"Race to the Bottom" Competition by Negotiated Land Leasing

-- an institutional analysis and empirical evidence from Chinese cities

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Abstract: By analyzing the evolution of local governments' roles in different periods of China's growth in transition, this paper explores local fiscal incentives to use subsidized land and infrastructure as a key instrument in regional competition for manufacturing investment after the mid- 1990s. We relate local land development behavior to China's current land use institutions and inter-governmental arrangements. On the basis of a panel data covering prefectural-level city from 1999 to 2003, we empirically identify and compare the fiscal impacts of different forms of land leasing (by negotiation versus by auction/tender). Policy implications are drawn from this analysis to further reform China's urban land system and fiscal institutions.

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1 Introduction

The market-oriented reforms launched in 1978 have dramatically changed the economic landscape of China. In the past 30 years, China has transformed itself from being a centrally planned economy to an emerging market economy whilst achieved an average growth rate of more than 9 percent.

China's economic growth in the past three decades has been accompanied by very active roles played by local governments in by local governments in building local infrastructure, encouraging local businesses, attracting investment and even directly engaging in enterprise investment and management (in earlier reform period). Much of the literature, with an explicit attempt to account for the rapid growth in the 1980s and the early 1990s, has emphasized the importance of the fiscal decentralization in providing revenue incentives for local authorities to benefit from the growth they could foster, thereby encouraging pro-growth policies and stimulating economic growth (Lin & Liu 2000; Oi 1992, 1999; Shirk 1993; Wong 1992; Oi, 1992; Montinola et al., 1995; Qian and Weingast 1997); Some scholars even go further to claim that the Chinese economy has come under the thrall of a "market-preserving federalism with Chinese characteristics" by arguing that the pro-business incentives given to Chinese local officials are a result of a policy of fiscal decentralization and high-powered intergovernmental fiscal revenue-sharing contracts (Montinola et al. 1995，Qian and Weingast, 1997).

Interestingly, after a fiscal reform in 1994 by which the Chinese government re-centralized fiscal revenue by significantly raising the central share of budget revenue in total revenue, the Chinese economy has continued to grow at a rate comparable to that in the first one and a half decades of reform. Although the fluctuations of the business cycle complicate comparisons, and dwindling opportunities for reallocating labor were reducing potential growth, the average growth rate in the 1994-2000 period after the fiscal reform was 8.1 percent, exactly the same as that for the seven years before it (1987-1993)(Cai and

Triesman, 2007). The average growth rate further rose over 10 percent in the past five years. It seems that the incentives of local governments to promote local economic development have not faded as the fiscal system became more centralized. On the contrary, in a process of intensifying regional competition for manufacturing investment, a "race to bottom" type of game emerged in which local governments compete to offer low-cost land and subsidized infrastructure to manufacturing investors with an aim to boost local economy. Since the mid-1990s, and perhaps more so from the early 2000s, local governments across China have established a large number of industrial parks and urban new development zones by leasing land to industrial users at low or even zero costs. In the context of fiscal centralization in which the central government reaps most of the tax revenue from the manufacturing sectors, the strong local incentives to compete for industrial investment stands out as a paradox that needs to be better understood.

While local governments in China has been competing hard for industrial investment by providing subsidized land and infrastructure to manufacturing investors, they have been acting very differently in leasing land for commercial and residential usage. With an almost monopolistic power in urban land supply, many local governments at the city or county level set up the so-called "Municipal Land Management & Reserve Center". In contrast to the "race to bottom" style land leasing strategy for industrial purposes, a common practice of these centers is to limit land supply for commercial and residential purposes so as to maximize land-leasing revenue. Compared to the industrial land that is mostly leased out at subsidized prices and by one-to-one negotiation, a significantly higher proportion of residential and commercial land is leased out by auction or tender at much higher prices. Even when these non-manufacturing land sites are leased out by negotiation, their prices are usually much higher than that of manufacturing land. The different leasing strategy for land sites used for different purposes is another issue that needs to be better understood.

This paper aims to approach these two issues by exploring the fiscal incentives of Chinese local governments in different periods of transition and analyze how China's local land development behavior relate to the country's land use institutions and the change of inter-governmental fiscal arrangements since the mid-1990s. We argue that under the fiscal contracting system before the mid-1990s, the role of local governments in economic

development was largely a shareholder of local government-owned firms. However, as local public enterprises were privatized and as the center redefined the intergovernmental fiscal system since the mid-1990s, this picture has gradually changed as local governments now became a tax collector of more mobile private manufacturing firms. Such change of local governments' roles in economic development implies that they still have strong incentive to promote economic growth, though the incentives now is to generate new tax base by fiercely competing with other regions rather than by supporting and even protecting local government-owned enterprises. Our analysis, we believe, will not only help to rationalize a special form of "race to the bottom" competition for manufacturing investment under the unique institutional setup in China, but also improve our understanding the institutional origin of China's economic growth both before and after the fiscal centralization reform in 1994.

The rest of this paper proceeds as the follows. With a reference to the general literature on regional competition, Section 2 describes the evolution of regional competition pattern in China from the earlier reform period to the current period. Section 3 provides an analytical framework of local public land leasing strategies within China's specific institutional structure after mid-1990s. Using a panel data set of China's prefecture-level cities from 1999 to 2005, we examine the fiscal impacts of local public land leasing in section 4. The final section concludes with policy implications.

2 Regional Competition for investment: literature and the Chinese experiences

2.1 Literature on regional competition for investment

There is a large theoretical literature on fiscal competition between governments of different regions, such as states within the United States, provinces within Canada, or countries within the European Union (EU). According to Wilson and Wildasin (2004), tax competition can be defined as "non-cooperative tax setting by interdependent governments, under which each government's policy choices influence the allocation of a mobile tax base among regions represented by these governments."

A key theme of this literature is that taxes on mobile factors such as capital and labor, and hence overall public spending, may be inefficiently low due to fiscal externality. When a

local government raises its capital tax, it does not take into account the efficiency gains to other regions from the resulting flight of capital out of its region, and thus the local cost to individual regions of higher taxes exceeds the social cost for all the regions as total (Wilson 1986; Zodrow and Mieszkowski 1986; Wildasin 1989; Keen and Marchand 1997; Wellisch 2000). Under such a circumstance, tax competition is socially inefficient since the fiscal externalities that arise from it limit the scope of taxation and the ability to relocate income among citizens, and lead to under-supply of public goods.[1]

However, in most of the literature on "race to competition" an underlying assumption is that different localities are competing for capital by setting tax rates. This would imply the instrument that can be employed by governments is limited to formal tax, in particularly the corporate tax. However, governments may not have access to such instruments in practice since they cannot change tax rates easily, for example, due to legislative constraints. However, this does not necessarily mean regional competition would not occur. This is because there are many other instruments that can be employed. by governments to compete for mobile capital other than through the uses of corporate taxes. One possibility is to compete through the use of public inputs that improve the productivity of capital. For example, Keen and Marchand (1997) argues that fiscal competition may push governments to spend too much on public inputs such as infrastructure that may raise the productivity of capital investment while at the same time governments undersupply public goods such as recreational facilities or social services that may benefits local residents but of no help to attract investment. Another example is that regions may compete too aggressively for mobile firms through the use of inefficiently lax environmental policies, creating a "race to bottom" situation in which there is too much pollution (Wilson, 1999).

There is also some empirical evidence over such wasteful regional competition in the

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[1] However it seems that there is no consensus on the basic literature of tax competition since this "race to bottom" argument runs counter to the highly influential "Tiebout Hypothesis", which argues that under decentralization, governments must compete for mobile citizens and firms, who sort themselves into the jurisdictions that best reflect their preferences for bundles of governmental goods and policies (Tiebout, 1956). Even under the "Leviathan" theory that takes a less generous view of governments, a decentralized system would push politicians and bureaucrats to compete with one another over mobile sources of revenue and preventing them from lining their pockets. This would result in smaller and less wasteful government (Brennan and Buchanan 1980). The issue in debate there is whether regional competition is welfare-improving or welfare-deteriorating. Apparently both sides have some points. Though the focus of this paper is to explore the fiscal incentives of local governments in regional competition under the specific institutional background in China rather than evaluating the welfare impact of regional competition, we will revisit these arguments in the concluding part of this article.

literature. Biglaser and Mezzetti (1997) study how regions compete to attract large firms in the United States. They observe that US states seem to offer 'tax packages' to firms that often exceed the 'economic value' of firm's investment project. A prominent example is the Alabama state, which competed with 30 other states over a new Mercedes Benz factory. Alabama ended up offering Mercedes a package worth 330 million dollars for a plant expected to cost 300 million dollars. This happens because politicians value their re-election and in making the bid for investments they take into account both the public's interest and the bid's impact on their probability of re-election and thus give away too much of the taxpayers money in order to attract firms.

2.2 The evolution of regional competition pattern in reform period China

The pattern of regional competition in China's reform period has experienced gradual yet significant changes as China transformed itself from a planned economy to an emerging market economy under a gradualist reform approach. Regional competition for mobile manufacturing capital was not a big story in the early period of reform between the late 1970s and the early 1990s. This is because in this period the major drivers of local economic growth in the country's non-agricultural sectors were local government-owned public enterprises, including the local State-Owned Enterprises (SOEs) and particularly the Township and Village Enterprises (TVEs) newly developed.[2] These enterprises could grow fast since they helped to meet a pent up demand for consumer goods depressed in the planned system and the TVEs, in particular, could take advantage of a pool of cheap rural labor(Lin et al, 1999). As shareholders of these SOEs and TVEs, local governments had strong incentives to foster the development of these enterprises and benefits from their growth mostly through profit remittance and tax revenue.

Regional competition for mobile manufacturing capital, including the foreign direct investment (FDI), was not a big story in the 1980s and early 1990s since the relatively limited

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[2] For example, by 1985 the state-owned industrial enterprises controlled by provincial and municipality governments accounted for 80 percent of the total industrial output at or above the township level (Qian and Xu, 1993). Another important type of local government-owned firms then was the TVEs, which numbered 1.5 million with employment of 52 million in 1993. The shares of TVE output and employment in rural industry were 72 percent and 58 percent respectively by that year (China Township Enterprises Statistical Yearbook, 1994). Between 1979 and 1993, most of the new Chinese firms are not private firms, but local government firms. Private enterprises played only a minor role and by 1993 they contributed to less than 15 percent of the national industrial output (Qian, 1999).

amount of FDI in this period was mostly concentrated in a limited number of large cities and pilot-reform provinces that also received special policy treatment through the establishment of Special Economic Zones (SEZs). [3]Between the 10 years of 1983 to 1992, the two provinces of Guangdong and Fujian, in addition to three large cities directly under the central control, Beijing Shanghai, Tianjing, took over 70% percent of China's FDI in this period (calculated using data from NBS, various years).[4] The four Special Economic Zones set up in 1980, the 15 Open Coastal areas set up in 1984 by the center could not only impose lower tax rates, but also enjoyed a favorable institutional and policy environment that were particularly attractive to foreign investment.[5] While the rest of China was still dominated by public ownership, the special economic zones were allowed to become market economies dominated by private ownership (Zhou, 1984, Litwack and Qian, 1998). As a result, during the 1980s and the early 1990s FDI investment was highly concentrated in these areas and competition for such investment from other regions was minor.

Still owning a lot of SOEs and TVEs in the 1980s and early 1990s, local governments in most regions, aiming to protect local revenue base, also had strong incentives to protect these enterprises from both central state predation as well as competition from enterprises from other regions. The central predation came from the rule changes in central-local revenue sharing. The Chinese fiscal system adopted then was a highly decentralized "fiscal contracting system". This system was characterized by "dividing revenue and expenditure with each level of government responsible for balancing its own budget". Under fiscal contracting, for budgetary revenue income there were the "central fixed revenues" reserved for the center, "local fixed revenue" and also the "shared revenue" which was collected by local governments and was to be shared by the center and the local governments (Qian, 1999). Although fiscal contracting schemes varied both across regions and time, the main idea is that provincial governments contracted with the central government on the amount of fiscal revenue to be remitted for the next year(s), while they could keep the rest. This system was

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[3] For the entire 1980s, FDI in China was tiny. FDI only started to increase substantially in 1993, and even at its peak it accounted for about 10 percent of total investment(Qian, 2003).
[4] The province of Guangdong that boasted three SEZs was particularly outstanding in terms of attracting FDI. In the late 1970s and early 1980s, investment in Guangdong took up around 70% of total FDI inflow. That figure was still as high as 40% to 50% in second half of 1980s. Guangdong's share dropped to about 30% only in the 1990s(Qian, 2000).
[5] For example, local governments there had the authority to approve foreign investment projects up to $30 million, while the authority of other regions remained much lower.

maintained until the end of 1993 (Montinola et al. 1995).

Though under fiscal contracting generally local governments enjoyed a relatively large share of marginal revenue in the central-local shared revenue, the center made several attempts and did succeed in increasing the scope of central fixed revenues, shrinking the pool available for sharing during the 1980s. Consequently, the budget revenue for central-local sharing as a share of total revenue collected fell from about 85 percent of total budget revenues to about 60 percent (Cai and Triesman, 2007). [6]   Under such a circumstance, local incentives to collect formal budget revenue from the locally owned SOEs and TVEs were understandably low since the newly increased revenue could well be reclassified as central fixed revenue (Wong, 1997). This happened even though the marginal retention rates of the central-local shared revenue were high. As a matter of fact, local government then frequently coordinated with local SOEs and TVEs to understate their profits to avoid possible central predation since it was the local government who was responsible for the collection of the central-local shared tax(Ma, 1995, Tsui and Wang, 2004). Having to meeting their own ends under fiscal contracting but with little bargaining power in rule-setting against the powerful center, local governments as shareholders of local enterprises would rather either leave the profits to enterprises themselves or channel them to local extra-budgets not subject to central control. As a matter of fact, local government then had scant incentive to develop private enterprises since they could not control the cash flow of these enterprises, which makes tax collection difficult and resource tunneling to local extra-budget even less possible.[7]

Local governments then also had strong incentives to protect local SOEs and TVEs under their administration against competition from non-local enterprises (Bai et al, 2003). There was a lot of evidence that local governments in this period intentionally chose to close local markets by implementing restrictive policies for non-local commodities, sometimes even by

[6] For example, after 1980,.central government carried out three significant adjustments of the fiscal system in 1982-1983, 1985 and 1988 respectively. For example, in the 1982-83 adjustment, though local government enjoyed a larger marginal share of the industrial and commercial tax, the center was able to significantly raise the central fixed income. In the 1985 and 1988 reform, the central fixed revenue was also raised (Wong, 1992, Wong et al, 1995).

[7] As Che and Qian (1998) has argued, ownership rights give the government control over the firms' financial accounts and thus make it less costly to extract revenues from them than taxing private firms. For the same reason, when local governments control firms, it is also harder for the central government to extract revenue from them, and thus revenue is more likely to stay in the local areas. Here ownership and control make the difference.

intentionally not connecting inter-regional transportation channels. As shown by many scholars (Naughton, 1999,Young; 2000; Poncet, 2003) in the 1980s and early 1990s, there were duplication of industrial structure and growing dispersion of prices, which signals serious interregional trade barriers in China. Therefore, if there were some kinds of regional competition in this period, they came mostly in various forms of regional protectionist policies since local governments wanted to protect their tax base by shielding local firms and industries from interregional competition.

Overall speaking, before the mid- 1990s local governments had strong incentives to support locally-owned state or collective enterprises to consolidate local revenue base. In this period local governments also had access to multi-instruments, including implicit tax exemption by hiding profits, subsidized credit,[8] free or subsidized inputs (such as land, electricity, water and other production inputs) and even regional protectionist policies to support local TVEs and SOEs of which local governments themselves were shareholders.

It was since the mid- 1990s that regional competition for manufacturing investment emerged and gradually became increasingly intensified. This had to do with the accelerating market-oriented reforms since 1992 that led to a fast growing private sector, rapidly rising FDI flows, declining inter-regional trade barriers and a much more integrated domestic market afterwards. Therefore competition in product markets became significantly intensified (Bai et al, 2003). [9] A financial commercialization was also initiated by the central government in 1993 that gradually reduced the scope of local governments to support SOEs and TVEs by pressuring local banks to lend to enterprises. Therefore, by the mid- 1990s both the SOEs and TVEs began to lost ground brought on by poor management and growing competition (both between themselves and from the private sector). Local governments were now losing money from the previously profitable SOEs and TVEs under their control. A

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[8] China in the 1980s and early 1990s also had a decentralized financial system in which local governments could exert a lot of influence over banking lending. Local governments could push local banks to provide subsidized credit to support local firms. In the case of TVEs, local governments even went further to explicitly or implicitly guaranteed loans in lieu of collateral for local enterprises, so that enterprises owned by the same local government (or community) became jointly liable for loans to individual enterprises (Park and Shen, 2002).

9 In spring 1992, Deng Xiaoping made his famous Southern tour to mobilize local support for reform. The ideological breakthrough occurred afterwards as the Fourteenth Party's Congress was held in September 1992 and the Party endorsed the "socialist market economy" as China's goal of reform.

large-scale restructuring of these public enterprises had to be initiated since the mid- 1990s (Li, Li and Zhang, 2000). For example, by the end of 1996, 70% of small SOEs had been privatized in pioneering provinces and half were restructured in other provinces (Cao et al, 1999). As SOE and TVE reform gained pace in the late 1990s, about 25 million SOE and collective employees were laid-off in 1998–2002 and most of local SOEs and TVEs were already privatized by the later 1990s(Qian, 2000).

No longer being able to extract resources from the bankrupt local SOEs and TVEs, local governments became keen on cultivating new local tax base by attracting private investment, especially the manufacturing investment from overseas. As most of local government-owned firms became privatized, the role of local governments in development gradually changed from the shareholder of locally owned enterprises to a tax collector on non local government-owned and non-state firms. Apparently these non-state firms are much more mobile than the previous local government-owned SOEs and TVEs. As a result, genuine regional competition for private investment to cultivate new local tax base began to emerge.

The new tax system introduced in 1994, commonly known as the "tax-sharing system", also significantly limited local governments' scope of using tax instruments to support manufacturing firms in their localities. This reform introduced several new taxes and made a clear distinction between central taxes (such as the consumption tax), local taxes (such as the business tax and income tax) and the central-local shared taxes (such as the value added tax, or VAT). More important, a central tax system and a local tax system were established separately with each responsible for its own tax collections and the central tax bureau is responsible for collecting the shared VAT tax levied on (the value added of) manufacturing goods. Under this new tax system, local governments are responsible for collecting only the purely local taxes, such as the business tax, rather than collecting the tax revenue for the center (Wong 1997; Wong and Bird 2005; World Bank, 2002).[10]. With the introduction of the central tax bureau and a significantly strengthened tax administration, the new tax regime made it very difficult for local governments to help manufacturing firms in their localities to

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10 The business tax is levied on service sectors and is assigned as a purely local tax. As the major local tax and a tax levied on the service sector that is not as mobile as manufacturing sectors, local governments had strong incentives to collect it in full. As a matter of fact, local business tax rose much faster than the overall tax revenue after 1994 that the local share of budget revenue rose from 44.3% to 51.1% from 1994 to 1997(World Bank 2002)

avoid taxation, not to mention channeling resources to local extra budget as they did before 1994. As Bahl (1998) has pointed out, this reform undermined local governments' ability to use "back door" approaches to revenue mobilization, as it made it more difficult for them to transfer budgetary revenues into off-budget accounts, as well as to retain fiscal resources that were to be remitted to the central government. The tax instrument available to local governments in competing for manufacturing investment is now limited only to local share of the enterprise income tax that constituted only a very small part of the overall tax revenue. [11]

As most of the local government-owned enterprises were privatized or went bankrupt, local governments became eager to seek new tax base by attracting manufacturing firms of which they are not the owners. Since now the tax instruments that can be employed to compete for manufacturing investment became less accessible, local governments in China began to be increasingly dependent on using subsidized land and infrastructure as the key instrument in regional competition. As a result, land development proceeded with a fervent growth of "development zones" at the local level in China in the late 1990s and early 2000s. A lot of local governments at the city, county or even township level, after acquiring land at low costs from farmers, race to set up different types of "development zones" or "industrial parks" with basic infrastructure（water, electricity and road）and other supporting facilities well prepared. By the end of 2003, the total number of local "development zones" or "industrial parks" in China already reached 3837. Among them, only 6%（232）was approved by the national government and 26.6%(1019) approved by provincial governments. The majority of these development zones (2586) are set up by the city, county or township level governments at their own initiatives. By 2006, the figure further jumped to 6015. Since there are only 2862 county level administrative units in China，this number implies that on average each county level administrative units at least have more than two development zones（Zhai et al，2007）.

By providing land and infrastructure at negotiated and usually subsidized prices, local governments strived to attract industrial investors through "site-clearing" style packaged

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11 The income tax was initially set up as a purely local tax in the 1994 fiscal reform, but the center redefined the tax sharing rules by claiming 50% of the income tax in 2002 and this further rose to 60% in 2003. Our recent fieldwork in Zhejiang, Jiangsu and Guangdong shows that at present local governments could at most exempt the manufacturing investors the local enterprise income tax for three years and exempt half of it for another two years. Further tax exemption is extremely difficult.

development. Usually at only nominal prices or even the so-called "zero price", the land prepared with infrastructure was leased out for 50 years. Since local governments need to finance the land requisition costs (compensation to dispossessed farmers) and infrastructure preparation costs (costs in building roads and providing access to electricity, water, heating et al) ex ante, leasing out industrial land this way inevitably means a significant net loss has be to incurred in the process.[12]   Take the Pearl River Delta, one of China's most dynamic manufacturing centers as an example, in the late 1990s and early 2000s local governments there at the city, county and township level offered "zero land price" to compete for industrial developments.. In another developed province of Zhejiang located in the Yangtze River Delta, in the early 2000s the provincial average costs of land requisition and land preparation was as high as CNY 1.5 million per hectare, while the average leasing price is less than RMB 1.3 million per hectare. For about one fourth of the industrial development zones, the land leasing price is less than half of the land requisition and preparation costs (Huang，2007). The author's fieldwork shows that in Suzhou city of Jiangsu Province, one of China's most successful cities of attracting FDI, the average leasing price in the early 2000s was CNY Y 2.25 million per hectare. However, the average land requisition and preparation cost was as high as 3 million per hectare. To compete for FDI with Suzhou, Wujiang city and Wuxi city of the same province offered industrial investors land at the average leasing prices as low as RMB 750,000 and RMB 300,000-450,000 per hectare. Since the land requisition and preparation costs are similar in these regions, it is easy to see how much net costs were incurred in such investment competition.

3 An analytic framework of f instrumental land use in China's regional competition

The natural question to follow from discussions above is what within the China's system allows local governments to engage in such a "race to the bottom" competition by providing subsidized land and infrastructure on such a large scale? Answering this question warrants a better understanding of not only China's land institutions, but also the local fiscal and political

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[12] In practice, local governments increasingly use requisitioned land as collateral for bank loans through vehicles known as "land banks." Land banks hold the land for the local governments, mortgage it with loan institutions and invest recovered funds in urban infrastructure development. In some cities, 60-70 percent of total city construction was financed from loan proceeds secured through government-run land banking (World Bank,2005).

incentives shaped by China's intergovernmental arrangements.

3.1 Land Requisition and Public Leasing System in China

In China the rural land is owned by the farmers' collectives and individuals are allowed to possess the user right, which is separated from the ownership right. The urban land is state-owned. If cities expand to land in the countryside, the local state needs to first acquire land from the rural collectives. Only after such land taking can be state itself or the commercial land users develop the land.[13] Under China's Land Administration Law (LAL) promulgated in 1998, the state, if acting in the "public interests", may lawfully acquire land owned by collectives. However, there is no clear definition with regard to what "public interests" represent. This inevitably expands the legal scope of land acquisition. In practice, not only the land used in urban infrastructure development is acquired from farmers' collectives, but also almost all the land used for non-pubic urban purposes (such as for industrial, commercial and residential projects) has to go through the public land requisition procedure. To maintain the monopolistic position in the primary urban land use market, the state imposes strict controls on the transfer of rural land use rights if it involves conversion to non-agricultural use (World Bank, 2005).

Under the current system, neither the owners of rural land (the rural collectives) nor the users of the rural land (farmers' households) have much power to negotiate with the urban land users about the land prices. It is up to the state, particularly the local government, to decide the compensation package for land taking. According to the LAL, the compensation to dispossessed farmers constitutes three components: (a) compensation for land (6–10 times the derived land productivity, which is the monetary value of the annual average agricultural output value over the past 3 years); (b) compensation for resettlement (4–6 times the derived land productivity); and (c) compensation for accessory assets in land (Ding, 2005). A policy document issued by the Ministry of Land Resources (MLR, 2004) further stipulates that the

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[13] As argued by Henderson (2007), under China's current system, local governments at the city and county level have fiscal incentives to focus on 'green-field' development rather than 'brownfield'. Under green-field development, cities seize agricultural land at the fringe and sell leaseholds to urban developers while the brown-field development means the redevelopment of land within the city. In cities, negotiating the acquisition of urban land held by SOEs or by housing authorities is usually much more costly and time consuming than the taking of agricultural land.

maximum compensation for land acquisition cannot exceed 30 times the derived land productivity and the maximum compensation can only be reached in special circumstances with the approval from the provincial authorities. For example, if the annual net output is set at RMB 15,000 per hectare, the highest compensation can only be as high as RMB 450,000. In practice, compensation for highway and railroad construction-purpose requisition is mostly set at RMB 70,000 to 120,000 per hectare while that for industrial and commercial purposes usually ranges from RMB 300,000 to 450,000 per hectare. Given that an average dispossessed farmer usually has a land holding of 0.07 hectare, a dispossessed farmer is on average compensated for an amount of RMB 5000-9000 for land requisition from transportation construction and RMB 20,000-30,000 for land requisition from commercial and industrial development purposes. Without sufficient compensation and proper off-farm work skills, dispossessed farmers may easily worse off. As a result, in the past decade the Chinese countryside has witnessed a growing movement of dispossessed farmers in a disrupting ongoing process of urbanization. Each year about 2-3 million farmers lose their land to requisitions associated with urban expansion and infrastructure development (Han, 2004).[14]

After land requisition, the state can transfer the land either by administrative allocation (for the purpose of non-profit land usage such as infrastructure, public education and health organizations) or by conveyance (reserved for profitable industrial, commercial and residential purposes). The conveyance of land is carried out via the public land leasing system with the maximum lease term 70 years for residential usage, 50 years for industrial usage and 40 years for commercial and recreational usage (Ding, 2003, 2005).

Under the current law, land can be leased either by negotiation (xieyi), or by tender (zhaobiao) or by auction (paimai). Leasing by negotiation refers to a one-to-one negotiation between the land users and the government about leasing terms. Both tender and auction take place through public invitation, although during the process of tendering the highest bidder may not necessarily be selected since factors other than price may count, including the

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[14] To make things worse, the bulk of the compensation allowed by current laws and policies—grossly inadequate as it is—is routinely intercepted by local governments and village officials. Meanwhile, affected farmers have been prevented from voicing their opinions in a meaningful way during the land taking proceedings because they have no way of receiving proper notice. For these reasons, land-related issues arising from state expropriations or acquisitions have recently become the top cause of rural grievances (Zhu and Prosterman, 2007)

developers' reputation and the purpose of the land use. Therefore, among the three types of public land leasing, land leasing by negotiation is the least open or transparent (Deng, 2003).

However, in practice most of the land sites, especially those leased to manufacturing users, is disposed of through negotiation. According to Ho and Lin (2003), of the land use rights distributed by conveyance in the five years (1993-98) for which the data are available, in China 89 per cent were "negotiated" and only 11 per cent transacted through "open bidding" by public tender or auction. In another word, the vast majority of land conveyance was done in the least open or transparent way. This has not changed in recent years. Though the central government has repeatedly required urban land leasing must be carried out by more transparent and open ways (either by tender or by auction), local governments still lease most of the land, particularly that used for manufacturing purposes, through negotiation and at subsidized prices. According to NBS (various years), 85% of land sites leased in China was leased out through negotiation in 1999 and this figure was still as high as 76 % in 2003.

3.2 Local fiscal and political incentives in land leasing

The pattern in local land leasing we have witnessed since the mid- 1990s has to do with the fiscal and political incentives of Chinese local officials shaped by the country's intergovernmental system.

Fiscally speaking, by significantly recentralizing revenue but kept expenditure responsibilities largely intact, the 1994 fiscal reform created has created large vertical imbalances that have not been offset by a sufficient quantity of central transfers (World Bank).[15] By introducing several new taxes and claiming 75% of the VAT in the 1994 fiscal reform, the center was able to raise its share of revenue from less than 30 percent to over 50% after 1994. [16] However, there was no change in expenditure arrangements. As a matter of fact,

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[15] The revenue centralization was started by the center with a primary goal of raising the central share of total revenue. This happened exactly because the center found itself unable to share the benefits of enterprise growth to the same extent as local governments who had incentives to coordinate with local SOEs and TVEs to hide revenue from central taxation under the old "fiscal contracting system". As a matter of fact, the central share in total government revenue dropped from 46.8% in 1979 to 31.6% in 1993 (NBS, 1994).

[16] As a result, except the business tax levied on service sectors and some income tax, the tax bases for sub-national governments in China are mostly minor taxes such as the urban maintenance and construction tax, vehicle purchasing tax, urban and township land use tax, farmland occupation tax, vehicle and vessel utilization tax et al. The property tax has not been introduced in China as local tax base though it one of the most important local tax bases in many other countries. For example, during the 1990s the share of land and property taxes in all sub-national taxes averaged for 40 percent for developing countries and 35 percent for developed countries (Bird and Slack, 2002).

local expenditure responsibilities after the mid- 1990s became much heavier as China's state-owned sectors were restructured and much of the social service and social security responsibility that had been taken care of by SOEs themselves was now passed to local governments without corresponding resources (such as sufficient central transfers) being set aside to meet them.[17] In the face of greater financial pressures, Chinese provincial governments, in turn, have taken advantage of the vacuum left by the 1994 fiscal reforms, in the domain of intergovernmental fiscal relations at the sub-provincial level, and seem to have defined their fiscal relations with lower-level governments on the most favourable terms for them, that is, concentrating a larger share of local fiscal revenues and transferring expenditure duties downwards, while playing a minor role in fiscal equalisation at the sub-provincial level, through fiscal transfers. This has seriously compromised local government'' ability to carry out infrastructure investment and to provide for social services (World Bank, 2002).

Therefore, local governments after the 1994 fiscal reform were now increasingly pressured to generate revenue on their own to meet rising expenditure responsibilities. These include not only the extra-budget revenue in which local governments can exert full control, but also the formal tax revenue that be collected from manufacturing and service sectors.

With respect to extra-budget, since most of the SOEs and TVEs were already privatized in the late 1990s, local governments could no longer extract resources from them by hiding profits and then channeled to local extra-budgets. Local governments now had to generate extra-budget revenue from other sources. In practice, collecting land-leasing revenue, levying administrative charges on firms and individuals, collecting penalty and confiscatory income charges, and in agriculture-based regions directly charging farmers, can all be viewed as the "entrepreneurial" ways used by local governments to extract resources through informal taxation (Berstein and Lu, 2000). In fact, as local governments develop new extra-budget revenue sources, the revenues from land leasing and from various associated fees have become the essential revenue to supplement regular budget funds and to finance infrastructure

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[17] For example, in the late 1990s and early the sub-national governments already accounted for more than 70 percent of total public expenditure, while receiving less than 50 percent of total government revenue. Spending on social services is even more decentralized all the way down to the county level, with the sub-provincial tier financing 70 percent of public investment in social services, provincial and central tiers contributing another 20 and 10 percent respectively (World Bank, 2002).

in urban expansion (World Bank 2005).[18] In many regions, the revenue from land leasing, especially the fees from commercial and residential land-leasing, became the single most important source of local extra-budget revenue. Studies consistently show that land transfer fees account for some 30-50 percent of total sub-provincial government revenues and in some developed regions, it amounts to 50-60% of the total city revenue (Zhou, 2007).

As the Chinese economy became much more liberalized and privatized, regional competition for mobile and mostly private manufacturing investment became increasingly intense. Therefore, to generate more budget revenue to meet local expenditure needs after the 1994 fiscal centralization, local governments have no choice but to undercut other regions by providing cheap land with subsidized infrastructure. Again, remember now local government's role in economic development has gradually changed from the shareholder of local firms (SOEs and TVEs) to a tax collector on mobile private firms since the mid-1990s. Local governments could no longer benefit from supporting local state-owned or collectively owned enterprises but had to compete for mobile manufacturing capital and collect tax subsequently, even though this implies local government may have to incur some net costs in the process of land requisition-infrastructure preparation-land leasing.

The analysis above also helps to unlock the first paradox we raised in the beginning of the paper, i.e., why local incentives to promote local development have not faded even though the 1994 revenue-centralizing fiscal reform implies that local governments could only enjoy a lower share of the total tax revenue? The answer is that under the new fiscal system local governments have no choice but to take the system as given. Since manufacturing capital is highly mobile and very sensitive to the change of local preferential policies, local governments have to engage in a "race to bottom" style competition for manufacturing investment to generate new tax base even though they can only enjoy a much lower share of tax revenue thus generated. If they fail to do so, they would have nothing. Moreover, success in competing manufacturing capital may not only bring a relatively stable steam of VAT in the

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[18] In addition to land leasing revenue, local governments in developing land could also collect different fees from land users. For local land bureaus alone, these include arable land use fee, land administration fee, business operation fee, fees for newly increased construction land. These fees constitute 10% of land leasing revenue. Other local bureaus such as the finance bureau, agricultural bureau, public utilities administrations are also collecting different forms of fees in the process (Zhou, 2007). Along with the land leasing revenue, these fees go to local extra-budgets.

foreseeable future, but also could help to boost local service sector development and generate more revenue for local governments. It has been explicitly indicated by local officials in our recent fieldwork in the coastal provinces of Zhejiang, Shangdong and Jiangsu that local governments are expecting a demand spillover from manufacturing investment to service sector development. Success in attracting manufacturing investment would further translate into higher business tax revenue from service sectors, and perhaps no less important, higher extra-budget revenue from leasing land for commercial and residential purposes. Under such a circumstance, the "race to bottom" style competition we have witnessed in China since the mid-1990s can be rationalized from this fiscal perspective.

Besides the VAT, business tax and enterprise income tax generated indirectly from manufacturing and service sector after land leasing, local governments are also levying several small but fast growing local taxes. These include urban land use tax, urban land value-added tax(for high-end residential land), land contract tax, arable land use tax, urban estate construction tax et al. According to a case study of several coastal provinces and cities by Zhou (2007), these taxes also constitute an increasing share of local formal tax revenue.

A further, though not absolutely necessary, justification for local official's "race to bottom competition" is their political incentives. In an authoritarian regime like China, the political legitimacy of the state largely builds on its ability to deliver economic growth and employment. As a matter of fact, economic growth soon became the paramount policy goal of the party-state and the source of its legitimacy in Deng Xiaoping era. Under the slogan of "fa zhan shi ying dao li" (which means 'development is what really counts'), the measures of GDP and employment have become the most dominant concerns in national development plans. Under a highly centralized personnel control system in China, the political careers of local officials are in the hands of their upper-level government. Since the performance of lower-level government official is evaluated by a series of indicators imposed from above and these indicators usually include economic targets such as the annual growth achieved in local GDP, the amount of revenue collected and the revenue contributions made to higher levels of the state, and even the quantities of foreign investment attracted, it is not surprising that local government officials are keen on competing for industrial investment since the fast growth of manufacturing sectors not only entails gains in local revenue, but also helps local officials to

rank high in their performance evaluation and thus improve their chances in political careers (Edin, 2003, Tsui and Wong, 2004　Li and Zhou, 2003). Under a yardstick competition in which local officials strive to perform better relative to their peers in other localities, providing subsidized land and infrastructure to industrial developers is a more than natural.

All in all, with the low costs of acquiring farmers' land under the current land requisition system, local governments can afford to subsidize manufacturing investors by lowering land leasing fees, hoping that the costs thus incurred can be offset by future gains in local revenue growth and by the attainment of an edge in political competition across regions. Undoubtedly, such competition leads local governments to compete vigorously to create a business-friendly investment environment, though at the costs of dispossessed farmers.

3.3 Tradable versus non-tradable goods and differentiated land leasing: is there a tradeoff?

As indicated in the beginning of the paper, local governments in China are taking very different leasing strategies with regard to land used for different purposes. While they provide subsidized land for industrial investors, a significantly higher proportion of residential and commercial land is leased out by auction or tender and usually at much higher prices.

In first appearance local government is facing a trade-off here. One the one hand, if they choose to lease land out by auction or tender for commercial or residential purposes, local governments can obtain relatively high one-time extra-budget revenue. They can also collect some business tax from construction sector that builds the commercial and residential property. Moreover, the commercial sectors thus developed would continue to generate some business tax. On the other hand, local governments can choose to lease land out by negotiation for manufacturing purpose. Though some initial loss has to be incurred by providing subsidized land and infrastructure, this can secure a more stable stream of budget revenue from the value added tax.

However, such a trade-off may largely disappear when we take into account the difference and the potential complementarity between manufacturing sector and service sector. Compared to manufacturing sectors that produce tradable goods, the service sectors, including the real estate and commercial sectors, are producing non-tradable goods that are much more

locality-specific. In another word, in any city the demand for services is mostly local, therefore the land suitable for commercial or residential development is largely limited by the level of local development and purchasing power. Under such a circumstance, local governments in many localities can take advantage of their monopolistic position in urban land markets to maximize land-leasing revenue for residential and commercial purposes and the costs can be transferred to local service consumers. The widespread emergence of Municipal Land Management and Reserve Centers across China can be viewed as a local strategy to manipulate local land supply and to maximize extra-budgetary revenue from land auctioning or tendering.[19] Comparatively speaking, manufacturing sector produces tradable goods whose costs cannot be easily transferred to consumers. Therefore manufacturing investment is much less locality-specific and regional competition for manufacturing capital would easily translate into a "national sellers' market" for manufacturing land while for commercial and residential land it is mostly a "local buyer's market". Moreover, as local officials expect there would be a demand spillover from manufacturing to service sector, their strategy is to lease subsidized land to manufacturing investors to the extent that the total revenue gain (from both budget and extra-budget, and from both manufacturing and service sector) would just compensate the net cost incurred in manufacturing land leasing. Therefore, the differentiated land leasing strategy for manufacturing sector and service sector can be rationalized by the different types of goods (tradable versus non-tradable) they produces and the ensuing differences in sensitivity to land prices

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4 Empirical evidence

Based on a national fiscal and land leasing dataset that covers China's prefecture-level cities between 1999-2003, in this section we aim to provide some empirical evidence about the scales and fiscal impacts of local land development activities in China. We want to evaluate the fiscal impacts of different forms of land leasing (negotiated versus auctioned/tendered) both for the current year and for later years. Unfortunately prefecture-level data for extra-budget revenue from land leasing is unavailable, therefore our

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[19] This incentive of undersupplying commercial and residential land is particularly strong in China since the property tax has not been introduced into China's tax system, which implies that leasing out land for residential and commercial purposes would not yield a stable stream of local tax revenues that we have seen in many developed countries.

empirical analysis will focus on the impacts of different forms of land leasing on budget revenue. In fact, local land financing to generate extra-budget revenue remains an activity on which little comprehensive data exists and for which the regulatory framework is seriously underdeveloped.

Our land leasing data comes from the National Statistical Yearbook of Land Resources for various years. The yearbooks provide the number of land leasing of all prefectural-level cities. Our fiscal data and other socio-economic variables come from the National Fiscal Statistical Yearbook of Cities and Counties (Ministry of Finance, various years) After matching the two data sets, we are able to obtain land leasing and budget revenue information between 1999 and 2003 for 262 prefectural–level cities.

4.1 Descriptive statistics

Table 1 presents the average number of land sites leased out for all prefectural-level cities between 1999 and 2003. As shown in the table, the average number of land sites leased out by negotiation was steadily during the five years covered by our data set and the number of land sites leased out by negotiation dominated the number of land sites leased out by auction and by tender. The simple descriptive statistics indicates that between 1999 and 2003, the total number of land sites leased grew significantly. The majority of such growth came from the land sites leased by negotiation though the share of land sites leased by tender or auction was also growing. The number of land sites leased out by tender or auction still represent less than one quarter of the total number of land sites leased out.

(Table 1 about here)

Since from the Statistical Yearbooks of Land Resources we have access to more disaggregate data for 2003(but not for earlier years), we are able to show in Table 2 the more detailed information about different forms of land leasing. As shown in Table 2, over half of the total land area and land sites were leased out for manufacturing purposes and a majority of them were leased out by negotiation. The land leasing revenue per hectare of manufacturing land only was 35% and 21% for those of commercial usage and residential usage respectively.

Since land leasing revenue for manufacturing land per hectare is RMB 1.25 million and the land requisition and preparation costs in China range between RMB 1-1.5 million per hectare in most localities, local governments are apparently providing the land at highly subsidized prices. Worth mentioning is that back in 2003 a significant share of land for commercial usage and residential usage were also leased out by negotiation though their prices were much higher than that for manufacturing usage. There were also a small number of land sites leased out by auction or tender for manufacturing usage. From Table 2, the average area per land sites for manufacturing usage was 1.69 hectare while those for commercial and residential usage were only 0.65 hectare and 0.53 hectare respectively. All in all, for all the area of land leased for manufacturing usage, 95% were leased out by negotiation, while those for commercial and residential usages were only 50% and 41% respectively.

(Table 2 about here)

Table 3 gives the total local tax revenues and three major categories of taxes at and below the perfectural-level for all the cities covered in our sample. As shown in the table, significant growth of budget revenue can be witnessed during the 1999-2003 period, particularly for the value added tax and the business tax. The enterprise income tax was a local tax before 2003 and became a shared tax afterwards.

(Table 3 about here)

4.2 Regression-based analysis

In evaluating the impacts of different forms of land leasing on local fiscal revenue, more empirical evidence based on rigorous regression analysis is needed. We will assess and compare the effects of land leasing by negotiation and those of land leasing by auction (or tender) on local budget revenue. Since the impacts may last longer than one period, we will need to assess the impacts for both the current year and the later years. Our empirical specification is the following:

$$Y_{it} = \alpha + \gamma_1 N_{it} + \delta_1 N_{it-1} + \kappa_1 N_{it-2} + \varsigma_1 N_{it-3} + \gamma_2 M_{it} + \delta_2 M_{it-1} + \kappa_2 M_{it-2} + \varsigma_2 M_{it-3} + \mu_i + \nu_t + \varepsilon_{it}$$

Where Y_{it} represents either the total fiscal revenue for city I in year t, or the value-added tax,

business tax, income tax，N_{it}, N_{it-1}, N_{it-2}, N_{iit-3} represents the number of land sites leased by negotiation for period t, t-1, t-2 and t-3 respectively. M_{iit},M_{it-1},M_{it-2}, M_{iit-3} represents the number of land sites leased by more marketized approach (auction or tender) for period t, t-1, t-2 and t-3 respectively. $\mu_{i\ and}\ v_t$ are city dummies and year dummies respectively. Presumably we can use the total areas of land leased in a city for a specific year as our independent variable, unfortunately such variables are not available except for 2003. A further analysis of the 2003 data reveals that cross-sectionally speaking, the number of land sites is highly correlated with the areas of land at the prefectural-level.[21] Therefore, we choose to use the number of land sites leased in our regression.

Table 4 gives the estimation results.[22] As shown, the number of leased land sites by negotiation generally has positive effect on the value added tax revenue, but this effect becomes statistically significant after two years. This implies that there is a time lag between leasing out the land and the operation of manufacturing firms. However, when the manufacturing capacity is there, a relatively stable of VAT revenue can be expected. The impacts of land sites leased out by negotiation on the business tax shows a similar pattern. They are positive for the current period and for all later years. There are two possible and non-exclusive reasons for this. The first is that for the land sites leased out by negotiation, some are used for residential and commercial purposes (as shown in Table 2). The building of

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[21] For example, using the cross-sectional data of 262 prefectural-level cities, we find that the correlation between the number of land sites leased out by negotiation and the areas of negotiated land leased out is as high as 0.73.An analysis of the correlation between the average area per land site leased out by negotiation at the city level is uncorrelated with the total number of land sites leased out by negotiation with a correlation coefficient –0.11. For almost all the cities in our sample, the average area of land sites leased out by negotiation is lower than 0.06 hectare per site. The results for those leased out by auction/tender are similar. .

[22] There is indeed a potential issue of endogeneity issue here in our estimations. However, in our regressions we control for city and year dummies, which may help to address the issue. Moreover, the estimations carried out here is more a practice of tax accounting that analyze the contribution of land leasing to local revenue growth rather than a causality analysis.

such estate property contributes to business tax revenue collected from the construction and real estate sector. When the commercial sectors begin to operate, it would continue to yield some business tax though for residential property there is no further tax revenue(since the property tax has not been introduced in China). However, as Table 4 indicates, the impacts of the land leased out by negotiation on business tax become statistically significant and numerically larger after two years. On the one hand, this may imply that the commercial sectors built on existing land sites (leased out by negotiation two years ago) have been growing so that they can generate more business revenue. On the other hand, it may also provide some evidence that manufacturing sector growth may help to promote commercial sector development and thus indirectly contribute to business tax growth. So far we cannot distinguish these two possibilities However, the evidence here at least does not speak against the possibility of a demand spillover from manufacturing sector to service sector.

The effect of negotiated land leasing on the local enterprise income tax becomes significant until three years after land leasing. This happens because local governments still have power to exempt the local share of the enterprise income tax for two to three years.   In their regional competition for manufacturing investment

The impacts of (both negotiated and auctioned) land leasing on all other local tax revenue are positive and statistically significant for almost every year. This is because local governments could also levy several other local taxes related to land development such as the urban land use tax, urban land value-added tax (for high-end residential land), land contract tax, arable land use tax, urban estate construction tax et al.

Compared to the impacts of land leased out by negotiation on VAT and business tax that become statistically significant only after two years, the fiscal impacts of land leased out by auction/tender on business tax are significant for the first three years but become insignificant afterwards. Since in Table 2 we know that these land sites are mostly leased out for commercial and residential purposes, the pattern is reasonable since a quite large share of the business tax are collected from the construction and real estate sectors after land leasing. As a matter of fact, the fact that the impacts of the more marketized land leasing on business tax become insignificant after three years also speaks for the demand spillover from manufacturing to service sector.

(Table 4 about here)

We also run another set of regressions to check the robustness of our estimations. In this specification we control another three variables, i.e., the prefectural urbanization ratio (the share of urban population in total population) and the prefectural share of manufacturing sector in total GDP and the prefectural share of service sector in total GDP. The empirical results are largely similar even if we control for these variable.

(Table 5 about here)

Overall speaking, though we only have five years of data, our regression-based analysis provides some crude evidence that leasing land out for manufacturing purpose and at relatively low prices contribute to VAT revenue growth after two years but it constitute a relatively stable and sustainable stream of local revenue. However, leasing out land for residential and commercial purposes by auction/tender contributes to business tax growth relatively fast but its sustainability is not as good. There is also some evidence that may speaks for the demand spillover from manufacturing to service sector though a definite conclusion warrants more data and analysis. Along with the institutional analysis in earlier sections, the empirical evidence provided here help to explain why local governments in China are so active in land development, in particular by engaging in the "race to bottom" competition we have witnessed in the past decade. By leasing land to manufacturing investors by negotiation and at subsidized low prices, local governments are expect to make up the loss by the budget and extra-budget revenue in later years.

5 Conclusions

As Yang(2006) has suggested, in the early reform period China the combination of authoritarian, albeit stable and improving, governance coupled with space for local initiatives appears to have created an environment conducive to investment and thus growth (Yang, 2006). This is quite similar to the case in earlier growth stories in East Asia. Unlike other East Asian countries, however, China has been especially attractive to investors because they could take advantage of preferential treatment (Huang 2003). Since the mid-1990s, one of the main instruments for preferential treatment has been the provisioning of subsidized land and

infrastructure to manufacturing investors.[23]   .

However, the single-minded pursuit of revenue and economic growth by governments at the local levels has brought about adverse implications. The large-scale land taking from farmers with insufficient compensation in China's development zone fever has negative consequences both in economic and social terms. Provisioning of subsidized land as a primary instrument in regional competition for investment has contributed to the investment-driven growth in China in the past decade. When land as a key production input is under-priced, the overall investment, especially the investment in the manufacturing sector, would be higher than socially optimal. This would lead to an over-industrialized economy, as well as relatively low returns in industrial investment.[24]

Abusive land requisitions also have serious social consequences. As a matter of fact, land-related issues arising from state expropriations or acquisitions have recently become the top cause of rural grievances (Zhu and Prosterman, 2007). A 17-province, 1,962-farmer survey conducted in China in 2005 shows that incidents of land takings have increased more than 15 times during the past 10 years and appear to be accelerating. Under-compensated farmers who have lost their land easily become unemployed. Across China the hardships and grievances of these ill-treated farmers have contributed to local social unrests and political instability. In the first nine months of 2006, China reported a total of 17,900 cases of "massive rural incidents" in which a total of 385,000 farmers protested against the government. Approximately 80 percent of these incidents were related to illegal land-takings. According to a recent research report (Unirule, 2007), there are over 40 million dispossessed farmers in China due to urban expansion and 70 percent of the complaints lodged from farmers in the past five years are related to land requisition.

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[23] Land is not the only instrument used in regional competition for manufacturing investment. Relaxing standards on labor and environment protection has also been used in regional competition in China. This has led to a serious imbalance between economic growth, environmental protection and social equality. The ignorance of social justice and environmental enhancement has led to widespread of social unrest in China (Solinger 1999; Sargeson 1999).

[24] Along with the development zone frenzy since the late 1990s, China experienced another economic overheating as investment in manufacturing and infrastructure reached unprecedented levels. Gross capital formation rose from 36% of the GDP in 2000 to 43% of the GDP in 2003, which was about 5 percentage points above China's 1978 to 2003 average (Shane and Gale, 2004, Zheng and Bigstein, 2006). However, many economists studying China's macro-economy agreed that after the mid- 1990s China's high growth has been largely investment-driven. The contribution of TFP in overall economic growth has been declining since the mid--1990s (Zheng and Bigstein, 2006). As Blanchard and Giavazzi (2005) observe, there are signs of too much investment in China's manufacturing for export, so investments on the margin have low returns. From 1990 to 2003, the share of GDP for China's manufacturing sector in its total GDP grew from 43% to 52%, while in 2003 this share was only 28% for the world average and the average share for all mid- and high-income countries was 41%.

Land can be provided at relatively low costs to industrial investors in China because under China's current land system, local governments can acquire land from farmers at the state-defined, and usually very low, prices. In the process of land acquisition, farmers have little bargaining power and are largely excluded from sharing the benefits in land appreciation. Under the "Leviathan" theory a decentralized system may push politicians and bureaucrats to compete with one another over mobile sources of revenue and preventing them from lining their pockets(Brennan and Buchanan 1980). However, in China there is no sufficient protection of farmers' land property rights in urban expansion and industrialization. Such "race to bottom" style regional competition may well be carried out at the costs of the dispossessed farmers and may even sacrifice the country's long-term sustainability of economic growth.

If the farmers who own the land can directly negotiate with land users about compensation packages, land-leasing prices would be significantly higher because farmers would not give up their land unless they would benefit from the transaction. Therefore, "marketizing land requisition" by allowing famers to directly negotiate with land users about compensation would not only help the dispossessed farmers improve their economic welfare, but also significantly contain the "race to the bottom" style of competition for industrial investment that has been witnessed in China. Therefore, reforming the current land acquisition system by granting farmers the legal status in land transfer would be an essential step forward. It would not only help China shift away from its investment-driven growth, but would also improve land use efficiency and income distribution in the process of fast urbanization.

A possible concern is that such reform would significantly reduce local extra-budget revenue, which is now the financial basis for local infrastructural development. However, marketizing land requisition does not necessarily mean that local governments would lose financially if supporting institutions can be in place. For example, local governments can levy a value-added tax on land transactions between the farmers and the land users. Given that the value of agricultural land will usually appreciate when it is converted into urban uses and that at least part of such value appreciation can be attributed to the general urban economic growth and infrastructure development, levying a value-added tax on such land transactions can be

fully justified. The value added would be defined as the difference between land sale/lease prices and the imputed land value for agricultural uses, In addition, a property tax on existing residential and commercial estate can also be introduced to consolidate local tax base in China. With the introduction of land value-added tax and property tax, the negative impacts of "marketizing land requisition" on local fiscal revenue would be largely offset. Since both the land value-added tax and the property tax are formal taxes, administratively they would be much more transparent and easier to monitor than the current land leasing revenue that enters local extra-budget.

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Table 1 Local Land Leasing: 1999-2003

year	Total area of land leased of the whole nation	Total number of land sites leased out of the whole nation			Average area of per land site
	Hectare		Site		Hectare
		Total	By negotiation	By tender or auction	
1999	45596	99017	83692	15325	0.54
2000	48630	118846	99632	19214	0.49
2001	90394	180257	128695	51562	0.70
2002	124294	242673	196619	46054	0.63
2003	193604	207387	157381	50006	1.23

Data source: NBS(various years)

Table 2 Disaggregation of Local Land-Leasing Activities 2003

	Number of land sites leased	Total area leased (hectare)	Area/per site leased (hectare)	Total leasing revenue (RMB100 million)	Leasing revenue per hectare (RMB10,000)
total	207387	193604	0.93	5421	280.0
all					
Manufacturing	58827	99435	1.69	1247	125.4
commercial	59702	39082	0.65	1386	354.7
residential	81487	43323	0.53	2590	597.8
others	7371	11763	1.60	198	168.2
by negotiation					
subtotal	157381	139434	0.89	2350	168.5
Manufacturing	56086	94751	1.69	1077	113.7
commercial	36362	19616	0.54	487	248.1
residential	59218	17669	0.30	689	389.7
others	5715	7398	1.29	97	131.7
by auction or tender					
subtotal	50006	54169	1.08	3071	567.0
Manufacturing	2741	4684	1.71	170	363.2
commercial	23340	19466	0.83	899	462.1
residential	22269	25654	1.15	1901	741.1
others	1656	4365	2.64	100	230.1

Data source: NBS(various years)

Table 3 Local Budget Revenue and Revenue Share: 1999-2003

year	Local budget revenue	Local VAT	Business Tax	Enterprise Income Tax
	RMB 100 million (share in percentage in parenthesis)			
1999	4244	795 (18.7)	953(22.5)	453(10.7)
2000	4708	927 (19.7)	1052(22.4)	611(13.0)
2001	5825	991(17.0)	1287(22.1)	1096(18.8)
2002	6187	1177(19.0)	1620(26.2)	642(10.4)
2003	7416	1388(18.7)	2016(27.2)	668(9.0)

Data source: Ministry of Finance (various years)

Table 4 Impacts of Land Leasing on Government Budget Revenue I

	Total local budget revenue	Local VAT	Business tax	Local Enterprise income tax	All other taxes
			Unit: RMB 10,000		
N_{it}	29.952	5.504	8.943	-0.038	15.542
	$(1.72)^*$	(1.62)	(1.15)	(0.01)	$(2.40)^{**}$
N_{it-1}	23.635	4.043	4.395	1.755	13.443
	(1.37)	(1.21)	(0.57)	(0.67)	$(2.10)^{**}$
N_{it-2}	47.881	8.248	16.985	1.487	21.161
	$(2.81)^{***}$	$(2.49)^{**}$	$(2.24)^{**}$	(0.58)	$(3.35)^{***}$
N_{it-3}	87.205	15.633	28.760	8.485	34.328
	$(3.33)^{***}$	$(3.07)^{***}$	$(2.47)^{**}$	$(2.14)^{**}$	$(3.53)^{***}$
M_{it}	52.309	-0.784	33.715	-0.794	20.172
	$(1.71)^*$	(0.13)	$(2.48)^{**}$	(0.17)	$(1.78)^*$
M_{it-1}	52.562	-0.339	33.596	-0.790	20.095
	$(1.73)^*$	(0.06)	$(2.48)^{**}$	(0.17)	$(1.78)^*$
M_{it-2}	56.833	0.429	35.090	-2.096	23.410
	$(1.81)^*$	(0.07)	$(2.51)^{**}$	(0.44)	$(2.00)^{**}$
M_{it-3}	7.082	-9.141	-5.799	3.088	18.934
	(0.09)	(0.63)	(0.17)	(0.27)	(0.68)
Obs	536		536	536	536
R-square	0.22	0.18	0.15	0.13	0.32

Note: 1 Absolute value of t statistics in parentheses; 2 * significant at 10%; ** significant at 5%; *** significant at 1%; 3 All revenues are deflated using 1999 as the base year; 4 City and year dummies controlled

Table 5 Impacts of Land Leasing on Government Budget Revenue II

	Total local budget revenue	Local VAT	Business tax	Local Enterprise income tax	All other taxes
	Unit: RMB 10,000				
N_{it}	0.142	5.547	8.693	0.142	29.846
	(0.05)	(1.62)	(1.11)	(0.05)	(1.70)*
N_{it-1}	1.627	4.111	4.782	1.627	24.355
	(0.62)	(1.22)	(0.62)	(0.62)	(1.40)
N_{it-2}	1.426	8.343	17.296	1.426	48.641
	(0.55)	(2.51)**	(2.27)**	(0.55)	(2.8)***
N_{it-3}	8.262	15.081	28.094	8.262	83.942
	(2.06)**	(2.9)***	(2.38)**	(2.06)**	(3.2)***
M_{it}	-0.903	-0.730	34.056	-0.903	52.867
	(0.19)	(0.12)	(2.49)**	(0.19)	(1.72)*
M_{it-1}	-0.899	-0.317	33.870	-0.899	52.900
	(0.19)	(0.05)	(2.49)**	(0.19)	(1.73)*
M_{it-2}	-2.210	0.459	35.392	-2.210	57.231
	(0.46)	(0.07)	(2.51)**	(0.46)	(1.81)*
M_{it-3}	3.587	-8.819	-6.081	3.587	8.118
	(0.32)	(0.60)	(0.18)	(0.32)	(0.11)
Urbanization rate	635.8	840.8	956.7	635.8	3,278.8
	(0.29)	(0.30)	(0.15)	(0.29)	(0.23)
Manufacturing share of GDP	-70.708	-1,478	-2,825	-70.708	-9,824
	(0.05)	(0.83)	(0.69)	(0.05)	(1.07)
service share of GDP	254.13	18.886	-458.6	254.13	-399
	(0.62)	(0.04)	(0.38)	(0.62)	(0.15)
Observations	536	536	536	536	536
R-squared	0.23	0.18	0.15	0.13	0.32

Note: 1 Absolute value of t statistics in parentheses; 2 * significant at 10%; ** significant at 5%; *** significant at 1%; 3 All revenues are deflated using 1999 as the base year; 4 City and year dummies controlled