (8.8 percent).

Confidence in protection of property/contract rights is very high in the leading cities of Jiangmen, Hangzhou, and Suzhou – ranging from 93-98 percent of respondents. Confidence is generally lower elsewhere in the Southeast, including in the largest cities – Guangzhou (61 percent) and Shenzhen (74 percent). Confidence is just 40-50 percent in three below-average cities: Wenzhou, Shanghai, and Taizhou.

The university-educated represent 15 percent or less of workers at surveyed firms in most Southeast cities, perhaps a reflection of labor migration from lagging areas. Exceptions with better-educated workforces are Jiangmen (17 percent), Hangzhou (26 percent), Suzhou (21 percent), Xiamen (17 percent), Guangzhou (26 percent), Shenzhen (17 percent), Lianyungang (16 percent), Shanghai (23 percent), Nanjing (22 percent), and Xuzhou (21 percent).

Private businesses, either foreign-invested or domestic-invested, represent more than 90 percent of surveyed firms in most Southeast cities. Low-ranking exceptions are Maoming (82 percent), Nanjing (75 percent), and Xuzhou (82 percent).

Turning to livability, Shanghai, Shenzhen, Dongguan, Hangzhou, Ningbo, Guangzhou, Suzhou, and Zhuhai are in the top 10 percent of surveyed cities in terms of livability (Table A-3).

Disposals of industrial waste that meet environmental protection standards are around 96 percent for most Southeast cities. A few cities show 100 percent conformance: Nantong, Xuzhou, and Lianyungang. Less than 90 percent of disposals meet environmental protection standards in several cities: Foshan (89 percent), Taizhou (88 percent), and Maoming (89 percent).

For most Southeast cities, air quality is good or excellent at least 85 percent of the time. Notable low-ranking exceptions include Jinhua (68 percent), Xuzhou (60 percent), Wenzhou (30 percent), Yancheng (76 percent), and Sanming (68 percent).

Per capita green space is 10-20 square meters for the highly-livable cities of Shanghai, Shenzhen, Dongguan, Hangzhou, Guangzhou, and Ningbo. Allocations are much lower, however, in Taizhou (4.5 m<sup>2</sup>), Maoming (2.5 m<sup>2</sup>), and Wenzhou (5.4 m<sup>2</sup>).

Infant mortality is 7.5 per 1000 or less for most cities, but noticeably less for Shanghai (3.8) and Shenzhen (4.8). The worst-performing cities are Dongguan (9.0), Xiamen

(9.2), Shantou (9.2), Quanzhou (11.2), Zhangzhou (9.1), Lianyungang (12.6), Yancheng (10.1), and Sanming (9.7).

Some 87-99 percent of permanent workers have medical insurance in the most-livable cities of Shanghai, Shenzhen, Dongguan, Hangzhou, Guangzhou, Ningbo, Suzhou, and Zhuhai. This likely reflects demands on firms in high-growth cities to compete for skilled workers. Coverage levels are substantially lower, however, in Jiaxing (56 percent), Fuzhou (44 percent), Yangzhou (56 percent), Zhangzhou (31 percent), Yancheng (52 percent), and Sanming (54 percent).

Female enrollment is consistently around 46 percent for most Southeast cities. Exceptions are Ningbo (51 percent) on the high end and Nanjing (43 percent) and Maoming (40 percent) on the low end.

Per capita education expenditures, which vary widely, are highest for Shanghai (RMB 3277), Hangzhou (RMB 2169), and Ningbo (1244), and lowest for Fuzhou (RMB 273), Yangzhou (RMB 220), and Maoming (RMB 227). A number of Southeast cities reflect the region's average of RMB 700-800 per capita: Shenzhen, Guangzhou, Zhuhai, Jiangmen, Xuzhou, and Wenzhou.

**Table A-2. Government Effectiveness: Rankings and Performance for Southeast Region**

<b>City</b>	<b>Taxes &amp; fees (%)</b>	<b>Entertainment costs (%)</b>	<b>Bureaucratic interaction (days)</b>	<b>Private SMEs w/ bank loans (%)</b>	<b>Expectation of informal payments for loans (%)</b>	<b>Days to clear exports &amp; imports</b>	<b>Output losses from power or transport (%)</b>	<b>Labor over-staffing (%)</b>	<b>Confidence in courts (%)</b>	<b>University-educated workers (%)</b>	<b>Private firms (%)</b>
Jiangmen *	1.1	0.6	43.4	42.9	4.1	3.4	2.2	0.7	94	17	92
Suzhou *	2.5	0.4	70.6	50.0	4.0	4.6	2.2	0.1	93	21	97
Hangzhou *	4.0	0.6	8.1	100.0	2.0	6.2	0.0	0.0	98	26	96
Shaoxing *	4.4	0.8	46.0	48.0	0.0	4.1	4.5	1.7	78	13	93
Xiamen *	2.6	0.6	68.1	25.0	0.0	6.5	3.0	0.0	83	17	98
Zhangzhou *	2.9	1.2	41.4	36.0	6.2	8.8	2.1	0.2	69	13	93
Dongguan *	1.7	0.3	47.8	50.0	3.4	3.1	5.1	0.0	39	12	93
Huizhou	2.8	0.7	30.9	40.0	6.3	2.9	2.8	0.5	75	13	93
Nantong	4.0	1.2	74.9	47.6	4.3	7.5	1.4	0.4	75	15	97
Shantou	3.7	0.7	31.3	42.9	2.2	3.1	0.0	1.1	96	13	94
Fuzhou	3.4	0.7	45.5	42.3	3.2	6.3	2.6	0.1	76	15	90
Shenzhen	2.0	0.5	89.6	0.0	4.6	4.0	5.1	0.1	74	17	99
Foshan	4.6	0.7	67.2	66.7	5.5	5.3	4.1	0.8	53	15	94
Guangzhou	4.3	0.7	84.9	0.0	2.0	6.5	3.8	1.8	61	26	79
Huzhou	4.7	1.0	44.9	70.6	3.0	10.3	4.9	0.6	63	11	97
Ningbo	4.3	1.2	52.0	33.3	4.0	9.9	7.7	0.5	76	12	99
Maoming	3.1	0.7	29.5	44.4	15.4	5.7	1.2	1.3	71	14	82
Jinhua	5.1	0.6	45.5	73.3	9.5	12.3	6.9	0.5	66	12	99
Quanzhou	4.6	0.9	39.6	19.0	9.7	11.1	4.3	0.4	78	10	94
Sanming	5.0	0.9	41.6	53.3	1.0	10.6	1.4	1.0	79	8	86
Jiaxing	3.8	0.8	57.0	78.9	7.1	13.2	6.1	0.8	79	5	99
Wuxi	3.8	1.0	54.3	50.0	3.1	14.3	3.4	0.6	48	14	87
Lianyungang	4.7	1.1	46.4	32.3	5.4	6.8	0.4	2.7	70	16	87
Zhuhai	3.7	1.5	46.5	30.0	5.1	4.2	4.9	0.5	68	15	98

<b>City</b>	<b>Taxes &amp; fees (%)</b>	<b>Entertainment costs (%)</b>	<b>Bureaucratic interaction (days)</b>	<b>Private SMEs w/ bank loans (%)</b>	<b>Expectation of informal payments for loans (%)</b>	<b>Days to clear exports &amp; imports</b>	<b>Output losses from power or transport (%)</b>	<b>Labor over-staffing (%)</b>	<b>Confidence in courts (%)</b>	<b>University-educated workers (%)</b>	<b>Private firms (%)</b>
Changzhou	4.0	1.3	28.9	53.6	3.5	13.0	0.9	0.5	66	13	91
Yangzhou	4.0	1.4	46.4	29.4	6.0	11.0	0.9	1.4	70	11	93
Taizhou	5.8	1.6	46.3	64.0	6.2	10.8	6.9	0.4	40	14	94
Shanghai	5.3	1.3	60.0	18.0	2.3	8.7	2.2	1.6	45	23	92
Wenzhou	5.5	1.1	42.0	56.3	7.1	12.4	5.3	0.2	44	13	99
Nanjing	5.4	1.2	88.0	50.0	8.2	9.7	1.8	4.4	62	22	75
Xuzhou	7.5	1.6	66.5	30.4	8.8	11.8	0.8	4.0	61	21	82
Yancheng	4.5	1.9	64.8	43.3	10.5	16.8	0.8	0.9	54	12	96

\* = One of top 10 percent of cities for government effectiveness, based on average of TFP and FDI rankings, per Table B-6.

**Table A-3. Progress Toward Harmonious Society: Rankings and Performance for Southeast Region**

City	Per capita education spending (RMB)	Adequate industrial waste disposal (%)	Per capita green space (m <sup>2</sup> )	Days good or better air quality (%)	Unemployment (%)	Annual average wage (RMB)	Infant mortality (per 1,000)	Permanent workers with health insurance (%)	Female enrollment (%)
Shanghai *	3277	96	10.1	85	4.5	24398	3.8	97	48
Shenzhen *	703	96	16.0	94	2.5	31928	4.8	89	44
Dongguan *	860	90	20.4	98	1.7	25326	9.0	99	44
Hangzhou *	2169	97	10.5	80	4.3	28186	6.3	94	47
Guangzhou *	754	92	10.3	83	2.4	31025	6.6	96	46
Ningbo *	1244	96	10.4	92	3.8	23101	6.7	87	51
Suzhou *	458	99	8.6	84	1.7	22510	6.8	98	49
Zhuhai *	702	95	13.7	100	2.8	20087	7.5	99	45
Huizhou	400	95	11.9	100	2.5	14439	3.7	90	47
Jinhua	499	96	10.4	68	0.8	23262	7.4	76	46
Foshan	606	89	9.2	95	2.3	19562	5.5	94	46
Shaoxing	488	97	13.5	83	3.9	21281	5.8	96	48
Xiamen	525	97	13.7	100	4.1	20925	9.2	95	46
Jiaxing	893	97	10.6	98	3.8	20432	6.3	56	48
Nantong	338	100	8.0	88	1.7	15901	7.2	78	48
Shantou	830	97	8.5	100	3.0	13285	9.2	94	46
Jiangmen	699	95	9.5	96	2.9	13653	7.1	74	48
Quanzhou	482	98	6.6	95	1.2	14465	11.2	83	45
Wuxi	472	98	8.2	81	3.5	20442	6.7	90	46
Changzhou	524	99	6.6	83	3.6	19985	5.5	78	46
Huzhou	318	95	7.4	89	3.8	21477	6.9	69	49
Fuzhou	273	97	9.4	98	3.3	16586	8.3	44	46
Taizhou	482	88	4.5	92	3.8	24307	7.5	63	46
Nanjing	393	90	11.0	80	4.0	22180	6.8	79	43
Xuzhou	793	100	7.4	60	4.0	15809	8.5	65	48
Yangzhou	220	98	9.7	77	4.5	15735	6.2	56	46
Zhangzhou	543	99	7.1	99	4.1	11964	9.1	31	47

<b>City</b>	<b>Per capita education spending (RMB)</b>	<b>Adequate industrial waste disposal (%)</b>	<b>Per capita green space (m2)</b>	<b>Days good or better air quality (%)</b>	<b>Unemployment (%)</b>	<b>Annual average wage (RMB)</b>	<b>Infant mortality (per 1,000)</b>	<b>Permanent workers with health insurance (%)</b>	<b>Female enrollment (%)</b>
Lianyungang	956	100	7.0	89	4.3	12713	12.6	63	44
Maoming	227	89	2.5	99	3.5	14531	7.8	68	40
Wenzhou	766	97	5.4	30	3.1	19141	6.1	62	45
Yancheng	540	97	7.5	76	4.2	11952	10.1	52	45
Sanming	439	93	8.0	68	5.7	15050	9.7	54	46

\* = One of top 10 percent of cities in terms of progress toward a harmonious society, per Table III-7.

## B. BOHAI

Two Shandong cities – Yantai and Linyi – rank above-average in government effectiveness, but also appear above-average in land/labor costs (Table A-4). Several cities, including Beijing and Tianjin, also appear to have above-average land/labor costs, but offer only average or below-average government effectiveness. Another Shandong city, Taian, appears to offer both an above-average government effectiveness and below-average costs. Other Bohai cities that appear to have relatively low costs and which might have the most to gain through more vigorous local government efforts at investment climate improvement are Zibo, Qinhuangdao, Langfang, Jining, and Cangzhou.

<b>Table A-4. Government Effectiveness and Land/Labor Costs Among Bohai Cities</b>				
		<u>Land/labor costs</u>		
		<i>Below average</i>	<i>Average</i>	<i>Above average</i>
<u>Government effectiveness</u>	<i>Above average</i>	Taian	Weihai Qingdao	Yantai Linyi Weifang
	<i>Average</i>	Zibo Qinhuangdao Langfang Jining	Tangshan Jinan Shijiazhuang	
	<i>Below average</i>	Cangzhou	Handan Zhanjiakou	Beijing Baoding Tianjin

The seven cities whose governments appear most effective in creating a good investment climate are all located in Shandong: Weihai, Qingdao, Linyi, Yantai, Weifang, Taian, and Zibo. Of the nineteen Bohai cities covered in the survey, Beijing is ranked 14<sup>th</sup> and Tianjin 15<sup>th</sup> in effectiveness of government measures to create a favorable investment climate. The performance of other Hebei cities varies, with Langfang and Tangshan coming in at 8<sup>th</sup> and 10<sup>th</sup>, respectively, but with Handan and Zhanjiakou the lowest-ranked of Bohai cities.

Firms report taxes/fees at 2.4-3.9 percent of sales in Bohai's top five cities, versus 5.0-6.3 percent in Beijing, Tianjin, Zhangjiakou, and Handan (Table A-5). Entertainment/travel costs are reported to average just 0.4 percent of sales in Linyi and Weihai, versus 1.2-1.7 percent in Qinhuangdao, Beijing, Baoding, and Tianjin.

Days of interaction with the four major government agencies are reported to be particularly low in Langfang (32 days), Weihai (50 days), and Qingdao (36 days). Local bureaucracies appear particularly burdensome in Tangshan (83 days), Shijiazhuang (87 days), Beijing (83 days), Tianjin (93 days), Zhangjiakou (88 days), and Handan (107 days).

Average customs clearance time for exports and imports (combined) is reportedly low for Bohai's top two cities: 4.1 days for Qingdao and 4.9 days for Weihai. The combined averages for most other Bohai cities is 8-9 days. Slow-clearing exceptions are Tangshan (10 days), Qinhuangdao (11.8 days), Cangzhou (14.2 days), Baoding (10.9 days), Zhangjiakou (13.6 days), and Handan (13.7 days).

For most Bohai cities, at least 50 percent of small domestically-invested enterprises report having bank loans. Notable exceptions are Qinhuangdao and Shijiazhuang (both 33 percent) and Handan (27 percent). From among all enterprises surveyed, expectations of informal payments for loans are particularly high in Taian (11.3 percent), Jining (12.9 percent), and Jinan (11.2 percent).

Output losses due to power or transport are reportedly below 1.4 percent for most of the Bohai cities surveyed. The worst-performing exceptions are Handan (2.8 percent), Cangzhou (2.5 percent), and Baoding (2.0 percent). These losses are lower than those typically reported, however, for Southeast cities.

Overstaffing averages 2.5 percent for Bohai cities, but is reportedly higher in Tianjin (4.7 percent), Zhangjiakou (6.9 percent), and Handan (4.4 percent). This may reflect, at least in part, redundant workers at SOEs. While the survey sample for most Bohai cities included 80-90 percent private firms, private sector participation was lower for Zhangjiakou (70 percent) and Handan (74 percent). Thus, the survey sample for these cities included more SOEs: 30 percent for Zhangjiakou and 26 percent for Handan.

Confidence in protection of property/contract rights is 65-85 percent of firms for most of the cities surveyed in Bohai. Among surveyed firms, confidence is notably higher in Qingdao (95 percent) and lower in Tangshan (52 percent), Jinan (56 percent), Cangzhou (47 percent), Beijing (43 percent), and Handan (41 percent).

The university-educated represent 15-25 percent of the workforces at surveyed firms in most Bohai cities. Exceptions are Weihai, Tangshan, Cangzhou, Zhangjiakou (all 12 percent), Weifang (13 percent), and Handan (14 percent) at the low-end, and Beijing (42 percent) and Tianjin (27 percent) at the high-end.

Turning to livability, Beijing and Weihai are in the top 10 percent of surveyed cities in terms of livability (Table A-6). Other cities in Shandong – Jinan, Zibo, Yantai, and Qingdao – follow closely behind.

In terms of industrial waste disposals meeting environmental protection standards, most of the Bohai cities surveyed show 98 percent or better compliance. Langfang and four Shandong cities (Weihai, Yantai, Qingdao, Linyi) show 100 percent compliance. At 93 percent, Jining shows the lowest compliance among the Bohai cities surveyed.

While the air is always good or excellent in two cities along Shandong's coast, Weihai and Yantai, the frequency of good/excellent air quality is much lower in a number of Bohai cities: Beijing (63 percent), Jinan (58 percent), Cangzhou (78 percent), Tangshan

(76 percent), Shijiazhuang (77 percent), Baoding (75 percent), and Zhangjiakou (70 percent).

Per capita green space is 10-20 square meters for Beijing, Weihai, Jinan, Yantai, Qingdao, Langfan, and Taian. Allocations are much smaller for Weifang (5.1 m<sup>2</sup>) and Cangzhou (2.8 m<sup>2</sup>).

Infant mortality is 7.5 or fewer per 1000 for most of the Bohai cities surveyed. The rate is noticeably higher, however, for Jinan (9.8 per 1000), Langfang (9.0), Linyi (9.8), Shijiazhuang (13.0), and Zhangjiakou (16.3).

Health insurance coverage for permanent worker varies widely. The best-performers are Beijing (97 percent), Yantai and Qingdao (both 91 percent), and Tianjin (92 percent). The worst-performers are Linyi (64 percent), Cangzhou (42 percent), Jining and Tangshan (both 52 percent), Baoding (56 percent), and Zhangjiakou (40 percent).

Female enrollment is typically 46-49 percent. Exceptions are Qinhuangdao (53 percent) on the high-end and Taian (40 percent) and Linyi (39 percent) on the low-end.

Per capita expenditures on education are especially high in the leading cities of Beijing (RMB 1044) and Weihai (RMB 1631) as well as in Weifang (RMB 1363). Bohai cities spending less than RMB 400 per capita on education include Yantai, Langfang, Qinhuangdao, Linyi, Cangzhou, Tangshan, Shijiazhuang, Baoding, and Zhangjiakou – which comes in last at RMB 134.

**Table A-5. Government Effectiveness: Rankings and Ratings for Bohai Bay Region**

City	Taxes & fees (%)	Entertainment costs (%)	Bureaucratic interaction (days)	Private SMEs w/ bank loans (%)	Expectation of informal payments for loans (%)	Days to clear exports & imports	Output losses from power or transport (%)	Labor over-staffing (%)	Confidence in courts (%)	University-educated workers (%)	Private firms (%)
Weihai *	3.1	0.4	49.9	75.0	2.0	4.9	0.5	0.2	83	12	79
Qingdao *	3.5	1.1	35.8	53.1	3.1	4.1	1.1	1.4	95	18	85
Linyi *	2.4	0.4	75.1	81.3	4.1	7.8	1.8	0.7	71	16	89
Yantai *	3.9	0.6	60.7	57.1	6.3	6.5	0.7	2.2	83	19	74
Weifang	3.8	0.7	80.4	50.0	9.6	8.8	0.8	1.0	75	13	91
Taian	4.2	0.7	63.4	50.0	11.3	8.9	0.6	2.2	78	24	81
Zibo	4.9	0.8	68.2	66.7	9.1	11.8	1.2	3.1	86	21	82
Langfang	3.7	0.8	32.4	40.0	0.0	9.8	0.7	0.1	74	18	87
Jining	4.5	0.8	55.8	72.2	12.9	8.0	1.3	2.7	85	15	83
Tangshan	4.5	0.5	82.7	50.0	2.4	10.0	1.5	1.2	52	12	88
Jinan	4.9	0.9	54.8	51.5	11.2	9.2	0.8	2.9	56	23	71
Shijiazhuang	4.9	0.8	86.7	33.3	8.4	7.8	1.8	2.1	79	20	62
Qinhuangdao	4.1	1.7	76.5	33.3	5.2	11.8	2.3	1.9	68	19	77
Beijing	5.1	1.2	82.4	44.4	6.3	8.6	1.1	2.6	43	42	81
Tianjin	6.3	1.2	92.9	42.9	6.9	8.2	1.0	4.7	61	27	84
Baoding	4.6	1.6	78.6	61.5	6.2	10.9	2.0	3.8	71	20	84
Cangzhou	3.2	0.9	73.5	42.9	8.0	14.2	2.5	1.1	47	12	90
Zhangjiakou	5.0	1.0	88.1	51.9	5.1	13.6	1.8	6.9	67	12	70
Handan	5.5	0.6	106.8	27.3	8.9	13.7	2.8	4.4	41	14	74

\* = One of top 10 percent of cities for government effectiveness, based on average of TFP and FDI rankings, per Table B-6.

**Table A-6. Progress Toward Harmonious Society: Rankings and Performance for Bohai Bay Region**

City	Per capita education spending (RMB)	Adequate industrial waste disposal (%)	Per capita green space (m2)	Days good or better air quality (%)	Unemployment (%)	Annual average wage (RMB)	Infant mortality (per 1,000)	Permanent workers with health insurance (%)	Female enrollment (%)
Beijing *	1044	99	11.5	63	1.3	29674	4.6	97	48
Weihai *	1631	100	17.5	100	1.7	13070	6.0	71	46
Jinan	2034	98	28.4	58	3.9	18029	9.8	72	47
Zibo	600	99	9.3	84	0.8	14135	3.8	68	48
Yantai	277	100	12.1	100	3.4	16270	5.5	91	49
Qingdao	424	100	11.2	90	3.1	17190	5.1	91	48
Tianjin	725	99	8.1	82	3.8	21146	7.3	92	49
Langfang	347	100	12.0	90	1.0	12210	9.0	66	49
Qinhuangdao	261	99	8.3	96	3.8	15842	4.7	66	53
Weifang	1363	99	5.1	95	2.4	12329	7.1	72	46
Taian	495	99	20.7	98	3.6	11837	6.7	69	40
Linyi	224	100	8.1	89	0.5	11076	9.8	64	39
Cangzhou	344	97	2.8	78	0.5	11211	8.7	42	48
Jining	399	93	9.7	86	3.4	13608	7.5	52	46
Tangshan	246	96	9.9	76	4.0	14079	5.9	52	49
Shijiazhuang	222	97	6.9	77	3.0	13601	13.0	77	48
Baoding	261	98	6.9	75	3.5	11786	6.5	56	48
Zhangjiakou	134	86	6.0	70	4.4	12343	16.3	40	48

\* = One of top 10 percent of cities in terms of progress toward a harmonious society, per Table III-7.

### C. NORTHEAST

While not outstanding in every measure, Dalian is the clear leader among Northeast cities surveyed, both in terms of local efforts at achieving a good investment climate and progress toward achieving a harmonious society. While typically offering lower cost land and labor, cities in the Northeast's interior would need to do much more to improve government effectiveness and quality of life in order to compete with Dalian.

Dalian comes out well in terms of average taxes/fees reported by surveyed firms (3.1 percent of sales revenue) and firm expenditures on entertainment/travel (0.7 percent of sales revenue) (Table A-7). The apparently lower level of fees likely reflects Dalian's prosperity and straightforward approach to administrative fees, while lower expenditure on entertainment/travel likely reflects greater administrative transparency and a heavy presence of foreign firms in Dalian.<sup>54</sup> Taxes/fees are reported to be notably higher in Changchun (6.8 percent of sales), Jilin (6.3 percent of sales), and Benxi (6.2 percent). Firm expenditures on entertainment/travel are relatively high as well in Changchun (1.6 percent), Shenyang (1.8 percent), Fushun (1.5 percent), Ha'erbin (1.9 percent), and Benxi (1.6 percent).

In terms of time demands by major bureaucracies, Dalian is actually the worst-performer among Northeast cities, with an average of 91 days reported by surveyed firms. Other notably poor performers are Anshan (78 days), Qiqihaer (88 days), and Ha'erbin (79.5 days). Several cities appear to minimize bureaucratic time demands: Jinzhou (47 days), Fushun (51 days), Changchun (39 days), and Daqing (49 days).

Average times reported for customs clearance, export and imports combined, were fastest at the Northeast's two top-ranked cities: Dalian (6.7 days) and Jinzhou (8.9 days). Customs clearance is reported substantially slower at Anshan (20.3 days), Shenyang (16.5 days), Jilin (16.0 days), Ha'erbin (18.7 days), and Benxi (20.1 days).

Access to finance is an issue for most Northeast cities, with a few exceptions. The survey indicates that access by small domestically-owned enterprises to bank loans is reasonably high in Jinzhou (47 percent of such firms), Shenyang (53 percent), and Fushun (41 percent). On the other hand, access by small domestic enterprises to bank loans is very low in Changchun (16 percent), Jilin (17 percent), Benxi (18 percent), and Ha'erbin – where only 7 percent of small domestic enterprises have bank loans.<sup>55</sup> While access to bank loans is reasonably good in Shenyang, almost of 10 percent of all firms perceive a need to make informal payments to bank officials in order to get a loan. Informal payment expectations are similarly high in Changchun (over 8 percent) and Benxi (over 10 percent), two cities where small domestic enterprises also suffer from low access to loans.

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<sup>54</sup> World Bank, *A Market-Oriented Approach to Northeast Revitalization*, 2006, p. 64.

<sup>55</sup> The survey defines small domestic enterprises as those with 100 or fewer employees. The zero access figure for Dalian almost certainly reflects that lack of such small domestic firms in Dalian.

Problems with power and transport are reported to be relatively low in most Northeast cities. Two cities where firms report somewhat high losses are Anshan (2.1 percent of output) and Fushun (1.7 percent).

Among Northeast cities surveyed, confidence among firms that property and contract rights will be protected is highest in Dalian (65 percent), Jinzhou (79 percent), Anshan (67 percent), and Changchun (70 percent). Confidence is lowest in Qiqihaer and Shenyang (54 percent), Fushun (40 percent), Ha'erbin (50 percent), and Benxi (55 percent).

Labor overstaffing is also lowest Dalian (1.2 percent), Jinzhou (2.1 percent), Anshan (1.5 percent), and Changchun (2.5 percent). Overstaffing is highest in Qiqihaer (6.9 percent), Ha'erbin (6.3 percent), and Benxi (5.5 percent). The differences likely reflect the combined effects of economic vitality in the Northeast's leading cities, plus SOE and labor regulation rigidities in the lagging cities.

Education levels are high in the Northeast. Numbers of university-educated workers at surveyed firms are especially high in Dalian (26 percent), Changchun (29 percent), Shenyang (31 percent), and Ha'erbin (38 percent).

As for livability indicators, despite the higher levels of university education in the Northeast, per capita expenditures on education are relatively low, typically at RMB 400-600 (Table A-8). Northeast leaders on education spending are Dalian (RMB 606), Daqing (RMB 757), and Ha'erbin (RMB 760). Laggards are Qiqihaer (RMB 234), Fushun (RMB 225), Jinzhou (RMB 216), and Benxi – at a remarkably low RMB 63.

Females account for 47-49 percent of student enrollment for all surveyed cities, except for Shenyang where it is somewhat higher (52 percent).

As for health indicators, infant mortality rates vary widely. Infant mortality exceeds 10 per 1000 in Dalian, Daqing, and Anshan, and is 6 or fewer per 1000 in Qiqihaer and Benxi.

Medical insurance coverage for permanent workers is 60-80 percent for most Northeast cities, but higher in Dalian (99 percent), Daqing (87 percent), and Ha'erbin (81 percent) and lower in Changchun, Jilin, Fushun, and Jinzhou (56-59 percent) and Anshan (49 percent).

Conformity with environmental rules for the disposal of industrial waste is highest in Dalian, Qiqihaer, and Benxi (all 97 percent), and lowest in Changchun (90 percent), Anshan (87 percent), and Jinzhou (72 percent). Good or excellent air quality is most common for Dalian and Daqing (96-97 percent of days) and lowest for Fushun and Anshan (70 percent), Benxi (67 percent), and Jilin city (61 percent). Per capita green space, generally 6-7 square meters for Northeast cities is highest for Dalian (8.5 m<sup>2</sup>) and lowest for Qiqihaer (5.4 m<sup>2</sup>).

**Table A-7. Government Effectiveness: Rankings and Performance for Northeast Region**

<b>City</b>	<b>Taxes &amp; fees (%)</b>	<b>Entertainment costs (%)</b>	<b>Bureaucratic interaction (days)</b>	<b>Private SMEs w/ bank loans (%)</b>	<b>Expectation of informal payments for loans (%)</b>	<b>Days to clear exports &amp; imports</b>	<b>Output losses from power or transport (%)</b>	<b>Labor over-staffing (%)</b>	<b>Confidence in courts (%)</b>	<b>University-educated workers (%)</b>	<b>Private firms (%)</b>
Dalian *	3.1	0.7	91.4	n.m.	2.1	6.7	0.5	1.2	65	26	84
Jinzhou	5.2	1.1	47.0	47.2	5.5	8.9	0.6	2.1	79	22	94
Anshan	5.8	0.9	78.4	33.3	7.1	20.3	2.1	1.5	67	15	62
Fushun	5.9	1.5	51.4	42.3	5.4	10.6	1.7	3.6	40	19	65
Changchun	6.8	1.6	38.7	16.0	8.1	12.6	0.1	2.5	70	29	68
Shenyang	4.6	1.8	58.9	52.6	9.8	16.5	0.9	3.6	54	31	73
Qiqihaer	5.2	1.1	87.8	32.4	5.0	12.6	0.6	6.9	54	19	71
Jilin	6.3	1.4	57.1	16.7	3.6	16.0	1.0	3.7	65	18	75
Daqing	5.3	1.1	49.0	11.1	0.0	8.1	0.7	3.6	37	19	60
Ha'erbin	5.2	1.9	79.5	6.9	6.8	18.7	0.9	6.3	50	38	69
Benxi	6.2	1.6	58.7	17.8	10.3	20.1	1.1	5.5	55	13	72

\* = One of top 10 percent of cities for government effectiveness, based on average of TFP and FDI rankings, per Table B-6.

**Table A-8. Progress Toward Harmonious Society: Rankings and Performance for Northeast Cities**

<b>City</b>	<b>Per capita education spending (RMB)</b>	<b>Adequate industrial waste disposal (%)</b>	<b>Per capita green space (m2)</b>	<b>Days good or better air quality (%)</b>	<b>Unemployment (%)</b>	<b>Annual average wage (RMB)</b>	<b>Infant mortality (per 1,000)</b>	<b>Permanent workers with health insurance (%)</b>	<b>Female enrollment (%)</b>
Dalian	606	97	8.5	96	4.4	19719	10.6	99	49
Daqing	757	95	6.3	97	4.3	22618	10.7	87	47
Harbin	760	92	6.2	82	3.8	11883	6.8	81	49
Changchun	434	90	6.0	94	4.0	15722	8.1	56	47
Qiqihaer	234	97	5.4	88	4.8	10895	1.5	60	49
Jilin	464	94	6.4	61	3.9	12694	8.5	59	52
Shenyang	398	93	8.2	82	5.9	13815	9.0	80	48
Benxi	63	97	6.8	67	5.6	10147	6.0	69	49
Fushun	225	96	6.9	70	5.7	13915	9.0	56	48
Anshan	522	87	7.3	70	5.9	11037	10.8	49	48
Jinzhou	216	72	6.3	79	5.8	12200	8.7	58	49

Ranking based on Table III-7.

## D. CENTRAL

The Central region's main competitor is the Southeast – for example, cities in the Yangtze River delta for Jiangxi and Anhui cities and cities in the Pearl River delta for Hunan, Hubei, and Henan cities. The municipal governments of Central region cities need to outperform Southeast cities in creating a good investment climate in order to improve productivity and offset Central's transport cost disadvantage vis-à-vis the Southeast.

The three Central cities rated tops in investment climate – Nanchang in Jiangxi province and Shangqiu and Zhoukou in Henan province – actually out-perform Southeast averages in three out of four measures of government efficiency.

- Taxes and fees represent 2.6-3.3 percent of sales revenue in Shangqiu and Zhoukou, (Table A-9), versus an average of 4.1 percent for Southeast cities. For most Central cities in the survey, firms report that taxes/fees represent 4-6 percent of sales revenue. The survey indicates that the taxes/fees exceed 6 percent of sales in Zhuzhou, Changsha, Changde, Yichun, and Wuhan.
- For twelve Central cities – including Shangqiu, Zhoukou, Nanchang, and Shangrao – reported entertainment/travel expenditures are below the 1.0 percent average for Southeast cities. Reported firm expenditures on entertainment/travel were noticeably high, however, in several Central cities: Chuzhou and Hengyang (2.0 percent), Wuhan and Huanggang (1.6 percent), Changde and Luoyang (1.8 percent), and Changsha (2.3 percent).
- For about half the Central cities – including Shangqiu, Zhoukou, Nanchang, and Shangrao – reported average firm interactions with major bureaucracies were less than the 52-day average for Southeast cities. Bureaucratic demands were relatively high, however, for several Central cities: Hefei and Luoyang (74 days), Xiangfan and Nanyang (73 days), Wuhan (87 days), and Xiaogan and Changsha (70-71 days).
- Compared with the 7.3 days average for the Southeast, customs clearance is somewhat slower for Central's three top-rated cities: Nanchang (7.8 days) Shangqiu (11.0 days), and Zhoukou (10.1 days). The survey indicates that two Central cities are faster: Xuchang (6.9 days) and Ganzhou (5.4 days). In many Central cities, however, customs clearance takes more than twice as long as it does on average in the Southeast: Yichang and Chuzhou (22 days), Nanyang (26), Xinxiang (17), Chenzhou (19), Changsha and Changde (20-21 days), and Huanggang (29 days).

Central cities compare well with the Southeast in terms of access by small domestically-invested enterprises to bank loans, but expectations of informal payments for loans are more commonplace in Central China. Cities with particular issues include Shangqiu, where access is lower but 14 percent of firms expect to make informal payments; Xuchang, where a similar pattern is reported; and Luoyang, where only 27.5 percent of

the small domestically-invested firms surveyed reported having bank loans and where 15.7 percent of all firms expect to make informal payments in order to obtain loans.

While one Central city beats the Southeast's 0.9 percent overstaffing average – Shangqiu (0.7 percent) – the overstaffing average among Central cities (3.3 percent) is higher. The survey indicates that overstaffing is notably high in Anqing (4.9 percent), Yeuyang (5.9 percent), Nanyang (4.7 percent), Wuhan (4.8 percent), Changsha (4.9 percent), Hengyang (10.2 percent), and Huanggang (6.1 percent). This likely reflects the somewhat greater role of SOEs. SOEs account for 47-62 percent of industrial sales in Central provinces, versus 12-40 percent for Southeast provinces. Central region cities may also be somewhat more stringent in enforcing China's labor laws and regulations.

Confidence in protection of property and contract rights exceeds the 66 percent average for Southeast cities in about half the Central region cities, including in Shangqiu, Zhoukou, Nanchang, and Shangrao. Less than half the surveyed firms are confident, however, in several Central cities: Xiangfan (40 percent), Xinxiang (40 percent), and Hengyang (39 percent).

Power and transport infrastructure seems adequate in most Central cities. Reported output losses from power outages or poor transport exceed the Southeast's 3.1 percent average in only eight cases: Yichang (4.9 percent), Yueyang and Chenzhou (5.0 percent), Changde (5.7 percent), Changsha (6.0 percent), Luoyang (3.1 percent), and Hengyang (4.9 percent).

Likely reflecting a more stable workforce, reported percentages of university-educated workers exceed the 15 percent average for Southeast cities in just over half of Central cities. Rates are particularly high for Nanchang and Hefei (each 29 percent), Zhengzhou (21 percent), Wuhan (31 percent), and Changsha (29 percent). Surveyed firms report that university-educated represent just 12 percent or less of the workforce in several Central cities: Shangqiu, Shangrao, Xuchang, Anqing, Chuzhou, Jiujiang, Chenzhou, Yichun, and Huanggang.

Turning to livability, the top three cities in Central China are Nanchang, Shangrao, and Changde. Indeed, Nanchang is among the top 10 percent of surveyed cities in livability (Table A-10).

Consistent with its high percentage of university-educated workers, Nanchang leads in per capita expenditures on education (RMB 4222). Other leaders in resources for education are Shangrao (RMB 2,946) and Jingmen (RMB 1513). While average spending for Central cities is RMB 690, thirteen cities spend less than half this: Hengyang (RMB 96), Xiangfan (RMB 170), Zhengzhou (RMB 267), Hefei (RMB 294), Zhoukou (RMB 207), Chuzhou (RMB 233), Xiaogan (RMB 257), Xuchang (RMB 251), Handan (RMB 232), Shangqiu (RMB 118), Luoyang (RMB 149), Ganzhou (RMB 120), and Huanggang (RMB 128). Female enrollment is typically 45-49 percent. Female enrollment is particularly high in Chenzhou (53 percent) and low in Yueyang and Xinxiang (both 33 percent).

As for environmental measures, only in Anqing does 100 percent of industrial waste disposal meet environmental protection standards. The two most livable cities do relatively well, with Nanchang at 95 percent and Shangrao at 90 percent. Other leaders, at 95 percent or better, are Wuhu, Zhengzhou, Hefei, Zhoukou, Xiaogan, Xuchang, and Handan. Lagging cities are Jingzhou (68 percent), Zhuzhou (84 percent), Ganzhou (52 percent), and Huanggang (75 percent).

Air quality varies widely in Central China. Twelve cities have good or excellent air quality at least 90 percent of the time: Nanchang, Shangrao, Wuhu, Jiujiang, Chuzhou, Yichun, Xiaogan, Xuchang, Chenzhou, Anqing, Shangqiu, and Ganzhou. \_\_\_ cities have good or excellent air quality less than 75 percent of the time: Changsha (60 percent), Wuhan (68 percent), Yichang (72 percent), Handan (69 percent), Zhuzhou (54 percent), Luoyang (43 percent), Nanyang (26 percent), and Huanggang (59 percent).

In terms of per capita green space, the leading cities are somewhat cramped: Nanchang (7.2 m<sup>2</sup>) and Shangrao (7.1 m<sup>2</sup>). Several Central cities have 20-30 square meters of green space per resident: Changde, Hengyang, Xiangfan, and Yueyang.

As for health indicators, several Central cities compare favorably with the Southeast's 7.4 per 1000 infant mortality rate: Changde (5.8), Xiangfan (7.2), Wuhan (4.9), and Jingzhou (4.5). But infant mortality rates are more than double in Jiujiang (15.9), Yichun (15.7), Xuchang (16.0), Chenzhou (15.9), Anqing (17.9), Luoyang (15.4), Nanyang (24.3), and Ganzhou (19.2).

Consistent perhaps with higher overstaffing – suggesting less competition for labor – health insurance coverage in Central cities is less common than in the Southeast. A few Central cities meet or surpass the Southeast's average of 78 percent of permanent workers with health insurance: Shangrao and Changsha (both 78 percent), Hefei (92 percent), Jiujiang (80 percent), Wuhan (87 percent), and Zhoukou (92 percent). But the survey indicates that fewer than half of permanent workers have health insurance in many Central cities: Xiaogan, Xuchang, Chenzhou, Anqing, Handan, and Huanggang.

**Table A-9. Government Effectiveness: Rankings and Performance for Central Region**

<b>City</b>	<b>Taxes &amp; fees (%)</b>	<b>Entertainment costs (%)</b>	<b>Bureaucratic interaction (days)</b>	<b>Private SMEs w/ bank loans (%)</b>	<b>Expectation of informal payments for loans (%)</b>	<b>Days to clear exports &amp; imports</b>	<b>Output losses from power or transport (%)</b>	<b>Labor over-staffing (%)</b>	<b>Confidence in courts (%)</b>	<b>University-educated workers (%)</b>	<b>Private firms (%)</b>
Nanchang	4.3	0.9	45.7	52.4	5.2	7.8	1.6	3.2	75	29	74
Shangqiu	2.6	0.7	28.7	31.7	13.8	11.0	0.4	0.7	87	11	87
Zhoukou	3.3	0.7	25.9	42.3	3.5	10.1	0.0	1.0	93	18	85
Xuchang	5.3	0.9	18.0	37.5	13.2	6.9	0.4	1.7	57	10	91
Ganzhou	5.0	0.9	40.0	52.4	6.4	5.4	1.8	1.6	56	13	92
Shangrao	4.9	0.7	14.0	59.0	0.0	9.6	0.1	1.5	95	11	84
Hefei	3.6	1.1	73.7	50.0	8.1	12.4	1.5	2.1	54	29	80
Anqing	3.8	1.0	40.8	50.0	6.0	7.7	1.7	4.9	81	12	76
Jingmen	5.1	1.3	59.7	53.3	9.2	9.9	1.7	1.7	70	14	92
Zhengzhou	5.1	0.9	38.7	50.0	3.1	12.7	0.5	2.5	75	21	85
Jingzhou	4.7	0.8	68.4	50.0	10.1	13.3	3.9	1.6	55	18	94
Wuhu	5.3	0.8	46.3	53.8	2.1	9.0	0.1	1.0	83	15	88
Xiangfan	5.3	0.7	73.3	50.0	11.4	13.6	0.7	3.0	40	18	80
Yueyang	2.9	1.3	49.1	47.2	24.2	14.5	5.0	5.9	62	18	80
Wuhan	6.9	1.6	87.4	57.1	5.3	12.2	1.9	4.8	63	36	74
Yichun	7.4	1.4	35.7	48.0	10.1	10.0	2.2	3.2	70	11	88
Jiujiang	5.2	1.3	41.4	53.8	0.0	12.8	0.4	3.4	88	12	74
Xiaogan	4.2	0.9	70.1	58.1	11.3	14.5	2.8	1.8	79	17	90
Yichang	5.1	1.2	60.5	50.0	6.3	21.9	4.9	2.7	84	18	87
Chuzhou	3.9	2.0	41.7	44.8	6.9	22.2	2.4	1.4	78	11	88
Xinxiang	4.5	1.5	62.4	21.1	8.2	17.2	2.5	4.4	40	17	67
Nanyang	5.5	0.6	72.9	68.4	8.7	26.2	2.5	4.7	56	16	75
Hengyang	4.2	2.0	50.2	40.6	28.0	13.6	4.9	10.2	39	16	63
Luoyang	5.6	1.8	73.9	27.5	15.7	12.2	3.6	3.1	48	18	80

<b>City</b>	<b>Taxes &amp; fees (%)</b>	<b>Entertainment costs (%)</b>	<b>Bureaucratic interaction (days)</b>	<b>Private SMEs w/ bank loans (%)</b>	<b>Expectation of informal payments for loans (%)</b>	<b>Days to clear exports &amp; imports</b>	<b>Output losses from power or transport (%)</b>	<b>Labor over-staffing (%)</b>	<b>Confidence in courts (%)</b>	<b>University-educated workers (%)</b>	<b>Private firms (%)</b>
Chenzhou	5.7	1.1	45.1	41.2	6.2	19.1	5.0	1.9	81	11	85
Changsha	6.9	2.3	71.2	66.7	14.9	19.8	6.0	4.9	65	29	76
Changde	6.3	1.8	60.2	46.2	16.2	21.1	5.7	4.3	41	15	90
Zhuzhou	6.8	2.0	52.2	37.5	16.3	14.7	5.4	6.7	36	25	79
Huanggang	5.9	1.6	46.9	45.5	8.0	28.7	0.7	6.1	70	11	86

Note: Ranking is based on average of TFP and FDI rankings, per Table B-6.

**Table A-10. Progress Toward Harmonious Society: Rankings and Performance for Central Region**

City	Per capita education spending (RMB)	Adequate industrial waste disposal (%)	Per capita green space (m2)	Days good or better air quality (%)	Unemployment (%)	Annual average wage (RMB)	Infant mortality (per 1,000)	Permanent workers with health insurance (%)	Female enrollment (%)
Nanchang *	4222	95	7.2	90	3.0	15558	8.9	56	47
Shangrao	2946	90	7.1	99	3.4	10361	14.6	78	47
Changde	584	87	21.8	89	4.2	12936	5.8	58	49
Hengyang	96	88	33.0	86	4.2	12017	11.8	55	47
Xiangfan	170	82	37.8	75	4.5	7766	7.2	70	48
Jingmen	1513	91	7.5	85	4.2	10455	7.4	72	49
Wuhu	345	99	8.2	94	3.1	14165	12.7	56	46
Zhengzhou	267	98	7.3	82	2.9	15024	11.0	51	48
Hefei	294	95	8.0	86	4.4	14925	8.5	92	44
Changsha	999	88	7.4	60	3.9	18945	9.4	78	47
Jiujiang	1146	93	10.1	90	3.9	10618	15.9	80	46
Wuhan	530	93	8.8	68	4.2	13818	4.9	87	44
Yueyang	772	89	29.3	76	4.5	12275	8.6	54	33
Zhoukou	207	98	4.0	81	3.2	7203	9.2	92	48
Chuzhou	233	94	3.3	94	3.4	10006	9.1	52	46
Yichun	383	92	11.8	96	3.8	11160	15.7	50	45
Xiaogan	257	96	0.3	95	2.8	8764	7.4	47	44
Xuchang	251	98	8.3	90	3.0	9708	16.0	43	46
Chenzhou	335	83	7.2	97	3.6	11800	15.9	45	53
Yichang	705	84	8.8	72	4.3	10636	9.8	74	49
Anqing	390	100	8.2	95	3.9	9664	17.9	46	46
Handan	232	96	8.4	69	4.0	13425	12.8	43	49
Jingzhou	1088	68	7.6	82	4.4	9264	4.5	74	46
Xinxiang	882	92	6.5	81	3.1	9513	10.4	83	33
Shangqiu	118	74	3.7	90	1.2	8379	12.3	70	48
Zhuzhou	666	84	6.1	54	3.6	12264	13.4	66	45

<b>City</b>	<b>Per capita education spending (RMB)</b>	<b>Adequate industrial waste disposal (%)</b>	<b>Per capita green space (m2)</b>	<b>Days good or better air quality (%)</b>	<b>Unemployment (%)</b>	<b>Annual average wage (RMB)</b>	<b>Infant mortality (per 1,000)</b>	<b>Permanent workers with health insurance (%)</b>	<b>Female enrollment (%)</b>
Luoyang	149	91	7.5	43	5.3	13030	15.4	59	48
Nanyang	209	94	13.0	26	3.2	10164	24.3	70	47
Ganzhou	120	52	6.8	95	3.4	10323	19.2	58	45
Huanggang	128	75	4.6	59	4.4	6584	11.1	40	45

\* = One of top 10 percent of cities in terms of progress toward a harmonious society, per Table III-7.

## E. SOUTHWEST

The Southwest's main competitor is also the Southeast, especially such Guangdong cities as Jiangmen, Dongguan, Shantou, Foshan, and Guangzhou. These five cities should serve benchmark against which to compare the performance of Southeast cities. Municipal governments in the Southwest will need to outperform Guangdong's "top five" in creating a good investment climate in order to begin offsetting the Southeast's market and transportation advantages.

The four Southwest cities rated best in government effectiveness – the Deyang, Chongqing, Leshan, and Chengdu – lag behind Guangdong's top five in government efficiency. Performance by other Southwest cities is reportedly worse.

- Taxes and fees represent 4.7-5.1 percent of sales revenue for Deyang, Chongqing, Leshan, and Chengdu (Table A-11), versus an average of 3.1 percent for Guangdong's top five. Taxes and fees are more than double this rate in several Southwest cities: Yibin (6.6 percent), Yuxi (6.4 percent), Qujing (7.8 percent), Guilin (6.9 percent), Guiyang (8 percent), Zunyi (7.9 percent), Nanning (7.3 percent), and Haikou (8.7 percent).
- Leshan, Deyang, and Chongqing compare favorably with Guangdong's top five cities in terms of firm expenditures on entertainment and travel (about 0.6 percent of sales revenue). Entertainment and travel expenditures are more than double this rate in several Southwest cities: Chengdu (1.6 percent), Guiyang and Zunyi (both 1.8 percent), and Haikou (2.4 percent).
- At 48-54 days of bureaucratic interaction, Deyang and Leshan compare favorably with the 55-day average for Guangdong's top five. Firms in Chongqing report an average of 75 days a year of interaction with major bureaucracies. The survey indicates that bureaucratic demands are especially high in Kunming (97 days), Guiyang (87 days), and Zunyi (85 days).
- Customs clearance for exports and imports in Deyang, Chongqing, and Chengdu (11-12 days) reportedly takes almost three times as long on average as in Guangdong's top five (4.3 days). While firms report that customs clearance in Yuxi and Haikou is faster than in Chongqing, several Southwest cities are real laggards: Leshan (24 days), Liuzhou (23 days), and Zunyi (33 days).

Access to bank loans by small domestically-owned enterprises is actually better in most Southwest cities than in Guangdong's first five. That small firms in slower-growth regions have better access than those in faster-growing regions is somewhat surprising and, as noted earlier, suggests some "stickiness" in commercial bank operations. Access by small domestically-invested firms is notably low in Nanning (30.8 percent) and Haikou (23.8 percent).

The survey indicates that many Southwest firms perceive a need to make informal payments to get loans. The informal payments expectations rate is lower than the average for Guangdong's five best in a few Southwest cities: Chengdu, Liuzhou, Yuxi,

and Guiyang. But expectations of informal payments for loans is high in Leshan (11.3 percent), Yibin (13.7 percent), Zunyi (7.8 percent), Nanning (7.1 percent), and Haikou (9.5 percent).

Among all Southwest cities, labor overstaffing is higher than the 0.9 percent average for Guangdong's first five. The survey indicates that labor staffing is 1.4-2.8 percent in the Southwest's nine highest-ranked cities. Overstaffing reportedly is especially high in Liuzhou and Qujing (3.7-3.9 percent), Guiyang (4.6 percent), Haikou (4.8 percent), Zunyi (5.0 percent), and Nanning (6.0 percent). This likely reflects overstaffing at local SOEs, which account for 56-71 percent of industrial sales in Yunnan, Guizhou, and Guangxi – versus 20 percent in Guangdong.

Confidence among firms in the Southwest's four leading cities in protection of their property and contract rights compares favorably with Guangdong. The survey indicates that confidence is low, however, in Kunming and Zunyi (43 percent), Guiyang and Haikou (47 percent), and Nanning (36 percent).

While infrastructure losses (mainly due to power outages) are an issue in Guangdong, this appears to be a bigger issue for firms in Southwest cities. Firms in Deyang and Chongqing report output losses of just 2.0-2.5 percent. But firms report higher output losses of 6-9 percent for Leshan, Kunming, Liuzhou, Guilin, and Nanning; 9.4 percent for Yuxi; and 10.3 percent for Qujing.

For two-thirds of the Southwest cities surveyed, the survey indicates that percentages of university-educated workers exceed the average for Guangdong's first five cities. Rates are 20-29 percent for Mianyang, Chongqing, Kunming, Guilin, Guiyang, and Nanning; 30 percent for surveyed firms in Haikou; and 31 percent for surveyed firms in Chengdu.

Turning to livability, Mianyang is in the top 10 percent of surveyed cities in livability, which mainly reflects good performances in industrial waste disposal and air quality (Table A-12). Among all six of the Southwest's most livable cities – Mianyang, Huizhou, Haikou, Kunming, Guilin, and Chengdu – 95-100 percent of industrial waste disposals meet environmental protection standards. The rate is also 95 percent in Leshan. Compliance with environmental standards for disposal of industrial waste is especially low, however, in Yuxi (55 percent), Guiyang (79 percent), Yibin (78 percent), and Zunyi (53 percent).

Most of the Southwest cities surveyed have good or excellent air quality at least 90 percent of the time: Mianyang, Huizhou, Haikou, Kunming, Guilin, Nanning, Yuxi, Leshan, Deyang, Guiyang, and Qujing. At 60-66 percent of days, only in Yibin and Chongqing does air quality approximate the standard for Beijing (63 percent).

Despite Kunming's reputation as a garden city, most Southwest cities surveyed actually exceed Kunming's 7.9 square meters of per capita green space. In several cities, however, residents enjoy only 4-5 square meters of per capita green space: Leshan, Yibin, Chongqing, and Qujing.

Despite its overall livability, Mianyang ranks near the bottom in terms of per capita expenditures on education (RMB 143). Spending rates are similarly low in Leshan (RMB 185), Deyang (RMB 93), and Qujing (RMB 198). Rates are not much better in the well-known cities of Kunming (RMB 386), Chengdu (RMB 417), Nanning (RMB 233), Guiyang (RMB 328), and Chongqing (RMB 485). Leaders among Southwest cities in education spending are Yuxi (RMB 2135 per capita) and Guilin (RMB 1306). Female enrollment is generally 45-49 percent among Southwest cities, except for Yuxi (43 percent).

Infant mortality rates are less than 5 per 1000 in four Southwest cities: Huizhou, Kunming, Deyang, and Yibin. But rates are 12-18 per 1000 in Chengdu, Yuxi, Guiyang, Liuzhou, and Chongqing; 24 per 1000 in Zunyi; and 27.8 per 1000 in Qujing.

Most of the Southwest cities surveyed do better than Guangdong's first five in terms of health insurance coverage for permanent workers. Only in Guilin, Chongqing, and Zunyi do fewer than two-thirds of permanent workers have health insurance.

**Table A-11. Government Effectiveness: Rankings and Performance for Southwest Region**

City	Taxes & fees (%)	Entertainment costs (%)	Bureaucratic interaction (days)	Private SMEs w/ bank loans (%)	Expectation of informal payments for loans (%)	Days to clear exports & imports	Output losses from power or transport (%)	Labor over-staffing (%)	Confidence in courts (%)	University-educated workers (%)	Private firms (%)
Deyang	5.0	0.6	47.5	77.3	5.2	11.4	2.0	1.6	83	13	90
Chongqing	5.1	0.7	74.4	58.8	5.0	10.8	2.5	2.7	71	21	83
Leshan	4.7	0.6	53.6	40.0	11.3	24.2	8.3	2.6	70	14	95
Chengdu	5.0	1.6	67.8	47.1	3.3	10.9	4.6	2.5	72	31	88
Kunming	5.8	1.1	96.6	52.6	4.2	12.8	8.0	2.8	43	20	74
Yuxi	6.4	0.7	66.2	76.9	1.0	10.2	9.4	1.8	73	13	84
Guilin	6.9	1.5	33.9	42.4	6.0	10.9	7.0	2.8	72	24	70
Mianyang	5.2	1.2	53.8	45.8	5.4	11.6	5.1	1.4	69	20	94
Yibin	6.6	0.9	74.5	50.0	13.7	16.2	5.5	2.7	56	10	95
Liuzhou	5.2	1.0	56.3	55.6	2.0	22.8	6.1	3.7	67	19	80
Haikou	8.7	2.4	62.1	23.8	9.5	10.2	2.6	4.8	47	30	75
Qujing	7.8	1.0	76.3	45.5	5.1	13.8	10.3	3.9	65	10	67
Guiyang	8.0	1.8	86.6	43.8	1.1	14.4	5.9	4.6	47	29	74
Nanning	7.3	1.4	45.3	30.8	7.1	12.8	7.3	6.1	36	24	66
Zunyi	7.9	1.8	85.2	50.0	7.8	32.9	5.2	5.0	43	19	74

Note: Ranking is based on average of TFP and FDI rankings, per Table B-6.

**Table A-12. Progress Toward Harmonious Society: Rankings and Performance for Southwest Region**

City	Per capita education spending (RMB)	Adequate industrial waste disposal (%)	Per capita green space (m2)	Days good or better air quality (%)	Unemployment (%)	Annual average wage (RMB)	Infant mortality (per 1,000)	Permanent workers with health insurance (%)	Female enrollment (%)
Mianyang *	143	97	30.0	93	1.8	12954	11.9	80	48
Haikou	244	96	8.3	99	3.4	17613	10.6	98	.
Kunming	386	98	7.9	100	3.7	15464	4.6	82	48
Guilin	1306	97	8.9	100	4.8	13794	11.0	66	48
Chengdu	417	100	9.2	85	3.1	17556	14.3	91	47
Nanning	233	90	10.7	95	4.0	15447	11.8	87	48
Yuxi	2135	55	14.6	97	2.7	16454	15.1	65	43
Leshan	185	95	4.8	93	3.9	11384	9.8	60	48
Deyang	93	92	6.7	97	8.5	16129	3.6	86	49
Guiyang	328	79	8.7	92	4.1	14099	14.9	81	48
Liuzhou	276	81	10.4	79	4.2	16504	16.5	82	48
Yibin	208	78	4.4	60	4.6	12953	0.2	80	47
Chongqing	485	93	4.1	66	4.1	14357	13.6	57	47
Qujing	198	93	4.5	98	3.1	14847	27.8	77	45
Zunyi	224	53	11.4	78	4.1	13408	24.0	64	48

\* = One of top 10 percent of cities in terms of progress toward a harmonious society, per Table III-7.

## F. NORTHWEST

Since Bohai ports are a natural outlet to the sea for many firms in Northwest China, leading Bohai cities (e.g., Linyi, Weihai, Yantai, Zibo, and Qingdao) provide an appropriate performance benchmark for China's Northwest.

The three Northwest cities rated tops in investment climate – Wuzhong, Wulumuqi, and Yinchuan – fall behind Shandong's best in most measures of government efficiency:

- Taxes and fees represent 3.6 percent of sales revenues for surveyed firms in Yinchuan (Table A-13), which compares favorably with the leading Bohai cities. The rate for Wulumuqi, however, is 5.3 percent. Taxes and fees exceed 6 percent of sales, however, in the Northwest cities of Huhehaote, Xi'an, Datong, and Tianshui.
- Compared with 0.7 percent of sales revenue average for Shandong's best cities, firms report relatively low entertainment and travel expenses in Yinchuan, Datong, and Taiyuan (1.3 percent), Wuzhong (1.0 percent), Yuncheng (0.6 percent), Baoji (1.2 percent), and Lanzhou (1.0 percent). Firm expenditures on entertainment and travel range from 1.5-1.9 percent of sales revenues in Xianyang, Huhehaote, Xining, Xi'an, Wulumuqi, and Tianshui – more than double the rate for Shandong's top-rated cities.
- As for bureaucratic demands, the Northwest's three best cities compare favorably with Shandong's 58-day standard – Wuzhong at 45 days, Wulumuqi (60 days), and Yinchuan (62 days). Xining (47 days) also compares favorably. The survey indicates that local bureaucratic demands are extremely high in Lanzhou (98 days), Xi'an (121 days), Taiyuan (110 days), and Baotou (130 days)
- None of the Northwest cities surveyed achieve the Shandong benchmark (7 days) for customs clearance. With an average of 9.8 days, Wulumuqi is the Northwest's fastest. Compared with the Shandong benchmark, customs clearance takes more than twice as long in most of the cities surveyed in the Northwest: Yinchuan (35 days), Yuncheng, Taiyuan, and Tianshui (20 days), Baoji (18 days), and Xining and Datong (21 days).

Thus, four Northwest cities score poorly on three out of four measures of government efficiency: Xining, Xi'an, Taiyuan, and Tianshui.

Looking at access to bank loans by small domestically-invested firms, Yuncheng and Lanzhou are more or less comparable to the Shandong benchmark. The survey indicates that levels of SME borrowing are reasonable in several other Northwest cities. Access by such firms to bank loans seems especially low, however, in Xianyang, Huhehaote, and Xining (30-32 percent), Xi'an and Wulumuqi (20-21 percent), and Datong (10.5 percent).

More than 10 percent of all surveyed firms in Yinchuan, Yuncheng, Xianyang, Xining, Xi'an, Datong, and Taiyuan perceive a need to make informal payments for loans. Such

expectations are highest among surveyed firms in Taiyuan (18.4 percent) and Yuncheng (15.3 percent).

Overstaffing reported by firms in all the Northwest cities surveyed exceeds the Shandong benchmark of 1.5 percent. Reported overstaffing is lowest among firms in Yinchuan, Wuzhong, and Huhehaote (1.9-2.0 percent). Compared with the Shandong benchmark, overstaffing is 3-4 times higher among firms in Baoji (4.1 percent); 4-5 times higher in Lanzhou and Xi'an (6.3 percent); and more than five times higher in Tianshui and Baotou (7.6-7.9 percent). It may be that China's labor laws and regulations are more rigorously enforced in the Northwest. Dominance of local economies by over-staffed SOEs, however, seems a more likely explanation. For instance, SOEs account for 81 percent of industrial sales in Shaanxi and Gansu, versus 34 percent for Shandong.

Output losses due to problems with power or transport are reportedly high in Northwest cities. Firms in Yinchuan, Wuzhong, Baoji, Lanzhou, and Xi'an report the lowest losses, ranging from 0.8 percent to 1.9 percent of output. This is more or less comparable to the Shandong benchmark (1.1 percent of losses). Losses reported by surveyed firms are noticeably high in Yuncheng (8.0 percent), Datong and Baotou (4.1-4.3 percent), and Taiyuan (5.4 percent).

Confidence that property and contract rights will be protected is low among Northwest firms. Only Yuncheng (77 percent confident) begins to approach the confidence level (84 percent) for top-ranked Shandong cities. Confidence in property and contract rights is 50 percent or less among surveyed firms in Yuncheng, Huhehaote, Lanzhou, Xining, Xi'an, Datong, Wulumuqi, Tianshui, and Baotou. Confidence is particularly low in Huhehaote (27 percent) and Datong (30 percent).

Most of the Northwest cities surveyed top the Shandong benchmark (17.2 percent) of workers with university education. Percentages are especially high in Xianyang, Huhehaote, and Taiyuan (23-25 percent), Wulumuqi (27 percent), and Xi'an (36 percent). The high survey findings for Xi'an and Wulumuqi may reflect these cities' traditional strengths in high-tech sectors – including nuclear energy, aviation, and information technology. Firms report reasonable percentages of university-educated workers in other Northwest cities, except for Wuzhong (9 percent).

Turning to quality of life, while Taiyuan appears to be the Northwest's most livable city, nationwide it is ranked 54<sup>th</sup> among the 120 cities in this survey.

Per capita expenditures on education are highest in Yuncheng (RMB 2058) and Taiyuan (RMB 882) (Table A-14). Despite appearing to have many university-educated workers, per capita education expenditures are modest in Xianyang (RMB 228), Wulumuqi (RMB 225), and Xi'an (RMB 210). Along with Tianshui (RMB 221) and Wuzhong (RMB 179), these cities devote the least financial resources (on a per capita basis) to education. Among Northwest cities, female enrollment rates are generally 45-49 percent, with a somewhat higher level (56 percent) for Tianshui.

Health care insurance coverage is relatively common in a few Northwest cities: Wulumuqi (87 percent), Xi'an (83 percent), and Baotou (82 percent). Coverage is reportedly lowest in Wuzhong (42 percent) and Lanzhou (51 percent).

Among the six regions, the Northeast has the highest infant mortality. Rates are 15-20 per thousand in Wulumuqi, Huhehaote, Lanzhou, and Wuzhong, and highest in Tianshui (29.2), Xianyang (22.4), and Baoji (20.8).

The environment is another sore spot for the Northwest. All or virtually all industrial waste disposal meets environmental waste standards in only two cities: Xiangyang (100 percent) and Baoji (97 percent). For half the Northwest cities surveyed, compliance is just 90-92 percent: Taiyuan, Yuncheng, Wulumuqi, Yinchuan, Xi'an, Xining, and Lanzhou. Compliance is even lower in Baotou and Datong (85-86 percent), Huhehaote (79 percent), Tianshui (76 percent), and Wuzhong (72 percent).

In a few cities, air quality is good or excellent at least 80 percent of the time: Huhehaote, Baoji, and Xianyang. For several cities, air quality falls below the Beijing benchmark: Taiyuan (61 percent), Yuncheng (46 percent), Baotou (49 percent), Datong (44 percent), Lanzhou (57 percent). This likely reflects both desertification and pollution from extractive industries.

**Table A-13. Government Effectiveness: Rankings and Performance for Northwest Region**

City	Taxes & fees (%)	Entertainment costs (%)	Bureaucratic interaction (days)	Private SMEs w/ bank loans (%)	Expectation of informal payments for loans (%)	Days to clear exports & imports	Output losses from power or transport (%)	Labor over-staffing (%)	Confidence in courts (%)	University-educated workers (%)	Private firms (%)
Wuzhong	4.9	1.0	44.8	59.0	8.3	12.3	1.7	2.0	39	9	86
Wulumuqi	5.3	1.6	59.8	19.6	8.9	9.8	2.0	2.7	50	27	85
Yinchuan	3.6	1.3	61.5	45.2	12.8	34.5	1.4	2.0	53	18	90
Baoji	5.2	1.2	74.0	50.0	8.1	17.7	0.8	4.1	61	17	66
Yuncheng	6.0	0.6	67.1	70.0	15.3	19.9	8.0	2.5	77	14	85
Xi'an	6.1	1.7	121.3	21.4	10.9	10.4	1.7	6.3	42	36	73
Huhehaote	6.7	1.9	71.1	29.7	6.8	13.3	3.4	1.9	27	23	92
Lanzhou	5.9	1.0	97.8	62.5	8.2	13.7	1.9	6.3	38	19	60
Baotou	6.0	0.8	129.8	44.4	7.6	11.6	4.1	7.9	42	18	83
Xianyang	5.3	1.5	73.4	30.0	12.4	18.0	2.4	2.7	51	25	75
Xining	5.8	1.8	46.8	31.8	11.1	20.6	2.8	3.8	36	18	72
Taiyuan	6.0	1.3	110.0	58.8	18.4	20.1	5.4	4.2	69	24	62
Datong	7.4	1.3	75.3	10.5	10.7	21.2	4.3	2.8	30	15	69
Tianshui	7.2	1.7	64.8	52.6	6.0	20.4	2.6	7.6	45	18	62

Note: Ranking is based on average of TFP and FDI rankings, per Table B-6.

**Table A-14. Progress Toward Harmonious Society: Rankings and Performance for Northwest Region**

<b>City</b>	<b>Per capita education spending (RMB)</b>	<b>Adequate industrial waste disposal (%)</b>	<b>Per capita green space (m2)</b>	<b>Days good or better air quality (%)</b>	<b>Unemployment (%)</b>	<b>Annual average wage (RMB)</b>	<b>Infant mortality (per 1,000)</b>	<b>Permanent workers with health insurance (%)</b>	<b>Female enrollment (%)</b>
Taiyuan	882	90	8.8	61	3.4	15400	7.6	72	48
Xianyang	229	100	14.8	81	1.2	10832	22.4	66	46
Yuncheng	2058	92	2.2	46	1.6	11339	9.1	57	48
Wulumuqi	251	92	4.2	70	3.3	18774	15.5	87	48
Yinchuan	384	90	7.3	79	3.6	13439	13.0	68	47
Xian	210	90	5.0	71	4.3	15473	8.1	83	46
Xining	423	91	7.3	77	4.1	16175	14.5	66	.
Baotou	522	86	9.3	49	4.7	16173	4.2	82	45
Baoji	717	97	8.6	82	3.8	11266	20.8	56	45
Datong	481	85	3.2	44	2.4	12756	6.4	64	48
Huhehaote	611	79	6.2	87	4.8	16663	16.4	72	47
Lanzhou	361	90	6.1	57	2.5	14644	16.0	51	48
Tianshui	221	76	7.9	80	3.8	10683	29.2	58	56
Wuzhong	179	72	3.5	77	4.5	13649	18.2	42	49

Note: Ranking based on Table III-7.

## ANNEX B: METHODOLOGY AND DATA

### A. PERFORMANCE MEASURES

The analysis of survey data relates two separate performance measures – total factor productivity and the percentage of firms with foreign ownership – to various investment climate factors. Foreign ownership is self-explanatory.

Total factor productivity (TFP) should be understood as the productivity level of a firm after netting out the effects of capital, labor, and industry-specific technology. In other words, the total factor productivity is estimated using a production function as follows:

$$\ln O_{it} = \beta_0 + \sum_{j=1}^J D_{ijt} (\alpha_{jL} \ln L_{it} + \alpha_{jK} \ln K_{it} + \alpha_{jM} \ln M_{it}) + e_i + \varepsilon_{it} \quad (1)$$

where  $O_{it}$  is output (as measured by deflated sales revenue) for firm  $i$  and period  $t$ .  $L_{it}$ ,  $K_{it}$  and  $M_{it}$  are the number of employees, the capital stock, and the material inputs respectively. The capital stock is proxied by the original value of fixed assets, the only time-varying measure we have for capital stock.  $D_{ijt}$  is a dummy variable that is 1 if firm  $i$  is affiliated with sector  $j$ . There are a total of 30 industries. So equation 1 essentially allows industry-specific production functions. The total factor productivity is then constructed as the estimate of  $e_i + \varepsilon_{it}$ , the part of value added that is not explained by capital and labor.

Alternatively, the dependent variable could be value-added, and the explanatory variable could be capital and labor. However, this approach suffers from the problem that some value-added could be negative and that ignoring such observations would lead to systematic bias if the bottom performers were systematically dropped from the comparison of productivity. Moreover, when this analysis tried computing TFP based on value-added (with fixed effects), the correlation with output TFP was very high, at 0.85. Hence, it would make little difference which measure (i.e., value added TFP or output TFP) to use. Since dropping observations with negative value-added creates other problems, this analysis uses the output TFP measure. In a recent study, Haltiwanger and Schweiger (2005) also find that various measures of TFP are highly correlated, whether using output or value added as the dependent variable.<sup>56</sup>

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<sup>56</sup> John Haltiwanger and Helena Schweiger, "Allocation Efficiency and the Business Climate," 2005 working paper, University of Maryland.

## B. INVESTMENT CLIMATE FACTORS

*Market potential.* To generate an aggregate score of market potential, we compute an index as follows:

$$\text{market potential} = \text{std}(\log(\text{GDPPC})) + \text{std}(\text{GDPPCgrow}) + \text{std}(\text{road}) - \text{std}(\text{port\_cost}),$$

where GDPPC is GDP per capita, GDPPCgrow is the growth rate of GDP per capita, road is the total length of graded roads (in kilometers), and port cost is the transportation cost variable. Port cost is an estimate of the cost of trucking a 20-foot container to the seaport typically used by the manufacturers in a particular city. Each variable is first standardized into a variable with mean zero and a standard deviation of one. Adding them up to form the index implicitly assumes that each is of equal importance in affecting investors' assessment of investment potential.

*Labor flexibility.* Firms were asked directly what share of their workforce they would consider redundant if there were no penalties associated with laying-off workers. Thus, more flexible labor markets would be characterized by lower overstaffing-ratios.

*Skill and technology endowments.* Our index of skill and technology is based on several indicators. The first two concern information technology (IT): the share of workers with formal IT training, and the share of employees regularly using computers. Both variables are measured at the district-level, that is, we aggregate the firm-level observations to obtain a district-level average of the variable. Since these two variables are closely correlated, we add them up to form an IT index. The third variable is the district-average of the share of employees with college or above education. This captures the human capital level of the work force in a locality. The final variable is the district-level average of CEO education. We then form a skill and technology index as follows:

$$\text{std}(\text{IT}) + \text{std}(\text{Univ}) + \text{std}(\text{CEO\_S}),$$

where IT is the district-level average IT index, Univ is the district-level average of the share of employees with college or above education, and CEO\_S is the number of years of schooling for the average CEO in the district. All three variables are standardized first before being added up to form the index.

*Private sector participation* indicates the percentage of domestic private sector firms in the survey.

*Government efficiency.* The survey uses four measures. The first is the district-average of effective tax burden of firms, whereby a firm's tax burden is measured as total taxes and fees over value-added. Hence, national-level taxes, local taxes, and local administrative fees are measured.

Second is the district average of the share of entertainment and traveling expenditure over sales revenue. Since it is pointless to ask directly about corruption, we use this as a proxy for informal payments by firms.

The third variable looks at the quality of a specific government services: custom efficiency, as measured by the number of days for exporting firms to pass customs plus the number of days for importing firms to pass customs.<sup>57</sup> Again, this variable is measured as district-average.

The fourth variable is the time-cost of dealing with various bureaucracies. In particular, firms are asked the total number of days-per-year that the firm spends dealing with tax administration, public security, environmental protection, and labor and social protection. Dividing the total by 365 represents the firm's regulatory burden (in terms of time costs).

The final formula for government efficiency is:

$$-[\text{std}(\text{tax}) + \text{std}(\text{custom}) + \text{std}(\text{regu\_time}) + \text{std}(\text{ETC})],$$

where tax is taxes and fees over value-added, custom is the number of days for firms to pass import and export customs, regu\_time is the share of firm's time in dealing with regulators, and ETC is the ratio of entertainment and traveling costs over sales. All the four variables are district average of firms' reported values, then standardized into a mean-zero and variance-one variable.

*Contract enforcement.* The survey asks firms the following question: "Amongst the commercial or other disputes that your company was involved with, what has been the likelihood (in terms of percentage) that your company's contractual and property rights (including enforcement) are protected?" The variable is standardized to construct an index.

*Access to finance.* The survey proxies access to finance by the district-level share of firms that have obtained bank loans.

*Harmonious society.* To reflect the progress of each city toward achieving a harmonious society, the survey uses three variables. The first is the percentage of days that a city has good or excellent air quality. The second is the share of females in the total number of students in a city. The third is the share of permanent workers with medical insurance coverage. The standardized version of these variables is summed to create a harmonious society index, which is included in the regression analysis predicting TFP and FDI outcomes.

To provide a more complete view of each city's progress toward a harmonious society, a separate "livability index" is constructed based on nine performance indicators: per capita

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<sup>57</sup> We add them up because they are very closely correlated, and it would be hard to distinguish their separate effects.

education spending, the percentage of industrial waste disposals that meet environmental protection standards, square meters of per capita green space, the percentage of days with good or excellent air quality, the unemployment rate, the annual wage rate, infant mortality per 1000, the share of permanent workers with health insurance coverage, and the percent of female enrollment. These variables are standardized and summed to create a livability index.

### C. EFFECT OF INVESTMENT CLIMATE ON FIRM PERFORMANCE

To estimate how local investment climate affects alternative performance measures, total factor productivity and foreign ownership, the analysis estimates the following firm-level regressions:

$$Y_{it} = \beta_0 + \beta_1 X + \beta_2 IC_i + \varepsilon_{it} \quad (\text{A.2})$$

where  $Y$  could be TFP as constructed above or foreign ownership.  $X$  is a set of control variables, including industry dummies (to allow the performance to have an industry-specific mean), the logarithm of the number of employees, log city population, and log average income of the city. City characteristics are controlled for since there might be externality from other firms in the city.  $IC$  is a vector of indicators related to investment climate. We also control for electricity prices to allow for factor prices to affect firm performance. We have also tried controlling for land prices at various cities, along with the share of losses of sales due to transportation problems or electricity outage. However, these variables are often insignificant, and sometimes wrong-signed, due to reverse causality. Since we do not have adequate ways to address such issues, we opted to drop these variables from our list of the explanatory variables.

Analysis is at the firm level. There are several reasons to move from the city level to the *firm level*. The first reason is to best utilize the firm-level variations, and allow firm performance to be directly affected by firm-level variables such as size and industry. Second, we recognize that many elements of the investment climate might differ even within the city. We thus construct all of our investment climate variables at the district-level, that is, the level below the city. We thus use multivariate regressions to relate the district-level investment climate to firm-level performance. To facilitate the interpretation of our results (but without affecting the results), each explanatory variable is included in its standardized format, that is, first normalized into a mean-zero-variance-one variable. Table B-1 summarizes the main findings.

<b>Table B-1. Determinants of Local Competitiveness</b>		
	<u>TFP</u>	<u>Foreign ownership</u> 1/
domNstate	0.037 (3.90)***	
foreign share	0.059 (6.06)***	
log(number of employees last year)	0.056 (7.25)***	0.028 (3.33)***
Standardized values of (mean effective tax burden)	-0.058 (8.27)***	-0.029 (4.00)***
Standardized values of (Mean labor redundancy)	-0.047 (6.55)***	-0.032 (4.50)***
Standardized values of (Mean entertainment traveling costs / sales)	-0.037 (4.25)***	-0.001 (0.06)
Standardized values of (Mean IT index)	0.000 (0.01)	0.048 (3.73)***
Standardized values of (Mean access to loans)	0.055 (7.80)***	
Standardized values of (Mean years of CEO schooling)	0.019 (1.94)*	0.084 (7.26)***
Standardized values of (Mean share of college-educated employees)	0.107 (9.59)***	-0.075 (5.33)***
Standardized values of (Mean perception of protection of property rights)	-0.007 (0.96)	-0.014 (1.61)
log city population	0.042 (5.13)***	-0.003 (0.31)
log(GDP per capita at the city)	0.053 (4.15)***	0.139 (9.21)***
City growth rate in GDP per capita	0.013 (1.69)*	0.006 (0.58)
City road mileage	0.023 (3.12)***	-0.002 (0.29)
port costs	-0.021 (2.62)***	-0.059 (7.32)***
Standardized values of (Mean price of electricity for industrial uses)	-0.001 (0.19)	-0.013 (1.27)
City-level average employee wages	0.046 (3.85)***	-0.029 (2.13)**
Standardized values of (mean share of permanent employees having medical insurance)	0.015 (1.89)*	0.033 (3.56)***
Standardized values of (average share of time that a firm has to deal with tax, public security, environment protection, labor and social protection agencies)	-0.015 (1.97)**	-0.005 (0.55)
Standardized values of (share of days that air quality reaches the grade of good or excellent)	0.009	0.061

	(1.21)	(7.69)***
Standardized values of (share of girls in enrolled students in a city)	0.012	0.028
	(1.61)	(3.81)***
Standardized values of (district average of the logarithm of the days for export to pass customs plus the days for import to pass customs)		-0.191
		(15.40)***
Industry dummies	yes	yes
Observations	12061	12178
R-squared	0.44	0.23
1/ Foreign ownership is presented in a standardized variable. Thus, the expected gains in foreign ownership should be the expected gains of this standardized variable. The standard deviation for foreign ownership is 0.317.		

Looking for instance at “mean effective tax burden,” holding other factors constant, the regression predicts that a one standard deviation in taxes/fees relative to value-added would be associated with a 5.8 percentage point reduction in TFP and a 0.9 percentage point reduction in foreign ownership.<sup>58</sup>

#### **D. PROJECTED PERFORMANCE GAINS FROM INVESTMENT CLIMATE IMPROVEMENTS**

The survey data show that no single city excels at everything. Each of the 120 cities could do better at some aspect of investment climate. To estimate performance gains from improving local investment climate, simulations for all 120 cities are run in which each city assumes the characteristics of a hypothetical city that is “nearest to investment climate excellence” – the NICE city. For NICE, each investment climate variable is set at the 90<sup>th</sup> percentile level from the survey’s sample of 120 cities.<sup>59</sup> (Table B-2) The 90<sup>th</sup> percentile is chosen because use of the 100<sup>th</sup> percentile, which may reflect unique endowments, would be an unrealistic target that discourages efforts at imitation.

<sup>58</sup> i.e., 0.029 times the .317 standard deviation for foreign ownership.

<sup>59</sup> For variables where a higher value implies worse investment climate (e.g., taxes, informal payments), values at the 10<sup>th</sup> percentile are assigned.

**Table B-2. 90<sup>th</sup> Percentile Attributes of the NICE City**

<u>Variables</u>	<u>Measure</u>
TFP level	0.417
Domestic private ownership share	88.4%
Foreign ownership share	39.3%
log(number of employees)	6.225
tax/value added	9.2%
Share of overstaffing	0.4%
entertainment and traveling costs / sales	0.7%
IT index	0.44
Share of firms with access to bank loans	78%
CEO schooling level (in years)	16.1
Share of employees with college education	27.9%
Likelihood that property/contract rights being protected	83.4%
log(population)	6.79
log(GDP per capita)	9.908
Croad	3.06
portcost	52.8
log(Wage per capita at city level)	10.022
share of permanent employees with medical insurance	93.8%
Time spent with major bureaucracies	2.5%
Share of days with air of good/excellent quality	98.7%
Share of female students in total enrollment	49.0%
log(Wage per capita at city level)	9.99
City GDP per capital growth rate	21.9%

Simulations make the following assumptions for each city (City X) under consideration:

- City X takes on the attributes of NICE, as indicated in Table B-2.
- In cases where City X is currently exceptional in several investment climate attributes, especially those identified as important by regression analysis, it is possible that the existing City X could already outperform NICE without making any changes and that gains from taking on NICE attributes would be *negative*. In such cases, no changes are simulated or recommended.

The effects of the investment climate on firm performance are captured by the multivariate regressions in Table B-3.

Two counterfactuals are simulated:

- First, what performance gains could be expected from achieving 90<sup>th</sup> percentile attributes across the wide spectrum of investment climate factors – including city characteristics, progress toward a harmonious society, and richer education/skill

- endowments? Expected performance gains from overall investment climate improvements are presented for both TFP (Table B-3) and FDI (Table B-4).<sup>60</sup>
- Second, what performance gains could be expected from achieving 90<sup>th</sup> percentile characteristics across a more narrow spectrum of “administrative openness” factors more typically under the shorter-run control of local governments – including government efficiency (taxes/fees, bureaucratic interaction, customs clearance, informal payments), labor market flexibility, and access to finance? Other factors (e.g., city characteristics, education/skills endowment) are held constant at current (actual) levels. Expected performance gains from such “administrative openness” improvements are presented for both TFP and FDI (Table A-5).<sup>61</sup>

Predicted gains from both overall investment climate improvements and administrative openness reforms lead naturally to overall rankings of the 120 cities. In general, a city’s investment climate (or administrative openness) is better when the city has less to gain by achieving NICE attributes.

In Tables B-3 through B-5, the “total gains” column indicates the expected percentage point gains from achieving 90<sup>th</sup> percentile attributes. Remaining columns report the percentage contribution to total gains from raising specified investment climate attributes to the 90<sup>th</sup> percentile.

A single ranking, for either overall investment climate or administrative openness, can be constructed in a variety of ways. Either TFP or foreign ownership could be used exclusively. Or TFP and foreign ownership could be given different weights or equal weights. In trying several methods, our analysis found that the overall ranking tends to be similar, albeit not identical. We have chosen to base overall rankings for government effectiveness on an average of the ranking resulting from equal weighting of TFP effects and FDI effects, as being the most balanced and defensible approach.

Any such ranking is only indicative of investment climate (or administrative openness). Actual differences between cities with similar rankings may be statistically insignificant. The variance of expected gains are  $\text{var}(\sum_k \beta_k \Delta X_k^j)$ , where  $\beta_k$  is the k-th ingredient of investment climate,  $\Delta X_k^j$  is the difference of j-th city with respect to NICE in the k-th ingredient of investment climate. We then use the variance matrix for the  $\beta$  vector to compute the variance and standard errors of the expected gains. The 95 percent confidence interval is then  $\sum_k \beta_k \Delta X_k^j \pm 1.96 \times \sigma(\sum_k \beta_k \Delta X_k^j)$ , where  $\sigma$  is the standard error of the expected gains.

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<sup>60</sup> For obvious reasons, the FDI calculation excludes foreign ownership share as an explanatory variable.

<sup>61</sup> The FDI calculation excludes access to finance as an explanatory variable, since the analysis finds it to be insignificant for predicting FDI.

The tail 5% could be very large, for instance, some outlier percentage could be as high as around 10,000%, which when averaging out, could alone determine how large that contribution of this particular category is, a scenario that we'd like to avoid.

Hence, it is better to focus on the magnitude of potential TFP and FDI gains and objective performance, rather than on rankings.

**Table B-3. Expected TFP Gains From Improvements in Overall Investment Climate to 90<sup>th</sup> Percentile**

	<u>Total</u>	<u>Citychar</u>	<u>Private</u>	<u>Foreign</u>	<u>Burden</u>	<u>Lmkt</u>	<u>Finance</u>	<u>Hsociety</u>	<u>Edutech</u>
	<u>Gains 1/</u>								
beijing	0.04	-130.54	79.95	62.9	193.6	74.49	150.11	62.27	-449.38
hangzhou	0.1	-1.89	21.34	26.96	11.23	-5.71	-11.09	20.43	15.64
suzhou	0.1	-2.89	50.08	-48.6	-8.79	-3.76	12.64	6.84	68.54
guangzhou	0.15	-37.37	32.39	-8.23	27.31	12.07	23.03	14.2	10.98
dalian	0.21	28.58	22.72	-4.22	12.99	4.62	12.92	-0.45	9.2
shanghai	0.23	-39.36	14.91	-1.59	33.15	6.88	33.57	3.56	27.48
shenzhen	0.27	-16.37	20.99	-19.72	-1.05	-1.56	40.88	10.94	41.83
dongguan	0.29	-15.21	21.84	-26.49	-7.6	-1.87	39.98	6.73	64.88
tianjin	0.33	5.75	12.37	5.63	33.75	17.06	13.8	3.56	0.81
yantai	0.34	31.46	3.93	11.16	4.77	6.97	-0.79	0.31	32.88
jiangmen	0.35	51.85	12.6	-10.31	-17.57	1.12	12.87	5.68	40.43
qingdao	0.36	22.52	3.69	9.92	5.18	3.48	6.68	2.75	37.4
nanjing	0.36	-9.17	7.44	9.44	28.38	14.45	10.34	12.85	18.01
chengdu	0.37	21.13	2.85	13.49	24.06	8.16	6.47	5.55	-10.13
xiamen	0.37	31.24	12.24	-8.47	0.93	-1.37	15.8	2.97	35.1
ningbo	0.37	9.45	2.46	9.27	25.03	0.27	-6.46	0.38	53.03
zibo	0.39	35.35	1.53	15.25	11.06	9.03	-9.49	7.54	21.5
wuxi	0.4	9.97	2.26	10.33	17.66	0.45	1.34	6.65	43.89
wuhan	0.4	28.94	6.55	13.39	26.91	14.43	2	11.18	-23.62
foshan	0.4	18.58	7.52	2.11	14.44	1.1	7.96	3.73	39.24
hefei	0.42	47.6	6.36	8.42	12.52	5.2	7.64	7.36	-2.52
shenyang	0.44	25.44	7.33	7.67	29.67	9.38	13.15	4.81	-6.31
shaoxing	0.45	19.08	-0.46	13.05	13.36	3.76	-2.36	3.29	43.45
fuzhou	0.45	24.25	6.36	0.1	7.8	-0.91	9.35	9.76	35.47
jinan	0.45	20.55	2.67	13.79	13.07	7.1	8.76	10.48	14.29
chongqing	0.46	3.5	2.75	13.59	15.94	6.7	4.63	11.11	18.55
nanchang	0.46	37.39	5.19	11.93	4.63	7.94	8.68	8.83	-0.92
nantong	0.46	29.69	1.89	8.46	12.46	-0.04	1.16	4.33	35.22
jinhua	0.46	20.57	-0.98	13.75	17.58	0.16	-6.32	9.85	41.62
weihai	0.46	35.39	1.85	9.05	-4.3	-0.5	4	5.85	41.85
huizhou	0.47	40.42	11.91	-12.09	-1.85	0.1	23.21	2.04	37.53
haerbing	0.47	31.08	4.11	12.17	24.93	16.46	21.81	3.87	-22.48
xian	0.48	29.38	5.5	12.32	26.8	16.03	9.41	8.09	-19.62
changchun	0.48	24.9	4.98	9.75	19.29	5.69	20.41	7.19	-2.21
taian	0.5	43.32	1.57	12.13	5.49	4.6	2.67	11.15	10.33
linyi	0.5	40.73	1.03	9.87	0.62	0.65	-4.8	13.68	31.23
changzhou	0.5	21.12	0.63	10.19	17.41	0.27	2.63	6.35	37.93
huzhou	0.51	29.34	0.4	10.58	10.98	0.38	-3.15	4.28	42.6

zhengzhou	0.51	26.41	1.38	12.06	8.22	5.5	10.49	8.37	17.85
shijiazhuang	0.52	26.31	3.54	12.07	14.22	4.25	7.73	5.98	18.3
taizhou	0.53	15.81	-0.12	11.98	24.29	0.04	-1.52	7.14	34.26
weifang	0.53	31.79	0.78	10.16	9.92	1.51	0.5	5.45	34.34
tangshan	0.53	23.99	1.3	9.41	7.5	1.92	6.98	7.78	36.59
zhuhai	0.55	29.21	10.6	-10.21	10.55	0.2	23.78	2.19	27.05
changsha	0.55	21.69	2.83	10.67	30.29	10.81	2.91	7.63	0.57
quanzhou	0.55	25.09	6.51	-3.17	13.67	-0.16	7.26	4.71	44.34
jiaxing	0.55	19.37	1.75	6.85	8.76	0.82	-3.37	4.87	53.17
qinhuangdao	0.55	38.9	3.88	6.71	11.61	3.48	9.15	0.44	21.16
zhangzhou	0.56	39.54	4.95	-0.08	6.52	-0.46	3.32	9.21	34.26
langfang	0.56	40.52	1.91	7.73	3.28	-0.86	13.23	4.4	23.95
jining	0.57	29.02	0.63	10.65	7.99	5.3	2.33	8.34	28
guiyang	0.58	40.45	3.36	10.4	23.02	9.43	2.76	2.77	-0.76
haikou	0.58	27.2	4.97	5.38	28.9	9.9	19.29	1.06	-4.12
lianyungang	0.59	29.29	2.19	6.07	8.67	5.2	9.94	8.15	26.1
kunming	0.6	27.15	2.93	10.85	11.47	5.32	6.24	2.02	15.75
wenzhou	0.6	16.81	-0.99	10.56	21.89	-0.45	0	13.15	31.97
huhehaote	0.61	33.16	0.23	10.37	12.11	3.25	18.86	4.93	11.7
liuzhou	0.62	35.8	1.74	9.76	11.57	6.95	6.03	3.63	17.71
maoming	0.63	30.26	1.17	7.88	6.64	1.91	11.03	8.51	29.25
xuzhou	0.63	24.08	1.11	9.48	21.24	7.61	9.33	7.62	14.11
xianyang	0.63	33.75	2.07	10.22	14.67	4.85	11.86	6.54	5.59
baoding	0.63	29.9	2.39	9.81	11.49	6.98	7.99	6.82	17.29
guilin	0.63	37.26	2.86	9.17	17.6	5.06	8.83	3.45	9.68
shantou	0.63	34.83	2.71	3.5	5.17	1.52	8.38	2.21	30.29
yichang	0.64	38.18	2.39	8.39	8.66	4.74	7.91	4.85	18.06
jinzhou	0.64	42.14	1.74	8.26	17.64	3.53	4.15	5.64	11.88
nanning	0.64	31.9	4	9.1	15.88	11.74	12.4	1.7	8.08
taiyuan	0.64	29.47	2.88	10.84	20.69	7.8	7.01	6.17	7.91
daqing	0.65	12.6	0.31	10.96	22.01	6.57	24.21	2.04	16.19
deyang	0.65	33.05	-0.06	9.99	9.49	2.32	0	0.77	26.88
yangzhou	0.66	26.11	1.06	7.94	11.43	2	5.67	7.47	34.16
anshan	0.66	27.64	1.07	9.99	14.9	2.17	8.45	7.76	23.26
wuhu	0.66	36.75	1.61	8.23	10.87	1.08	8.01	6.06	23.94
mianyang	0.67	36.63	0.87	9.32	9.55	1.91	7.11	2.69	14.04
zhoukou	0.68	47.2	0.14	9.75	2.1	1.08	9.4	2.62	18.73
baotou	0.68	18.76	1.46	9.27	13.14	14.59	11.34	8.39	17.25
yinchuan	0.68	43.48	-0.04	9.56	5.53	2.99	8.15	5.47	19.09
yancheng	0.69	29.53	-0.59	9.19	17.71	0.84	2.3	8.19	28.47
yueyang	0.7	30.88	1.75	9.01	4.22	10.19	5.66	15.42	16.73
sanming	0.71	33.5	0.51	8.3	9.26	1.01	5.25	8.41	36.21
jingzhou	0.71	42.37	0.33	8.8	9.61	2.13	4.86	4.87	17.56
jilin	0.71	29.55	1.71	8.37	12.15	6	16.4	4.41	17.86
xiangfan	0.72	41.85	2.1	8.74	10.44	4.81	5.94	4.54	16.83
yuxi	0.73	32.69	0.9	8.05	16.66	2.56	5.83	6.51	27.19
jingmen	0.73	39.05	1	7.08	10.78	2.23	5.44	3.34	23.43
cangzhou	0.73	29.94	-0.53	8.9	9.26	1.23	10.13	6.83	29.13
shangqiu	0.73	41.04	-0.95	9.74	-1.47	0.51	12.28	3.58	30.74
nanyang	0.74	29.95	1.68	9.14	8.49	7.59	5.42	9.27	19.89

shangrao	0.74	41.78	0.18	9.19	5.89	1.98	5.72	2.55	28.23
leshan	0.75	40.28	-0.34	8.93	5.31	3.81	-1.06	4.18	22.46
fushun	0.75	32.45	2.91	7.81	13.33	5.57	14.16	6.07	14.83
changde	0.75	26.35	0.14	8.25	16.21	6.72	8.82	4.03	22.85
wulumuqi	0.76	25.29	1.03	8.79	15.52	3.92	15.79	3.36	2.59
qujing	0.76	32.87	0.76	8.81	13.7	6.02	4.56	4.03	28.58
baoji	0.76	37.49	1.53	9.29	10	6.46	2.8	6.85	17.54
luoyang	0.76	24.28	1.21	9.39	17.28	4.6	10.8	8.12	17.22
yuncheng	0.76	37.18	0.38	9.3	14.97	3.53	0	8.21	21.6
qiqihaer	0.76	35.87	0.99	9.25	6.9	11.31	10.41	3.74	14.71
handan	0.77	24.02	1.2	8.39	16.51	6.75	7.25	6.55	22.73
ganzhou	0.78	37.61	2.96	2.25	7.25	2	12.61	5.72	23.35
lanzhou	0.79	27.61	3.05	8.72	11.24	9.83	5.38	7.34	14.33
xuchang	0.8	33.94	-0.55	8.22	7.14	2.09	6.98	6.31	29.1
zhuzhou	0.8	30.49	0.72	7.97	21.92	10.28	7.31	7.91	5.13
chuzhou	0.8	37.8	0.39	7.59	11.53	1.59	6.63	5.29	26.11
chenzhou	0.8	33.03	0.09	8.42	12.74	2.41	10.26	1.75	27.98
zhangjiakou	0.81	32.57	2.44	6.59	6.47	10.51	9.86	6.68	24.49
anqing	0.81	37.18	1.13	7.26	3.11	7.35	6.23	5.82	26.19
zunyi	0.81	32.81	2.46	8.37	15.39	7.4	4.57	4.47	14.43
xiaogan	0.82	38.3	0.52	7.45	14.34	2.14	7.08	6.56	16.51
xining	0.83	35.05	0.82	8.08	11.09	5.39	12.21	4.97	14.99
xinxiang	0.83	33.48	1.07	7.72	10.72	6.26	7.03	10.45	15.92
jiujiang	0.85	34.27	2.3	7.01	8.69	4.68	10.6	3.34	23.17
datong	0.85	32.16	1.98	7.38	12.74	3.7	14.01	6.79	18.91
wuzhong	0.86	40.51	0.04	8.49	7.03	2.39	5.53	5.39	29.34
yibin	0.87	30.99	-0.25	8.21	11.3	3.5	0.61	4.77	25.27
yichun	0.88	34.6	0.64	7.5	16.5	4.19	5.76	5.23	23.55
hengyang	0.88	27.34	1.72	8.22	10.06	14.64	8.46	4.51	16.68
benxi	0.92	32.78	0.57	7.17	11.8	7.23	13.82	3.66	20.78
tianshui	1	38.06	1.86	6.84	13.22	9.48	3.99	0.37	12.89
huanggang	1.09	31.91	0.96	5.52	14.6	6.84	8.78	6.9	18.83

1/ TFP gains expressed in percentage points

**Table B-4. Expected Foreign Ownership Gains From Improvements in Overall Investment Climate to 90<sup>th</sup> Percentile**

	<u>Total</u> <u>Gains 1/</u>	<u>Citychar</u>	<u>Burden</u>	<u>Lmkt</u>	<u>Hsociety</u>	<u>Edutech</u>
dongguan	-0.3	38.33	74.48	1.19	-14.98	0.22
shenzhen	-0.3	18.07	73.37	0.91	-25.43	32.16
suzhou	-0.19	42.93	39.2	1.38	-29.78	46.84
zhuhai	-0.19	18.01	61.57	-0.39	-12.03	36.04
huizhou	-0.18	-34.44	135.8	-0.17	-9.48	9.04
foshan	-0.07	79.91	40.26	-4.11	-59.48	41.85
qingdao	-0.02	-296.28	960.6	-48.16	-256.08	-268.54
jiangmen	0	-2575.34	6911.5	-86.68	-1660.66	-2409.61
xiamen	0.02	-140.05	286.37	-21.92	133.91	-145.69
guangzhou	0.02	-260.07	141.37	68.87	510.06	-350.07

dalian	0.02	69.31	263.53	37.14	30.92	-292.81
weihai	0.02	-284.88	-51.06	-6.96	253.13	109.13
hangzhou	0.03	81.83	97.73	-12.81	330.24	-415.26
shantou	0.14	135.96	-107.44	4.36	18.62	37.07
yantai	0.18	37.41	45	8.46	-0.78	2.12
shaoxing	0.19	25.14	-27.47	5.97	40.3	53.06
shanghai	0.19	-27.66	86.86	5.56	28.58	7.81
ningbo	0.27	0.96	80.08	0.24	7.73	11.2
tianjin	0.3	16.07	56.04	12.35	23.81	-7.97
fuzhou	0.33	20.26	27.37	-0.82	29.28	20.46
nanjing	0.39	0.18	56.69	8.65	37.89	-7.12
haikou	0.4	21.78	66.05	9.37	2.92	0.36
beijing	0.41	10.57	48.18	4.55	36.19	-1.82
wuxi	0.42	-17.37	75.15	0.28	25.11	15.87
zibo	0.43	3.27	57.01	5.44	24.42	7.04
weifang	0.43	37.22	39.78	1.22	17.08	4.07
nantong	0.46	36.06	31.81	-0.03	15.48	15.53
tangshan	0.46	16.72	47.78	1.47	32.89	0.33
zhangzhou	0.46	32.04	24.83	-0.37	24.1	19.53
daqing	0.47	-9.87	77.64	5.88	7.08	2.16
langfang	0.48	28.84	41.54	-0.65	15.56	15.03
maoming	0.49	45.99	6.26	1.58	23.08	22.59
huzhou	0.5	19.73	47.16	0.25	14.43	17.1
nanchang	0.51	27.44	25.25	4.72	21.63	9.09
quanzhou	0.51	18.53	45.02	-0.11	13.23	22.78
ganzhou	0.52	72.65	3.48	1.97	20.4	-4.83
qinhuangdao	0.53	27.43	48.72	2.39	2.3	16.13
lianyungang	0.53	42.58	22.28	3.77	24.58	7.03
changzhou	0.53	5.51	56.61	0.17	21.11	15.02
jiaxing	0.56	5.63	63.03	0.53	10.86	19.44
shijiazhuang	0.56	23.05	43.7	2.57	22.39	4.28
xuchang	0.56	32.83	21.83	1.95	23.51	12.65
shenyang	0.57	6.33	61.29	4.83	15.8	7.5
taian	0.57	30.11	34.15	2.63	21.19	7.37
jinan	0.59	9.58	38.9	3.61	36.28	8.01
kunming	0.59	20.82	55.95	3.52	3.77	1.74
jining	0.61	29.78	31.41	3.27	22.36	9.88
taizhou	0.61	22.24	48.7	0.02	16.31	11.11
hefei	0.61	30.36	48.31	2.32	16.47	-2.1
baotou	0.63	-7.1	43.92	10.24	40.23	2.02
linyi	0.64	36.51	27.04	0.33	27.01	8.62
jinhua	0.64	18.89	44.85	0.07	28.21	5.32
changchun	0.65	15.79	54.32	2.78	13.33	6.05
jingmen	0.66	25.42	40.89	1.63	13.53	3.22
anshan	0.67	-0.8	64.99	1.4	27.81	4
huhehaote	0.67	14.76	51.07	1.92	14.24	9.98
shangrao	0.67	55.58	43.48	1.43	5.77	-11.84
yangzhou	0.68	20.51	38.34	1.27	24.09	13.2
wuhan	0.68	8.68	45.7	5.57	26.64	1.65
zhengzhou	0.68	16.76	45.68	2.67	20.02	8.52

wuhu	0.7	20.65	57.05	0.67	14.16	4.35
jinzhou	0.7	29.56	40.21	2.12	18.55	5.88
fushun	0.72	18	40.96	3.84	24.39	9.03
guilin	0.74	34.9	40.92	2.82	5.83	8.75
shangqiu	0.74	43.81	31.51	0.33	10.58	10.35
sanming	0.75	22.62	33.94	0.63	27.99	11.65
nanning	0.76	36.47	47.99	6.54	4.41	3.74
chengdu	0.76	15.88	40.42	2.61	10.84	2.53
jiujiang	0.77	35.89	42.73	3.41	10.98	-1.48
xian	0.77	21.58	33.01	6.56	20.49	6.74
deyang	0.77	29.57	39.14	1.28	2.09	0.87
zhoukou	0.78	44.57	31.09	0.62	10.86	8.26
yuxi	0.78	19.84	42.41	1.57	13.6	10.55
guiyang	0.79	24.35	51.27	4.54	6.71	4.75
baoding	0.79	29.72	32.71	3.67	19.98	12.69
xuzhou	0.8	28.21	36.75	3.93	25.96	3.68
xianyang	0.8	12.14	56.53	2.48	17.08	0.47
xiangfan	0.81	25.78	40.1	2.81	16.61	3.35
anqing	0.84	36.76	27.3	4.66	13.16	13.52
cangzhou	0.84	23.64	40.27	0.71	19.35	15.28
haerbing	0.84	14.49	52.51	6.09	10.12	8.58
wulumuqi	0.84	10.11	28.25	2.31	15.46	6.14
chuzhou	0.86	29.92	52.81	0.97	11.91	1.96
liuzhou	0.87	25.92	54.03	3.22	11.57	1.63
jilin	0.88	15.32	50.58	3.19	19.05	5.23
yichun	0.88	39.55	34.55	2.72	12.08	3.06
yichang	0.89	15.32	56.11	2.22	15.54	-0.77
qiqihaer	0.9	31.08	39.45	6.28	9.99	3
jingzhou	0.91	32.74	38.06	1.09	13.04	4.01
wenzhou	0.91	15.75	37.56	-0.19	39.13	6.11
hengyang	0.93	29.98	36.67	9.07	12.73	6.79
taiyuan	0.93	12.37	54.32	3.54	19.95	5.4
handan	0.95	24.33	41.34	3.6	19.84	6.69
xiaogan	0.95	28.17	40.24	1.22	13.31	8.79
yancheng	0.95	23.01	50.48	0.4	19.23	5.86
zhangjiakou	0.95	27.11	40.82	5.85	20.37	2.78
changsha	0.97	14.69	46.96	4.02	20.16	7.84
chongqing	0.97	24.99	32.7	2.09	20.33	1.16
wuzhong	0.97	26.93	29.35	1.39	16.38	15.19
yueyang	0.99	20.04	34.86	4.77	29.93	2.74
baoji	0.99	25.18	41.57	3.24	15.89	3.54
qujing	1	35.67	43.2	3.01	6.87	3.43
lanzhou	1.02	13.82	35.66	5.02	23.42	7.18
xinxiang	1.02	24.31	41.22	3.34	23.1	3.7
changde	1.03	20.79	49.61	3.22	8.85	9.9
luoyang	1.05	15.95	42.23	2.18	26.92	7.53
mianyang	1.06	25.52	48	0.8	5.12	1.31
zhuzhou	1.07	16.91	44.12	5.05	24.06	4.23
yinchuan	1.12	13.91	54.53	1.2	11.94	9.19
yuncheng	1.12	26.2	41.52	1.58	24.68	-0.56

leshan	1.14	23.98	44.05	1.65	7.2	3.9
xining	1.14	24.66	40.8	2.57	13.01	3.9
datong	1.15	20.08	47.88	1.79	23.58	3.74
chenzhou	1.17	21.06	63.11	1.08	2.88	9.06
benxi	1.2	6.19	69.07	3.66	13.25	5.55
tianshui	1.27	33.98	41.97	4.9	4.51	5.09
nanyang	1.27	20.61	43.04	2.88	26.85	2.37
zunyi	1.31	29.87	47.51	3.02	10.23	3.46
yibin	1.35	23.84	41.42	1.49	14.43	3.48
huanggang	1.39	21.43	46.95	3.52	19.36	3.41

1/ Gains in standardized variable. For actual expected percentage point increase in foreign ownership, multiply by standard deviation (0.317) in foreign ownership.

**Table B-5. Expected Gains in TFP and Foreign Ownership  
From Improving Government Effectiveness**

City	<u>Gains in TFP</u>				City	<u>Gains in Foreign Ownership</u>		
	Total Gains <u>1/</u>	Govt Burden	Labor Market	Finance		Total Gains <u>2/</u>	Govt Burden	Labor Market
liny	-0.02	-17.4	-18.33	135.73	huizhou	-0.25	100.12	-0.12
jiangmen	-0.01	491.24	-31.4	-359.84	dongguan	-0.23	98.43	1.57
hangzhou	-0.01	-201.98	102.62	199.36	shenzhen	-0.22	98.77	1.23
weihai	0	540.63	62.39	-503.01	jiangmen	-0.2	101.27	-1.27
suzhou	0	9364.61	-4011.33	13475.94	qingdao	-0.15	105.28	-5.28
jiaxing	0.03	141.16	13.17	-54.33	shantou	-0.15	104.23	-4.23
yantai	0.04	43.59	63.64	-7.23	zhuhai	-0.11	100.64	-0.64
huzhou	0.04	133.8	4.6	-38.4	suzhou	-0.08	96.6	3.4
zibo	0.04	104.34	85.18	-89.52	shaoxing	-0.04	127.8	-27.8
zhangzhou	0.05	69.51	-4.89	35.38	foshan	-0.03	111.37	-11.37
jinhua	0.05	154.05	1.37	-55.42	weihai	-0.01	88.01	11.99
qingdao	0.05	33.77	22.68	43.55	hangzhou	0.02	115.09	-15.09
xiamen	0.06	6.09	-8.93	102.84	ganzhou	0.03	63.81	36.19
leshan	0.06	65.95	47.24	-13.2	guangzhou	0.04	67.24	32.76
nantong	0.06	91.8	-0.32	8.52	maoming	0.04	79.8	20.2
weifang	0.06	83.13	12.66	4.2	xiamen	0.04	108.29	-8.29
taian	0.06	43.03	36.03	20.93	dalian	0.05	87.65	12.35
dalian	0.06	42.56	15.12	42.32	fuzhou	0.09	103.07	-3.07
shaoxing	0.07	90.52	25.46	-15.97	yantai	0.1	84.18	15.82
ningbo	0.07	132.88	1.42	-34.3	zhangzhou	0.11	101.5	-1.5
fuzhou	0.07	48.04	-5.62	57.59	xuchang	0.13	91.81	8.19
deyang	0.08	80.36	19.64	0	lianyungang	0.14	85.54	14.46
wuxi	0.08	90.81	2.31	6.88	nantong	0.15	100.09	-0.09
shangqiu	0.08	-13.01	4.51	108.5	nanchang	0.15	84.24	15.76
zhoukou	0.09	16.72	8.57	74.71	liny	0.17	98.79	1.21
tangshan	0.09	45.72	11.7	42.58	shanghai	0.18	93.99	6.01
langfang	0.09	20.95	-5.47	84.51	weifang	0.18	97.02	2.98
jining	0.09	51.16	33.94	14.9	langfang	0.2	101.59	-1.59
dongguan	0.09	-24.92	-6.13	131.05	tianjin	0.2	81.95	18.05
guangzhou	0.09	43.76	19.35	36.9	taian	0.21	92.84	7.16

foshan	0.09	61.43	4.69	33.88	jining	0.21	90.57	9.43
shantou	0.1	34.33	10.06	55.61	beijing	0.22	91.37	8.63
nanchang	0.1	21.79	37.36	40.85	ningbo	0.22	99.71	0.29
huizhou	0.1	-8.6	0.46	108.14	tangshan	0.22	97.02	2.98
shangrao	0.1	43.31	14.56	42.12	quanzhou	0.23	100.25	-0.25
shenzhen	0.1	-2.74	-4.07	106.82	shangqiu	0.24	98.96	1.04
changzhou	0.1	85.69	1.35	12.96	huzhou	0.24	99.47	0.53
hefei	0.11	49.36	20.5	30.14	zhoukou	0.25	98.06	1.94
sanming	0.11	59.68	6.53	33.8	jinan	0.25	91.5	8.5
quanzhou	0.11	65.8	-0.75	34.95	nanjing	0.26	86.76	13.24
yinchuan	0.11	33.16	17.96	48.88	wulumuqi	0.26	92.45	7.55
jingzhou	0.12	57.91	12.8	29.29	shijiazhuang	0.26	94.45	5.55
taizhou	0.12	106.48	0.16	-6.65	sanming	0.26	98.19	1.81
maoming	0.12	33.92	9.73	56.35	zibo	0.27	91.28	8.72
zhengzhou	0.12	33.96	22.71	43.33	yangzhou	0.27	96.78	3.22
mianyang	0.12	51.44	10.29	38.27	anqing	0.27	85.41	14.59
chongqing	0.13	58.43	24.58	16.99	qinhuangdao	0.27	95.32	4.68
yangzhou	0.13	59.83	10.47	29.7	jingmen	0.28	96.17	3.83
wuzhong	0.13	47	15.97	37.03	baoding	0.29	89.92	10.08
xuchang	0.13	44.05	12.87	43.08	jinhua	0.29	99.84	0.16
wenzhou	0.13	102.08	-2.08	0	jinzhou	0.3	95	5
jinan	0.13	45.18	24.54	30.27	taizhou	0.3	99.96	0.04
wuhu	0.13	54.43	5.43	40.15	wuzhong	0.3	95.46	4.54
qinhuangdao	0.13	47.9	14.35	37.75	haikou	0.3	87.58	12.42
yibin	0.13	73.34	22.71	3.95	changzhou	0.3	99.7	0.3
shijiazhuang	0.14	54.28	16.24	29.48	shangrao	0.3	96.82	3.18
jingmen	0.14	58.44	12.07	29.48	xian	0.3	83.43	16.57
anqing	0.14	18.65	44.02	37.34	hefei	0.31	95.43	4.57
yichang	0.14	40.65	22.24	37.11	deyang	0.31	96.82	3.18
kunming	0.14	49.82	23.09	27.09	wuxi	0.32	99.63	0.37
lianyungang	0.14	36.41	21.82	41.77	fushun	0.32	91.43	8.57
yuncheng	0.14	80.9	19.1	0	xuzhou	0.32	90.33	9.67
yueyang	0.14	21.04	50.78	28.18	guilin	0.32	93.55	6.45
chengdu	0.14	62.17	21.1	16.73	chengdu	0.33	93.93	6.07
yancheng	0.14	84.94	4.04	11.02	yichun	0.33	92.69	7.31
baoji	0.15	51.93	33.54	14.54	zhengzhou	0.33	94.48	5.52
cangzhou	0.15	44.9	5.96	49.14	chongqing	0.34	94	6
liuzhou	0.15	47.13	28.32	24.55	wenzhou	0.34	100.52	-0.52
xiangfan	0.15	49.27	22.72	28.02	yuxi	0.34	96.44	3.56
nanyang	0.16	39.49	35.3	25.2	cangzhou	0.34	98.28	1.72
chuzhou	0.16	58.39	8.04	33.57	baotou	0.34	81.1	18.9
beijing	0.16	46.29	17.81	35.89	xiangfan	0.35	93.46	6.54
jinzhou	0.16	69.67	13.94	16.39	wuhan	0.35	89.13	10.87
baoding	0.17	43.43	26.38	30.19	kunming	0.35	94.09	5.91
anshan	0.17	58.4	8.49	33.11	jiujiang	0.35	92.6	7.4
ganzhou	0.17	33.15	9.17	57.68	jingzhou	0.36	97.21	2.79
shanghai	0.17	45.04	9.34	45.61	jiaxing	0.36	99.17	0.83
wuhan	0.17	62.09	33.29	4.62	huhehaote	0.36	96.37	3.63
yuxi	0.18	66.5	10.22	23.28	changchun	0.37	95.13	4.87
qujing	0.18	56.44	24.79	18.77	shenyang	0.37	92.69	7.31

zhuhai	0.19	30.55	0.59	68.86	yueyang	0.39	87.96	12.04
nanjing	0.19	53.38	27.17	19.45	xiaogan	0.39	97.06	2.94
xiaogan	0.19	60.86	9.08	30.07	daqing	0.4	92.96	7.04
xianyang	0.2	46.75	15.44	37.81	wuhu	0.4	98.83	1.17
guilin	0.2	55.9	16.06	28.04	nanning	0.41	88	12
xinxiang	0.2	44.66	26.05	29.29	lanzhou	0.41	87.66	12.34
guiyang	0.2	65.38	26.79	7.83	qiqihaer	0.41	86.27	13.73
chenzhou	0.2	50.13	9.47	40.4	handan	0.43	91.99	8.01
jiujiang	0.2	36.24	19.53	44.24	hengyang	0.43	80.17	19.83
huhehaote	0.21	35.38	9.51	55.12	guiyang	0.44	91.87	8.13
lanzhou	0.21	42.48	37.17	20.35	anshan	0.44	97.89	2.11
tianjin	0.21	52.24	26.4	21.35	baoji	0.44	92.77	7.23
zhangjiakou	0.22	24.11	39.16	36.74	zhangjiakou	0.44	87.47	12.53
changchun	0.22	42.5	12.54	44.96	xinxiang	0.45	92.5	7.5
qiqihaer	0.22	24.11	39.5	36.38	qujing	0.46	93.49	6.51
zunyi	0.22	56.26	27.03	16.71	chuzhou	0.46	98.2	1.8
taiyuan	0.23	58.27	21.98	19.75	luoyang	0.47	95.08	4.92
yichun	0.23	62.4	15.83	21.77	jilin	0.47	94.06	5.94
shenyang	0.23	56.83	17.98	25.19	xianyang	0.47	95.79	4.21
handan	0.23	54.12	22.13	23.75	yuncheng	0.48	96.34	3.66
xining	0.24	38.65	18.8	42.54	yan Cheng	0.48	99.21	0.79
changde	0.24	51.05	21.15	27.8	changsha	0.49	92.11	7.89
xuzhou	0.24	55.65	19.92	24.43	xining	0.49	94.07	5.93
changsha	0.24	68.83	24.56	6.61	haerbing	0.49	89.62	10.38
jilin	0.25	35.17	17.37	47.46	liuzhou	0.5	94.38	5.62
fushun	0.25	40.31	16.86	42.82	mianyang	0.52	98.37	1.63
luoyang	0.25	52.87	14.08	33.05	leshan	0.52	96.4	3.6
xian	0.25	51.31	30.68	18.01	yichang	0.52	96.2	3.8
nanning	0.26	39.68	29.34	30.99	zhuzhou	0.53	89.73	10.27
datong	0.26	41.84	12.15	46.01	taiyuan	0.54	93.88	6.12
baotou	0.27	33.63	37.34	29.03	changde	0.54	93.9	6.1
tianshui	0.27	49.54	35.52	14.94	datong	0.57	96.39	3.61
wulumuqi	0.27	44.06	11.13	44.81	yibin	0.58	96.53	3.47
hengyang	0.29	30.34	44.14	25.52	nanyang	0.58	93.72	6.28
haerbing	0.3	39.44	26.05	34.51	tianshui	0.59	89.55	10.45
benxi	0.3	35.92	22.02	42.06	yinchuan	0.62	97.84	2.16
zhuzhou	0.32	55.48	26.03	18.5	zunyi	0.66	94.02	5.98
huanggang	0.33	48.3	22.64	29.06	huanggang	0.7	93.02	6.98
haikou	0.34	49.75	17.04	33.21	chenzhou	0.75	98.32	1.68
daqing	0.34	41.69	12.44	45.87	benxi	0.87	94.97	5.03

1/ TFP gains expressed in percentage points

2/ Gains in standardized variable. For actual expected percentage point increase in foreign ownership, multiply by standard deviation (0.317) in foreign ownership.

**Table B-6. Overall Rankings for Government Effectiveness**

<i>City</i>	<i>TFP- based rank</i>	<i>FDI- based rank</i>	<i>Average</i>	<i>Combined rank</i>
jiangmen	2	4	3.0	1
suzhou	5	8	6.5	2
hangzhou	3	12	7.5	3
weihai	4	11	7.5	3
qingdao	12	5	8.5	5
linyi	1	25	13.0	6
yantai	7	19	13.0	6
shaoxing	19	9	14.0	8
xiamen	13	16	14.5	9
zhangzhou	10	20	15.0	10
dongguan	29	2	15.5	11
dalian	18	17	17.5	12
huizhou	34	1	17.5	12
nantong	15	23	19.0	14
shantou	32	6	19.0	14
fuzhou	21	18	19.5	16
shenzhen	36	3	19.5	16
foshan	31	10	20.5	18
weifang	16	27	21.5	19
guangzhou	30	14	22.0	20
huzhou	8	37	22.5	21
taian	17	30	23.5	22
zibo	9	44	26.5	23
ningbo	20	33	26.5	23
langfang	27	28	27.5	25
nanchang	33	24	28.5	26
jining	28	31	29.5	27
maoming	44	15	29.5	27
shangqiu	24	36	30.0	29
tangshan	26	34	30.0	29
Jinhua	11	50	30.5	31
zhoukou	25	38	31.5	32
xuchang	50	21	35.5	33
quanzhou	40	35	37.5	34
deyang	22	59	40.5	35
sanming	39	43	41.0	36
jiaxing	6	77	41.5	37

wuxi	23	60	41.5	37
lianyungang	61	22	41.5	37
Zhuhai	81	7	44.0	40
Ganzhou	76	13	44.5	41
shangrao	35	56	45.5	42
jinan	52	39	45.5	42
changzhou	37	55	46.0	44
Yangzhou	48	45	46.5	45
Taizhou	43	52	47.5	46
Hefei	38	58	48.0	47
Shijiazhuang	56	42	49.0	48
Qinhuangdao	54	47	50.5	49
wuzhong	49	53	51.0	50
Shanghai	77	26	51.5	51
anqing	58	46	52.0	52
Beijing	72	32	52.0	52
jingmen	57	48	52.5	54
zhengzhou	45	66	55.5	55
chongqing	47	67	57.0	56
Jingzhou	42	76	59.0	57
Wenzhou	51	68	59.5	58
Leshan	14	107	60.5	59
Tianjin	92	29	60.5	59
Nanjing	82	40	61.0	61
Baoding	74	49	61.5	62
Jinzhou	73	51	62.0	63
chengdu	64	64	64.0	64
Kunming	60	74	67.0	65
wuhu	53	84	68.5	66
cangzhou	67	70	68.5	66
Xiangfan	69	72	70.5	68
yueyang	63	81	72.0	69
Yuxi	79	69	74.0	70
Guilin	85	63	74.0	70
Wuhan	78	73	75.5	72
mianyang	46	106	76.0	73
wulumuqi	113	41	77.0	74
Yinchuan	41	116	78.5	75
baoji	66	92	79.0	76
yuncheng	62	100	81.0	77
yichun	98	65	81.5	78
jiujiang	89	75	82.0	79
xiaogan	83	82	82.5	80

xuzhou	103	62	82.5	80
Xi'an	108	57	82.5	80
yancheng	65	101	83.0	83
Anshan	75	91	83.0	83
yichang	59	108	83.5	85
Chuzhou	71	96	83.5	85
fushun	106	61	83.5	85
yibin	55	113	84.0	88
huhehaote	90	78	84.0	88
liuzhou	68	105	86.5	90
changchun	94	79	86.5	90
haikou	119	54	86.5	90
qujing	80	95	87.5	93
guiyang	87	90	88.5	94
lanzhou	91	86	88.5	94
shenyang	99	80	89.5	96
Xinxiang	86	94	90.0	97
Qiqihaer	95	87	91.0	98
baotou	111	71	91.0	98
xianyang	84	99	91.5	100
nanyang	70	114	92.0	101
zhangjiakou	93	93	93.0	102
Handan	100	88	94.0	103
nanning	109	85	97.0	104
jilin	105	98	101.5	105
hengyang	114	89	101.5	105
daqing	120	83	101.5	105
xining	101	103	102.0	108
luoyang	107	97	102.0	108
chenzhou	88	119	103.5	110
taiyuan	97	110	103.5	110
changsha	104	103	103.5	110
Zunyi	96	117	106.5	113
changde	102	111	106.5	113
Haerbin	115	104	109.5	115
datong	110	112	111.0	116
zhuzhou	117	109	113.0	117
tianshui	112	115	113.5	118
benxi	116	120	118.0	119
huanggang	118	118	118.0	119

For Tables B-3, B-4, and B-5, the interested reader should be able to interpret the tables themselves to figure out potential gains from improving both broad and narrow ICs to the level of Nice. One thing to note is that when the total gain is negative, it means that the city has already reached the level of Nice. The percent accounted for by each category then should be interpreted accordingly: if government burden accounts for -30% of the total gains in TFP of -0.02, then it implies that the reducing government burden to the level of Nice would increase TFP by  $-0.02 \times (-30\%)$ , i.e., 0.006.

How important is each IC element for achieving the overall results? To answer this question, we compute the average for Tables B-7. The exercise suggests that the most important IC elements, in order of importance, are as follows:

1. The most important IC elements are the general market attractiveness, which accounts for 29% of IC gains in TFP, and 22% of gains in Foreign; and government efficiency, which accounts for 13% of IC gains in TFP and 46% of IC gains in Foreign. In the short-run, the number one thing that the government can do is to improve government efficiency; it accounts for 51% of short-run IC gains in TFP, and 94% short-run IC gains in Foreign.
2. Of secondary importance are:
  - a. to improve the access to finance: 8% of broad IC gains in TFP, and 1/3 of short-run IC gains in TFP;
  - b. to progress toward a harmonious society: 6% of broad IC gains in TFP, 17% of broad IC gains in Foreign.
  - c. to improve on human capital: 12% of broad IC gains in TFP, and 7% of broad IC gains in Foreign.<sup>62</sup>
3. Of tertiary importance are:
  - a. Domestic privatization: 3% of broad IC gains in TFP;
  - b. foreign participation: 8% of broad IC gains in TFP;
  - c. labor market flexibility: 5% of broad IC gains in TFP, 3% of broad IC gains in Foreign; 17% of short-run IC gains in TFP, and 6% of short-run IC gains in Foreign.

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<sup>62</sup> Though the education and technology category accounts for a negative proportion of broad IC gains in Foreign, it merely reflects the temporary nature of FDI concentrating on labor-intensive industries. In the long-run, it is unclear how the skill-technology would help FDI. We thus give this negative accounting results a less weight than the number indicates.

**Table B-7. Average Expected Results From Improving Investment Climate or Government Effectiveness to 90<sup>th</sup> Percentile**

Variable	Broad Investment Climate		Government Effectiveness	
	Outcome=TFP	outcome=FOREIGN	Outcome=TFP	outcome=FOREIGN
Potential Gains In Outcomes	0.60	0.66 <u>1/</u>	0.15	0.30 <u>1/</u>
<i>City Characteristics</i>	29.4%	21.8%		
<i>Harmonious Society</i>	5.9%	17.0%		
<i>Education And Technology</i>	21.7%	6.6%		
<i>Domestic Privatization</i>	2.8%			
<i>International Integration</i>	8.1%			
<b>Government Burden</b>	12.5%	46.3%	50.7%	94.5%
<b>Labor Market Flexibility</b>	4.5%	2.6%	17.3%	5.5%
<b>Access To Loans</b>	7.9%		30.6%	

1/ Gains in standardized variable. For actual expected percentage point increase in foreign ownership, multiply by standard deviation (0.317) in foreign ownership.

The bold categories are more under direct control under the government in the short run, and are therefore my action-able.

For all the share of contributions, we drop the top and bottom 5% to eliminate the influence of outliers.

## Data

Table B-8. City Variables, Group 1

City	Nonstate	Foreign	Log(Num ber Of Employees)	Effective Tax Rate	Labor Redundanc y
Anqing	0.784	0.078	4.747	0.098	0.049
Anshan	0.807	0.040	5.667	0.148	0.015
Baoding	0.719	0.061	5.971	0.114	0.038
Baoji	0.757	0.015	5.701	0.120	0.041
Baotou	0.776	0.056	5.598	0.126	0.079
Beijing	0.553	0.265	6.036	0.114	0.026
Benxi	0.826	0.039	4.860	0.133	0.055
Cangzhou	0.926	0.043	5.321	0.123	0.011
Changchun	0.623	0.141	5.503	0.125	0.025
Changde	0.872	0.060	4.847	0.135	0.043
Changsha	0.715	0.080	5.594	0.151	0.049
Changzhou	0.849	0.118	5.352	0.139	0.005
Chengdu	0.769	0.126	5.826	0.115	0.025
Chenzhou	0.876	0.031	4.437	0.153	0.019
Chongqing	0.747	0.059	6.266	0.135	0.027
Chuzhou	0.850	0.067	5.161	0.115	0.014
Dalian	0.358	0.441	6.637	0.094	0.012
Daqing	0.862	0.013	4.559	0.182	0.036
Datong	0.700	0.056	5.206	0.140	0.028
Deyang	0.888	0.044	5.612	0.138	0.016
Dongguan	0.189	0.807	6.483	0.081	0.000
Foshan	0.556	0.348	6.651	0.125	0.008
Fushun	0.646	0.079	5.181	0.142	0.036
Fuzhou	0.569	0.390	5.397	0.116	0.001
Ganzhou	0.632	0.299	5.172	0.128	0.016
Guangzhou	0.355	0.459	6.463	0.106	0.018
Guilin	0.687	0.082	5.023	0.150	0.028
Guiyang	0.673	0.071	5.850	0.137	0.046
Haerbing	0.671	0.083	5.382	0.111	0.063
Haikou	0.571	0.226	4.837	0.149	0.048
Handan	0.784	0.047	5.777	0.174	0.044
Hangzhou	0.661	0.254	6.251	0.112	0.000
Hefei	0.595	0.205	5.859	0.101	0.021
Hengyang	0.719	0.006	5.344	0.105	0.102
Huanggang	0.770	0.071	5.045	0.184	0.061
Huhehaote	0.869	0.056	4.727	0.098	0.019
Huizhou	0.275	0.696	6.465	0.081	0.005
Huzhou	0.862	0.106	5.409	0.121	0.006
Jiangmen	0.403	0.586	5.908	0.038	0.007
Jiaxing	0.779	0.190	5.589	0.119	0.008
Jilin	0.751	0.073	5.130	0.125	0.037
Jinan	0.751	0.057	5.389	0.124	0.029
Jingmen	0.804	0.115	5.107	0.125	0.017
Jingzhou	0.858	0.058	5.808	0.130	0.016
Jinhua	0.933	0.053	5.945	0.157	0.005

Jining	0.845	0.067	6.008	0.116	0.027
Jinzhou	0.762	0.110	4.913	0.163	0.021
Jiujiang	0.670	0.073	5.338	0.127	0.034
Kunming	0.693	0.046	5.550	0.107	0.028
Langfang	0.767	0.160	5.229	0.100	0.001
Lanzhou	0.622	0.024	5.731	0.130	0.063
Leshan	0.912	0.034	5.658	0.118	0.026
Lianyungang	0.744	0.202	5.078	0.111	0.027
Linyi	0.828	0.130	5.757	0.088	0.007
Liuzhou	0.767	0.071	5.604	0.131	0.037
Luoyang	0.783	0.010	5.250	0.144	0.031
Maoming	0.804	0.129	4.589	0.126	0.013
Mianyang	0.820	0.057	5.492	0.118	0.014
Nanchang	0.625	0.099	5.670	0.096	0.032
Nanjing	0.593	0.211	6.200	0.138	0.044
Nanning	0.604	0.080	5.011	0.136	0.061
Nantong	0.789	0.184	5.465	0.104	0.004
Nanyang	0.750	0.033	5.867	0.130	0.047
Ningbo	0.785	0.209	5.945	0.140	0.005
Qingdao	0.740	0.203	5.528	0.090	0.014
Qinhuangdao	0.651	0.194	5.385	0.098	0.019
Qiqihaer	0.802	0.014	5.403	0.097	0.070
Quanzhou	0.495	0.486	5.529	0.139	0.004
Qujing	0.821	0.035	5.523	0.149	0.039
Sanming	0.844	0.078	4.908	0.136	0.010
Shanghai	0.505	0.413	5.707	0.123	0.016
Shangqiu	0.960	0.009	4.356	0.082	0.007
Shangrao	0.869	0.027	4.680	0.134	0.015
Shantou	0.697	0.274	5.104	0.119	0.011
Shaoxing	0.906	0.078	5.530	0.132	0.017
Shenyang	0.529	0.210	5.898	0.141	0.036
Shenzhen	0.275	0.674	6.581	0.075	0.001
Shijiazhuang	0.685	0.059	6.196	0.129	0.021
Suzhou	0.311	0.666	6.986	0.082	0.001
Taian	0.799	0.070	6.288	0.103	0.022
Taiyuan	0.682	0.019	5.873	0.156	0.042
Taizhou	0.890	0.056	5.572	0.158	0.004
Tangshan	0.808	0.124	6.455	0.113	0.012
Tianjin	0.443	0.294	6.100	0.134	0.047
Tianshui	0.682	0.027	5.405	0.151	0.076
Weifang	0.839	0.105	5.940	0.116	0.010
Weihai	0.790	0.167	6.180	0.079	0.002
Wenzhou	0.949	0.051	5.689	0.176	0.002
Wuhan	0.600	0.108	6.151	0.118	0.048
Wuhu	0.767	0.101	5.446	0.143	0.010
Wulumuqi	0.799	0.036	4.310	0.146	0.027
Wuxi	0.786	0.173	5.800	0.126	0.006
Wuzhong	0.880	0.000	4.306	0.128	0.020
Xiamen	0.391	0.561	5.630	0.086	0.000
Xian	0.597	0.076	5.929	0.128	0.063

Xiangfan	0.720	0.058	6.180	0.138	0.030
Xianyang	0.743	0.050	5.421	0.114	0.027
Xiaogan	0.837	0.064	5.126	0.166	0.018
Xining	0.810	0.035	4.705	0.121	0.038
Xinxiang	0.787	0.049	5.633	0.120	0.044
Xuchang	0.931	0.041	4.994	0.139	0.017
Xuzhou	0.808	0.075	5.614	0.153	0.040
Yancheng	0.928	0.051	5.479	0.138	0.009
Yangzhou	0.808	0.114	5.266	0.120	0.014
Yantai	0.740	0.192	6.084	0.097	0.022
Yibin	0.907	0.009	5.571	0.147	0.027
Yichang	0.718	0.106	5.783	0.109	0.027
Yichun	0.823	0.041	5.108	0.182	0.032
Yinchuan	0.887	0.042	4.745	0.091	0.020
Yueyang	0.749	0.053	5.123	0.087	0.059
Yuncheng	0.852	0.013	5.888	0.175	0.025
Yuxi	0.812	0.079	5.310	0.179	0.018
Zhangjiakou	0.669	0.107	5.235	0.104	0.069
Zhangzhou	0.582	0.395	4.813	0.100	0.002
Zhengzhou	0.808	0.066	6.199	0.115	0.025
Zhoukou	0.874	0.039	5.236	0.101	0.010
Zhuhai	0.253	0.692	5.587	0.093	0.005
Zhuzhou	0.821	0.051	5.478	0.173	0.067
Zibo	0.819	0.073	6.501	0.110	0.031
Zunyi	0.666	0.028	5.524	0.138	0.050
Total	0.719	0.146	5.553	0.125	0.026

Table B-9. City Variables, Group 2

City	Entertainment And Travel Costs / Sales	It Index	% Access To Loans	Ceo Schooling	% Employees With University Education	Property Rights Protection Index	Log(City Population)	Log(Gdp Per Capita For The City)
Anqing	0.010	0.167	0.590	14.350	0.119	0.809	6.404	8.103
Anshan	0.009	0.202	0.570	15.520	0.153	0.673	5.849	9.604
Baoding	0.013	0.213	0.590	15.050	0.200	0.713	6.992	8.563
Baoji	0.012	0.251	0.700	15.430	0.172	0.612	5.911	8.398
Baotou	0.009	0.226	0.490	15.840	0.180	0.418	5.484	9.913
Beijing	0.013	0.653	0.565	16.765	0.421	0.429	7.059	9.847
Benxi	0.018	0.140	0.300	15.040	0.126	0.548	5.053	9.166
Cangzhou	0.010	0.162	0.500	14.200	0.120	0.466	6.521	8.690
Changchun	0.019	0.339	0.410	16.120	0.290	0.697	6.585	9.292
Changde	0.020	0.173	0.530	14.720	0.149	0.411	6.399	8.630
Changsha	0.025	0.443	0.720	15.350	0.289	0.651	6.414	9.163
Changzhou	0.014	0.199	0.730	14.730	0.131	0.661	5.855	9.690
Chengdu	0.017	0.446	0.690	16.182	0.312	0.724	6.966	9.268
Chenzhou	0.012	0.171	0.470	14.320	0.108	0.809	6.126	8.458
Chongqing	0.008	0.311	0.700	15.825	0.209	0.709	7.927	8.497
Chuzhou	0.021	0.221	0.580	15.180	0.108	0.780	6.072	8.340
Dalian	0.007	0.440	0.673	16.520	0.255	0.649	6.331	9.789
Daqing	0.013	0.324	0.190	15.660	0.193	0.369	5.569	10.099
Datong	0.014	0.185	0.330	15.350	0.149	0.296	5.703	8.524
Deyang	0.007	0.216	0.780	15.530	0.133	0.833	5.943	8.646
Dongguan	0.003	0.252	0.340	15.400	0.122	0.387	6.475	10.511
Foshan	0.008	0.331	0.660	15.680	0.146	0.528	5.860	10.095
Fushun	0.014	0.208	0.380	15.410	0.192	0.398	5.416	9.046
Fuzhou	0.007	0.245	0.620	14.920	0.155	0.758	6.412	9.468
Ganzhou	0.009	0.282	0.410	15.610	0.125	0.558	6.740	7.815
Guangzhou	0.007	0.507	0.650	16.440	0.259	0.612	6.603	10.264
Guilin	0.016	0.304	0.570	15.490	0.236	0.724	6.202	8.458
Guiyang	0.020	0.401	0.720	15.910	0.287	0.471	5.852	8.775
Haerbing	0.025	0.453	0.390	16.110	0.376	0.498	6.878	9.094
Haikou	0.027	0.427	0.360	16.330	0.298	0.475	4.963	9.153
Handan	0.006	0.189	0.570	15.040	0.141	0.408	6.761	8.622
Hangzhou	0.006	0.759	0.820	16.270	0.261	0.982	6.480	9.894
Hefei	0.012	0.438	0.660	16.350	0.285	0.542	6.097	8.828
Hengyang	0.022	0.202	0.500	15.200	0.164	0.389	6.578	8.339
Huanggang	0.017	0.150	0.420	15.110	0.113	0.700	6.588	8.019
Huhehaote	0.018	0.331	0.350	15.300	0.229	0.269	5.369	9.246
Huizhou	0.008	0.293	0.370	15.530	0.132	0.753	5.681	9.397
Huzhou	0.011	0.175	0.840	14.580	0.112	0.630	5.550	9.368
Jiangmen	0.007	0.190	0.610	15.180	0.169	0.936	5.955	9.319
Jiaxing	0.008	0.155	0.850	13.870	0.054	0.790	5.811	9.684
Jilin	0.015	0.275	0.340	15.290	0.179	0.655	6.062	9.022
Jinan	0.010	0.332	0.630	15.540	0.231	0.561	6.380	9.552
Jingmen	0.013	0.243	0.630	15.330	0.139	0.703	5.704	8.771
Jingzhou	0.009	0.223	0.650	15.560	0.178	0.552	6.456	8.145
Jinhua	0.006	0.211	0.890	15.150	0.124	0.658	6.113	9.312

Jining	0.008	0.219	0.730	15.090	0.154	0.849	6.687	8.857
Jinzhou	0.012	0.289	0.680	15.650	0.220	0.786	5.730	8.628
Jiujiang	0.013	0.375	0.440	15.090	0.119	0.882	6.138	8.279
Kunming	0.012	0.322	0.640	15.740	0.202	0.435	6.220	9.167
Langfang	0.009	0.302	0.500	14.890	0.179	0.741	5.966	8.979
Lanzhou	0.011	0.233	0.620	15.240	0.193	0.377	5.730	9.036
Leshan	0.007	0.177	0.810	15.310	0.143	0.700	5.852	8.302
Lianyungang	0.012	0.264	0.560	15.230	0.157	0.696	6.150	8.419
Linyi	0.005	0.239	0.870	15.110	0.157	0.709	6.923	8.537
Liuzhou	0.010	0.327	0.640	15.580	0.191	0.675	5.871	8.672
Luoyang	0.019	0.233	0.470	15.050	0.180	0.484	6.472	8.889
Maoming	0.007	0.182	0.520	14.520	0.142	0.706	6.508	8.651
Mianyang	0.013	0.275	0.600	15.840	0.200	0.687	6.271	8.386
Nanchang	0.009	0.412	0.630	15.790	0.289	0.750	6.133	9.081
Nanjing	0.012	0.399	0.640	16.100	0.222	0.617	6.369	9.732
Nanning	0.017	0.372	0.480	15.700	0.240	0.357	6.475	8.445
Nantong	0.013	0.248	0.760	14.880	0.155	0.746	6.651	8.995
Nanyang	0.007	0.214	0.630	15.500	0.159	0.562	6.975	8.359
Ningbo	0.013	0.298	0.870	14.900	0.123	0.758	6.315	9.902
Qingdao	0.011	0.299	0.690	15.180	0.175	0.950	6.595	9.572
Qinhuangdao	0.016	0.238	0.590	15.080	0.192	0.683	5.620	9.039
Qiqihaer	0.013	0.235	0.480	15.700	0.186	0.539	6.314	8.267
Quanzhou	0.010	0.191	0.630	14.040	0.096	0.777	6.485	9.291
Qujing	0.011	0.192	0.650	15.040	0.104	0.654	6.356	8.030
Sanming	0.009	0.183	0.640	14.250	0.080	0.794	5.591	8.895
Shanghai	0.014	0.447	0.485	15.533	0.231	0.449	7.463	10.247
Shangqiu	0.007	0.274	0.440	14.300	0.106	0.868	6.701	7.959
Shangrao	0.007	0.602	0.620	15.030	0.107	0.946	6.447	7.800
Shantou	0.007	0.213	0.580	14.950	0.127	0.960	6.189	8.754
Shaoxing	0.008	0.186	0.820	14.550	0.130	0.781	6.075	9.644
Shenyang	0.021	0.374	0.560	16.100	0.305	0.543	6.542	9.548
Shenzhen	0.006	0.413	0.370	16.420	0.175	0.740	6.393	10.316
Shijiazhuang	0.009	0.251	0.630	15.810	0.201	0.793	6.822	9.117
Suzhou	0.004	0.473	0.730	16.430	0.210	0.934	6.395	10.295
Taian	0.007	0.276	0.730	15.850	0.239	0.782	6.310	8.825
Taiyuan	0.013	0.330	0.610	15.610	0.243	0.688	5.805	9.172
Taizhou	0.017	0.247	0.810	14.790	0.140	0.404	6.321	9.287
Tangshan	0.006	0.208	0.640	15.470	0.116	0.522	6.565	9.368
Tianjin	0.015	0.430	0.610	16.392	0.273	0.611	6.931	9.686
Tianshui	0.018	0.229	0.630	15.230	0.179	0.447	5.852	7.517
Weifang	0.008	0.232	0.770	15.330	0.130	0.751	6.746	8.921
Weihai	0.004	0.157	0.710	15.400	0.118	0.826	5.515	9.940
Wenzhou	0.013	0.275	0.780	14.740	0.129	0.443	6.615	9.171
Wuhan	0.019	0.462	0.750	16.610	0.356	0.630	6.667	9.452
Wuhu	0.008	0.234	0.580	15.350	0.151	0.825	5.414	8.968
Wulumuqi	0.016	0.343	0.330	15.770	0.268	0.496	5.226	9.362
Wuxi	0.012	0.260	0.760	14.808	0.145	0.482	6.103	10.201
Wuzhong	0.010	0.147	0.600	13.780	0.091	0.391	4.840	8.372
Xiamen	0.006	0.339	0.560	15.770	0.169	0.832	5.394	9.927
Xian	0.019	0.473	0.610	16.170	0.363	0.420	6.586	8.959

Xiangfan	0.008	0.241	0.620	15.630	0.180	0.396	6.361	8.498
Xianyang	0.018	0.395	0.500	16.000	0.250	0.506	6.188	9.146
Xiaogan	0.010	0.163	0.560	15.180	0.174	0.793	6.229	8.251
Xining	0.019	0.237	0.400	15.440	0.180	0.356	5.333	8.372
Xinxiang	0.017	0.173	0.560	15.640	0.170	0.402	6.333	8.364
Xuchang	0.009	0.151	0.570	14.680	0.095	0.569	6.106	8.678
Xuzhou	0.018	0.324	0.560	15.580	0.209	0.610	6.821	8.720
Yancheng	0.020	0.156	0.720	15.060	0.121	0.535	6.682	8.626
Yangzhou	0.015	0.218	0.640	14.360	0.108	0.698	6.119	9.088
Yantai	0.007	0.367	0.790	15.560	0.190	0.832	6.472	9.456
Yibin	0.010	0.159	0.760	14.980	0.101	0.560	6.250	8.145
Yichang	0.012	0.311	0.590	15.800	0.182	0.835	5.988	8.929
Yichun	0.015	0.179	0.590	15.220	0.110	0.702	6.264	7.944
Yinchuan	0.013	0.202	0.570	14.910	0.183	0.529	4.926	8.870
Yueyang	0.014	0.250	0.630	15.620	0.183	0.616	6.272	8.697
Yuncheng	0.006	0.261	0.780	15.600	0.141	0.768	6.205	8.219
Yuxi	0.007	0.267	0.620	14.460	0.129	0.728	5.340	8.994
Zhangjiakou	0.010	0.183	0.480	15.270	0.117	0.674	6.109	8.419
Zhangzhou	0.012	0.226	0.710	14.550	0.133	0.690	6.122	8.946
Zhengzhou	0.009	0.244	0.580	15.510	0.209	0.746	6.560	9.210
Zhoukou	0.008	0.186	0.540	15.370	0.179	0.926	6.971	7.826
Zhuhai	0.019	0.404	0.290	15.910	0.150	0.683	4.892	9.948
Zhuzhou	0.023	0.302	0.560	15.810	0.248	0.361	5.916	8.771
Zibo	0.008	0.223	0.920	15.900	0.209	0.864	6.028	9.626
Zunyi	0.018	0.282	0.640	15.343	0.187	0.430	6.584	7.846
Total	0.012	0.287	0.600	15.394	0.183	0.634	6.233	9.000

Table B-10. City Variables, Group 3

City	City Gdp Per Capita Growth Rate	City Road Mileage	Port Costs	Price For Industrial- Use Electricity	Log(City Average Wage)	% Permanent Employees Having Medical Insurance	Time Spent With Four Gov't Regulators	% Of Time With Ok Air For The City	% Girl Enrollment In Elementary Schools
Anqing	12.500	2.257	420.000	0.500	9.176	0.460	0.028	0.954	45.800
Anshan	26.900	2.418	222.400	0.620	9.309	0.512	0.058	0.704	47.550
Baoding	14.500	1.933	157.600	0.590	9.375	0.561	0.054	0.745	48.100
Baoji	22.000	2.627	1034.400	0.560	9.330	0.560	0.051	0.817	45.100
Baotou	33.700	2.779	687.200	0.470	9.691	0.823	0.089	0.494	44.550
Beijing	15.600	2.594	147.200	0.590	10.298	0.970	0.056	0.627	48.100
Benxi	14.000	2.834	310.400	0.700	9.225	0.687	0.040	0.666	49.460
Cangzhou	14.600	2.131	124.000	0.420	9.325	0.431	0.051	0.784	47.900
Changchun	12.600	2.343	526.400	0.750	9.663	0.560	0.027	0.943	47.300
Changde	35.200	2.621	788.000	0.370	9.468	0.580	0.041	0.890	48.710
Changsha	13.600	1.910	636.000	0.600	9.849	0.776	0.047	0.598	47.250
Changzhou	15.500	2.691	136.000	0.740	9.903	0.780	0.019	0.825	46.270
Chengdu	13.600	2.639	2006.400	0.500	9.773	0.908	0.046	0.846	46.710
Chenzhou	12.400	2.723	363.200	0.500	9.376	0.450	0.031	0.971	53.210
Chongqing	112.700	2.270	1744.000	0.430	9.572	0.568	0.051	0.664	47.340
Chuzhou	10.120	2.642	252.800	0.600	9.211	0.520	0.030	0.944	46.110
Dalian	19.000	2.268	50.000	0.530	9.889	0.990	0.062	0.959	48.800
Daqing	9.200	3.102	805.600	0.660	10.027	0.865	0.035	0.968	47.300
Datong	20.200	2.915	368.800	0.380	9.454	0.640	0.052	0.438	47.800
Deyang	19.380	2.373	2004.800	0.420	9.688	0.858	0.032	0.966	49.300
Dongguan	17.400	1.648	50.000	0.680	10.140	0.990	0.033	0.978	43.860
Foshan	14.500	2.480	50.000	0.750	9.881	0.938	0.046	0.951	46.080
Fushun	15.000	2.793	307.200	0.610	9.541	0.577	0.034	0.702	47.910
Fuzhou	13.000	2.239	170.400	0.480	9.716	0.446	0.031	0.978	46.290
Ganzhou	11.300	2.133	370.400	0.630	9.242	0.583	0.027	0.950	44.610
Guangzhou	13.750	2.013	50.000	0.590	10.343	0.959	0.061	0.831	45.980
Guilin	16.370	2.605	526.400	0.510	9.532	0.660	0.025	1.000	47.940
Guiyang	13.700	2.489	674.400	0.310	9.554	0.804	0.058	0.918	48.260
Haerbing	17.430	2.827	699.200	0.490	9.383	0.813	0.053	0.816	49.000
Haikou	110.700	1.889	50.000	0.620	9.776	0.980	0.043	0.993	.
Handan	13.600	2.154	434.400	0.590	9.505	0.436	0.072	0.690	49.050
Hangzhou	13.700	2.528	107.200	0.560	10.247	0.940	0.006	0.800	47.080
Hefei	19.200	2.560	324.800	0.490	9.611	0.920	0.053	0.858	44.050
Hengyang	10.800	1.593	483.200	0.500	9.394	0.546	0.035	0.863	47.480
Huanggang	9.000	2.256	750.400	0.650	8.792	0.410	0.032	0.590	45.200
Huhehaote	21.200	2.802	556.800	0.460	9.721	0.720	0.047	0.870	47.030
Huizhou	13.100	3.241	63.200	0.600	9.578	0.903	0.022	1.000	47.130
Huzhou	15.300	2.515	121.600	0.740	9.975	0.690	0.030	0.891	49.040
Jiangmen	14.440	2.778	78.400	0.590	9.522	0.740	0.030	0.962	47.710
Jiaxing	16.200	1.946	93.600	0.600	9.925	0.570	0.039	0.975	48.470
Jilin	13.000	3.053	593.600	0.510	9.449	0.586	0.039	0.614	52.190
Jinan	14.100	2.173	261.600	0.600	9.800	0.716	0.038	0.577	47.100
Jingmen	11.500	2.709	992.800	0.580	9.255	0.717	0.041	0.851	48.560
Jingzhou	10.270	2.404	992.800	0.460	9.134	0.740	0.047	0.824	46.300

Jinhua	21.700	2.789	214.400	0.760	10.055	0.760	0.031	0.678	45.540
Jining	16.700	2.106	251.200	0.500	9.518	0.524	0.039	0.863	45.990
Jinzhou	19.500	2.497	299.200	0.430	9.409	0.585	0.033	0.792	48.690
Jiujiang	14.300	2.446	663.200	0.450	9.270	0.800	0.029	0.902	45.730
Kunming	11.100	1.099	857.600	0.360	9.646	0.820	0.066	1.000	47.800
Langfang	11.600	2.165	50.000	0.400	9.410	0.656	0.023	0.904	48.670
Lanzhou	10.100	2.138	1468.800	0.330	9.592	0.507	0.066	0.566	48.000
Leshan	14.800	2.248	2091.200	0.490	9.340	0.604	0.037	0.933	47.540
Lianyungang	113.400	2.358	50.000	0.700	9.450	0.627	0.031	0.885	44.100
Linyi	16.600	2.165	93.600	0.600	9.313	0.648	0.051	0.893	39.100
Liuzhou	13.500	2.298	356.800	0.410	9.711	0.820	0.041	0.790	48.360
Luoyang	16.200	2.235	570.400	0.400	9.475	0.597	0.052	0.427	47.700
Maoming	15.600	2.529	82.400	0.640	9.584	0.702	0.020	0.992	40.300
Mianyang	14.400	2.167	1961.600	0.540	9.469	0.800	0.036	0.930	47.680
Nanchang	15.100	1.736	628.000	0.610	9.652	0.560	0.033	0.904	46.500
Nanjing	115.000	2.434	196.800	0.680	10.007	0.790	0.060	0.803	43.210
Nanning	11.900	2.238	122.400	0.470	9.645	0.870	0.031	0.950	48.000
Nantong	16.100	2.279	111.200	0.560	9.674	0.775	0.050	0.883	48.300
Nanyang	22.830	1.986	567.200	0.440	9.227	0.700	0.051	0.265	47.000
Ningbo	14.800	2.404	56.000	0.650	10.048	0.870	0.036	0.918	50.600
Qingdao	15.600	2.243	50.000	0.680	9.752	0.910	0.025	0.904	48.290
Qinhuangdao	11.700	2.554	208.000	0.550	9.670	0.653	0.050	0.959	53.000
Qiqihaer	16.450	2.717	914.400	0.680	9.296	0.598	0.059	0.879	48.980
Quanzhou	13.500	2.837	81.600	0.640	9.579	0.821	0.031	0.945	45.410
Qujing	19.520	3.817	766.400	0.510	9.606	0.772	0.052	0.978	44.600
Sanming	10.000	3.800	265.600	0.500	9.619	0.540	0.029	0.680	45.570
Shanghai	18.380	1.699	50.000	0.560	10.102	0.970	0.040	0.852	48.470
Shangqiu	21.900	2.461	296.800	0.380	9.033	0.697	0.020	0.904	47.700
Shangrao	18.260	2.602	408.800	0.640	9.246	0.780	0.009	0.994	46.900
Shantou	10.100	1.316	228.800	0.570	9.494	0.938	0.021	1.000	45.600
Shaoxing	15.200	2.302	114.400	0.600	9.966	0.953	0.032	0.827	47.600
Shenyang	18.120	2.282	286.400	0.490	9.534	0.800	0.040	0.825	48.400
Shenzhen	8.000	1.312	50.000	0.710	10.371	0.890	0.061	0.940	43.710
Shijiazhuang	13.200	2.269	271.200	0.420	9.518	0.758	0.058	0.767	47.670
Suzhou	16.100	2.345	72.000	0.650	10.022	0.980	0.048	0.836	48.800
Taian	16.400	2.195	304.800	0.580	9.379	0.690	0.043	0.984	40.100
Taiyuan	15.200	2.285	445.600	0.460	9.642	0.720	0.074	0.614	48.330
Taizhou	13.000	2.032	157.600	0.600	10.099	0.630	0.031	0.918	45.950
Tangshan	14.300	2.459	95.200	0.390	9.552	0.527	0.056	0.759	48.790
Tianjin	14.900	2.414	52.800	0.460	9.959	0.919	0.063	0.817	48.950
Tianshui	13.050	0.880	1207.200	0.380	9.276	0.580	0.044	0.800	56.000
Weifang	16.840	2.305	88.000	0.620	9.420	0.721	0.055	0.945	46.200
Weihai	16.930	2.414	224.000	0.570	9.478	0.709	0.034	1.000	46.000
Wenzhou	13.800	2.089	204.000	0.600	9.860	0.623	0.028	0.299	45.120
Wuhan	14.500	1.813	806.400	0.620	9.534	0.870	0.060	0.675	44.200
Wuhu	20.380	2.702	260.000	0.530	9.559	0.560	0.032	0.940	46.080
Wulumuqi	14.680	1.880	3028.000	0.350	9.840	0.870	0.042	0.705	48.100
Wuxi	16.300	2.315	100.000	0.690	9.925	0.900	0.038	0.809	46.000
Wuzhong	13.000	3.954	1010.400	0.500	9.521	0.420	0.029	0.767	49.100
Xiamen	14.400	1.895	50.000	0.590	9.949	0.950	0.045	1.000	46.110

Xian	24.600	2.528	891.200	0.270	9.647	0.827	0.077	0.712	45.600
Xiangfan	11.000	3.196	900.000	0.380	8.958	0.700	0.049	0.749	48.400
Xianyang	12.200	2.341	904.000	0.590	9.290	0.658	0.051	0.806	46.300
Xiaogan	10.100	2.388	791.200	0.470	9.078	0.470	0.048	0.950	44.120
Xining	13.900	3.376	1640.000	0.280	9.691	0.663	0.032	0.765	.
Xinxiang	21.240	1.927	476.800	0.450	9.160	0.830	0.043	0.810	33.320
Xuchang	14.100	2.073	442.400	0.530	9.181	0.444	0.011	0.900	46.020
Xuzhou	13.200	2.285	171.200	0.430	9.668	0.652	0.045	0.601	47.700
Yancheng	14.500	2.362	152.000	0.740	9.389	0.525	0.043	0.762	45.300
Yangzhou	14.500	2.531	221.600	0.540	9.664	0.562	0.031	0.774	46.360
Yantai	17.500	2.387	192.800	1.500	9.697	0.910	0.041	1.000	48.960
Yibin	12.600	1.768	1988.800	0.500	9.469	0.800	0.051	0.598	46.930
Yichang	17.300	3.074	1014.400	0.640	9.272	0.740	0.041	0.717	48.600
Yichun	16.300	3.392	708.000	0.590	9.320	0.503	0.025	0.957	45.400
Yinchuan	18.400	3.182	1008.800	0.600	9.506	0.680	0.041	0.790	47.000
Yueyang	24.800	2.765	759.200	0.600	9.415	0.542	0.034	0.762	33.300
Yuncheng	14.200	2.915	739.200	0.480	9.336	0.570	0.047	0.459	47.500
Yuxi	7.400	4.210	910.400	0.440	9.708	0.650	0.045	0.973	42.660
Zhangjiakou	13.000	3.310	320.800	0.460	9.421	0.415	0.060	0.696	48.460
Zhangzhou	11.400	2.643	52.800	0.500	9.390	0.310	0.028	0.989	46.500
Zhengzhou	14.000	2.240	467.200	0.440	9.617	0.510	0.028	0.816	48.030
Zhoukou	13.500	1.841	402.400	0.400	8.882	0.920	0.018	0.814	47.600
Zhuhai	10.800	2.158	120.000	0.790	9.908	0.990	0.031	1.000	45.300
Zhuzhou	18.000	1.973	624.800	0.430	9.414	0.656	0.036	0.538	45.000
Zibo	22.250	2.334	173.600	0.550	9.556	0.684	0.047	0.836	48.100
Zunyi	12.800	1.743	787.200	0.340	9.504	0.644	0.058	0.781	47.890
Total	19.355	2.406	509.942	0.544	9.589	0.709	0.042	0.818	46.858

## BIBLIOGRAPHY

- American Chamber of Commerce in Shanghai, *White Paper 2005: American Business in China*, 2005.
- Asian Development Bank, “People’s Republic of China: Policy Reform in Road Transport,” technical assistance consultant’s report, November 2005.
- Cai, Fang, and Xu, 2005.
- Coyle, Diane, Wendy Alexander and Brian Ashcroft, editors, *New Wealth for Old Nations: Scotland’s Economic Prospects*, Princeton University Press, 2005.
- Demurger, Sylvie, “Infrastructure Development and Economic Growth: An Explanation for Regional Disparities in China?” *Journal of Comparative Economics*, (29) 1:95-117.
- Dollar, David, Shuilin Wang, Lixin Colin Xu, and Anqing Shi, “Improving City Competitiveness Through the Investment Climate: Ranking 23 Chinese Cities,” January 2005, [www.worldbank.org/cn](http://www.worldbank.org/cn)
- Foreign Investment Advisory Service (FIAS), *China: Policy, Legal and Administrative Framework for Investment in Liaoning Province: Volume II: Assessment of Administrative Procedures for Doing Business in Liaoning Province*, January 2005.
- Haltiwanger, John and Helena Schweiger, “Allocation Efficiency and the Business Climate,” University of Maryland, working paper, processed, 2005.
- National Bureau of Statistics, *China Statistical Yearbook*, 2005.
- PricewaterhouseCoopers, *Doing Business and Investing in the People’s Republic of China*, 2002.
- Woetzel, Jonathan R., *Capitalist China: Strategies for a Revolutionized Economy*, John Wiley & Sons, 2003.
- World Bank, 2001, *China and the Knowledge Economy: Seizing the 21<sup>st</sup> Century*.
- \_\_\_\_\_, 2002a, *China: National Development and Sub-National Finance: A Review of Provincial Expenditures*, 9 April 2002.

- \_\_\_\_\_, 2002b, "Trends in Trade and Logistics: An East Asian Perspective," Transport Sector Working Paper 2, June 2002.
- \_\_\_\_\_, 2003, *China: Promoting Growth With Equity: Country Economic Memorandum*, 15 October 2003.
- \_\_\_\_\_, 2004a, "Waste Management in China: Issues and Recommendations," Working Paper 9, May 2004.
- \_\_\_\_\_, 2004b, *Clean Development Mechanism for China: Taking a Proactive and Sustainable Approach*.
- \_\_\_\_\_, 2004c, *Doing Business, 2004*.
- \_\_\_\_\_, 2004d, *Investment Climate for Small and Medium Enterprises in Southwest China*, 20 December 2004.
- \_\_\_\_\_, 2004e, *Policies for the 11<sup>th</sup> Five-Year Plan*, 15 December 2004, processed.
- \_\_\_\_\_, 2004f, *Reducing Air Pollution From Urban Transport*.
- \_\_\_\_\_, 2005a, *Deepening Public Service Unit Reform to Improve Service Delivery*.
- \_\_\_\_\_, 2005b, *China: Integration of National Product and Factor Markets – Economic Costs and Policy Recommendations*, 13 June 2005.
- \_\_\_\_\_, 2005c, *World Development Report 2005: A Better Investment Climate for Everyone*, 2005.
- \_\_\_\_\_, 2005d, *China: Facilitating Investment and Innovation: A Market-Oriented Approach to Northeast Revitalization*, 15 February 2006.
- \_\_\_\_\_, 2006, *Doing Business 2006: Creating Jobs*.
- Yusuf, Shahid "Two Tales of Regional Development in China: the Pearl River Delta vs. the Northeast," paper prepared for conference on The Regional Question in Economic Development, Bellagio, Italy, August 2005.