

“Flying Land”: Intergovernmental Cooperation in Local Economic Development in China*

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Abstract

The mainstream literature explaining economic growth in China emphasizes competition across local governments. Departing from this literature, this paper examines a widespread but largely overlooked phenomenon of cooperation in land quota transfers across jurisdictions, referred to as “flying land.” I argue that cooperation in land quota transfers is an institutional innovation arising from the conflicting goals for local governments of promoting local economic growth and fulfilling land quota requirements imposed by the central government. Land quota transfers across jurisdictions help local governments with land scarcity overcome the bottleneck in gaining the construction land necessary to promote further economic growth as well as help local governments with land abundance gain revenue and investments. The paper concludes that intergovernmental competition occurs between jurisdictions with similar economic profiles. When an important endowment, land, is factored in, cooperation emerges between jurisdictions with different economic profiles.

Existing theories identify competition across local governments under centralized personnel control as the vital linchpin of economic success in China.¹ This literature, however, ignores local land endowment, which plays an increasingly important role in the process of China's economic reform. Unlike the situation in the early reform era, local officials are now subject to land quota restrictions in promoting the local economy. In practice, we increasingly observe cooperation in land quota transfers across jurisdictions. This phenomenon is not rare, and the amount of land involved is not trivial. For instance, in the coastal province of Zhejiang in 2003 alone, 543,450 *mu*² of farmland quotas were transferred from coastal to inland municipalities within the province,³ an area a little more than twice the size of Washington D.C. Chinese sometimes refer to this phenomenon as “flying land (*feidi*),” literally meaning that a piece of land flies from one jurisdiction to another. As land is immobile, what flies is not land per se, but land quotas. In this paper, I borrow the term “flying land” to refer to land quota reallocation across administrative jurisdictions at the county and municipality levels. Why do local officials who compete across jurisdictions for career advancement sometimes cooperate across jurisdictions?

This paper draws on political elite interviews, firsthand observation, Communist Party and government documents, and Chinese-language publications to address this puzzle. I argue that cooperation in land quota transfers is an institutional innovation arising from the conflicting goals for local governments of promoting local economic growth and fulfilling land quota requirements imposed by the central government. Due to variation in local land endowments across jurisdictions, the cost of fulfilling quota requirements varies considerably: it is difficult for administrative units with land scarcity to meet the land targets, but comparatively easy for those with land abundance. This provides leeway for land quota transfers between jurisdictions with different land endowments. The creation of “flying land” helps local governments with land

scarcity overcome the bottleneck in gaining the construction land necessary to promote further economic growth; it also helps local governments with land abundance gain revenue and investments.

This paper contributes to the emerging literature on land reform in China by investigating this widespread but largely overlooked phenomenon of cooperation in land quota transfers across jurisdictions. More broadly, this paper refines the intergovernmental competition argument, thus advancing our understanding of economic growth in China. It emphasizes that competition occurs between jurisdictions with similar economic profiles. When an important endowment, land, is factored in, cooperation emerges between jurisdictions with different economic profiles.

The paper is organized as follows. Section I briefly reviews the literature on economic growth in China and discusses how this paper fits within this literature. Section II examines the institutional context of land management, which restricts local government use of land within their jurisdictions. Rules restricting land use include two components: quota and spatial restrictions. These restrictions create conflict in the process of promoting industrialization and urbanization by local governments. Section III reveals quota and spatial conflicts, paralleling the two restrictions. Section IV details the empirical phenomenon of “flying land,” a form of intergovernmental cooperation devised by local governments to resolve the conflicts arising from promoting local economy and fulfilling restrictions on land use. Section V examines the coordination mechanisms that facilitate intergovernmental cooperation in land quota transfers. Section VI concludes.

I. Land and Economic Growth in China

The success of Chinese economic reforms relies critically on local government officials, who enjoy considerable authority to manage the local economy. Scholars identify various institutions underpinning economic reforms. For Weingast and co-authors, “market-preserving federalism” balances power between the national and subnational governments, thereby delivering a credible commitment to protect markets.⁴ Oi theorizes about “local state corporatism,” within which local governments function as large multilevel corporations, with officials acting as a board of directors, to actively coordinate enterprises to promote local economic growth.⁵ Many scholars point to the centralized personnel control that connects political career prospects to local economic performance, motivating local officials to promote the local economy.⁶ This system provides a better incentive mechanism in the multi-divisional organizational form (M-form) of the Chinese economic system, because the M-form structure makes cadre performance evaluation comparable across jurisdictions and thus more effective.⁷ By contrast, Xu argues that neither economic decentralization nor centralized personnel control alone is sufficient to explain China’s economic success. Instead, a combination of both, which he calls a “regionally decentralized authoritarianism,” is the fundamental institution underpinning China’s reforms and development.⁸

Despite differences in institutional foundations identified in the literature, a similar result obtains: local governments are induced to compete against one another to provide a hospitable local environment to attract investment, thereby promoting economic growth.⁹ Steven Cheung argues that the intensity of competition at the county level is the main reason why China has sustained rapid growth.¹⁰ Missing from this literature is land, a crucial means of production. This neglect is unsurprising as the land market was absent in the early reform era, when land was

allocated administratively by the state free of charge and without time limit. However, as economic reforms have progressed, land has played a critical role in promoting local economic growth. First, land provides space for economic activities to take place. The relation between economic growth measured by GDP growth rate and arable land lost to construction is shown in Figure 1: GDP growth rates in China closely parallel growth in the amount of arable land occupied by construction.

[Figure 1 about here]

To local officials in China, land is not only a productive input accommodating economic growth, but also an important revenue source.¹¹ Under the existing land tenure system, land is segmented into urban land owned by the state and rural land owned by rural collectives, with different sets of rules governing urban and rural land markets.¹² Land use rights are separated from land ownership rights and can be transacted in the market, but the sale of construction land use rights is limited to the urban land market. That is, rural land must be first converted to urban land in order to fully realize its market value.¹³ Such rural-to-urban land conversion is monopolized by the state.¹⁴ As a consequence, the state—the exclusive body with the authority to expropriate land—can obtain land from rural households at an incredibly low price.¹⁵ The state also monopolizes the primary urban land market, within which the state, the exclusive land provider, sells land use rights at a price that can be hundreds of times greater than the land compensation paid to rural households. The price differential between rural and urban land arising from the distorted land market generates rents, which are easily captured by local governments.

Land generates a variety of taxes and fees, and the dominant contribution comes from sale of construction land use rights for a fixed number of years,¹⁶ officially called the “land conveyance fee” (*tudi churangjin*). Unlike value-added tax (VAT) and income tax, which are

shared between the central and local governments, almost all land-generated revenue is retained by local governments and its use is completely under the control of local officials.¹⁷ Table 1 describes the revenue structure of local governments aggregated at the national level in 2003-2008. It shows that local government revenue is comprised primarily of VAT, business tax, enterprise income tax, and land conveyance fee. These four items contribute an average of 74 per cent of local government revenue.¹⁸ An average of 23 per cent of local government revenue is collected through various land-related taxes and fees. This proportion is substantially higher than VAT and enterprise income tax. However, the land conveyance fee is not as stable as other revenue sources. For example, its contribution to total local revenue dropped by five per cent in 2005 and again by nearly seven per cent in 2008.

[Table 1 about here]

In addition, land is an important instrument with which local officials intervene in the local economy. Other than market approaches of transferring land use rights, local officials can arrange one-on-one meetings with potential land users to negotiate land prices.¹⁹ This non-market approach of negotiation (*xieyi*) gives local officials leverage to determine land prices. Local officials offer lower than market value land to competitive potential land users. In the most extreme cases, land is offered completely for free.²⁰ Figure 2 shows that numbers of negotiated transactions always exceed transactions through market approaches in 1999-2008. An average of 70 per cent of construction land was transacted through negotiation in 2003-2006. This proportion dropped after 2006, when transactions involving state-owned construction land were required to use market approaches only.²¹ In practice, however, local officials deviate from this policy, by first selling land use rights using a market approach and then returning land users

the difference between the transacted price and the price negotiated prior to the market transaction as a bonus of some sort.²²

[Figure 2 about here]

In sum, the emergence of a land market has changed China's economic dynamics in a significant way. Land alters the revenue structure of local governments and also provides local officials an important instrument to intervene in the local economy. Therefore, the literature on China's economic growth requires updating. There is a growing literature examining China's land system,²³ but the two literatures do not speak to one another. This paper bridges the gap by investigating the impact of land on the strategies that local officials employ to promote local economic growth.

II. Institutional Context of Land Management

Associated with China's economic success is the massive loss of arable land, as shown in Figure 1. When township and village enterprises (TVEs) were praised for their contribution to rapid rural industrialization in the 1980s and early 1990s, missing from the analysis was the rapid shrinkage of agricultural land.²⁴ Top leaders in Beijing were shocked by the magnitude of land loss in 1997 when they were shown *Landsat* photographs for 1987, 1991, and 1995, in which the rate of conversion of agricultural land to non-agricultural use in seventeen urban regions was two-and-a-half times faster than previously thought. As a result, the central government announced a one-year moratorium on arable land conversion in May 1997 and extended it to 1999.²⁵ It also substantially revised the Land Management Law in 1998 and increased its control over land use.²⁶ A close scrutiny of the revised law reveals that the central government preserves land in two ways: control of total amount of construction land and protection of arable land, with

the two closely related.²⁷ The state imposes a strict restriction on the conversion of agricultural land (arable land especially) to construction land.²⁸ The protection of arable land follows the principle of “creating an equivalent amount of arable land to be occupied” (*zhan duoshao bu duoshao*) to ensure that the total amount of arable land within each administrative jurisdiction is not reduced.²⁹

The central government takes a centrally planned approach to regulate land use by implementing two sets of plans: an overall plan of land utilization (*tudi liyong zongti guihua*) and an annual plan of land utilization (*tudi liyong niandui jihua*). The former is a long-term plan (usually 10-15 years); the latter disaggregates the overall plan into yearly plans. The overall plan imposes restrictions that have both quota and spatial components. It sets the following mandatory quotas: conversion of agricultural land to construction land; as a subcategory of this first quota, conversion of arable land to construction land; arable land to be created through development and reclamation; and arable land to be maintained.³⁰ The first two quota requirements set upper limits, beyond which conversion to construction land is prohibited. The last two set lower limits that local governments have to fulfill. The setting of quota assignments is nested: the central government sets national quotas and disaggregates them to provinces; each province then disaggregates its quotas to its municipalities, and each municipality to its counties. The provincial government normally reserves some construction land quotas for projects that can be justified as significantly important to the local economy.³¹ All quotas in the overall plan are disaggregated into an annual plan for implementation. In principle, the sum of quotas assigned in annual plans for the years covered in the overall plan cannot exceed the quota specified in the overall plan. Local governments at each level are required to develop their own overall and annual plans to conform to the disaggregated quotas assigned from above.³²

In addition to quotas, the overall plan imposes spatial restrictions. They are reflected in maps indicating that land is zoned, with construction permitted only within the zone designated for construction specified in the plan. The zoning criteria vary across administrative units. In some overall plans, land is zoned based on land use purposes: land is designated for farming, industrial development and mining, transportation, and so on. In other overall plans, land is zoned according to the extent to which construction is tolerated within the zone. For instance, in Guangdong province, land is divided into zones in which construction is permitted (*yunxi jianshe qu*), restricted (*xianzhi jianshe qu*), and prohibited (*jinzhi jianshe qu*).³³

The Land Management Law requires local government officials to conform to their overall and annual plans of land utilization once the plans are created and approved from above.³⁴ Legal restrictions, however, are not an effective instrument to enforce compliance in China: local officials regularly violate laws and central directives. For instance, it is common for local officials to expropriate rural land without authorization (*weipi xianzheng*).³⁵ An instrument to facilitate cadre compliance is the target responsibility system (TRS), a set of performance criteria that induce local cadres to act in ways commensurate with the preferences of the center. By connecting local cadres' fulfillment of these criteria with their career prospects, the TRS produces a much more direct impact on local cadres than do formal legal and regulatory norms.³⁶ An official target responsibility document I examined on arable land protection details how these quota requirements are enforced. The document was like a contract, signed between the mayor of Hangzhou (capital of Zhejiang province) and the head of Xiaoshan (one of the wealthiest counties in Zhejiang, administratively subordinate to Hangzhou). The contract specifies exact amounts of arable land to be maintained, construction land, and arable land to be created within the next five years. Xiaoshan's fulfillment of these targets is monitored and evaluated annually

by Hangzhou; evaluation results determine how much local cadres in Xiaoshan will be rewarded or sanctioned.³⁷

III. Institutional Conflicts

The central government, which cares first and foremost about regime stability and survival, prefers preserving arable land and restricting its conversion to construction land. The introduction of land quotas helps centralize the supply of construction land. By contrast, local officials are driven by local economic growth because local GDP is assigned the greatest weight in the TRS, which makes it the determining factor affecting career prospects. Given the significant role that land plays in promoting local economic growth, local officials are incentivized to increase their demand for construction land. As a consequence, the different preferences of the central and local governments induce incompatible behaviors and create conflicts between the demand for and supply of construction land. These conflicts have quota and spatial components, paralleling the two restrictions described above.

I asked local political elites from economically developed jurisdictions about their biggest constraint in the process of promoting the local economy. The answer was always: construction land quotas.³⁸ For example, by a conservative estimate, Zhejiang province required a construction land quota of 1.4 million *mu* in 1997-2010 to support its economic growth, but it was assigned a quota of only 1 million *mu*. Moreover, these quotas were almost exhausted by 2001, nine years before the assignment of new quotas.³⁹ In Yueqing, a highly developed county-level city in Wenzhou, Zhejiang, construction land for industrial purposes could be sold for around 600,000 RMB per *mu* in the primary land market in 2010. Not only was the demand high, the local government also had expropriated land ready to be used. However, the local

government could not sell construction land use rights, due to the lack of a construction land quota.⁴⁰ The scarcity of construction land quotas is by no means unique to coastal provinces like Zhejiang. The district of *Dadukou* in Chongqing, a provincial-level municipality in western China, was assigned 3000 *mu* of construction land quotas in the overall plan in 1997-2010, but these quotas were exhausted by 2003. In addition to construction land quotas, the target of maintaining a certain amount of arable land is difficult to fulfill in some localities. The *Dadukou* district was assigned the maintenance of 43,000 *mu* arable land by 2010, but it had 35,000 *mu* of arable land left by 2009, making fulfillment of this quota impossible.⁴¹

Spatial restrictions also create conflicts. The overall plan of land utilization requires those who draft the plan to project what the spatial arrangements will be like within their administrative jurisdictions in 10 to 15 years, but the economy has grown much faster than expected. Perhaps more importantly, administrative boundaries are not fixed over time: we regularly observe expansion and merging of administrative jurisdictions,⁴² both of which require administrative boundaries to be redrawn but can hardly be anticipated in drafting plans.

IV. Institutional Innovation: Creation of “*Flying Land*”

The dual goals of promoting local economic growth and fulfilling land quota requirements create a dilemma for some local officials: meeting quota requirements will slow the economy, but promoting the local economy will violate quota restrictions. Can local officials meet both goals simultaneously without compromise? The creation of “flying land” provides a solution to resolve this dilemma. Land is fixed and allocated unequally across jurisdictions. Due to variation in land endowment across localities, the cost of fulfilling the quota requirement varies considerably: it is difficult for administrative units with land scarcity to meet the target of arable

land protection, but comparatively easy for those with land abundance. Due to variation in levels of economic development, the benefit generated from construction land also varies considerably: construction land generates more revenue in more developed jurisdictions (where land is scarce) than in less developed jurisdictions (where land is relatively abundant). These variations create room to reallocate land quotas across jurisdictions. Below, I discuss my observations on “flying land” in two categories: transfer of basic farmland quotas and transfer of construction land quotas.

Transfer of Basic Farmland Quotas

Basic farmland (*jiben nongtian*) is productive and high-quality arable land that is crucially important to support food security and economic development. In addition to the protection of arable land, state laws and regulations specify rules governing basic farmland protection. At least 80 per cent of arable land should be designated as basic farmland within each administrative unit at the municipality level or above, regardless of the variation in land endowment across jurisdictions.⁴³ Spatially, basic farmland is zoned and cannot be expropriated without approval of the State Council.⁴⁴ The protection of basic farmland is included in the TRS to monitor the performance of local officials at the county level and above.⁴⁵ However, the pursuit of local industrialization and urbanization inevitably conflicts with quota and spatial restrictions. For instance, the project of expanding the administrative jurisdiction of Hangzhou demanded 31,330 *mu* of land, but Hangzhou had a construction land quota of only 3,670 *mu*. Not only was the quota available insufficient, but basic farmland would be occupied in the expansion project.⁴⁶ The spatial restriction can be overcome by readjusting the overall plan, a procedure that is cumbersome, but doable. The quota requirement can be fulfilled through farmland quota reallocation across jurisdictions.

As early as 2000, Yiwu, the largest worldwide small-commodity trading center, located in Jinhua, Zhejiang, to which Yiwu is administratively subordinate, proposed to transfer its farmland protection quota to Longyou, (a county in Quzhou in western Zhejiang) and Wuyi (a county in Jinhua). That is, the responsibility for local officials in Yiwu to protect farmland was to be fulfilled by local officials in Longyou and Wuyi in their jurisdictions. With the farmland quota transferred, land that used to be farmland in Yiwu could be used for other purposes after its overall plan of land utilization was readjusted and approved. In return, the local governments of Longyou and Wuyi received 1000 RMB per *mu* from Yiwu for farmland reallocation. This practice quickly spread to the rest of Zhejiang. In 2001, the Zhejiang Provincial Department of Land and Resources approved 47 applications for farmland reallocation across counties and cities within Zhejiang. The amount of reallocated farmland totalled 371,250 *mu*. The fee charged for farmland reallocation ranged from 1000 to 1850 RMB per *mu*, totaling 445 million RMB. Table 2 details farmland reallocation across municipalities in Zhejiang in 2001; figure 3 presents the geographic location of municipalities indicating the general pattern of farmland reallocation. The municipalities that reduced farmland within their jurisdictions are shaded in dark. The general pattern is that coastal cities reallocated their farmland protection quotas to inland cities within the province. In 2003, the amount of farmland reallocation reached 543,450 *mu*—a little more than twice the size of Washington D.C. Reallocation fees totalled 0.73 billion RMB.⁴⁷

[Table 2 and figure 3 about here]

Moreover, as industrialization and urbanization proceed, land becomes increasingly scarce and thus is expected to have higher value tomorrow than today. Increases in land value give local governments with land abundance more bargaining power in their negotiations with local

governments with land scarcity. In 2006, when Hangzhou reallocated its farmland protection quota to Quzhou, the farmland reallocation fee was 16,000 RMB per *mu*, sixteen times more than six years earlier, when Yiwu transferred its farmland protection quotas. In addition to the one-time payment of farmland reallocation fee, Hangzhou was required to generate an investment of 10 billion RMB in Quzhou in 2006-2010.⁴⁸ As a result, local governments in Hangzhou encouraged firms within their jurisdictions to make investments in Quzhou.

There are two players involved in the process of farmland quota reallocation: an administrative jurisdiction with a developed economy but scarce land and one with a less developed economy and relatively abundant land. For simplicity, I use A and B to represent the two jurisdictions. Property rights are commonly defined as a bundle of rights that include the rights to control, obtain income from, and alienate assets. When land is designated as farmland, rural households have rights to control and claim residual income, although ownership is maintained by rural collectives. In the process of transferring farmland protection quotas from A to B, a parcel of farmland protected in A is turned into construction land, with rural households compensated for farmland loss. As a result, local officials in A gain rights to control and alienate construction land use rights for a fixed number of years, which generates revenue income for local officials in A. By contrast, a parcel of arable land in B—with an area equivalent to the farmland to be transferred from A—is turned into farmland. This transaction generates a farmland reallocation fee and investment, both of which are claimed by local officials in B. In short, land involved in the transfer of farmland protection quotas generates higher residual incomes, the majority of which are claimed by local governments of A and B, with little distributed to rural households.

Transfer of Construction Land Quotas

Local governments are desperate for construction land quotas. One of their strategies is to convert rural construction land to urban construction land. The central government controls the total amount of construction land by restricting the conversion to construction land. The conversion from rural construction land to urban construction land, however, does not take up construction land quotas of any type, because it is essentially a conversion from rural collective ownership to urban state ownership, maintaining the total amount of construction land unchanged.

Rural construction land is occupied by rural infrastructure, enterprises, and rural residents.⁴⁹ Local governments must figure out how to make occupied rural construction land available to convert to urban construction land. A strategy often employed by local governments is to push rural households to give up their individual houses and move to apartment buildings (*nongmin shanglou*). To illustrate, consider a village with 90 households, each household occupying one housing site. If the government builds 3-storey apartment buildings on 30 housing sites, it can provide apartments for all households in the village and vacate the remaining 60 housing sites at the same time. All housing sites are rural construction land. The government tears down the houses on the 60 remaining housing sites and reclaims the sites to arable land. In doing so, it gains a rural construction land quota, with an unoccupied area equivalent to 60 housing sites. This quota is now ready to be converted to urban construction land and used for urban construction.

The process of converting rural-to-urban construction land illustrated above is called “linking the contraction of rural construction land with the expansion of urban construction land” (*chengxiang jianshe yongdi zengjian guagou*). It had been implemented in 24 provinces by

2009.⁵⁰ Such a policy innovation, however, requires the construction land conversion to take place within the jurisdiction of a city or a county, preferably along the border connecting rural and urban areas.⁵¹ In this sense, it does not qualify as “flying land,” because quota travelling across jurisdictions is prohibited.

However, the restriction of geographical proximity has been relaxed in Chongqing, where rural construction land quotas can be transferred across administrative jurisdictions within Chongqing. Here, rural construction land quotas acquire a new name: “land ticket” (*dipiao*). As explained by an official at the Chongqing Department of Land and Resources: “When we experienced shortage under the planned economy, we had tickets of all kinds: buying cloth required a cloth ticket, buying food required a food ticket, and so on and so forth. Now, to get a parcel of [construction] land, you also need a ticket!”⁵² Since 2009, all construction land for commercial purposes located in urban districts in Chongqing requires a “land ticket.”

Two sets of players are involved in the transfer of construction land quotas: sellers and buyers of “land tickets.” For consistency, I continue to use A and B to represent jurisdictions with scarce and relatively abundant land, respectively. The sellers are rural collectives who legally own rural land in B. The buyers are not local government, but potential construction land users (such as state-owned and private real estate land developers) in A. In the process of generating quotas in B, rural households are deprived of their housing sites so as to turn construction land into arable land. The income generated from “land ticket” transactions is divided into three portions: one portion to compensate the cost of land reclamation, one to compensate rural households for their loss of housing sites, and one to the county-level government, to which B is administratively subordinate.⁵³ Roughly 30 per cent of the income goes to rural households.⁵⁴ “Land tickets” are construction land quotas, a prerequisite to gain

construction land. To actually obtain construction land, land users are required to pay various land-related fees and taxes to the local government in A. The payment to obtain a “land ticket” can be used to defray the newly added construction land use fee (*xinzeng jianshe yongdi youchang shiyong fei*) and arable land reclamation fee (*gengdi kaiken fei*).⁵⁵ Consequently, the local government in A gains the land conveyance fee and other land-generated revenue without consuming its urban construction land quotas. In short, land involved in the transfer of construction land quotas generates higher residual incomes. Although rural households are compensated for housing site loss, local governments in A and B are the biggest beneficiaries.

V. Coordination of Intergovernmental Cooperation

The practice of creating “flying land” makes local governments in both A and B better off. Higher payoffs for both players are insufficient to generate cooperation, however. This section examines the coordination mechanisms that facilitate cooperation. Transfer of farmland quotas is dominated by bureaucratic coordination; transfer of construction land quotas is coordinated primarily by market forces, but assisted by administrative forces.

Coordination of Farmland Quota Reallocation

The application for a transfer of farmland quota has to go through the provincial government. Upon approval, farmland can be protected in a different jurisdiction as long as the quantity and quality of transferred farmland is maintained.⁵⁶ In Zhejiang in 2006, Ningbo, a highly developed coastal municipality with scarce land, negotiated a contract with Quzhou, a less-developed inland municipality with relatively abundant land. In their contract, Quzhou was to create 50,000 *mu* of basic farmland and 75,000 *mu* of standard farmland in its jurisdiction to help the Ningbo government fulfill its farmland protection requirement in exchange for a 1.25 billion RMB

reallocation fee and 10 billion RMB investment in 2006-2010.⁵⁷ Initially, the municipal government in A (with land scarcity) paid half of the farmland reallocation fee to its contract partner in B (with land abundance); after the farmland was created in B, the provincial government checked the quantity and quality of the transferred farmland to ensure that they were maintained; upon approval from the provincial government, the municipal government in A paid the other half of the farmland reallocation fee.⁵⁸

As discussed above, land quotas are disaggregated down to the county level. To fulfill its contractual agreement, the Ningbo municipal government disaggregated the farmland reallocation fee and investment to its counties that will transfer their farmland protection quotas to Quzhou. The fee and investment allocation is proportional to farmland quotas to be transferred away. Specifically, a transfer of one *mu* of basic farmland requires a county to pay 15,000 RMB reallocation fee and generate an investment of 120,000 RMB in Quzhou. For a transfer of one *mu* of standard farmland, figures are lower: 5000 RMB for farmland reallocation and 40,000 RMB in investment.⁵⁹

To ensure compliance, the Ningbo municipal government provides an incentive mechanism by linking the fulfillment of generating investment with construction land quota assignment. The fulfillment of generating investment is evaluated on a yearly basis until the contracted amount of investment (i.e., 10 billion RMB) is fulfilled. Counties that over-fulfill the investment requirement will gain an additional construction land quota of 1 *mu* in the following year for every additional investment of 1 million RMB they generate in Quzhou. Similarly, counties that fail to fulfill the investment requirement will be penalized by deducting construction land quotas in the following year. In addition, counties will gain a bonus from the Ningbo municipality government that is equivalent to 1.4 per cent of the investment they

generate in Quzhou, to encourage local firms to migrate to Quzhou; county governments then have the authority to determine how to subsidize these firms.

Coordination of Construction Land Quota Reallocation

Unlike farmland quotas, construction land quotas are coordinated by a mixture of market and administrative forces. Rural landowners begin the process by submitting a proposal of land reclamation to the Bureau of Land and Resources of the county to which it is administratively subordinate. Upon approval, rural landowners can turn rural construction land to arable land. After the land becomes arable land, the Bureau of Land and Resources at the county level checks the quality of the arable land. If the arable land meets the quality requirement, the bureau applies for a construction land quota from Chongqing Department of Land and Resources and then releases a quota (i.e., “land ticket”) to rural landowners.⁶⁰

All rural construction land quotas are transacted through a competitive auction at the Chongqing Rural Land Exchange (*nongcun tudi jiaoyisuo*), an institution established in December 2008. On the first day of the auction, the first “land ticket” of 300 *mu* was taken by a firm at the price of 25,600,000 RMB and the second “land ticket” of 800 *mu* at the price of 64,200,000 RMB.⁶¹ As of May 2010, 85 “land tickets” had been sold, entailing a total 18,000 *mu* of construction land, with the transaction price totaling 1,865 million RMB.⁶² Within less than two years, the value of a “land ticket” rose from 85,333 RMB per *mu* in December 2008 to 144,000 RMB per *mu* in May 2010. The Chongqing provincial government controls the total amount of “land tickets”; in principle, this total amount is no greater than ten per cent of the newly added construction land quotas assigned to Chongqing by the central government for the year.

Those who win the auction obtain construction land quotas. To use these quotas in A, land buyers have to buy a parcel of urban construction land by going through one of the transaction procedures for urban construction land (i.e., bid invitation, auction, or quotation). In principle, the results (i.e., who can obtain urban construction land) generated from these market procedures of transaction are unknown. That is, a person who holds a “land ticket” does not necessarily win when bidding for a parcel of urban construction land; in practice, however, those who hold “land tickets” have priority to get urban construction land. As of May 2010, when I conducted my interviews with political elites in Chongqing, the government in A helped all of those who held “land tickets” get urban construction land.⁶³

In sum, the creation of “flying land” requires intergovernmental coordination not only at the same administrative level but also across administrative levels. Through market and administrative forces, the exchange of resources between local governments has become reliable. Unlike with many local initiatives, the provincial government is involved in the process and acts with great caution. It accepts applications for land quota reallocation and reviews the quality of arable land and farmland transferred to ensure the quantity and quality of arable land to be maintained. The provincial government also institutionalizes local initiatives in the creation of “flying land.” The transfer of basic farmland protection quotas across jurisdictions gains its legality from the Zhejiang Provincial Regulations on Basic Farmland Protection (*Zhejiangsheng jiben nongtian baohu tiaoli*). With permission from the central government, Chongqing has issued the Temporary Measures on Management of the Rural Land Exchange (*nongcun tudi jiyisuo guanli zanxing banfa*), detailing the procedure of “land ticket” transactions. Both initiatives constitute a major departure from the existing rules governing land use created by the central government. A transfer of a farmland protection quota violates central directives that

require at least 80 per cent of arable land to be designated as farmland within each administrative unit at the municipality level or above. The emergence of a “land ticket” market deviates from the rules requiring that rural construction land not be directly transacted in land markets. These local initiatives of land quota transfers institutionalized by the provincial government and tolerated by the central government may provide opportunities for further land reform.

Conclusion

Intergovernmental cooperation in land quota transfers is an institutional innovation arising from the conflicting goals for local governments of promoting local economic growth and fulfilling land quota requirements imposed by the central government. It helps local governments with land scarcity overcome the bottleneck in gaining the construction land necessary to promote further economic growth. It also helps local governments that have a comparative advantage in land to gain revenue and investments. My goal in this paper is not to deny the importance of interjurisdictional competition identified in the literature—clearly, this is an important feature of China’s economic growth. Yet, competition occurs among local governments with similar economic profiles. For instance, the two most developed county-level cities in Wenzhou are Rui’an (瑞安) and Yueqing; each identifies the other as its competitor.⁶⁴ Cai and Treisman argue that intergovernmental competition does not always lead to economic growth: governments that are less attractive to investors, knowing they will lose in the competition, simply give up on pro-business actions and choose to be predatory.⁶⁵ However, once the important endowment of land is factored in, competition across jurisdictions is not the only game in town. Moreover, in contrast to what Cai and Treisman have suggested, less-developed governments are not left out. Instead, they take advantage of their land endowment to cooperate with more-developed

jurisdictions with scarce land, to gain revenue and attract investment. Thus, competition across jurisdictions with similar economic profiles coexists with cooperation across jurisdictions with dramatically different economic profiles. This is central to my story.

The benefits of intergovernmental cooperation in land quota transfers are narrowly distributed, with the gains heavily concentrated in local governments. Rural households, supposedly the real landowners, are not the winners in this cooperation. Rather, the gains of local governments are at the expense of rural household interests. Hellman argues that economic transitions in postcommunist countries generate winners, who are incentivized to block further reforms that will potentially reduce their gains, thus creating a “partial reform equilibrium.”⁶⁶ The same logic may apply to China. Under the existing segmented land tenure system, collectively-owned rural land is discriminated against. Creating a common land market, where rural construction land use rights can be directly sold without first being expropriated by the state, would help break the state monopoly and protect the interests of rural households. Yet, such a reform would likely face strong resistance from local governments, the biggest winners from the existing land tenure system. It is somewhat ironic that the biggest pressure for the central government to undertake land reform and protect peasant interests may come from its own agents, upon which it relied to gain momentum to push economic reforms forward in the early reform era. Indeed, despite the wide-ranging criticism of the segmented land tenure system for outraging and ripping off rural households, reform of the rural land system has been largely stagnant.

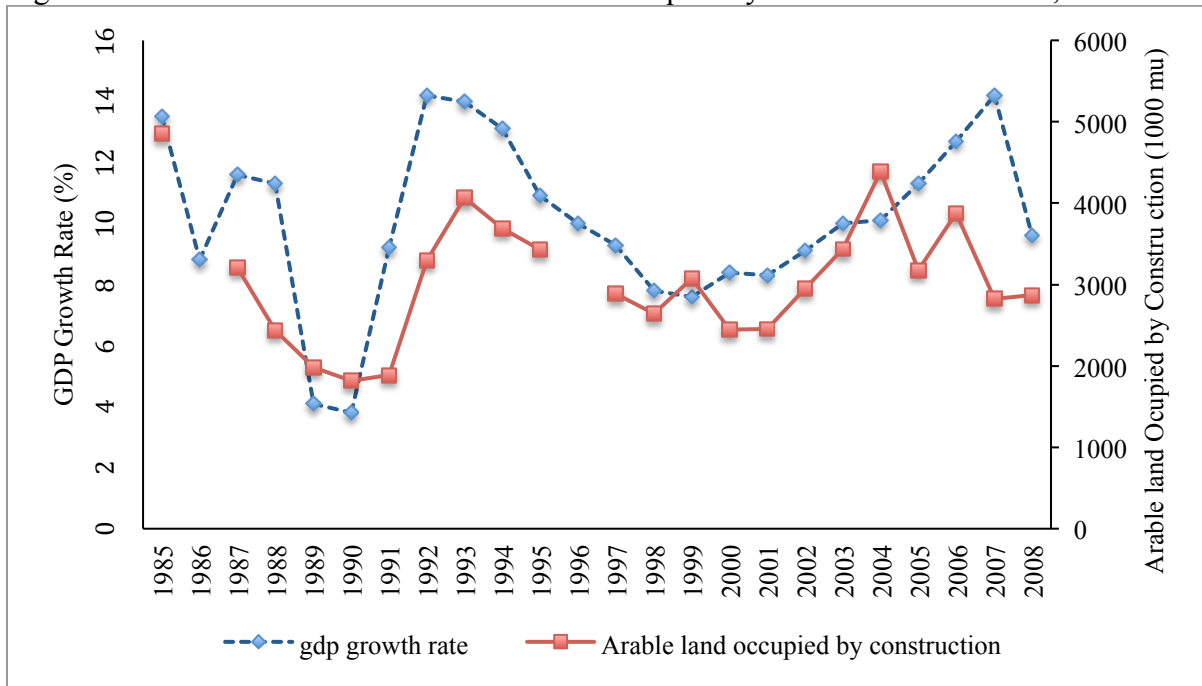
The existing land management system takes a centrally planned approach, within which land quotas are assigned from top to bottom within the administrative hierarchy. The quota fulfillment is included in the TRS and evaluated regularly to facilitate compliance. The practice

of land quota transfers introduces market forces within the framework of planned land management, thereby improving land use efficiency at the margin. Construction land quotas are transferred to jurisdictions where land can produce higher marginal benefits, whereas farmland quotas are transferred to localities where the marginal cost of farmland maintenance is lower. Yet, the level of marketization is very limited, as the scale of land quota reallocation is restricted within provincial boundaries. Variation in land endowment is greater across provinces than within provinces. It is reasonable to expect that a construction land quota would be worth more in Shanghai than in Chongqing. Similarly, Hangzhou would pay much less if it could reallocate its basic farmland quotas to western China. However, land reallocation across provinces constitutes a violation of rules set by the center. Chongqing plans to make its “land tickets” travel nationally, but has not received permission from the central government yet.⁶⁷ Anecdotal evidence suggests that farmland quotas have travelled across provincial borders, although this violates central policies.⁶⁸

Media coverage suggests the practice of land quota transfers is increasingly used nationally.⁶⁹ Local governments with land scarcity see how intergovernmental cooperation using “flying land” solve the problem of land shortage in the process of promoting their local economy with the negative externality of angering rural households who feel the spreading innovations rip them off. This arrangement, however, provides only a temporary solution without completely resolving the problem, because the shrinking of arable land is inevitable as industrialization and urbanization proceed. Land will eventually become scarce even in jurisdictions where it is now relatively abundant. This is especially true in the coastal provinces. In Zhejiang, for example, it is increasingly hard to find a locality that is willing to take farmland quotas. Similarly, the price of “land tickets” has grown continuously. As the cost increases, the room for land quota

transfers within provincial boundaries becomes smaller. As a result, local governments will have to devise additional strategies to overcome restrictions on land imposed by the central government.

Figure 1: GDP Growth Rate and Arable Land Occupied by Construction in China, 1985-2008



Sources:

On GDP growth rates, the World Bank, World Development Indicators, available at

http://data.worldbank.org/data-catalog/world-development-indicators?cid=GPD_WDI

On arable land data, the Ministry of Land and Resources, *zhongguo guotu ziyuan nianjian* (China Land and Resources Statistical Yearbook) (Beijing: Geology Press, 2006), p. 19; 2009, p.19; Yueming Hu, Feixiang Chen, Jinggang Li, and Lu Wang, *Guangzhoushi tudi liyong zhanlue yanjiu* (Analysis of Land Use in Guanzhou) (Beijing: China Scientific Technology Press, 2009), p. 48; *zhongguo nongcun tongji nianjian* (China Rural Statistical Yearbook) (Beijing: China Statistics Press, 1991), p. 235; 1993, p. 229; 1995, p. 70; 1996, p. 54.

Table 1. Revenue Composition of Local Governments in China, 2003-2008

Category	Unit	2003	2004	2005	2006	2007	2008	Average
Value-added tax ^a	100 million RMB	1810.99	2404.43	2860.76	3196.38	3867.62	4499.18	—
As % of total revenue	%	18.39	20.22	18.94	17.46	16.4	15.70	17.34
Business tax	100 million RMB	2767.56	3470.98	4102.82	4968.17	6379.51	7394.29	—
As % of total revenue	%	28.1	29.18	27.17	27.14	27.06	25.81	27.09
Enterprise income tax ^b	100 million RMB	1178.8	1596	2139.89	2480	3132.28	4002.08	—
As % of total revenue	%	11.97	13.42	14.17	13.55	13.29	13.97	13.53
Land conveyance fee	100 million RMB	1799.12	2339.79	2183.97	2978.29	4541.42	3611.95	—
As % of total revenue	%	18.27	19.67	14.46	16.27	19.27	12.61	16.26
Land-related taxes ^c	100 million RMB	489.52	594.23	925.4	1155	1325	2438.84	—
As % of total revenue	%	4.97	5	6.12	6.31	5.62	8.51	6.45
Total revenue ^d	100 million RMB	9849.98	11893.37	15100.76	18303.58	23572.62	28649.79	—

Note:

^a VAT is a shared tax between the central and local governments. The table includes the local government's share only.

^b Income tax is a shared tax between the central and local governments. The table includes the local government's share only.

^c Land-related tax revenue is composed of three items: urban land use tax, arable land occupation tax, and contract tax, all of which fall into the category of budgetary revenue. To maintain consistency, land value-added tax is not included because it is available only for the years 2007 and 2008.

^d Total revenue is composed of budgetary and fund budgetary (*jijin yusuan* 基金预算) revenues. Land conveyance fee falls into the category of fund budgetary revenue.

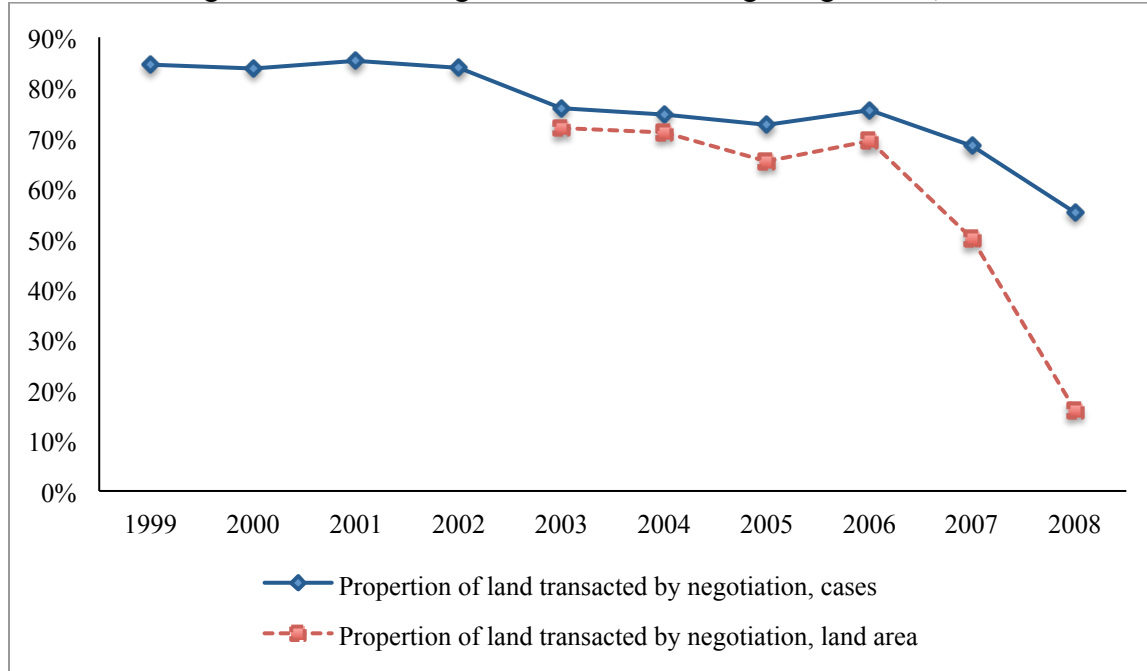
Sources:

Data on yearly VAT, business tax, enterprise income tax, urban land use tax, arable land occupation tax, the Ministry of Finance, *zhongguo caizheng nianjian* (*China Fiscal Yearbook*) (Beijing: China Finance Press, 2004), p. 278; 2005, p. 282; 2006, p. 316; 2007, p.318; 2008, p. 340; 2009, p. 414.

Data on land conveyance fee in 2003-2008, *China Land and Resources Statistical Yearbook*, 2009, p. 171.

Data on total revenue in 2003-2008, *China Fiscal Yearbook*, 2009, p. 495.

Figure 2 Land Use Rights Transacted Through Negotiation, 1999-2008



Sources:

China Land and Resources Statistical Yearbook, 2000, p. 772; 2001, p. 824; 2009, p. 171 and p.183.

Table 2. Farmland Quota Transfer in Zhejiang, 2001

Administrative Units	Farmland Removal		Farmland Reallocation		Total Amount (<i>mu</i>)
	Amount (<i>mu</i>)	Percentage %	Amount (<i>mu</i>)	Percentage %	
Hangzhou	133500	36	30000	8.1	-103500
Ningbo	85200	22.9	5250	1.4	-79950
Jinhua	55050	14.8	16950	4.6	-38100
Wenzhou	48900	13.2	21900	5.9	-27000
Shaoxing	28050	7.6	40050	10.8	12000
Taizhou	16050	4.3	1950	0.5	-14100
Quzhou	4500	1.2	124500	33.5	120000
Lishui			70650	19	70650
Huzhou			60000	16.2	60000
Total	371250	100	371250	100	0

Source: Tan Jun, Dai Yinping, Gao Wei, “Zhejiangsheng jiben nongtian yidi youchang daibao zhidu ge’an fenxi” (“An Analysis of Basic Farmland Protected across Jurisdictions in Zhejiang”), *Guangli shijie (Management World)*, No. 3 (2004), p. 105.

Figure 3. Farmland Quota Transfer in Zhejiang, 2001



¹ See the discussion of the intergovernmental competition in the second section.

² A *mu* is a Chinese unit of area measurement: 1 hectare equals 15 *mu*.

³ Jun Tan, Yiping Dai, and Wei Gao, “Zhejiangsheng jiben nongtian yidi youchang daibao zhidu ge’an fenxi” (“A Case Study of Basic Farmland Protected across jurisdictions in Zhejiang”), *Guangli shijie (Management World)*, No. 3 (2004), p. 105.

⁴ Barry Weingast, “The Economic Role of Political Institutions: Market-preserving Federalism and Economic Development,” *Journal of Law, Economics, and Organization*, Vol. 11, No. 1 (1995), pp. 1-31; Gabriella Montinola, Yingyi Qian, and Barry Weingast, “Market-preserving Federalism,” *World Politics*, Vol. 48, No. 1 (1995), pp. 50-81; Yingyi Qian and Barry Weingast, “Federalism as a Commitment to Preserving Market Incentives,” *Journal of Economic Perspectives*, Vol. 11, No. 4 (1997), pp. 83-92.

⁵ Jean Oi, “Fiscal Reform and the Economic Foundations of Local State Corporatism in China,” *World Politics*, Vol. 45, No. 1 (1995), pp. 99-126; Jean Oi, *Rural China Takes Off: Institutional Foundations of Economic Reform* (Berkeley: University of California Press, 1999).

⁶ Yasheng Huang, “Administrative Monitoring in China,” *the China Quarterly*, No. 143 (1995), pp. 828-844; Hongbin Li and Li’an Zhou, “Political Turnover and Economic Performance: The Incentive Role of Personnel Control in China,” *Journal of Public Economics*, Vol. 89 (2005), pp. 1743-1762.

⁷ Eric Maskin, Yingyi Qian and Chenggang Xu, “Incentives, Information, and Organizational Form,” *Review of Economic Studies*, Vol. 67, No. 2 (2000), pp. 359-378.

⁸ Chenggang Xu, “The Fundamental Institutions of China's Reforms and Development,” *Journal of Economic Literature*, forthcoming.

⁹ In addition to the intergovernmental competition argument, there are alternative explanations. Cai and Treisman argue that the success of China’s reform and its dramatic growth are driven by the competition between rival factions at the center. See Hongbin Cai and Daniel Treisman, “Did Government Decentralization Cause China’s Economic Miracle?” *World Politics*, Vol. 58, No. 4 (2006), pp. 505-535. Cai and Treisman also argue that competition does not necessarily lead to discipline governments to improve economic growth. See Hongbin Cai and Daniel Treisman, “Does Competition for Capital Discipline Governments? Decentralization, Globalization, and Public Policy,” *American Economic Review*, June (2005), pp. 817-830.

¹⁰ Steven N. S. Cheung. *Zhongguo de jingji zhidu (The Economy System of China)* (Beijing: China CITIC Press, 2009).

¹¹ Revenue has an important impact on government behavior, and this is especially true in an authoritarian regime like China where officials are not constrained by voters. On the revenue impact on the state, see Margaret Levi, *Of Rule and Revenue* (Berkeley: University of California Press, 1989) and Scott Gehlbach, *Representation through Taxation* (Cambridge: Cambridge University Press, 2008). On the discussion in the China context, see Montinola et al., “Market-preserving Federalism,” pp. 50-81; Oi, “Fiscal Reform and the Economic Foundations of Local State Corporatism in China,” pp. 99-126.

¹² For more discussion on the difference between urban and rural land markets, see Dwight Perkins, “China’s Land System: Past, Present, and Future,” in Gregory K. Ingram and Yu-Huang Hong (eds.), *Property Rights and Land Politics* (Cambridge: Lincoln Institute of Land Policy, 2009); and Ruoying Chen, “Divided World: China’s Land Tenure System and Implication to Foreign Investment in China,” *Dong-A Journal of International Business Transaction Law*, Spring (2010), available at SSRN: <http://ssrn.com/abstract=1665175>.

¹³ Construction land use rights can be legally transacted in the urban land market only. But there exists an active and pervasive black market where rural land is occupied and transferred illegally. See George C.S. Lin and Samuel P. S. Ho, “The State, Land System, and Land Development Processes in Contemporary China,” *Annals of the Association of American Geographers*, Vol. 92, No. 2 (2005), pp. 411-436.

¹⁴ Rural land is composed of both agricultural and construction land. Rural-to-urban land conversion is an ownership transfer from rural collective ownership to urban state ownership. It includes not only conversion from rural agricultural land to urban construction land, but also from rural construction land to urban construction land.

¹⁵ Compensation is composed of land compensation fees, resettlement fees, and compensation for what was attached on the expropriated land. The Land Management Law specifies the compensation to rural households whose land is expropriated (Article 47).

¹⁶ The time limit of the sale of land use rights is determined by the purposes of land use. Land use rights can be claimed for 70 years, 50 years, and 40 years when land is used for residential, industrial, and commercial purposes, respectively. See *Chengzhen guoyou tudi shiyongquan churang he zhuanrang zanxing tiaoli* (Temporary Regulations on Transfers of Urban State-owned Land Use Rights), Article 12.

¹⁷ Local governments retain all land-generated revenue with only one exception. This exception is the newly converted construction land use fee (*xinzeng jianshe yongdi youchang shiyongfei*), which is shared between the center and local governments at the ratio of 3:7. See Land Management Law, Article 55.

¹⁸ Calculation is based on information in table 1. To emphasize the contribution of land conveyance fee, land-related taxes are not included.

¹⁹ Construction land use rights are transferred through one non-market approach of negotiation and three market approaches of bid invitation (*zhaobiao*), auction (*paimai*), and quotation (*guapai*).

²⁰ Ran Tao, Fubing Su, Mingxing Liu, and Guangzhong Cao, “Land Leasing and Local Public Finance in China’s Regional Development: Evidence from Prefecture-level Cities,” *Urban Studies*, Vol. 47, No. 10 (2010), p. 2227-28; Shengsan Jiang, Shouying Liu, and Qing Li, “Tudi zhidu gaige yu guomin jingji chengzhang” (“Land System Reform and National Economic Growth”), *Guanli Shijie (Management World)*, Vol. 9 (2007), p. 1; Cheung, *The Economic System*, p. 73.

²¹ State Council, “*Guowuyuan guanyu jiaqiang tudi tiaokong youguan wenti de tongzhi*” (Circular of the State Council on Intensifying Land Control), 31 August 2006, Article 5; Ministry of Land and Resources, “*Zhaobiao paimai guapai churang guoyou jianshe yongdi shiyongquan guiding*” (Provisions on the Assignment of State-owned Construction Land Use Right through Bid Invitation, Auction, and Quotation), 28 September 2007, Article 4.

²² Interview KS040210.

²³ For instance, on the ambiguity of China’s land property rights, see Peter Ho, *Institutions in Transition: Land Ownership, Property Rights, and Social Conflict in China* (Oxford: Oxford University Press, 2005); on the complex process of land development, see George C.S. Lin, *Developing China: Land, Politics, and Social Condition* (London: Routledge, 2009); on the impact of land on urbanization, see You-tien Hsing, *The Great Urban Transformation: Politics of Land and Property in China* (Oxford: Oxford University Press, 2010).

²⁴ On the contributions of TVEs to China's economic growth, see Hehui Jin and Yingyi Qian, "Public Versus Private Ownership of Firms: Evidence from Rural China," *Quarterly Journal of Economics*, Vol.113, No.3 (1998), pp. 773-808; Jiahua Che and Yingyi Qian, "Insecure Property Rights and Government Ownership of Firms," *Quarterly Journal of Economics*, Vol.113, No. 2 (1998) pp. 467-496; Jiahua Che and Yingyi Qian, "Institutional Environment, Community Government, and Corporate Governance: Understanding China's Township-Village Enterprises," *Journal of Law, Economics, and Organization*, Vol. 14, No.1 (1998), pp. 1-23; Oi, *Rural China Takes Off*.

²⁵ Lin, *Developing China*, p. 6 and p.21 fn 15.

²⁶ Prior to 1998, annual quotas, the hierarchical review and approval system were used to manage land conversion. Under this system, local governments at various levels in the hierarchical administrative system have power to review requests for conversion. This system was failed because local governments could not be relied upon to enforce the rules set by the center due to their potential interests in land expropriation. The failure forced the central government to take alternative ways to manage land conversion. For more discussion on the system prior to 1998, see Lin and Ho, "The State," pp. 422-23.

²⁷ Land Management Law. Chapter 4 is on the protection of arable land and chapter 5 is on the regulation on construction land use.

²⁸ Land Management Law, Articles 4 and 31.

²⁹ *Ibid.*, Articles 18, 31 and 33.

³⁰ State Council, "*tudi guanlifa shishi tiaoli*" (Regulations on the Implementation of the Land Management Law), 27 December 1998, Article 13. These quotas are also specified in several local government documents, which are not publicly accessible, available in redacted form by contacting the author.

³¹ In practice, there is some variation in quota assignments across provinces. For instance, in Zhejiang, the provincial government bypasses municipalities and directly assigns quotas to counties. Interview WZ0420110. The interview subject was a deputy mayor of a county-level city in Zhejiang.

³² The first overall plan (1986-2000) was bottom-up: the township developed its plan and submitted it to the county for approval and inclusion, and county for its municipality, and so on. Due to the lack of reliable land statistics, not all local governments submitted their plans, and the first overall plan was not used as an instrument for the central government to manage land use. In the mid-1990s, China began to develop its second overall plan (1996-2010) and required local governments to comply with the plan. The second overall plan was replaced by the current plan (2006-2020), which is now effective. Both the second and current overall plans take the top-down approach. For more discussion on the first overall plan, see Lin, *Developing China*, p.108, fn 46.

³³ "*Guangdongsheng guotu ziyuan liyong zongti guihua (2006-2020)*" (Guangdong Provincial Overall Plan of Land Utilization, 2006-2020). Chapter 2 on Spatial Restriction of Land Utilization, pp. 37-39, available at <http://wenku.baidu.com/view/64bd5ec6aa00b52acfc7ca71.html>

³⁴ Land Management Law, Articles 21 and 24.

³⁵ Xiaolin Guo, "Land Expropriation and Rural Conflicts in China," *the China Quarterly*, No. 166 (2001), p. 431, fn33.

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- ³⁶ On TRS, see Kai-yuen Tsui and Youqiang Wang, “Between Separate Stoves and A Single Menu: Fiscal Decentralization in China,” *the China Quarterly*, No. 177 (2004), pp. 71-90; Carl Minzner, “Riots and Cover-ups: Counterproductive Control of Local Agents in China,” *University of Pennsylvania Journal of International Law*, Vol. 31 (2009), pp. 53-123.
- ³⁷ The contract between Hangzhou and Xiaoshan is not publicly accessible; it is available in redacted form by contacting the author.
- ³⁸ Interviews WZ0419110, WZ0420110, WZ0420110, CQ050610.
- ³⁹ Hui Wang and Ran Tao, “Lun tudi fazhanquan zhuan yi yu jiaoyi de Zhejiang Moshi” (“The Zhejiang Model of Land Development Rights Transfer and Transaction”), *Guangli shijie* (Management World), No. 8 (2009), p. 42.
- ⁴⁰ Interview WZ0420110.
- ⁴¹ Interview CQ0512110.
- ⁴² On expansion and merge of administrative jurisdictions, see You-tien Hsing, *The Great Urban Transformation*.
- ⁴³ Land Management Law, Article 34; State Council, “*Jiben nongtian baohu tiaoli*” (Regulations on the Protection of Basic Farmland), 27 December 1998, Article 9.
- ⁴⁴ Land Management Law, Article 45.
- ⁴⁵ Regulations on the Protection of Basic Farmland, Article 4.
- ⁴⁶ Jun Tan, Yinping Dai and Wei Gao, “An Analysis of Basic Farmland,” p. 106.
- ⁴⁷ *Ibid.*, p. 105.
- ⁴⁸ The information comes from the intergovernmental contract that is an internal, not publicly accessible document, available in redacted form by contacting the author.
- ⁴⁹ Each rural household is assigned one and only one housing site (*zhaijidi*). See Land Management Law, Article 62. In practice however, it is widely violated by rural households who get more than one housing sites.
- ⁵⁰ In April 2006, Shandong, Tianjin, Jiangsu, Hubei and Sichuan were approved by the Ministry of Land and Resources to experiment this practice. Another 19 provinces were approved between 2008 and 2009. Available at http://www.mlr.gov.cn/xwdt/jrxw/201102/t20110214_816140.htm
- ⁵¹ Ministry of Land and Resources, “*Chengxiang jianshe yong di zengjian guagou shidian guanli banfa*” (Measures on management of land use in contracts for expansion and contraction in pilot sites for urban and rural construction), 27 June 2008, Article 5.
- ⁵² Interview CQ0428110.
- ⁵³ “*xiangjie dipiao jiaoyi quan liuchengtu*” (“An Examination of the Process of Land Ticket Transaction”), 21 century Economic Report, 27 March 2009. Available at http://www.21cbh.com/HTML/2009-3-27/HTML_FGFU75HEFXXT.html.
- ⁵⁴ Interview CQ0506210.
- ⁵⁵ Chongqing Government, “*Chongqing nongcun tudi jiaoyisuo guanli zanxing banfa*” (Temporary Measures on Management of the Chongqing Rural Land Exchange), 2008, Article 27.
- ⁵⁶ Zhejiang People’s Congress, “*Zhejiangsheng jiben nongtian baohu tiaoli*” (Zhejiang Provincial Regulations on Basic Farmland Protection), 31 October 2002, Article 12.
- ⁵⁷ The Ningbo-Quzhou contract is not publicly available document; it is available in redacted form by contacting the author.

⁵⁸ The contract between Hangzhou and Xiaoshan details how farmland reallocation fee is paid. The contract is not publicly available.

⁵⁹ For instance, Jiangbei district in Ningbo was to transfer away 10,000 *mu* basic farmland and 29,800 *mu* standard farmland. To do so, it has to pay 299 million RMB reallocation fee and generate an investment of 2,392 million RMB. The reallocation fee is calculated as follows: $10,000 \times 15,000 + 29,800 \times 5,000 = 299,000,000$. The investment is calculated as follows: $10,000 \times 120,000 + 29,800 \times 40,000 = 2,392,000,000$. The information is included in the Ningbo-Quzhou contract.

⁶⁰ On the process of generating a land ticket, see Temporary Measures on Management of the Chongqing Rural Land Exchange, Chapter 3.

⁶¹ “*Chongqing Nongcun Tudi Jiaoyisuo Zhengshi Chengli, Kaichu Shoudan Dipiao Jiaoyi*” (“The Establishment of Chongqing Rural Land Exchange and the Transaction of the First Land Ticket”), 5 December 2008, available at http://www.gov.cn/gzdt/2008-12/05/content_1168923.htm.

⁶² “*Chongqing dipiao jiaoyi jiage zaichuang xin gao, yimudi paichu 14.40 wan yuan*” (“Chongqing Land Ticket Created a Highest Transaction with 144,000 *yuan per mu*”), 5 May 2010, available at http://www.cqna.com.cn/na_content/2010-05/05/content_638943.htm.

⁶³ Interview CQ0506210.

⁶⁴ Interviews WZ0419110 and WZ0420110.

⁶⁵ Cai and Treisman, “Does Competition for Capital Discipline Governments?” pp. 817-830.

⁶⁶ Joel S. Hellman, “Winners Take All: The politics of Partial Reform in Postcommunist Transitions,” *World Politics*, Vol. 50 (1998), pp. 203-234.

⁶⁷ Interview CQ0506210.

⁶⁸ Interview WZ0416110. The interviewee was not firm about his answers.

⁶⁹ For instance, farmland quota reallocation occurred in Guangdong and Shandong. In Shandong, Laoshan District reallocated its 255,000 *mu* with Lanxi city. See “*Laoshanqu jibenongtian yidi daibao quanbu wancheng*” (Laoshan District completed basic farmland reallocation across administrative units)

http://www.mlr.gov.cn/xwdt/dfdt/201002/t20100202_705920.htm.