

**LAND-LOCKED DEVELOPMENT:
THE LOCAL POLITICAL ECONOMY OF INSTITUTIONAL
CHANGE IN CHINA**

By

Meina Cai

A dissertation submitted in partial fulfillment of
the requirements for the degree of

Doctor of Philosophy
(Political Science)

at the

UNIVERSITY OF WISCONSIN-MADISON

2012

Date of final oral examination: 07/25/2012

The dissertation is approved by the following members of the Final Oral Committee:

Melanie Manion, Professor, Political Science
Rikhil Bhavnani, Assistant Professor, Political Science
Edward Friedman, Professor, Political Science
Scott Gehlbach, Professor, Political Science
Yoshiko Herrera, Associate Professor, Political Science
David Weimer, Professor, Public Policy

© Copyright by Meina Cai 2012

All Rights Reserved

To my grandparents, for their limitless generosity

ACKNOWLEDGMENTS

While the title page lists me as the author, this dissertation is the product of the encouragement, support, advice, and assistance of the many people life has blessed me with. To begin with, I would like to thank the members of my dissertation committee under Melanie Manion's generous leadership. My advisor Melanie Manion contributed substantial time to reading and rereading earlier drafts, organized group meetings to clarify and sharpen my arguments, and shared the China Survey data. My advisor Edward Friedman encouraged me to pursue political methodology as my second subfield when I had just entered the graduate school and knew nothing of political methodology. Melanie and Ed provided moral support throughout many difficult times in my graduate training, making my life at Madison easier. Scott Gehlbach introduced me to the discipline of positive political economy and encouraged me to take advanced methodological courses in the Economics Department. Melanie, Ed, Scott, David Weimer, Yoshiko Herrera, and Rikhil Bhavnani all provided helpful criticism, comments, and advice as well as encouraged mind-stimulating discussions. Naturally, all mistakes remain my own.

I also benefited from comments I received from various conference and workshop participants. I would particularly like to thank the participants of the University of Michigan Center for Chinese Studies 50th Anniversary Conference in Honor of Kenneth G. Lieberthal and the Duke University New Faces in China Studies Conference for sharpening many of the dissertation ideas. At Madison, my friends and colleagues at the Chinese Politics Workshop, organized by Melanie Manion, provided insightful feedback at the early stage of developing this dissertation.

Thanks must also go to Cao Zhenghan of Zhejiang University, Chen Guangjin of the Chinese Academy of Social Science, Wang Haibao, Ye Yu, and Pan Dandan of the China Economic Times, Wenzhou Branch, Zhao Shukai of the Development Research Center of the State Council, Li Yong of the Chongqing Academy of Social Science, Zhu Kangdui of the Wenzhou Party School, and many others who must remain anonymous for helping me connect with local politicians—my interviewees. Many of my dissertation ideas were inspired by the conversations with local politicians, who, to protect their identity, must remain unnamed. I owe a debt to each. This dissertation could not have been written without their help.

A number of organizations graciously offered financial support to fund my fieldwork and dissertation writing. I would like to thank the National Science Foundation for their Doctoral Dissertation Research Improvement Grant, the Chiang Ching-kuo Foundation Doctoral Fellowship program, the Institute for Humane Studies for three Humane Studies Fellowships, and the University of Wisconsin–Madison for the Raymond J. Penn Scholarship and the Graduate Student International Field Research Award.

Finally, I owe an enormous debt to my family, without whose unconditional support, encouragement, and love this dissertation could never have appeared. The physical distance between China and the United States has prevented me from taking care of my grandparents who raised me and encouraged me to pursue an academic career. This dissertation is dedicated to them.

DISCARD THIS PAGE

TABLE OF CONTENTS

	Page
LIST OF TABLES	vi
LIST OF FIGURES	vii
ABSTRACT	ix
1 Introduction	1
1.1 Property Rights, Revenues, and Economic Development	4
1.2 Chinese Political Economy Meets Comparative Political Economy	6
1.3 Arguments	9
1.4 Data and Methods	11
1.5 Contributions	14
2 “Flying Land”: Intergovernmental Cooperation in Local Economic Development in China	17
2.1 Land and Economic Growth in China	19
2.2 Institutional Context of Land Management	25
2.3 Institutional Conflicts	28
2.4 Institutional Innovation: Creation of “Flying Land”	29
2.4.1 Transfer of Basic Farmland Quotas	30
2.4.2 Transfer of Construction Land Quotas	34
2.5 Coordination of Intergovernmental Cooperation	37
2.5.1 Coordination of Farmland Quota Reallocation	37
2.5.2 Coordination of Construction Land Quota Reallocation	38
2.6 Conclusion	40
3 Local Determinants of Economic Structure: Evidence from Land Quota Allocation in China	44
3.1 Introduction	44
3.2 Players, Preferences, and Institutional Context	52
3.3 Theory	60
3.3.1 Political Economy of Sectoral Allocation of Land Quotas	60

	Page
3.3.2 Model	66
3.4 Data and Measurement	68
3.4.1 Sample	68
3.4.2 Data Compilation	70
3.4.3 Measurement of Key Variables	70
3.5 Analysis	75
3.5.1 Findings	75
3.5.2 Robustness Check	80
3.6 Conclusion	81
4 Land for Welfare in China	84
4.1 Introduction	84
4.2 Provision of Public Goods and Social Welfare	87
4.3 The Logic of Land for Welfare in China	90
4.3.1 Land Property Rights Regime	91
4.3.2 Land for Welfare	95
4.4 Comparative Case Studies: Zhejiang vs. Chongqing	102
4.4.1 Rural Social Welfare Provision in Zhejiang	103
4.4.2 Rural Social Welfare Provision in Chongqing	106
4.5 Data, Measurement, and Analysis	109
4.5.1 Data and Measurement	109
4.5.2 Analysis	112
4.6 Conclusion	119
 APPENDICES	
Appendix A: Interviewee List	133
Appendix B: A Dataset of 120 Municipalities	135
Appendix C: The China Survey	137
Appendix D: A Dataset of 59 Municipalities	140

DISCARD THIS PAGE

LIST OF TABLES

Table	Page
2.1 Revenue Composition of Local Governments in China, 2003-2008 (100 million RMB)	23
2.2 Farmland Quota Transfer in Zhejiang, 2001	32
3.1 Cadre Evaluation of a Prefecture-level City in Guangdong Province, 2009 . . .	54
3.2 Local Tax Contribution, by Sectors, 2003-2008	63
3.3 OLS Estimates for Land Quota Allocated for Industry	77
4.1 Urban-Rural Gap in Social Welfare Provision	97
4.2 Attitudes toward Welfare Provision for Rural Migrants	97
4.3 Rural Welfare Provision in Zhejiang and Chongqing	104
4.4 Pensions in Rural China	114
4.5 Unemployment Insurance in Rural China	115
Appendix	
Table	
B.1 Summary Statistics of Key Variables	135
B.2 Definition and Sources of Variables	136
C.1 Summary Statistics for Individual-level Variables	139
D.1 Summary Statistics, Definition, Sources, and Correlations	141

DISCARD THIS PAGE

LIST OF FIGURES

Figure	Page
2.1 GDP Growth Rate and Arable Land Occupied by Construction in China	20
2.2 Land Use Rights Transacted Through Negotiation, 1999-2008	24
2.3 Farmland Quota Transfer in Zhejiang, 2001	33
3.1 Value added by industry as a share of GDP of transitional countries, 1990-2009	46
3.2 Value added by services as a share of GDP of transitional countries, 1990-2009 .	47
3.3 Industry (value added) share of GDP, worldwide, 2009	48
3.4 Service (value added) share of GDP, worldwide, 2009	49
3.5 Subnational Budgetary Revenue and Expenditure, 1978-2008	56
3.6 Budget Deficit against Local GDP of 120 Municipalities, 2005	57
3.7 Sectoral Difference in land revenue, 2004-2008	64
3.8 A Sample of 120 Municipalities	69
3.9 Histogram for Land Allocation Ratio, 2006	71
4.1 Pension Provision in Rural China	86
4.2 Land Use System in China	92
4.3 Provinces with Experimental Status (2007)	101
4.4 Pension Provision in Rural China	118

**LAND-LOCKED DEVELOPMENT:
THE LOCAL POLITICAL ECONOMY OF INSTITUTIONAL CHANGE IN
CHINA**

Meina Cai

Under the supervision of Professor of Political Science Melanie Manion

At the University of Wisconsin-Madison

Despite rapid economic growth, China has not embraced neoliberal economic prescriptions. Land reform is no exception: private land ownership continues to be outlawed; land use is restricted by administratively distributed land quotas; the land market (for transferring land use rights) is extremely segmented, with urban and rural land governed by significantly different systems of property rights. How has this land property rights regime impacted the political economy of development in China?

I argue that land property rights arrangements create new untapped revenue sources, motivating local politicians to expropriate rural land. This expropriation is constrained, however, by the land quota system, imposed by the central state to preserve shrinking arable land. Variation in land endowment, interacting with the level of local economic development, produces variation in the cost of fulfilling land quota requirements. This in turn induces revenue-maximizing local officials to develop new forms of land-centered development strategies. Local governments develop cooperative relationships with one another to facilitate transferring land quotas from localities with land abundance to localities with land scarcity; they rationally allocate land quotas across economic sectors; and they provide social welfare benefits to villagers, particularly those who lose land, to ease land expropriation. These new development strategies promote land use efficiency, despite public land ownership. Even so, they disproportionately benefit the state vis-à-vis villagers, motivating the former to resist reforms that promote private land ownership. Consequently, the local state's dependence

on land to generate revenue and intervene in the economy persists, creating land-locked development.

I develop these arguments using a multiple-method strategy. Comparative case studies draw on in-depth political elite interviews and local government documents collected through substantial fieldwork. Statistical analysis exploits three datasets: the existing China Survey of individual households across China and two original datasets I constructed for samples of municipalities. Through an investigation of the relationship between land, revenues, and economic development strategies, this dissertation advances our understanding of Chinese political economy and challenges conventional wisdom that associates public ownership with inefficiency.

ABSTRACT

Land reform has been an integral part of China's transition from a centrally planned economy to a market economy. Despite rapid economic growth, China has not embraced neoliberal economic prescriptions. Land reform is no exception: private land ownership continues to be outlawed under the Chinese constitution; land use is restricted by administratively distributed land quotas; only land use rights are subject to market forces, but the land market is extremely segmented, with urban and rural land governed by significantly different systems of property rights. This incomplete and distorted land market provides the state with new untapped revenue sources as well as instruments with which to intervene in the economy. This dissertation examines how the land property rights regime has impacted the political economy of development in China.

My arguments are presented in three empirical chapters, using a multiple-method empirical strategy. Chapter 1 highlights a widespread but largely overlooked phenomenon of land quota transfers across jurisdictions. Variation in land endowments, interacting with the level of local economic development, leads to variation in the cost of fulfilling land quota requirements. Such variation, in turn, encourages local governments to develop cooperative relationships with one another to facilitate transferring land quotas from localities with land abundance to localities with land scarcity. While the mainstream literature recognizes that competition across jurisdictions promotes economic growth, I show that once land is factored in, cooperation emerges between jurisdictions with different economic profiles.

Chapter 2 identifies the political and economic driving forces of sectoral allocation of land quotas. I argue that both the local revenue structure and the time horizon of local politicians affect how local politicians allocate land quotas. Revenue contributions from industry differ

systematically from service sector contributions. Using an original dataset of a sample of 120 municipalities, I show that local politicians allocate more land quotas to the industrial sector when the local tax base relies more on value-added tax and less on business tax and when they have long time horizons.

Chapter 3 examines why local politicians are incentivized to provide social welfare benefits to villagers. It establishes a relationship between land and rural social welfare provision: welfare benefits are provided to land-losing villagers to compensate their land's insurance function so as to ease land confiscation. Moreover, the substantive subnational variation in welfare provision is partially determined by the interplay between central and local governments. Local governments that are permitted to expropriate additional land beyond quotas have an incentive to provide welfare benefits to signal to the central government that they take care of villagers, particularly those who lose land. I develop these arguments through comparative case studies as well as multilevel analysis combining the 2008 China Survey of individual households and an original dataset of 59 municipalities.

Chapter 1

Introduction

As a child growing up in China, I was taught in school that our country was vast in territory and abundant in natural resources. This turns out not to be true, at least with regard to the resource of land. To make a simple static comparison: while China's territory is slightly larger than that of the United States, China's population is four times that of the United States. Of total land area in China, more than two-thirds consists of mountains, plateaus, and hills, hardly usable.¹ In 2009, arable land as a ratio of total land area was 11.8 percent in China, in contrast to 17.8 percent in the United States.² Of the world's top ten largest economies in terms of total GDP measured in purchasing power parity (PPP) terms, China ranks second, behind only the United States, while its arable land per capita is at the very bottom, only above Japan.³ In comparison with other emerging economies, arable land per capita in China is a little more than one-half that of India, one-quarter that of Brazil, and less than one-eighth that of Russia.

The issue of land scarcity in China becomes more serious once we take into account significant subnational variation in land endowment, population, and the level of economic

¹Of total land area in China, mountains account for 33.3 percent, plateaus for 26 percent, and hills for 9.9 percent, totaling 69.3 percent. China Land and Resources Statistical Yearbook, 2009, p. 3.

²World Development Indicators published by the World Bank. Available at *[http :
//data.worldbank.org/indicator](http://data.worldbank.org/indicator)*

³As of 2010, the world's top ten largest economies are the United States, China, Japan, India, Germany, Russia, Brazil, United Kingdom, France, and Italy. Data on arable land per capita is available at *[http :
//data.worldbank.org/indicator](http://data.worldbank.org/indicator)*

development. Within China, population and level of economic development vary inversely with land resources: along the east coast, where the economy is most developed and consequently with a higher demand for land, nearly 40 percent of the population lives on land that accounts for only 11 percent of China's territory; in the west, the least developed region, only 28 percent of population lives across more than 71 percent of China's territory. This uneven distribution of resources creates land scarcity along the east coast, the economic hub of China.⁴

While China has impressed the world with its economic miracle, the ever-growing construction and industrial boom comes at a cost of land confiscation. China lost 13 million hectares of arable land from 1978 to 2008 (Peng et al., 2011, p. 104). To develop the economy, local governments expropriate land to establish economic development zones (EDZs), special areas zoned to attract investment, both foreign and domestic. From 2003 to 2004, the central government conducted a nationwide inspection of EDZs and found 6,866 EDZs occupying 38.6 million hectares of land.⁵

Land is a focal point connecting state and society. The central government has long realized that land relates closely to food security, social stability, and regime survival. At the National Meeting on Reforming the Land Use System (全国土地使用制度改革工作会议) in September 1994, then President Jiang Zemin stated:

Feeding nearly 1.2 billion people is a huge issue. There would be chaos without food to eat. . . . Protection of arable land is related to the survival of our Chinese nation and to the security of our whole society. . . . To improve national land management, to effectively protect arable land, to ensure steady growth in agricultural production, and to ensure enough food to feed over 1 billion people have

⁴Following convention, the east coast includes the following 11 provinces: Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, and Hainan. The west includes the following 12 provinces: Inner Mongolia, Guangxi, Chongqing, Sichuan, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Qinghai, Ningxia, and Xinjiang. Provincial population data is collected from China Statistical Yearbook, 2009. Provincial land area data is available at [http : //www.chinaquhua.cn/list/mianjijist.html](http://www.chinaquhua.cn/list/mianjijist.html). Provincial population data is available at [http : //www.stats.gov.cn/tjsj/](http://www.stats.gov.cn/tjsj/)

⁵China Land Resources Yearbook, 2005, p. 104.

always been matters of strategic importance, matters of primary importance in national development, and matters never to neglect.⁶

In 1998, “greatly cherishing and reasonably using every inch of land, and taking every action to protect arable land” as a fundamental national policy (基本国策) was written into the Land Administration Law (Article 3), signaling the central government’s commitment to preserve land. However, for local governments, land is an important source of revenue and an instrument with which to intervene in the economy. From 2003 to 2008, an average of 23 percent of local government revenue was collected through various land-related taxes and fees.⁷ Such local revenue reliance on land varies enormous across subnational jurisdictions. For example, in 2008, the land transfer fee—the largest component of land-generated revenue—accounted for 85 percent of local budget revenue in Hainan province and only about 5 percent in Qinghai province.⁸ Hangzhou, the capital of Zhejiang province, collected a land transfer fee of 105.4 billion RMB in 2009, ranking first among all municipalities in China. Compared with 2008, Hangzhou’s land transfer fee increased by 237 percent.⁹ Revenue generated from land seizures in some localities is often associated with inadequate compensation to villagers, who then nurture grievances and become a source of social unrest through riots, protests, and violence. A reported 65 percent of mass protests in rural China are triggered by land disputes (China Daily, 2010). Yu Jianrong, a prominent Chinese scholar specializing in

⁶China Land Yearbook, 1995, p. 4.

⁷Author’s calculation. Local state revenue is composed of budget revenue and fund budget revenue. Land revenue is composed of land transfer fee, urban land use tax, arable land occupation tax, and contract tax. See table 2.1 for calculation details.

⁸Author’s calculation. Data on land transfer fee is collected from China Land and Resources Statistical Yearbook, 2009, p. 171. Other revenue data is collected from China Fiscal Yearbook, 2009, p. 495.

⁹Hangzhou Land Transfer Fee Reached 105.4 billion and Ranked No. 1 Among 30 Municipalities, available at <http://house.china.com.cn/fujian/view/150910.htm>

rural development, notes, “[s]ince June 2004, land disputes have become the critical problem of rural China. . . . Most importantly, the number of large-scale mass riots is growing.”¹⁰

Despite the many important roles that land plays discussed above, political scientists studying China have not yet paid adequate attention to it, with only a few exceptions (Tao et al. 2010; Whiting 2011). This dissertation represents an attempt to explain the impact of the land property rights regime on the political economic system as China transitions from a centrally planned economy to a market economy. I ask three bundles of questions:

1. How do local governments overcome the difficulty of land scarcity in developing the economy? Why do local government officials who compete across jurisdictions for career advancement sometimes cooperate with one another?
2. What political and economic factors drive sectoral allocation of land?
3. Why do autocrats provide social welfare to the public? What explains subnational variation in social welfare provision?

1.1 Property Rights, Revenues, and Economic Development

Property rights are commonly defined as a bundle of rights that include the rights to control, obtain income from, and alienate assets. Secure property rights are perceived to be essential for economic development and wealth generation (e.g., North and Thomas 1973; Besley 1995; Acemoglu and Johnson 2005) because investment and resource mobility can flourish only when investors are assured to reasonably reap the benefits generated from their properties and when the resource can be transferred to someone who will use it to generate the highest return. Among all forms of ownership, private property permitted individual owners to concentrate benefits and costs on their own, thereby creating an incentive to utilize resources more efficiently (Demsetz 1967). The security of private property rights relates closely to the state (e.g., North 1981; Riker and Sened 1991; Sened 1997; Haber,

¹⁰Sydney Morning Herald, “China’s land disputes at crisis point as revolutionary turmoil beckons, says professor of disenfranchised,” March 1, 2010.

Razo and Maurer 2003). As North (1981) writes, “[T]he key to understanding the state involves the potential use of violence to gain control over resources. One cannot develop a useful analysis of the state divorced from property rights” (p. 21).

The state seeks to maximize revenue (e.g., North 1981; Levi 1988; Olson 1993). While rulers allocate resources to maximize their revenue, their activities do not necessarily lead to the development of efficient property rights that promote economic growth. Easter (2002) found that revenue reliance on large enterprises forced the Russian state to bargain with new elite actors (e.g., oligarchs) over corporate profits, whereas a shift of tax burden from industrial enterprises to personal income tax in Poland promoted the Polish state to adopt a social pact with labor. Gehlbach (2008) found the wide presence of the vodka industry in Russia is caused neither by comparative advantage in vodka production nor by organized interests calling for vodka promotion. Rather, it was because the vodka industry is easy to tax. Gehlbach argues that politicians have an incentive to disproportionally provide collective goods to sectors that are important sources of state revenue and are anticipated to be more tax compliant. Consequently, in the former Soviet Union, where the revenue base was largely inherited from the old regime, politicians exercised systematic bias against new less easily taxed private enterprises, whereas in Eastern Europe, the revenue base was restructured to include the new private sector, thereby encouraging politicians to promote the new economy.

That the state offers a helping hand in specifying and respecting private property rights and plays a grabbing hand in maximizing revenue constitutes a paradox. This is the “fundamental political dilemma of an economic system” within which a state that is strong enough to provide the minimum institutional requirements of the market, including a secure system of property rights, is also strong enough to confiscate wealth from its citizens (Weingast 1993, p. 305). A democratic system, where rulers face periodic elections, helps solve this dilemma. Alternatively, market-preserving federalism institutionalizes the sharing of power between national and subnational governments, consequently preventing each from being

predatory (Weingast 1993, 1995). In addition, an autocrat has an incentive to respect property rights when he has a long time horizon, because such growth-promoting efforts will help him extract revenue in the long run (Olson 1993). As the autocrat approaches the end of his tenure, however, his time horizon shortens and he becomes predatory.

To solve the “fundamental political dilemma of an economic system,” some of the main tasks facing emerging and transition economies are to explicitly allocate private property rights as well as to build a democratic system that rigorously enforces private property, as advocated by neoliberal development policy emanating from international institutions (e.g., the World Bank and the International Monetary Fund) and American academics.

1.2 Chinese Political Economy Meets Comparative Political Economy

Despite rapid economic growth for more than three decades, China has not embraced the standard neoliberal reform package. Politically, China remains a party-state, within which political power is concentrated in the single communist party. The career prospects of subnational politicians are not contingent on winning elections; rather, they are determined largely by politicians’ performance in local revenue extraction and economic growth promotion (Edin 2003; Landry 2003, 2008; Li and Zhou 2005; Xu 2011). Economically, land reform—an integral part of transition—has proceeded very slowly. Riker and Weimer (1993; 1995; Weimer 1997) define four characteristics of property rights systems: clarity of allocation, cost of alienation, security of trespass, and credibility of persistence. Following their framework, the Chinese land property rights regime is fragmented, with urban and rural land governed by different systems of property rights.

Clarity of allocation. Allocation of private land ownership rights continues to be outlawed under the Chinese constitution. Instead, urban land is state-owned; rural land is collectively owned. Land use rights are separated from land ownership rights and are allocated to urban land users, both individuals and organizations (e.g., firms), through the urban land market. In rural areas, the household responsibility system (HRS) introduced in 1981 permitted individual households to receive agricultural land use rights and residual income rights after

delivering mandatory quotas of agricultural product. The HRS creates a private incentive and consequently has generated a dramatic increase in agricultural output (Lin 1992; Kung 1995, 2000).

Cost of alienation. The state has developed land markets to facilitate the transfer of land use rights. The more developed urban land market makes it easier to alienate urban land use rights than rural land use rights. The urban land market consists of a primary market and a secondary market. The state monopolizes the primary urban land market and leases out land use rights to land users through negotiation (协议), bid invitation (招标), and auction (拍卖).¹¹ Land users can alienate their use rights in the secondary urban land market through transfer (转让), sublease (转租), and mortgage (抵押). In contrast, rural collectives, the owners of rural land, cannot directly lease out rural land use rights to land users. Villagers, who have land use rights, can transfer their housing plots only to their family members. To make rural land use rights transferrable to a potential land user, rural land must be first converted to urban land. Such rural-to-urban land conversion is monopolized by the state, however. As a result, the state—the exclusive body with the authority to expropriate land—obtains land from rural households while providing limited compensation. The state then converts rural land to urban land and transfers land use rights at a price substantially higher than the land compensation paid to rural households. The price differential between rural and urban land arising from the segmented land market allows local governments to generate windfall revenue from rural land confiscation.

Security of trespass. Formal legal institutions support land use rights and residual income rights for both urban and rural land.¹² Empirically, a primary trespasser threatening the security of rural land use rights is the local state, which sometimes expropriates land without authority (Guo 2001).

¹¹Interim Regulations on Transfers of Urban State-owned Land Use Rights (城镇国有土地使用权出让和转让暂行条例), Article 13.

¹²Property Rights Law (物权法), Articles 117-155.

Credibility of persistence. Urban land use rights can be claimed for 70 years, 50 years, and 40 years when urban land is used for residential, industrial, and commercial purposes, respectively.¹³ In rural areas, villagers have arable land use rights for 30 years, grassland use rights for 30 to 50 years, and forest land use rights for 30 to 70 years.¹⁴ While the persistence of land use rights is recognized by legal and state regulations, the risk of arbitrary seizures of land by the state remains. The Constitution permits the state to expropriate rural land for the sake of the “public interest” (Article 10).¹⁵ As a result, the state that claims to represent the “public interest” can terminate the lease for land use rights before it expires, but the state must provide compensation to those who lose land.

While the land property rights regime provides a revenue incentive for local government officials to expropriate land, they cannot expropriate land without restrictions. Confronted with the rapid shrinkage of agricultural land, the central government substantially revised the Land Administration Law in 1998, a turning point reflecting an aggressive increase in central involvement in managing and monitoring subnational land use. The central government restricts land expropriation at the subnational level by imposing a required minimum amount of arable land that must be maintained and a maximum amount of urban construction land that can be used within an administrative jurisdiction in a given period of time. These restrictions constitute the so-called land quotas (土地指标). These quotas specify not only the total amount of urban construction land that can be used, but also the amount of agricultural land and arable land that can be converted to urban construction land, as well as the amount of arable land to be created through development and reclamation. Land quotas are distributed top-down along the administrative hierarchy: 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. To facilitate local

¹³Interim Regulations on Transfers of Urban State-owned Land Use Rights, Article 12.

¹⁴Rural Land Contract Law (农村土地承包法), Article 20.

¹⁵Also see the Property Rights Law, Article 42

compliance, the central government has invested in satellite remote sensing technology to detect local land violations.

In short, China’s economic transition has deviated far from neoliberal economic prescriptions. The land property rights arrangement creates an incentive for local governments to generate revenue from rural land confiscation. Motivations for career advancement encourage local governments to promote the local economy, which creates demand for construction land. However, local governments’ revenue-maximizing and growth-promoting efforts are subject to land quota restrictions. This dissertation attempts to examine the relationship between land property rights, revenues, and economic development in China.

1.3 Arguments

A unifying theme of the dissertation is that the land property rights regime has an important impact on the political economy of development in China.

Chapter 2 begins by describing a widespread but largely overlooked phenomenon of land quota transfers across jurisdictions, referred to as “flying land.” Variation in land endowments, interacting with the level of local economic development, leads to variation in the cost of fulfilling land quota requirements, such that meeting the requirement is difficult for localities with land scarcity and a high level of economic development, but comparatively easy for ones with land abundance and a low level of economic development. Such variation, in turn, encourages local governments to develop a cooperative relationship to facilitate the transfer of land quotas from localities with land abundance to localities with land scarcity. Land quota transfers across jurisdictions help land-scarce local governments overcome the bottleneck in gaining the construction land necessary to promote further economic growth and helps land-abundant local governments gain revenue and investments. While the mainstream literature recognizes that competition across jurisdictions promotes economic growth, this chapter demonstrates that once an important endowment, land, is factored in, cooperation emerges between jurisdictions with different economic profiles.

Chapter 3 considers how local government officials allocate urban construction land quotas between economic sectors. It argues that both the local revenue structure and the time

horizon of local politicians impact the sectoral allocation of land quotas. There exists systematic difference in revenue contributions between industrial and service sectors. The industrial sector generates steady revenue, usually in the form of a value-added tax in the long run, whereas the service sector generates business tax (营业税)¹⁶ and, more importantly, a sizable and immediate land transfer fee from land. To extract the maximum amount of revenue, local government officials have an incentive to allocate more land quotas to the industrial sector when the local tax base relies more on value-added taxes and less on business taxes and when they have long time horizons.

Chapter 4 examines why local government officials are incentivized to provide social welfare benefits to rural residents. It demonstrates that social welfare provision cannot be analyzed in isolation from the land property rights regime. The dual land tenure system allows local officials to extract revenue by expropriating rural land, which, for rural households, functions as an income-generating property as well as social insurance. In the process of land confiscation, social welfare benefits are provided to land-losing villagers to compensate their land's insurance function. Such provision occurs in some localities but not others, however. The subnational variation in social welfare provision is partially determined by the interplay between central and local governments. The central government grants a few subnational governments experimental status, permitting them to covert rural construction land to urban construction land, one way of getting around the land quota restriction. To gain permission and relieve pressure from the land quota system, local governments provide rural welfare benefits to signal to the central government that villagers will be taken care of after land confiscation. As a result, villagers, particularly those who lose land, from localities that are granted experimental status have a higher chance of receiving social welfare benefits than do those from non-experimental localities.

¹⁶Business tax is a form of turnover tax, levied based on the volume of turnover or sales of the taxpayers in circulation or service sectors.

1.4 Data and Methods

This dissertation employs a multi-method empirical strategy to develop the arguments. Qualitative data is comprised of interviews with political elite as well as communist party and government documents collected through substantial fieldwork. Quantitative data consist of three datasets: one existing set of survey data and two original datasets I compiled.

The dissertation fieldwork was conducted in four provinces (Zhejiang, Jiangsu, Guangdong, and Chongqing) from August 2009 to May 2010. I selected these provinces to focus on the problem of land scarcity facing local government officials in promoting economic growth. Zhejiang, Jiangsu, and Guangdong are wealthy coastal provinces. Their more developed economies create a high demand for land, intensifying the problem of land scarcity. In contrast, Chongqing has a comparatively lower level of economic development, but it is the only provincial-level municipality in inland China.¹⁷ The central government has attempted to make Chongqing an important growth pole in western China and an economic hub in the upper reaches of Yangtze River. The central government gave permission to Chongqing to experiment with land reforms. Using population density as a simple measure for land scarcity, Jiangsu, Guangdong, Zhejiang, and Chongqing rank fourth, seventh, eighth, and eleventh, respectively, among the 31 provinces of China. While population density in Chongqing is the smallest among the four provinces, it is nonetheless the highest among all western provinces. Within these four provinces, I conducted interviews in five municipalities and dozens of counties, townships, and villages. The selection of sub-municipal units is nested: two or three counties or county-level urban districts within selected municipalities, two townships within selected counties, and one or two villages within selected townships. No units were probabilistically selected; instead, I selected in large part based on feasibility of implementation (i.e., obtaining connections with local authorities to facilitate interviews).

¹⁷The other three provincial-level municipalities, Beijing, Shanghai, and Tianjin, are all located in coastal areas.

Original interview data consist of over 150 interviews with a wide range of political elites, from provincial-level officials to village leaders. It is generally believed that interviewing elites is much harder than interviewing ordinary Chinese, because such interviews are not easy to arrange. This problem was partially solved by unique research opportunities and fortuitous timing. In late 2009 and early 2010, coinciding with my fieldwork period, local governments of various levels were preparing for the 12th Five-Year Plan (2011-2015), essentially a series of economic development initiatives for the next five years. In drafting the local five-year plans, local governments invite Chinese scholars from universities and research institutes to help identify local problems in economic development and solicit suggestions to solve these problems. In Guangdong and Chongqing, my Chinese colleagues invited me to join their research teams, which had received such invitations from local governments. As part of the research teams, I was able to ask the sponsored local government institute to arrange individual and group interviews with officials relevant to my research. In this way, I interviewed local officials from core state apparatuses responsible for economic development, including Bureaus of Public Finance (财政局), Land and Resources (国土资源局), Development and Reform (发展改革局), and Urban Planning (城市规划局). Interview questions were primarily open-ended, allowing interview subjects to include as much information as they were willing to offer.

To address the concern of reliability of elite interview data, I employed two strategies. First, I also relied on informal working connections, whenever possible, to interview officials with various titles at different levels for information crosschecking. If my interviews were in villages, I also talked to villagers to evaluate the information I received from village leaders. Second, as part of government-sponsored research teams, I was able to ask officials interviewed to provide corresponding government documents to increase the accuracy of my interview data. Many of these documents were issued very recently or relate to sensitive topics, and thus are not publicly accessible, including meeting minutes, government reports, “red-character-titled documents” (红头文件), government balance sheets, and villagers’ petition letters complaining of land loss.

In each of my research sites, I followed the same sequence of data collection: visiting local libraries and archives, conducting interviews, and requesting official documents. Local gazetteers, yearbooks, and statistical yearbooks are publicly accessible in local archives. I paid particular attention to the portions detailing land, public finance, and economic development in local yearbooks. Some local yearbooks contain surprisingly rich information. For instance, Xiaoshan (a district of Hangzhou, Zhejiang) Yearbooks detail local land transaction and land-generated revenue, information that officials are reluctant to release and, even if they are willing, they are incapable of providing accurate information. Knowing the research site prior to my interviews proved to be effective in generating informative conversations with local officials. For one, it saved time normally spent by local officials introducing their localities. As a result, I could use the limited interview time to engage in conversations on topics not accessible from public sources. More importantly, showing my local knowledge signaled I was prepared and serious about the interview. It helped me earn respect from my interview subjects and facilitated my interviews. Usually at the end of conversations, I asked the officials interviewed to provide me with official documents.

In addition to this original qualitative data, I also conducted quantitative analysis using three datasets. The first, the 2008 China Survey, is a household survey on a broad range of issues (e.g., sources of income, access to media, political attitudes, social welfare provision). The survey is a stratified multi-stage probability sample of 3,989 households across 59 municipalities in 26 provinces. The sampled households consist of 2,992 rural residents and 977 urban residents. To serve my purpose of examining the relationship between land confiscation and rural welfare provision, I use rural residents, a subset of the sample, in my analysis. Second, I also compiled a dataset on the political economy of the 59 municipalities covered in the China Survey from government documents and statistical yearbooks. These two datasets combined allow me to perform hierarchical analysis to explore local variation in rural welfare provision. The third source of quantitative evidence is an original dataset I constructed for a sample of 120 municipalities from all provinces except Tibet. These

120 municipalities were sampled by the World Bank in 2005.¹⁸ I took this sample and collected data on variables of interest to me, including local tax revenue, sectoral allocation of land, and tenure length of local politicians (i.e., party secretaries and mayors), from various sources.

1.5 Contributions

This dissertation makes several contributions to the existing literature. First, it brings land into the analysis of the Chinese political economic system. Despite the vast literature identifying the driving forces underpinning China's economic miracle (Oi 1992; Weingast 1995; Montinola, Qian and Weingast 1995; Qian and Weingast 1997; Oi 1999; Maskin, Qian and Xu 2000; Li and Zhou 2005; Xu 2011), no studies take land into account. This neglect is unsurprising: the land market was largely absent in the early reform era, during which land was allocated administratively by the state free of charge and without time limit. However, as reforms proceeded, capital and labor became more mobile across economic sectors, and the price of these factors became exogenous to local governments. The temptation of the local government to use land, still a state-controlled productive input, to affect economic development has been increasing. As a result, the literature examining the Chinese political economy requires an update that takes land into account.

Although research on China's land reform is now growing (Lin 2009; Hsing 2010; Man and Hong 2011), systematic analysis that fits land into the Chinese political economic system remains sparse. This dissertation highlights an important but largely overlooked institutional restriction of land quotas, imposed by the central government to preserve land resources. It demonstrates empirically how local governments' growth-promoting efforts are land-locked: in face of land quota restrictions, local governments develop cooperative relationships with one another to trade land quotas across jurisdictions, rationally allocate limited land quotas

¹⁸"China Governance, Investment Climate, and Harmonious Society: Competitive Enhancement for 120 Cities in China." World Bank Report No. 37759-CN, 2006.

across economic sectors, and provide social welfare benefits to villagers, particularly those who lose land, to ease the process of land expropriation.

Another primary contribution of this dissertation is a new set of data, both qualitative and quantitative. The topic of land in China can be sensitive as it relates to local government nontransparent extrabudgetary revenue and social unrest. Local government officials were sometimes hesitant to release information during interviews, especially when their local practices violated state laws and regulations, a situation not surprising to those who are familiar with the Chinese political economic system. This dissertation represents my painstaking efforts to collect and combine firsthand observation, political elite interviews, and communist party and government documents to examine China's land-locked development. Systematic analyses from existing survey as well as original datasets I compiled from various sources help me generalize the findings derived from fieldwork in four provinces to a larger context in China.

More broadly, the dissertation contributes to the political economy literature. The practice of local governments cooperating to trade land quotas across jurisdictions suggests that competition is not the only form of interjurisdictional relations that promote economic development. Moreover, such a practice promotes land use efficiency, despite public land ownership. In addition, while the literature often treats the state as a unitary actor, particularly in cross-national comparative studies, this dissertation demonstrates that the state is comprised of actors with distinct preferences. More importantly, the interplay between central and local governments is important in explaining the subnational variation in social welfare provision.

Finally, an examination of the relationship between land, revenues, and economic development strategies has important implications for the Chinese political economic system. This dissertation shows that the benefits generated from rural land confiscation disproportionately favor the state, particularly the local state, vis-à-vis villagers, thereby motivating the former to resist land reforms that would permit private land ownership. As a result,

the local state's reliance on land to generate local revenue and to intervene in the economy persists, creating land-locked development.

Chapter 2

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

Existing theories identify competition across local governments under centralized personnel control as the vital linchpin of economic growth 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* (亩)² of farmland quotas were transferred from coastal to inland municipalities within the province (Tan et al. 2004, p. 105), an area a little more than twice the size of Washington D.C. Chinese sometimes refer to this phenomenon as “flying land (飞地),” 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 chapter, I borrow the term “flying land” to refer to land quota reallocation across administrative jurisdictions at the county and municipal levels. Why do local officials who compete across jurisdictions for career advancement sometimes cooperate?

¹See the discussion of the intergovernmental competition in section 2.1.

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

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. Variation in local land endowments across jurisdictions makes the cost of fulfilling quota requirements vary considerably: it is difficult for administrative units with land scarcity to meet the land targets, but comparatively easy for those with land abundance to do so. 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 obtaining the construction land necessary to promote further economic growth; it also helps local governments with land abundance gain revenue and investments.

This chapter 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, it 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 chapter is organized as follows. Section 2.1 briefly reviews the literature on economic growth in China and discusses how this chapter fits within this literature. Section 2.2 examines the institutional context of land management, which restricts local governments’ 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 2.3 reveals quota and spatial conflicts, paralleling the two restrictions. Section 2.4 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 2.5 examines the coordination mechanisms that facilitate intergovernmental cooperation in land quota transfers. Section 2.6 concludes.

2.1 Land and Economic Growth in China

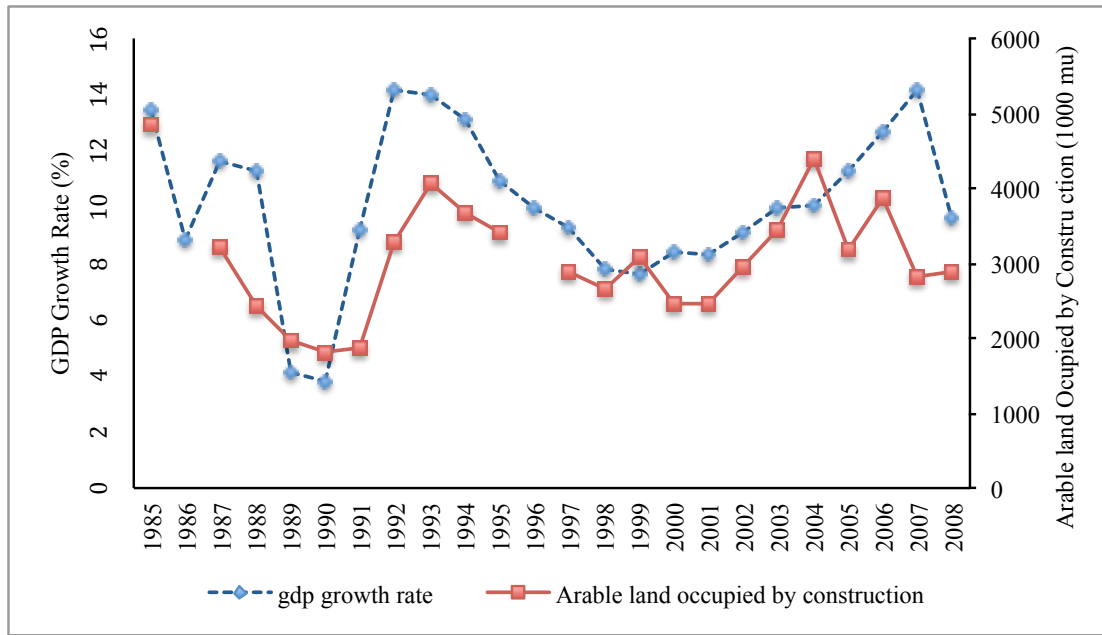
The success of Chinese economic reforms relies critically on local government officials, who enjoy considerable authority to manage the local economy. Scholars identify various institutions underpinning economic reforms. For Weingast (1995) and co-authors (Montinola, Qian and Weingast 1995; Qian and Weingast 1997), “market-preserving federalism” balances power between the national and subnational governments, thereby delivering a credible commitment to protect markets. Oi (1992, 1999) theorizes about “local state corporatism,” within which local governments function as large multilevel corporations, with officials acting as a board of directors, to coordinate enterprises to promote local economic growth. 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 (Huang 1995; Li and Zhou 2005). 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 (Maskin, Qian and Xu 2000). By contrast, Xu (2011) argues that neither economic decentralization nor centralized personnel control alone is sufficient to explain China’s economic development. Instead, a combination of both, which he calls a “regionally decentralized authoritarianism,” is the fundamental institution underpinning China’s reforms and development.

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.³ Cheung (2009) argues that the intensity of competition at the county level is the main reason why China has sustained rapid growth. Missing from this literature is land, a crucial

³In addition to the intergovernmental competition argument, there are alternative explanations. Cai and Treisman (2006) argue that the success of China’s reform and its dramatic growth are driven by the competition between rival factions at the center. Cai and Treisman (2005) also argue that competition does not necessarily lead to discipline governments to improve economic growth.

factor 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 2.1: GDP growth rates in China closely parallel growth in the amount of arable land occupied by construction.

Figure 2.1: GDP Growth Rate and Arable Land Occupied by Construction in China



Sources: On GDP growth rates, World Bank, World Development Indicators, available at <http://databank.worldbank.org>. On arable land data, China Land and Resources Statistical Yearbook, 2006, p. 19; 2009, p.19; Hu et al. 2009, p. 48; China Rural Statistical Yearbook, 1991, p. 235; 1993, p. 229; 1995, p. 70; 1996, p. 54.

To local officials in China, land is not only a productive input accommodating economic growth, but also an important revenue source.⁴ 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.⁵ 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.⁶ That is, rural land must be first converted to urban land in order to fully realize its market value. Such rural-to-urban land conversion is monopolized by the state. 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.⁷ 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 the sale of construction land use rights for a fixed number of years,⁸ officially called the “land transfer fee” (土地出让金). Unlike the value-added tax (VAT) and the income tax, which

⁴Revenue has an important impact on government behavior. China is no exception. On the impact of revenue on the state, see Levi (1988) and Gehlbach (2008). In the China context, see Montinola, Qian and Weingast (1995) and Oi (1992).

⁵For more discussion on the difference between urban and rural land markets, see Perkins (2009) and Chen (2010).

⁶Construction 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 (Lin and Ho 2005).

⁷Compensation is composed of land compensation fees, resettlement fees, and compensation for what was attached on the expropriated land. The Land Administration Law (Article 47) specifies the compensation to rural households whose land is expropriated.

⁸The 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 State Council, Interim Regulations on Transfers of Urban State-owned Land Use Rights (城镇国有土地使用权出让和转让暂行条例), Article 12.

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.⁹ Table 2.1 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 transfer fee. These four items contribute an average of 74 percent of local government revenue.¹⁰ An average of 23 percent 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 transfer fee is not as stable as other revenue sources. For example, its contribution to total local revenue dropped by five percent in 2005 and again by nearly seven percent in 2008.

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.¹¹ This non-market approach of negotiation (协议) 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 (Jiang et al. 2007 p. 1; Cheung 2009, p. 73). Figure 2.2 shows that numbers of negotiated transactions always exceeded transactions through market approaches in 1999-2008. An average of 70 percent 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

⁹Local governments retain all land-generated revenue with only one exception. This exception is the newly converted construction land use fee (新增建设用地有偿使用费), which is shared between the center and local governments at the ratio of 3:7. See Land Administration Law, Article 55.

¹⁰Calculation is based on information in table 2.1. To emphasize the contribution of land transfer fee, land-related taxes are not included.

¹¹Construction land use rights are transferred through one non-market approach of negotiation and three market approaches of bid invitation (招标), auction (拍卖), and quotation (挂牌).

Table 2.1: Revenue Composition of Local Governments in China, 2003-2008 (100 million RMB)

Category	2003	2004	2005	2006	2007	2008	Average
Value-added tax ^a	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	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
Corporate income tax ^b	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 transfer fee	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	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	9849.98	11893.37	15100.76	18303.58	23572.62	28649.79	—

Sources: Data on yearly VAT, business tax, corporate income tax, urban land use tax, arable land occupation tax, China Fiscal Yearbook, 2004, p. 278; 2005, p. 282; 2006*a*, p. 316; 2007, p318; 2008, p. 340; 2009, p. 414. Data on land transfer 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.

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

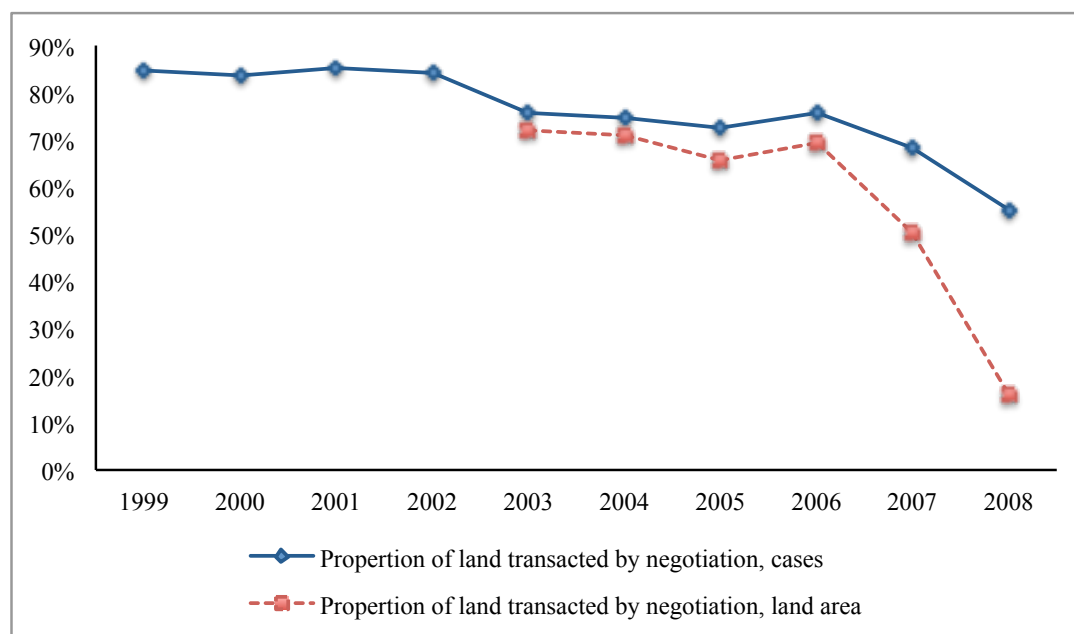
^bIncome tax is a shared tax between the central and local governments. The table includes the local government's share only.

^cLand-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.

^dTotal revenue is composed of budgetary and fund budgetary (基金预算) revenues. Land conveyance fee falls into the category of fund budgetary revenue.

market approaches only.¹² 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 (Interview JS04020110).

Figure 2.2: 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.

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 (e.g., Ho 2005; Lin 2009; Hsing 2010), but the two literatures do not

¹²State Council, Circular of the State Council on Intensifying Land Control (国务院关于加强土地调控有关问题的通知), August 31, 2006, Article 5; Ministry of Land and Resources, Provisions on the Assignment of State-owned Construction Land Use Right through Bid Invitation, Auction, and Quotation (招标投标挂牌出让国有建设用地使用权规定), September 28, 2007, Article 4.

speak to one another. This chapter bridges the gap by investigating the impact of land on the strategies that local officials employ to promote local economic growth.

2.2 Institutional Context of Land Management

Associated with China's economic growth is the massive loss of arable land, as shown in Figure 2.1. 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.¹³ 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 1999.¹⁴ It also substantially revised the Land Administration Law in 1998 and increased its control over land use.¹⁵ A close reading of the revised law reveals that the central government preserves land in two ways: control of the total amount of construction land and protection of arable land, with the two closely related.¹⁶ The state imposes a strict restriction on the conversion of agricultural land (arable land especially) to construction land.¹⁷ The protection of arable land follows the principle of "creating an equivalent amount

¹³On the contributions of TVEs to China's economic growth, see Jin and Qian (1998); Che and Qian (1998*a,b*); Oi (1999).

¹⁴Lin 2009, p. 6 and p. 21 footnote 15.

¹⁵Prior 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 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, 2005, pp. 422-23.

¹⁶Land Administration Law. Chapter 4 is on the protection of arable land and chapter 5 is on the regulation on construction land use.

¹⁷Land Administration Law, Articles 4 and 31.

of arable land to be occupied” (占多少补多少) to ensure that the total amount of arable land within each administrative jurisdiction is not reduced.¹⁸

The central government takes a centrally planned approach to regulate land use by implementing two sets of plans: an overall plan of land utilization (土地利用总体规划) and an annual plan of land utilization (土地利用年度计划). 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.¹⁹ 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.²⁰ 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

¹⁸Land Administration Law, Articles 18, 31 and 33.

¹⁹State Council, Regulations on the Implementation of the Land Administration Law (土地管理法实施条例), December 27, 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.

²⁰In 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.

at each level are required to develop their own overall and annual plans to conform to the disaggregated quotas assigned from above.²¹

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 (允许建设区), restricted (限制建设区), and prohibited (禁止建设区).²²

The Land Administration 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 (Articles 21 and 24). 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 (未批先征) (Guo 2001, p. 431, fn33). 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 (Tsui and Wang 2004; Minzner 2009).

²¹The 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, 2009, p. 108, fn 46.

²²Guangdong Provincial Overall Plan of Land Utilization, 2006-2020. Chapter 2 on Spatial Restriction of Land Utilization, pp. 37-39. This document is not publicly accessible.

For example, 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 (萧山) (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.²³

2.3 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 most binding constraint in the process of promoting the local economy. The answer was always: construction land quotas.²⁴ 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

²³The contract between Hangzhou and Xiaoshan is not publicly accessible; it is available in redacted form by contacting the author.

²⁴e.g., Interviews ZJ04190110, ZJ04200110, ZJ0420210, CQ05060110

almost exhausted by 2001, nine years before the assignment of new quotas (Wang and Tao, 2009, p. 42). In Yueqing (乐清), a highly developed county-level city in Wenzhou (温州), 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, because it lacked a construction land quota (Interview ZJ04200110). The scarcity of construction land quotas is by no means unique to coastal provinces like Zhejiang. The district of Dadukou (大渡口区) in Chongqing, a provincial-level municipality in western China, was assigned 3,000 *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* of arable land by 2010, but it had only 35,000 *mu* of arable land left by 2009, making fulfillment of this quota impossible (Interview CQ05121210).

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,²⁵ both of which require administrative boundaries to be redrawn but can hardly be anticipated in drafting plans.

2.4 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

²⁵On expansion and merge of administrative jurisdictions, see Hsing (2010).

to resolve this dilemma. Land is fixed and allocated unequally across jurisdictions. Variation in land endowment across localities makes the cost of fulfilling the quota requirement vary 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. Variation in levels of economic development makes the benefit generated from construction land also vary 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.

2.4.1 Transfer of Basic Farmland Quotas

Basic farmland (基本农田) 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 percent 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.²⁶ Spatially, basic farmland is zoned and cannot be expropriated without approval of the State Council.²⁷ The protection of basic farmland is included in the TRS to monitor the performance of local officials at the county level and above.²⁸ 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

²⁶Land Administration Law, Article 34; State Council, Regulations on the Protection of Basic Farmland (基本农田保护条例), December 27, 1998, Article 9.

²⁷Land Administration Law, Article 45.

²⁸State Council. Regulations on the Protection of Basic Farmland, Article 4.

be occupied in the expansion project (Tan 2004, p. 106). 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 (义乌), the largest worldwide small-commodity trading center, located in Jinhua (金华), Zhejiang, to which Yiwu is administratively subordinate, proposed to transfer its farmland protection quota to Longyou (龙游), (a county in Quzhou (衢州) in western Zhejiang) and Wuyi (武义) (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 1,000 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 1,000 to 1,850 RMB per *mu*, totaling 445 million RMB. Table 2.2 details farmland reallocation across municipalities in Zhejiang in 2001; figure 2.3 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 (Tan 2004, p. 105).

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

Table 2.2: 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, Dai and Gao 2004, p. 105.

Figure 2.3: Farmland Quota Transfer in Zhejiang, 2001



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 2006-2010.²⁹ 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, respectively. Property rights are commonly defined as a bundle of rights

²⁹The information comes from the intergovernmental contract that is an internal, not publicly accessible document, available in redacted form by contacting the author.

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 income, the majority of which is claimed by local governments of A and B, with little distributed to rural households.

2.4.2 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.³⁰ 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

³⁰Each rural household is assigned one and only one housing site (宅基地). See Land Administration Law, Article 62. In practice however, this law is widely violated by rural households who get more than one housing sites.

buildings (农民上楼). To illustrate, consider a village with 90 households, each household occupying one housing site. If the government builds three-story 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” (城乡建设用地增减挂钩). It had been implemented in 24 provinces by 2009.³¹ 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.³² In this sense, this practice does not qualify as “flying land,” because quota traveling across jurisdictions is prohibited.

The restriction of geographical proximity has been relaxed in Chongqing however, where rural construction land quotas can be transferred across administrative jurisdictions within Chongqing. Here, rural construction land quotas acquire a new name: “land ticket” (地票). As explained by an official at the Chongqing Department of Land and Resources: “When we experienced shortages 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” (Interview CQ04280110). Since

³¹In April 2006, Shandong, Tianjin, Jiangsu, Hubei and Sichuan were approved by the Ministry of Land and Resources to experiment with this practice. Another 19 provinces were approved between 2008 and 2009.

³²Ministry of Land and Resources, Measures on management of land use in contracts for expansion and contraction in pilot sites for urban and rural construction (城乡建设用地增减挂钩试点管理办法), June 27, 2008, Article 5.

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 that legally own rural land in B. The buyers are not a 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.³³ Roughly 30 percent of the income goes to rural households (Interview CQ05060210). “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 (新增建设用地有偿使用费) and arable land reclamation fee (耕地开垦费).³⁴ Consequently, the local government in A gains the land transfer 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 income. Although rural households are compensated for housing site loss, local governments in A and B are the biggest beneficiaries.

³³“An Examination of the Process of Land Ticket Transaction,” 21st century Economic Report, March 27, 2009.

³⁴Chongqing Government, Temporary Measures on Management of the Chongqing Rural Land Exchange (重庆农村土地交易所管理暂行办法), 2008, Article 27.

2.5 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.

2.5.1 Coordination of Farmland Quota Reallocation

The application for a transfer of a 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.³⁵ In Zhejiang in 2006, Ningbo (宁波), 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 2006-2010.³⁶ 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.³⁷

³⁵Zhejiang People’s Congress, Zhejiang Provincial Regulations on Basic Farmland Protection (浙江省基本农田保护条例), October 31, 2002, Article 12.

³⁶The Ningbo-Quzhou contract is not a publicly available document; it is available in redacted form by contacting the author.

³⁷The contract between Hangzhou and Xiaoshan details how the farmland reallocation fee is paid. The contract is not publicly available.

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 the 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.³⁸

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 percent 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.

2.5.2 Coordination of Construction Land Quota Reallocation

Unlike farmland quotas, construction land quotas are coordinated by a mixture of market forces and administrative actors. 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

³⁸For instance, Jiangbei district (江北区) 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: $10,000 \times 15,000 + 29,800 \times 5000 = 299,000,000$. 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.

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.³⁹

All rural construction land quotas are transacted through a competitive auction at the Chongqing Rural Land Exchange (农村土地交易所), 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 25.6 million RMB and the second “land ticket” of 800 *mu* at the price of 64.2 million RMB.⁴⁰ 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.⁴¹ 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 percent 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

³⁹On the process of generating a land ticket, see Temporary Measures on Management of the Chongqing Rural Land Exchange, Chapter 3.

⁴⁰The Establishment of Chongqing Rural Land Exchange and the Transaction of the First Land Ticket, December 5, 2008, available at http://www.gov.cn/gzdt/2008-12/05/content_1168923.htm.

⁴¹Chongqing Land Ticket Created a Highest Transaction with 144,000 yuan per mu, May 5, 2010, available at http://www.cqna.com.cn/na_content/2010-05/05/content_638943.htm.

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 helped all of those who held “land tickets” get urban construction land (Interview CQ05060210).

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 (浙江省基本农田保护条例). With permission from the central government, Chongqing has issued the Temporary Measures on Management of the Rural Land Exchange (农村土地交易所管理暂行办法), 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 percent 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.

2.6 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 chapter 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 (Interviews ZJ04190110 and ZJ04200110). Cai and Treisman (2005) 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. 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” (Hellman 1998). 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 villagers' 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 to be 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 (Interview CQ05060210). Anecdotal evidence suggests that farmland quotas have travelled across provincial borders, although this violates central policies (Interview ZJ04160110).

Media coverage suggests the practice of land quota transfers has not been restricted in the provinces examined in this paper.⁴² 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.

⁴²For instance, farmland quota reallocation occurred in Guangdong and Shandong. In Shandong, Laoshan District (崂山区) reallocated its 255,000 *mu* with Lanxi city (莱西市). See Laoshan District completed basic farmland reallocation across administrative units, available at [http : //www.mlr.gov.cn/xwdt/dfdt/201002/t20100202_705920.htm](http://www.mlr.gov.cn/xwdt/dfdt/201002/t20100202_705920.htm).

Chapter 3

Local Determinants of Economic Structure: Evidence from Land Quota Allocation in China

3.1 Introduction

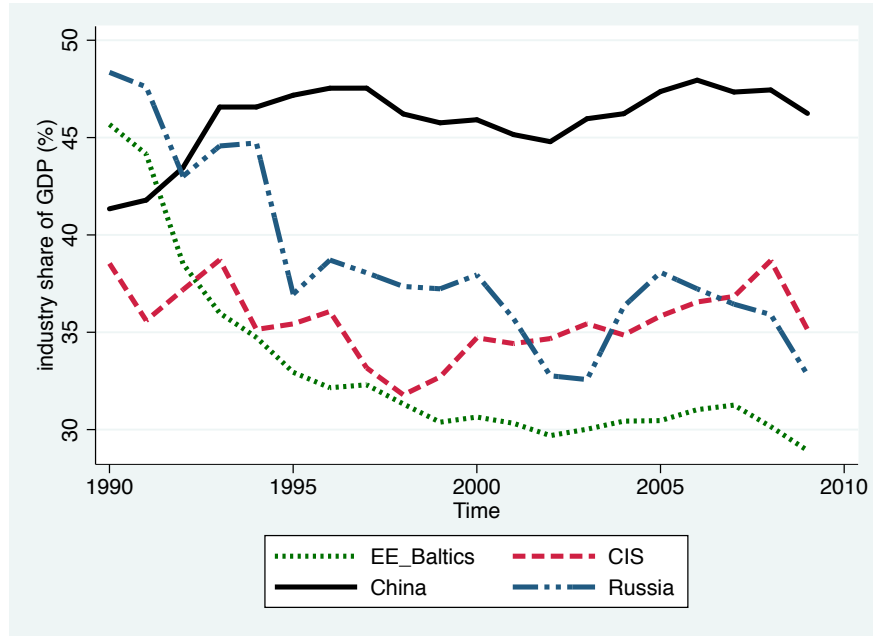
Compared to market economies, centrally planned economies had a relative overdevelopment of heavy industry and underdevelopment of services (Ofer 1987; Kornai 1992; Roland 2000). The transition from a command to market economy thus requires a shift in resource allocation among sectors of the economy. The so-called Washington consensus, with strong emphasis on liberalization, stabilization, and privatization, was carried out in the process of transition in many communist countries in the former Soviet Union and Eastern Europe, with the expectation that this reform would induce the seriously distorted economic structure to move in a direction consistent with market economies. Deviating from this standard reform recipe, China developed some unique institutions, such as dual-track liberalization and township and village enterprises (TVEs), while still maintaining its authoritarian control by the Chinese Communist Party (CCP). Nonetheless, China has impressed the world by its astonishing economic development, with an average growth rate of about 10 percent for the past 30 years. In 2010, China surpassed Japan to become the world's second largest economy behind the United States. China is therefore often viewed as a great success, at least from the perspective of economic transition.

Contrary to expectations, after more than three decades of economic reforms, the Chinese economic structure still stands in stark contrast to transitional countries as well as many

developing countries at similar levels of economic development. While postcommunist countries experienced a significant structural shift from industry to services, China still maintains the bias toward industry and a relatively small share of services: between 1990 to 2009, while value added by industry as a share of GDP declined from 46 to 29 percent in Eastern Europe, from 48 to 33 percent in Russia, and from 39 to 35 percent in other countries in the former Soviet Union,¹ in China it increased from 41 to 46 percent, as shown in Figure 3.1. Within the same period, value added by services as a share of GDP grew much faster in postcommunist countries than in China: the ratio increased from 39 to 64 percent in Eastern Europe, from 35 to 62 percent in Russia, and from 32 to only 43 percent in China, as shown in Figure 3.2. Holding time invariant, China's economic structure still stands out in comparison with developing countries at a similar level of economic development, measured by GDP per capita in 2005 purchasing power parity (PPP) dollars (Figures 3.3 and 3.4). Those showing a similar pattern of economic structure with China are often oil-rich countries, such as Angola and Azerbaijan. Both cross-time and cross-sectional comparisons suggest that China's economic structure is far from optimal. Huang and Tao (2010) found that economic structure in China suffers from serious distortions in labor, capital, land, energy, and the environment.

¹The countries in Eastern Europe and the Baltics in the dataset include Albania, Bulgaria, Croatia, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Macedonia, Poland, Romania, Slovenia, and Slovakia. The countries in the CIS in the dataset include Azerbaijan, Armenia, Belarus, Georgia, Kazakhstan, Moldova, Tajikistan, Turkmenistan, Ukraine, and Uzbekistan.

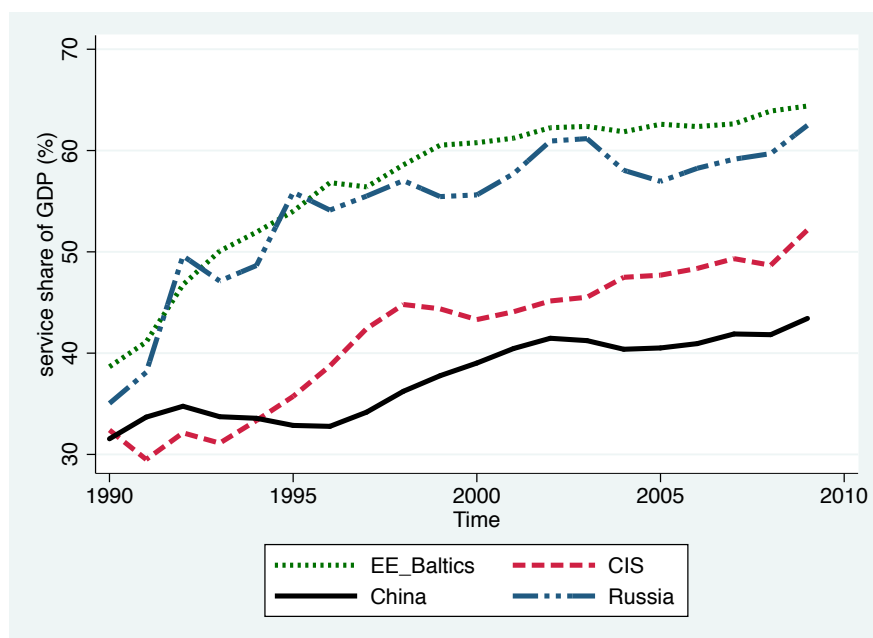
Figure 3.1: Value added by industry as a share of GDP of transitional countries, 1990-2009



Source: World Bank, World Development Indicators, available at <http://databank.worldbank.org>.

This chapter examines the political and economic determinants of land allocation between industry and services in China. The focus is on land because it is one of the fundamental means of production allowing economic activities to take place. More importantly, land remains under state and collective ownership and thus is an instrument with which local governments intervene in the economy. With the emergence of a land market where land use rights can be leased out for a period of time varying from 40 to 70 years, land has become an important revenue source for local governments. In 2009, the land transfer fee alone—a form of revenue generated by transferring land use rights from the state to other land users—was up to 1,424 billion RMB, accounting for 77.7 percent of the state fund

Figure 3.2: Value added by services as a share of GDP of transitional countries, 1990-2009



Source: World Bank, World Development Indicators, available at <http://databank.worldbank.org>.

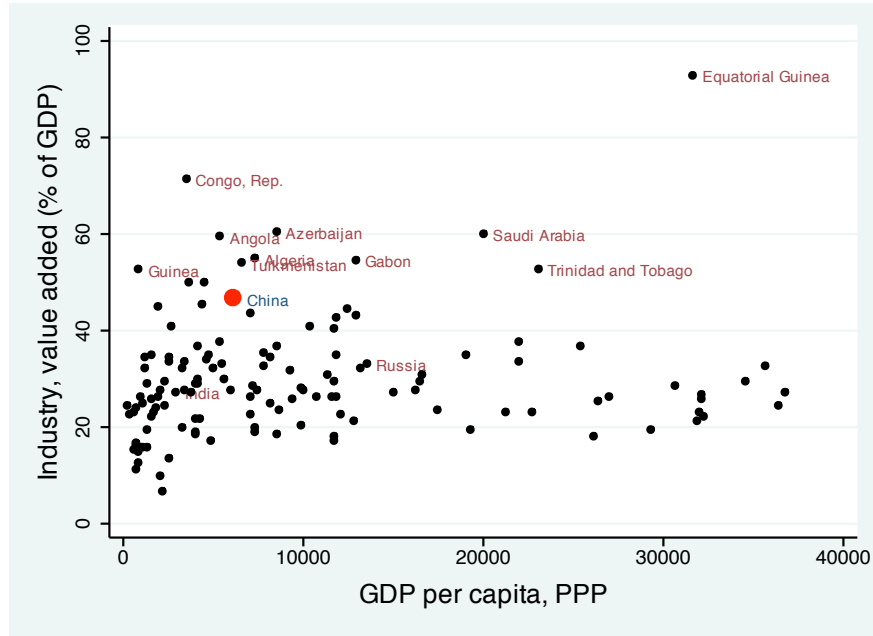
budget,² or equivalent to 20.8 percent of the state budget.³ Land also functions as collateral to help local governments apply for bank loans to develop local infrastructure (Whiting 2011).

China's arable land loss parallels its economic growth, as shown in Figure 2.1. In the face of massive arable land loss, the central government imposed a land quota system that restricts the maximum amount of land used at the subnational level, but gives local governments enough autonomy to determine sectoral allocation of land quotas within their jurisdictions. What political and economic factors drive sectoral allocation of land quotas in China? This

²Fund budget (基金预算) is another important revenue component for the state, in addition to the budget revenue. Fund budget is collected from the society through land use rights transfer and public lotteries. It is used to support specified infrastructure and social development.

³Ministry of Finance, Government Fund Budget Formation (政府性基金预算编制情况), available at www.mof.gov.cn/zhengwuxinxi/caizhengshuju/201005/t20100511_291390.html

Figure 3.3: Industry (value added) share of GDP, worldwide, 2009

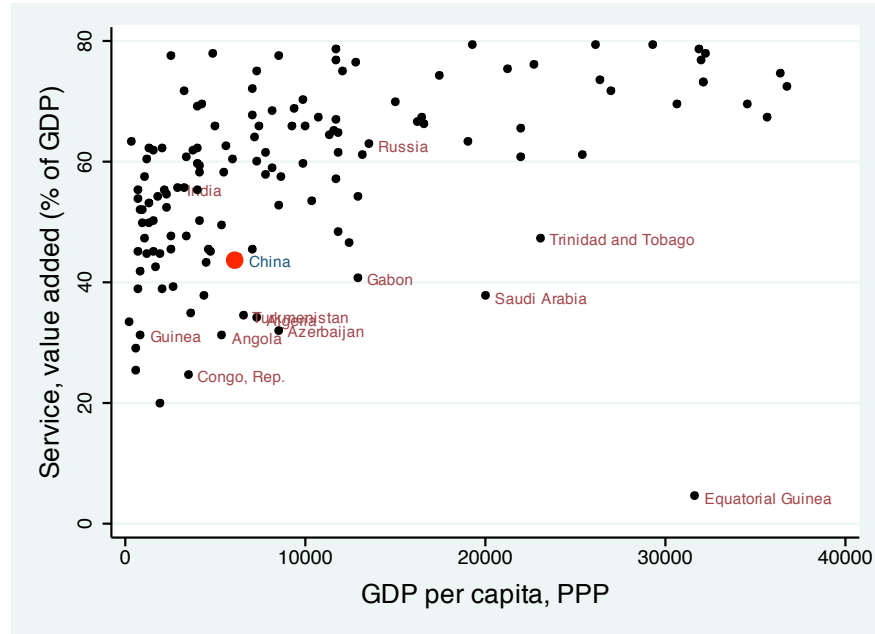


Source: World Bank, World Development Indicators, available at <http://databank.worldbank.org>.

chapter argues that both the local revenue structure and the time horizon of local politicians have impacts on local land quota allocation between industry and service sectors. Using an original dataset compiled from various statistical yearbooks and career histories of local politicians for a sample of 120 municipalities, this chapter finds that more land quotas are distributed to industry when the local revenue base relies more on the value-added tax and less on business tax, when local Communist Party leaders have long time horizons, and when the locality is assigned more quotas.

The chapter ties in with three strands of literature. A first strand builds on the “grabbing hand” model of government by Andrei Shleifer (1997) and his various coauthors (Murphy, Shleifer and Vishny 1991; Frye and Shleifer 1997; Shleifer and Vishny 1998). A general consensus in this literature is that political factors matter enormously for resource allocation, resulting in inefficient outcomes. For instance, Murphy, Shleifer and Vishny (1991) examine the allocation of human capital and find that in countries where rent seekers can claim a

Figure 3.4: Service (value added) share of GDP, worldwide, 2009



Source: World Bank, World Development Indicators, available at <http://databank.worldbank.org>.

substantial part of wealth through official and unofficial expropriation, the most talented people join rent-seeking rather than entrepreneurial activities, thereby reducing economic growth. Recent experiences of transition economies show that the state is a central barrier to economic development in postcommunist countries (Shleifer 1997; Frye and Shleifer 1997). Although Poland and Russia adopted similar reform packages, Russia lags significantly behind Poland in the transition of its government. Consequently, the Polish economy prospered while Russia continues to produce the wrong products.⁴ Gehlbach (2008) provides a political economy logic of the distorted Russian economy. He argues that politicians have an incentive to provide collective goods disproportionately to sectors that are important sources of state revenue and are anticipated to be more tax compliant. As a result, in the former

⁴For instance, in Russia the vodka sector was created in localities where comparative advantage in vodka industry is absent (Gehlbach 2008).

Soviet Union, where the revenue base was largely inherited from the old regime, politicians were systematically biased against the new private enterprises that are less taxable, whereas in Eastern Europe, the revenue base was restructured to include the new private sector, thereby encouraging politicians to promote the new economy. Along this line, this chapter examines the role that local governments play in allocating land quotas.

The second strand in the literature begins with the pioneering work of Mancur Olson (1993) examining the incentive structure of politicians. The state is after all staffed by politicians who are themselves subject to institutional restrictions affecting their time horizon. Olson's analogy of roving and stationary bandits best illustrates the logic of time horizon. A "roving bandit" with a short time horizon has a strong incentive to confiscate wealth and abrogate contracts without considering the long-run consequences of his choices. Such predation destroys the incentive for citizens to engage in productive activity, contributing to a decline in economic output. In contrast, a "stationary bandit" with a long time horizon has an incentive to provide public goods, respect individual property and contract enforcement rights so as to extract the maximum possible net surplus in the long run. This action encourages citizens to invest and produce, and consequently generates economic growth under a dictatorship. Clague et al.(1996) find compelling empirical evidence that the time horizon of politicians has an impact on property and contract rights. Wright (2008) demonstrates that autocrats with long time horizons use foreign aid more effectively than those with short time horizons. This chapter applies the logic of time horizons to the Chinese context and finds support for this line of thought.

The third strand build on the vast literature on the Chinese political economy. China's economic development relies critically on local governments. The mechanism that aligns local government incentives with promoting economic growth lies in the fiscal contracting system (Oi 1992; Montinola, Qian and Weingast 1995; Oi 1999; Jin, Qian and Weingast 2005). This fiscal arrangement, however, was replaced by a tax sharing system in 1994, which differs significantly from the previous fiscal system. Moreover, the previous literature examining how local governments promote economic growth did not take land into account (Oi 1999;

Whiting 2000), because at the time when this research was conducted, the land market was largely absent: land was distributed to land users by the state, free of charge. Although research on China's land reform is now growing, it pays exclusive attention to how land has become an important instrument for local government in promoting the local economy (Lin 2009; Hsing 2010; Man and Hong 2011; Whiting 2011). The land quota restriction has been largely ignored: a few studies have very briefly noted the land quota system (Lin 2009; Hsing 2010), but failed to examine it in detail.

According to my interviews with officials across localities and across all levels of local governments, land quotas appeared to be the most binding constraint in promoting local economic growth, indicating that land quotas have become a scarce resource for local governments.⁵ This is especially the case along the east coast, where the economy has developed the most. For instance, when I asked why a piece of unoccupied land located within an economic development zone could not be used for industry in Wenzhou, the official responded: "We ran out of this year's quotas, and we are waiting for new quotas" (Interview ZJ04190210). My in-depth qualitative interviews identify land quotas constraining local government officials in attempting to promote the local economy. Using the "grabbing hand" model and the time horizon model as theoretical departures, this chapter examines how the new fiscal arrangement affects local politicians in sectoral allocation of land quotas.

The contribution of this chapter is three-fold. First, by highlighting the largely overlooked yet important institutional constraint of land quotas, it contributes to the growing literature on China's land reform. Second, it systematically examines how the new fiscal system and land change the dynamics of how the local economy operates. By establishing empirically the relationship between the fiscal system, land, and local resource allocation strategies,

⁵Interviews ZJ12160109, GD01311110, GD03040110, GD03040210, GD03050110, ZJ03190110, ZJ03190210, ZJ03290110, JS04020110, JS04060110, JS04071110, ZJ04120110, ZJ04130110, ZJ04160110, ZJ04160210, ZJ04190110, ZJ04190210, ZJ04200110, ZJ04200210, CQ04250110, CQ04280110, CQ05060110, CQ05060210, CQ05110110, CQ05121210. Interviews were conducted in Zhejiang, Jiangsu, Guangdong and Chongqing and cover a wide range of local leaders from provincial-level officials to village party secretaries. See appendix A for discussion of interview subjects and interviewee coding.

this chapter updates the literature on the Chinese political economy. Third, it offers a political economic logic of resource allocation between economic sectors. It shows that the length of politician tenure is one of the main driving forces, thus adding another layer to our understanding of the distortion of the economic structure.

The rest of the chapter is organized as follows. Section 3.2 discusses local governments, the main players considered in this chapter, and their preferences. It examines the political, fiscal, and land quota constraints facing local politicians. Section 3.3 details the political economy of sectoral allocation of land quotas. It develops a simple two-period model to theorize the arguments and derive hypotheses. Section 3.4 describes the data and construction of variables. Section 3.5 estimates the effects of economic and political determinants on local land quota allocation and explores the robustness of findings. Section 3.6 concludes.

3.2 Players, Preferences, and Institutional Context

This chapter considers local politicians as the main players. A local politician is assumed to maximize revenue, subject to constraints. Social scientists have long stressed the importance of revenue extraction. Edmund Burke (1790) succinctly asserted over two centuries ago: “The revenue of the state is the state. In effect all depends upon it, whether for support or reformation.”⁶ Although it is common in the political economy literature to assume that a rational self-interested ruler is a revenue maximizer (Bates 1981; North 1981; Levi 1988; Olson 1993), it still requires some elaboration in the China context. Unlike democracies, where politicians are restricted by voters, officials in authoritarian China are managed through the *nomenklatura* system, through which the Communist Party holds the ultimate authority over personnel management (i.e., appointment, promotion, transfer, or removal) of all Party and state main leaders (Manion 1985; Burns 1994; Lam and Chan 1996). The career prospects of leading officials are based on their performance, evaluated regularly using the target responsibility system (TRS), a set of performance criteria that induce local officials

⁶Quoted in Pollack 2009, p. 1.

to act in ways commensurate with the preferences of the Party-state (Tsui and Wang 2004; Whiting 2000, 2004).

For example, the performance of local political leaders⁷ in a prefecture-level city in Guangdong province is evaluated yearly based on the ten indicators detailed in Table 3.1. A target for each indicator is set for each locality prior to the evaluation. Each indicator is assigned a baseline score: a higher score means more weight in the overall score calculation. Score calculation varies across indicators: some are dichotomous, indicating whether or not the target has been reached, while others provide a relative measure, comparing different localities. An examination of the evaluation scoring in Table 3.1 offers two stylized facts. First, local budgetary revenue is assigned the highest score, indicating its priority status among the indicators. Recent statistical analysis shows that provincial-level officials who contribute more revenue to the central government are more likely to be promoted (Sheng 2010; Shih et al. 2011). Second, consistent with the literature (Edin 2003; Landry 2003, 2008; Li and Zhou 2005), the evaluation is biased toward economic performance: five out of ten indicators are economy-related and the sum of the baseline scores of these indicators accounts for 50 percent of the total baseline score.⁸ The score calculation for the economy-related indicators takes into account the ranking in target fulfillment across local jurisdictions, which promotes competition among local jurisdictions. Evaluation results have an impact on individual wealth accumulation of local political leaders and, more importantly, on their career advancement.

Despite being a top priority, the economy-related criteria are hard to fulfill because of budgetary revenue shortfalls. The rapid economic growth in China since the 1990s has been maintained by substantial urban bias, massive infrastructural investment, and preferential

⁷To protect my source, I do not identify the city. The local political leaders subject to evaluation by the city comprised the following positions from each district under its jurisdiction: party secretary and deputy party secretary of a district's party committee, members of the standing committee, director and deputy director of district government, people's congress, people's political consultative conference, and secretary and deputy secretary of the commission for disciplinary inspection.

⁸I consider the first four indicators and the development of hi-tech zone to be economy-related.

Table 3.1: Cadre Evaluation of a Prefecture-level City in Guangdong Province, 2009

Evaluation Indicator	Baseline Score	Bonus/Subtraction Score	Score Calculation
GDP growth rate (%)	13	Rank 1 to 5 and obtain additional points consisting with the ranking: 1.3, .91, .65, .52, .39	1. Obtain the baseline score if the target is reached.
Local budgetary revenue growth rate (%)	15	Rank 1 to 5 and obtain additional points consisting with the ranking: 1.5, 1.05, .75, .60, .45	2. Obtain the baseline score subtracting the additional score if the target is not reached but fulfilled at least 90%.
Local fixed-asset investment growth rate (%)	8	Rank 1 to 5 and obtain additional points consisting with the ranking: .80, .56, .40, .32, .24.	3. Score 0 if the target is fulfilled less than 90%.
Real FDI growth rate (%)	7	Rank 1 to 5 and obtain additional points consisting with the ranking: .70, .49, .35, .28, .21	4. Obtain baseline score plus bonus score if the target is over-fulfilled.
GDP energy consumption reduction rate (%)	13	No ranking	Get full score if the target is fulfilled and 0 otherwise.
SO ₂ emission	10	No ranking	
Chemical oxygen demand (COD) emission	7	No ranking	
Development of Hi-tech Zone	7	Rank 1 to 5 and obtain additional points consisting with the ranking: .70, .49, .35, .28, .21	Each indicator is further divided into many categories measured by sub-indicators. The indicator is scored 0 as long as one of its sub-indicators is not fulfilled.
Social security	10	No ranking	
Social safety control (I): Production safety control	5	Rank 1 to 5 and obtain additional points consisting with the ranking: .50, .35, .25, .20, .15	
Social safety control (II): Fire accident control	5	No ranking	
Total Score	100		

Source: Internal government document obtained from fieldwork, 2010.

Note:

This prefecture-level city is comprised of five districts. Thus, the ranking is from one to five.

The first four indicators are ranked based on the formula: $\frac{\text{actual performance value} - \text{target value}}{\text{target value}} \times 100\%$. Indicators #2, #3, and #4 are also ranked in absolute term, i.e., $(\text{actual performance value} - \text{target value})$, the numerator of the previous formula. That is, GDP final score is a sum of baseline score and one additional score, while the final score for indicators 2-4 constitute a baseline score and two additional scores. The indicators of development of hi-tech development zone and production safety control are further divided into several sub-indicators. The two indicators are ranked according to the sum of their sub-indicator scores.

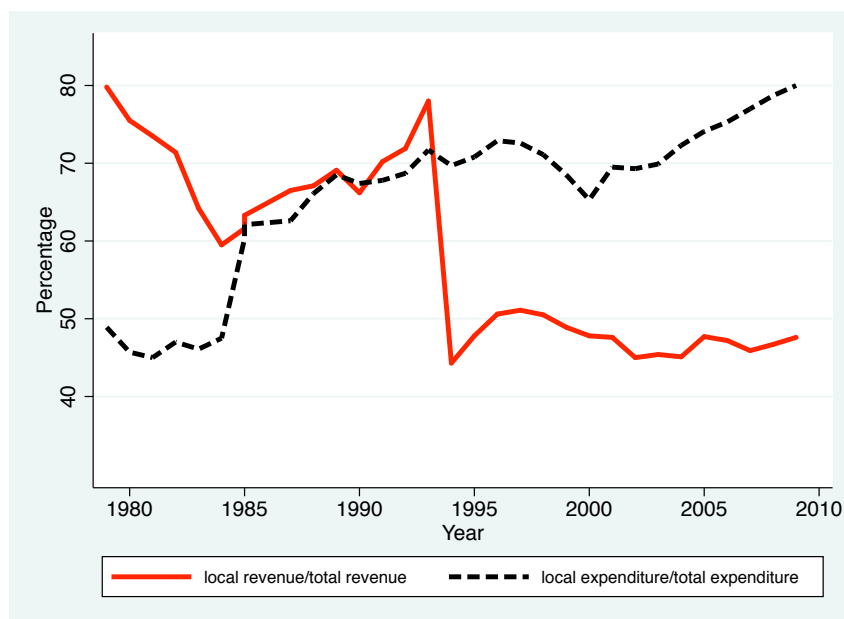
treatment to large state-owned enterprises (SOEs) and foreign direct investment (FDI). This form of growth is conceptualized as “state-led capitalism” that relies heavily on investments from local governments (Huang 2008). The problem is that local politicians, who desperately need revenue to promote the local economy, run budget deficits themselves. Economic competition across jurisdictions motivates local politicians to provide preferential treatment (e.g., tax breaks) to attract investors, resulting in lower local tax collection. More importantly, fiscal pressure on local politicians was intensified by the tax sharing system (TSS) launched in 1994, which fundamentally changed the dynamics of how central and local governments divide tax revenue. The TSS successfully transferred revenue from local governments to the center, but it failed to adjust expenditure responsibilities for local governments, as shown in Figure 3.5. As a result, local politicians experienced a sharp decline in local revenue while they are still expected to take on the same expenditure responsibilities for the provision of a wide range of public goods and services (e.g., education and healthcare), thereby creating the potential for substantial budget deficits (World Bank 2002; Wong 2009). The deficit problem appears more severe as one looks down the administrative hierarchy, because a local government has to share its tax collection with all local governments above it administratively, in addition to the central government (Oi and Zhao 2007).⁹ Figure 3.6 is a scatterplot of the budget deficit measured by the ratio of local expenditure to budgetary revenue against local GDP in 2005 for a probability sample of 120 cities in China.¹⁰ Of the 120 cities surveyed, 117 cities had ratios greater than 1, meaning they spent more than they took in.¹¹ The figure also indicates a negative correlation between the budget deficit and local GDP: the richer the city, the smaller the fiscal gap between expenditure and revenue.

⁹There is some variation in how local governments at different levels share local revenue. For example, in Zhejiang province, local revenue at the county level is shared with the provincial government but not the municipal government administratively above it.

¹⁰For further discussion on sampling selection of the 120 cities, see section 3.4.1 on data.

¹¹The three cities that ran budget surpluses are Hangzhou, Fuzhou, and Urumqi.

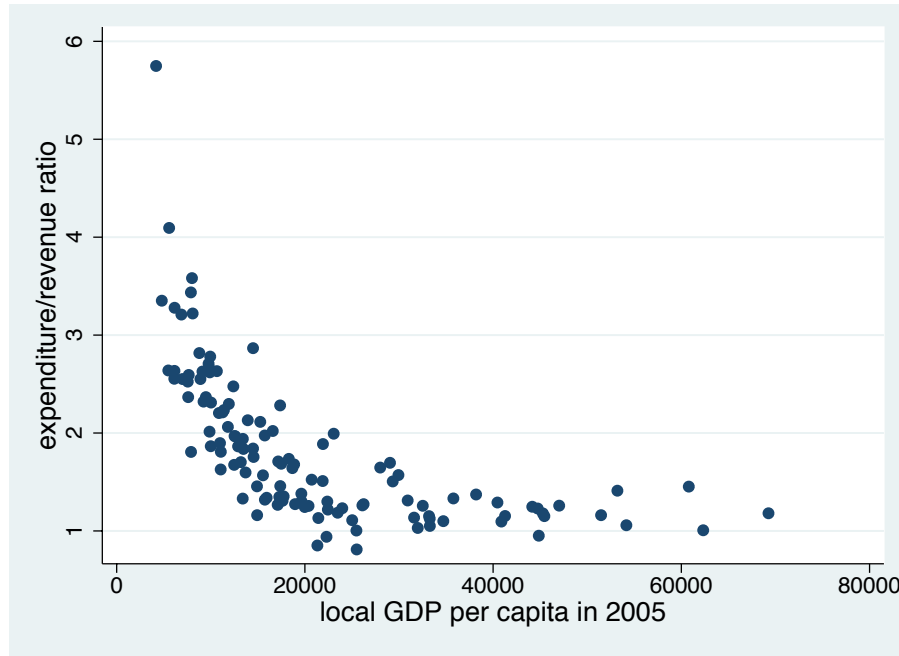
Figure 3.5: Subnational Budgetary Revenue and Expenditure, 1978-2008



Source: China Fiscal Yearbook, 2010, pp. 440-443.

The mismatch between subnational governments' revenue and expenditure mandates leads to greater reliance on intergovernmental fiscal transfers, which have not yet offset the local fiscal gap (World Bank 2002; Whiting 2011). A large amount of intergovernmental transfers are pegged to the size of the local government payroll, meant to guarantee the minimal maintenance of local governments, leaving unsolved the problem of insufficient revenue to promote the local economy (Shih et al. 2010). A combination of heavy expenditure responsibilities and ineffective intergovernmental transfers creates revenue-starved local politicians who must resort to extrabudgetary revenue to supplement inadequate government funding. A high-ranking provincial-level official described his tough fiscal situation very bluntly: "The center takes the larger piece of the local tax revenue pie, while the local government gets the smaller piece. However, we local governments have to do all the work. We need money. We can rely on nothing but land, so we grab land and we must maintain a monopoly over

Figure 3.6: Budget Deficit against Local GDP of 120 Municipalities, 2005



Source: Author's dataset. Data on local GDP per capita is compiled from China City Statistical Yearbook, 2006. Data on local budgetary revenue and expenditure is compiled from Financial Statistical Material for Prefectures, Cities, and Counties Nationwide, 2005.

land" (Interview CQ05060110). Not only does this quote describe the budget deficit problem facing local politicians, but it also provides the single solution to the problem: land.

Local politicians are motivated to expropriate land, as reflected in the quote above. More importantly, their land expropriation is protected by legal and state regulations. Under the existing land tenure system, land is segmented into urban land owned by the state (meaning the local government or some other government agency) and rural land owned by rural collectives. The state can expropriate rural land for the sake of the "public interest" (Constitution, Article 10). Under this principle, the state that claims to represent the "public interest" retains ultimate authority over all land, urban or rural (Hsing 2010). Since the introduction of the land leasehold market in 1988, land use rights are separated from land

ownership rights and can be leased out in the market for a fixed number of years.¹² However, the sale of long-term leases for construction land use rights is limited to the urban land market.¹³ The revenue from leasing urban construction land use rights is received as a lump sum payment made at the time of the transaction, officially called the “land conveyance fee” (土地出让金), and it constitutes the dominant component for local extrabudgetary revenue. Governed by this dual land system, rural land must be first converted to urban land in order to fully realize its market value. As a result, the state—the exclusive body with the authority to expropriate land—obtains land from rural households and provides relatively low compensation.¹⁴ The state, which monopolizes the primary urban land market,¹⁵ then leases land use rights at a price substantially higher than the land compensation paid to rural households. The price differential between rural and urban land arising from the distorted land market generates monopoly rents, easily captured by local governments. Local politicians not only grab land in the city outskirts by converting rural land into urban land, but also fight fiercely with other urban land owners, or “socialist land masters,” who occupied their land through administrative allocation in the pre-reform era (e.g., SOEs and military units) within urban areas (Hsing 2010).

¹²The land-lease time limit is determined by the purposes of land use. Land use rights can be leased out for 70 years, 50 years, and 40 years when land is used for residential, industrial, and commercial purposes, respectively. See State Council, Interim Regulations on Transfers of Urban State-owned Land Use Rights (城镇国有土地使用权出让和转让暂行条例), 1990, Article 12.

¹³From a land use perspective, land is categorized into agricultural land, construction land, and unused land. Land Administration Law, Article 4.

¹⁴Compensation is composed of land compensation fees, resettlement fees, and compensation for what was attached on the expropriated land. The Land Administration Law specifies the compensation to rural households whose land is expropriated (Article 47).

¹⁵There are two types of urban land market: primary and secondary. The primary land market exists between the government, the exclusive land use rights sellers, and land users who receive land use rights from the government through negotiation (协议), bid invitation (招标), auction (拍卖), and quotation (挂牌). In the secondary land market, land use rights switch from one land user to another through transfer (转让), sublease (转租), and mortgage (抵押).

Under the dual land tenure system, land has become a key source of revenue for local governments (Perkins 2009; Man 2011; Whiting 2011). It helps local politicians relieve their fiscal stress and fulfill unfunded expenditure mandates. Meanwhile, the rapid shrinkage of rural land has become a major source of social instability and food insecurity, both of which concern the central government. Forced eviction and inadequate compensation during land expropriation are the main cause of social unrest. Reportedly, about 65 percent of mass protests in rural areas are triggered by land disputes (*China Daily* 2010). The central government, concerned first and foremost about regime stability, has aggressively increased its control over land supply.¹⁶ It announced a one-year moratorium on arable land conversion to non-agricultural use in May 1997 and a six-month freeze on agricultural land conversion in April 2004.¹⁷

In 1998, the central government substantially revised the Land Administration Law to take agricultural land preservation more seriously. The central government attempts to control the total amount of construction land at the subnational level by setting mandatory land quotas.¹⁸ These quotas are distributed top-down, along the administrative hierarchy: the central government sets national quotas and disaggregates them to provinces; each province

¹⁶Deng Xiaoping emphasized the overriding importance of political stability. In the absence of a stable environment, China would not be able to achieve anything and might even lose what has been accomplished. See Yang 2004, pp. 4-6.

¹⁷For the first moratorium on land conversion, see State Bureau of Land Administration and State Planning Commission, Regulation on Freezing Non-agricultural Construction Project Occupying Arable Land (冻结非农业建设占用耕地规定), May 20, 1997. For the second freeze, see General Office of the State Council, Urgent Notification of Regulating Land Market and Strengthening Land Management (关于深入开展土地市场治理整顿严格土地管理的紧急通知), April 29, 2004.

¹⁸These land quotas include agricultural land conversion to construction land, arable land to be maintained, and arable land to be created through development and reclamation. See State Council, Regulations on the Implementation of the Land Administration Law (土地管理法实施条例), December 27, 1998, Article 13. These quotas are also specified in several local government documents, which are not publicly accessible, but are available in redacted form by contacting the author.

then disaggregates its quotas to its municipalities, and each municipality to its counties.¹⁹ To facilitate local compliance, the central government has invested in satellite remote sensing technology to detect local land violations. Land quota restrictions pressure local governments to use land more efficiently. Some provinces (e.g., Zhejiang, Guangdong) have experimented with including land use efficiency as an indicator in their performance evaluation of officials. Referring back to the evaluation scoring in the prefecture-level city of Guangdong in Table 3.1, land use efficiency was a sub-indicator under the category of development of a Hi-tech zone. Failure to meet the quota requirement results in sanctions (e.g., warning) and a reduction in land quotas for the following year.²⁰

To sum up, the main players in this analysis are politicians at the subnational level. Although economic decentralization grants local politicians considerable discretionary power within their jurisdictions, they are still subject to the political (i.e., control of career prospects), fiscal, and land quota restrictions imposed by the central government. Local politicians prefer to maximize revenue not only because revenue is a crucial indicator in the cadre evaluation, but also because they must first extract sufficiently large revenue to promote the local economy and meet other targets specified in the evaluation so as to increase the likelihood of career advancement. As such, the revenue-maximizing local politician assumed in this chapter does not conflict with the office-seeking local politician when he faces serious fiscal pressure.

3.3 Theory

3.3.1 Political Economy of Sectoral Allocation of Land Quotas

Revenue structure has an important impact on revenue extraction strategies adopted by politicians (Easter 2002; Gehlbach 2008). A big challenge facing post-communist countries

¹⁹In practice, there is some variation in quota assignments across provinces. For instance, in Zhejiang, the provincial government bypasses municipalities and directly assigns quotas to its counties (Interview ZJ04200110). The interview subject was a vice mayor of a county-level city in Zhejiang.

²⁰General Office of the State Council, Urgent Notification of Regulating Land Market and Strengthening Land Management, April 29, 2004, Article 4.

during the transition to the market economy is to reconstruct the revenue base and restore the capacity to raise revenue, because economic reforms (e.g., liberalization and privatization) destroyed old revenue sources under communism while creating new untapped sources (e.g., the private sector). In China, similar to other communist countries, the tax base prior to economic reforms depended overwhelmingly on a few thousand large state enterprises. In the late 1970s, over 80 percent of budgetary revenues were extracted directly from the state industrial sector, in the form of taxes and profits collected from state-owned enterprises (Naughton 1992). Unlike its communist counterparts, however, the economy in China first gained its momentum in the rural areas through the development of collectively-owned township and village enterprises (TVEs). Decollectivization of agricultural production transferred the bulk of agricultural income from rural collectives to individual households, forcing local cadres to develop alternative sources of revenue to supplement the loss from the previous revenue base (i.e., revenue from agriculture) (Oi 1992, 1999). The relaxation of state monopoly control of industry allowed non-state economic actors to enter into the industrial sector, thereby providing a new revenue source for local governments (Naughton 1992). Perhaps more fundamentally, the fiscal contracting system²¹ in 1978-1993 granted local governments residual rights over the local revenue, thereby creating incentives for local governments to promote the local economy (Oi 1992; Montinola, Qian and Weingast 1995; Oi 1999; Jin, Qian and Weingast 2005). Under this fiscal system, firms submitted their taxes and fees to the level of government that owns them. TVEs thus became an important revenue source for rural governments. This particular fiscal arrangement “allowed the local residual to grow to maximum proportions, even at the cost of denying the central state maximum tax revenue. Localities were allowed to benefit disproportionately from local economic growth. . . . The Chinese reforms succeeded in generating local economic growth because the central state did not get the taxes right” (Oi 1999, 57). However, not all local cadres chose to develop TVEs.

²¹The fiscal contracting system required local governments to submit only a portion of their revenues to their superiors according to the contract with their superiors; local governments retained all, or at least most, of the remainder.

In areas with a historical legacy of weak collective enterprise development, most typically in Wenzhou in Zhejiang province, local cadres developed their revenue sources by aggressively promoting the private sector (Whiting 2000).

Local revenue maximization did not translate into tax maximization, because local cadres shifted their revenue source from tax to non-tax income by imposing various non-tax fees and levies, both of which fall into the category of extrabudgetary revenue (Oi 1992). As a result, despite successful rural industrialization, total government budgetary revenue nevertheless declined dramatically from 31 percent of GDP in 1978 to 11 percent in 1994 (China Fiscal Yearbook 2009, p. 475). In contrast, extrabudgetary revenue grew from 10 percent of GDP in 1978 to 14 percent in 1992 (China Fiscal Yearbook 2009, p. 497). Not only did budgetary revenue diminish, but the central government's share of budgetary revenue also declined dramatically. Beginning in 1994, when the tax system was reformed, both budgetary revenue and the share claimed by the central government started increasing.

Under the new fiscal scheme launched in 1994, a local government's tax base is comprised primarily of business tax (营业税),²² value-added tax (VAT), and income tax from all enterprises other than central state-owned enterprises. The three taxes combined account for 60-70 percent of local budgetary revenue.²³ Examining who pays what indicates that the major tax components vary considerably across sectors.²⁴ Both industry and service (tertiary) sectors pay corporate income tax, but the former contributes to VAT, whereas the latter contributes to business tax with only a few exceptions: the construction sector is categorized as industry but pays business tax, whereas the wholesale and retail sectors are

²²Business tax is a form of turnover tax, levied based on the volume of turnover or sales of the taxpayers in circulation or service sectors.

²³This range is calculated by the author from a dataset compiled from *China Fiscal Yearbook*, 1995-2009.

²⁴The economy is divided into three sectors: primary, industry, and tertiary (service). In China, the primary sector refers to agriculture. The industry sector is comprised of mining, manufacturing, production and supply of electricity, gas, and water, and construction industries. All economic activities not included in the primary and industry sectors fall into the category of the service sector, such as real estate, banking, and retail.

categorized as service sector but pay VAT. Table 3.2 provides details on tax variation by sectors. Of all VAT contributors, manufacturing industry contributes the most: its contribution to VAT was about 60 percent from 2001 to 2006 (China Tax Yearbooks 2002-2007).

Table 3.2: Local Tax Contribution, by Sectors, 2003-2008

	Sectors	VAT	Business Tax	Income Tax
Industry	Mining	×		×
	Manufacturing	×		×
	Production and supply of electricity, gas, and water	×		×
	Construction		×	×
Service	Transport, Storage, and Post		×	×
	Wholesale and retail*	×		×
	Finance		×	×
	Information transmission, computer, and software		×	×
	Business services		×	×
	Real estate		×	×
	Others		×	×

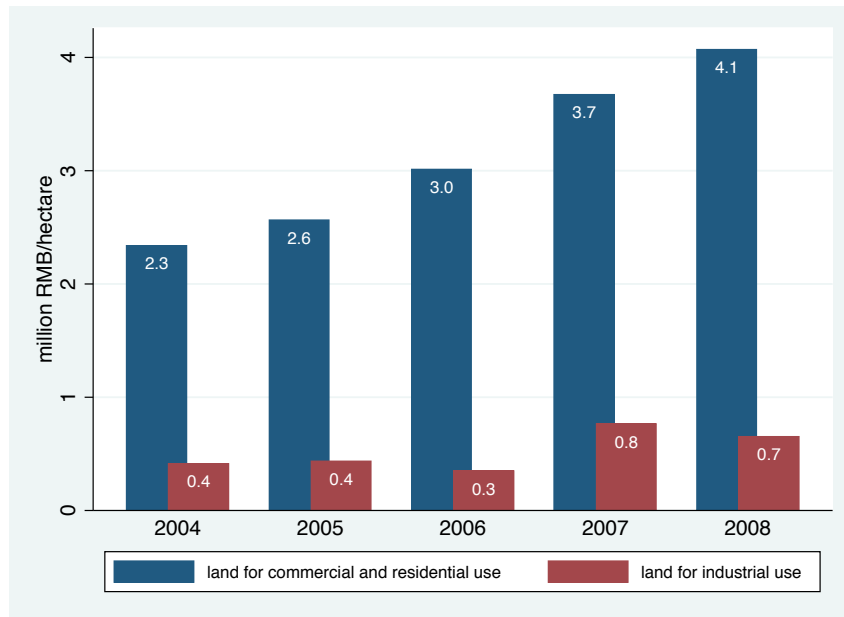
Source: China Tax Yearbooks 2001-2007.

Note: *Data from the China Tax Yearbooks in years 2001 and 2002 indicates that the wholesale and retail industry pays both VAT and business tax, and the yearbooks after 2003 shows that it pays VAT only.

While local budgetary revenue is primarily composed of taxes, the land transfer fee dominates local extrabudgetary revenue. Similar to tax revenue, the land transfer fee also varies significantly across sectors. From a land use perspective, construction land is categorized into land for industrial, commercial, and residential uses. Industry occupies land for industrial use, whereas most sectors that fall into the category of tertiary industry occupy land used for commercial and residential purposes. In general, the land transfer fee generated from land for commercial and residential use is much higher than that generated from land for industrial use, as shown in Figure 3.7: the land profit generated by the former was four times the profit from land used for industry in 2004 and almost eight times in 2008.

Although the service sector generates land revenue that is more sizable and more immediate than that generated by industry, such revenue is a one-time payment. Once the land transaction is over, the land revenue dries up. The business tax generated by service sector has an initial spurt but stabilizes at a low level afterwards (Tao et al. 2010). For instance, the real estate sector, the primary business tax contributor, produces high business tax at the time houses are sold. Unlike many developed countries, China has not introduced a property tax. Once housing sales are over, government business tax drops quickly. In contrast, industry usually cannot generate high revenue at the early stage and often has a longer take-off period, but it can generate a steady revenue stream in the long run. Moreover, the development of the manufacturing industry, the primary VAT contributor, has a spillover effect on the economy. After manufacturing firms are established, their employers

Figure 3.7: Sectoral Difference in land revenue, 2004-2008



Source: China Land and Resources Yearbooks 2005. China Land and Resources Statistical Yearbook 2006-2009.

create demand for housing, entertainment, shopping, and so on, thus contributing to the development of the local service sector. In short, there is a trade-off in the local revenue contribution between industry and service sectors once time is taken into account: the latter generates more land revenue, which is a one-time payment, but the former produces a steadier revenue stream in the long run. Applying Olson's logic to resource allocation in China now becomes straightforward. A local politician with a long time horizon, like a stationary bandit, is more likely to allocate more resources to industry that generates sustainable local economic growth so as to profit from greater revenue in the future. A local politician with a short time horizon, like a roving bandit, will distribute more resources to the service sector that generates immediate revenue.

In the Chinese context, there are two institutional arrangements of the personnel management system that are expected to influence the time horizon of government officials: mandatory retirement and rotation of officials. In an effort to streamline and rejuvenate the cadre corp, age-based retirement from office was introduced to replace the *de facto* lifelong tenure in 1982 (Manion 1993).²⁵ The rules generally set retirement ages at 55 for women and 60 for men. Officials in specified positions of leadership retire later, at 60 or 65, depending on position (CCP Central Committee 1982, Article 3).²⁶ Survey data show that the implementation of mandatory retirement policy improved over time and is now strictly enforced (Li and Zhou 2005; Landry 2008).

²⁵The central government started promoting retirement reform for officials in 1978. Between 1978 and 1981, the retirement age was set in regulations, but the criteria of poor health and inability to continue work, not old age *per se*, were the actual determinants of retirement. In 1982 age-based retirement was established as a general rule, without reference to health or ability to perform official duties. For more discussion on age-based retirement, see Manion 1993.

²⁶The following officials, men and women, retire at 65: government ministers and Central Committee department heads, provincial party committee first secretaries, and provincial governors. The following officials retire at 60: deputy ministers and Central Committee department deputy heads, provincial party committee secretaries (other than first secretaries), provincial deputy governors, bureau chiefs and their deputies in State Council and Central Committee bureaus, heads and deputy heads in provincial party committee and provincial government departments, prefectural party committee secretaries and deputy secretaries, and prefectural mayors and deputy mayors. See CCP Central Committee, Decision on Institutionalization of Retirement of Aging Cadres (中共中央关于建立老干部退休制度的决定), February 20, 1982, Article 3.

Officials are constrained not only by age-based retirement that sets a maximum value on their expected remaining political life, but also by the rule of rotation that sets a tenure limit for a particular position. To prevent the entrenchment of local political bosses, a leading official of a local party committee and government must be transferred if he or she has worked in the same position for ten years. Officials can be transferred between different localities, departments, levels of government, and across party, government, enterprises and public organizations (CCP Central Committee 1995, Article 38).²⁷ Positions in party committees and governments at the county level or above have a term limit of five years (General Office of the CCP Central Committee 2006, Article 3 and 6). That is, no one can stay in the same position for more than two terms. By the end of the second term in office, a politician faces one of the following political fates: promotion within the same locality or elsewhere, transfer to a position of identical bureaucratic rank, exit from office if he reaches retirement age, and, in the worst cases, removal from office for some reason (e.g., corruption). It is expected that local politicians at the start of their terms have long time horizons. As they move to the end of their terms, their time horizons shorten. Knowing they will not serve in the same position after their terms are over, they are less interested in maximizing revenue in the long run.

In sum, the 1994 tax sharing system introduced significant changes to local revenue structure. It not only redefined the fiscal relationship between the central and local governments, but also shifted local revenue structure from an ownership-based structure to a sectoral-based structure. Local politicians are thus expected to develop sectoral, rather than ownership, preferences in resource allocation so as to generate revenue.

3.3.2 Model

A local politician is a revenue maximizer, subject to the land quota assigned from above. Let \bar{k} be the land quota available to her. The politician values all sources of revenue,

²⁷The rotation requirement for officials was reiterated in 2002. See CCP Central Committee, Regulation on Selection and Appointment of Leading Party and Government Officials (党政领导干部选拔任用工作条例). July 9 2002, Article 52.

budgetary and extrabudgetary. Budgetary funds come from tax revenue collected from firms. Let τ be the tax rate imposed by the higher-level government. Extrabudgetary funds are primarily derived from leasing land use rights. Let s be the land conveyance fee collected per unit of land by the local politician. Let c be the cost incurred by the local politician in preparing expropriated land for leasing out. This cost includes compensation to previous land users as well as infrastructure built on the land to sell. I consider two sectors in the economy: manufacturing industry (denoted as 1) and tertiary industry (denoted as 2). A local politician assigns k units of land to a sector. I denote the sector's production function with k units of land input by $f(k)$. I further define $f_1(k_1) = A_1 k_1$ and $f_2(k_2) = A_2 k_2^\alpha$ where $0 < \alpha < 1$. The two sectors take different functional forms in their production functions because a manufacturing firm is unlikely to be sensitive to location. Hence, a linear function is sufficient to capture the characteristic that every additional unit of land used for industry produces a constant return. By contrast, land used for residential and commercial purposes is sensitive to location: land closer to the city core is likely to be more expensive than land further away from the city core, and this is captured by a concave function.

A local politician collects both tax (budgetary) and non-tax (extrabudgetary) revenues. Consider a simple two-period model: in the first period, a local politician sells construction land use rights and receives a land conveyance fee, but she cannot receive tax revenue because it takes time for land users to generate tax. For instance, a land developer can generate tax revenue only after she builds houses and successfully sells them. In the second period, the politician collects tax revenue from both sectors, but not a land conveyance fee, which is a one-time lump sum payment at the time of land transaction. A politician's time horizon is captured by the discount rate d .

A local politician maximizes:

$$\begin{aligned} \max_{k_1, k_2} \quad & s_1 k_1 + s_2 k_2 - c(k_1 + k_2) + \frac{1}{1+d} [\tau_1 f_1(k_1) + \tau_2 f_2(k_2)] \\ \text{s.t.} \quad & k_1 + k_2 \leq \bar{k} \end{aligned}$$

The interior solution is as follows:

$$k_2^* = \left(\frac{\tau_2 A_2 \alpha}{\tau_1 A_1 + (1+d)(s_1 - s_2)} \right)^{\frac{1}{1-\alpha}}$$

$$k_1^* = \bar{k} - \left(\frac{\tau_2 A_2 \alpha}{\tau_1 A_1 + (1+d)(s_1 - s_2)} \right)^{\frac{1}{1-\alpha}}$$

(1) $\frac{\partial k_1^*}{\partial(\tau_1 A_1)} > 0$, $\frac{\partial k_2^*}{\partial(\tau_1 A_1)} < 0$, we expect to observe that:

Hypothesis 1: As industry generates more local tax revenue, local politicians allocate more land quotas for industrial use and consequently fewer land quotas for commercial and residential use.

(2) $\frac{\partial k_1^*}{\partial(\alpha \tau_2 A_2)} < 0$, $\frac{\partial k_2^*}{\partial(\alpha \tau_2 A_2)} > 0$, we expect to observe that:

Hypothesis 2: As the service sector generates more local tax revenue, local politicians allocate fewer land quotas for industrial use and consequently more quotas for commercial and residential use.

(3) Given that the land conveyance fee generated per unit of land used for commercial and residential purposes is higher than that from land for industrial use, i.e., $(s_1 - s_2) < 0$, we get $\frac{\partial k_1^*}{\partial d} < 0$, $\frac{\partial k_2^*}{\partial d} > 0$, we expect to observe that:

Hypothesis 3: Local politicians with longer time horizons allocate more land quotas for industrial use and consequently fewer quotas for commercial and residential use.

3.4 Data and Measurement

3.4.1 Sample

I compiled an original dataset for a probability sample of 120 prefectural-level cities to test the hypotheses. These 120 cities are a probability sample constructed by the World Bank in its survey of “China Governance, Investment Climate, and Harmonious Society: Competitive Enhancement for 120 Cities in China” in 2005 (World Bank Report No. 37759-CN, 2006). Cities in China vary in administrative levels: there are four provincial-level municipalities,

15 deputy provincial cities,²⁸ 268 prefectural-level cities, and 368 county-level cities (China City Statistical Yearbook, 2009). The survey selects cities at the prefectural level and above. In particular, all 19 cities from the first two categories are included in the sample. The 120 cities are from all provinces except Tibet. For each province, the capital city is included. The inclusion of additional cities for a particular province depends on provincial GDP. A map in Figure 4.3 shows where the 120 cities are located: 287 cities at the prefectural level and above are represented by dots, and the 120 cities included in the sample are highlighted. The 120 cities accounted for 70-80 percent of China's GDP in 2005, when the survey was conducted.

Figure 3.8: A Sample of 120 Municipalities



²⁸The four provincial-level municipalities are Beijing, Tianjin, Shanghai, and Chongqing. The 15 deputy provincial level cities are Ha'erbin, Changchun, Shenyang, Dalian, Jinan, Qingdao, Nanjing, Hangzhou, Ningbo, Xiamen, Guangzhou, Shenzhen, Wuhan, Chengdu, and Xi'an.

3.4.2 Data Compilation

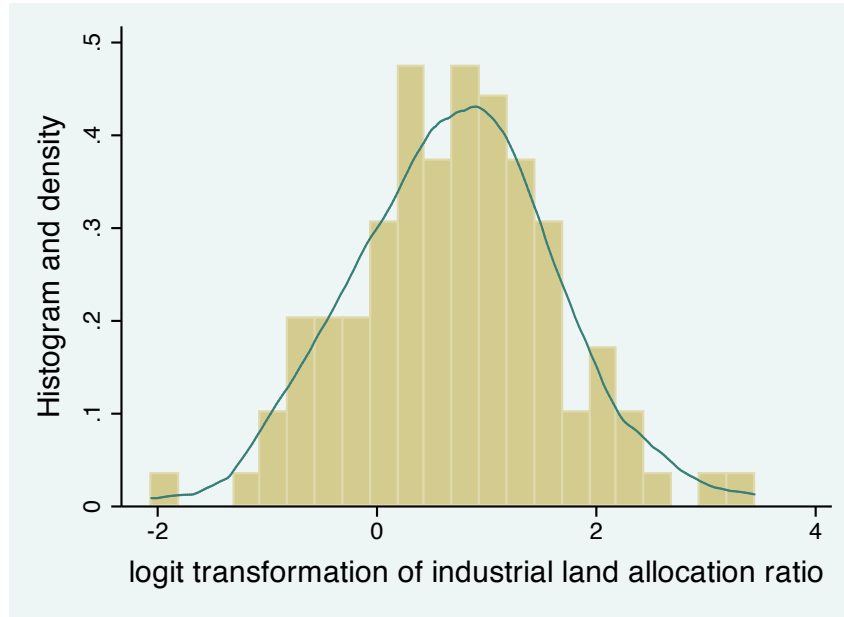
Data on the 120 cities come from official Chinese publications and sources. Tax revenue data comes from *Financial Statistical Material for Prefectures, Cities, and Counties Nationwide*, issued by the Ministry of Public Finance. *China Land and Resources Statistical Yearbook*, issued by the Ministry of Land and Resources, has land revenue data disaggregated at the prefectural level. Economic data (e.g., GDP per capita, city population, and economic structure) comes from *City Statistical Yearbook*. Data on political elites are compiled from career histories of city leaders, including both Party secretaries and mayors. Data from the various sources cited above are collected for the sample of 120 cities to form a new original dataset.

3.4.3 Measurement of Key Variables

Dependent Variable: Land quota allocation between industry and services is the dependent variable. As discussed in the previous section, industry occupies land for industrial purposes, whereas tertiary industry occupies land for commercial and residential purposes. Ideally, we want to know how many land quotas are distributed to each sector. With this option not available at the city level, land allocation between the two sectors is proxied by land allocation between nonmarket and market transactions, because land revenue differentiation by sectors is caused by the way that land leases are transacted. Local governments have four methods to lease urban construction land use rights: one non-market approach of arranging one-on-one meetings with potential land users to negotiate the land lease, and three market approaches of bid invitation (招标), auction (拍卖), and quotation (挂牌). In any of the last three approaches, the price of land leases is driven by market forces, thus it is substantially higher than the negotiated price. Most industrial land use rights are leased out by nontransparent negotiation between local officials and firms. In 2006, 97 percent of land used for industry was leased by negotiation, and nearly 80 percent of land used for

commercial and residential purposes was leased by market approaches (i.e., bid invitation, auction, and quotation combined).²⁹

Figure 3.9: Histogram for Land Allocation Ratio, 2006



Source: Author's dataset.

I use the ratio of land transacted by negotiation to the total amount of land available to measure land quotas allocated to industry. As a ratio is bounded between 0 and 1, a logit transformation is employed to convert the bounded dependent variable into an unbounded one. Figure 3.9 plots both histogram and density for the logit transformation of land quota allocation ratio. The logit transformation of the dependent variable is normally distributed

²⁹This proxy is not a good measurement after 2007, when the central government required state-owned construction land to be leased out using market approaches only. See State Council, Circular of the State Council on Intensifying Land Control (国务院关于加强土地调控有关问题的通知), August 31, 2006, Article 5; Ministry of Land and Resources, Provisions on the Assignment of State-owned Construction Land Use Right through Bid Invitation, Auction, and Quotation (招标投标挂牌出让国有建设用地使用权规定), September 28, 2007, Article 4. In 2007, 74 percent of land used for industry was leased out by negotiation. In 2008, this ratio dropped to 17 percent.

centering at the mean of 0.7, meaning that an average of 65 percent of land quotas are allocated to industry.

Independent Variables: Three sets of variables are of theoretical interest: economic determinants, political determinants, and the constraint of land quotas.

Measurement of $\tau_1 A_1$: The tax rate in China is determined hierarchically. Under the TSS, the central government sets the tax sharing ratios with the province only, leaving the latter with substantial flexibility in determining the tax sharing ratios with their prefectures, and the prefecture with its counties, and so on. As a result, the tax rate τ_1 is expected to vary across cities. Ideally for A_1 , we want to have some measure on firm productivity aggregated at the city level. Data for neither variable is publicly accessible for all 30 provinces covered in the survey. Hence, I identify VAT to measure $\tau_1 A_1$ indirectly. VAT is shared between the central and local governments at a ratio of 3:1.³⁰ It is a major local tax revenue source paid primarily by industry on the added value derived from production. If we assume τ_1 to be the value-added tax rate, an increase in both τ_1 and A_1 is expected to produce higher VAT retained by local governments. Arguably, land, as a productive input, may affect VAT in some indirect way, so that the measure produces an endogeneity problem. Empirically however, land value-added tax is an independent category and paid separately from the VAT under the existing TSS system. To reduce the potential endogeneity, I construct a variable called *VAT ratio* measured by the proportion of VAT in the total local budgetary revenue.

After the central government collects local revenue (e.g., 75 percent of VAT), it redistributes the collected revenue to local governments in the form of intergovernmental fiscal transfers. The intergovernmental transfer in China is primarily comprised of tax rebates and earmarked transfers. The proportion of tax rebates in total transfers has been declining whereas the proportion of earmarked transfers has been increasing over time. For instance,

³⁰This VAT shared ratio means that the central government takes 75 percent of VAT, whereas the 25 percent is shared by all subnational government units, i.e., province, prefecture, county, and township. The shared ratio is determined hierarchically.

in 1996, tax rebates accounted for 72 percent of intergovernmental transfers, and this ratio declined to 45 percent in 2001 (World Bank 2002, p. 19). Tax rebates are furthered categorized into tax rebates for income taxes, and tax rebates for VAT and consumption taxes. To include the VAT in the form of intergovernmental transfers, I construct a variable called *tax rebates ratio*, measured by the proportion of tax rebates for VAT and consumption tax in total intergovernmental fiscal transfers received by each city. The tax rebates for income taxes are not included in the numerator because they are contributed by both industry and services.

Measurement of $\alpha\tau_2A_2$: The major tax generated by tertiary industry is business tax. Consistent with the *VAT ratio* measure, I construct a variable called *business ratio* measured by the proportion of business tax in total local budgetary revenue.

Measurement of d : Recall that d represents the discount factor, having an inverse relationship with time horizon: a local politician with a long time horizon values the future more than one with a short time horizon, thus having a smaller discount factor. Clague et al. (1996) use the age of an autocratic regime to measure autocratic time horizon. Similarly, I use the tenure in office of a local politician to measure his time horizon. For each city, I consider the two most important leading positions in the analysis: party secretary and mayor. I construct two variables, *CCP secretary tenure* and *mayor tenure*, to measure how many years a local party secretary or a mayor has been holding his current position, as of the year 2005 when the World Bank survey was conducted. Since both positions are limited to two terms with each term 5 years, both variables are discrete, ranging from 1 to 10. As a local politician increases his tenure in office, his time horizon shortens. Such a measure, however, fails to take the term constraint into account: an official who starts his second term may have a longer time horizon than one who is close to the end of his first term but will not serve a second term. Another concern arises when politicians have not completed their terms but know they will be taking different positions elsewhere, causing their time horizon to reach the smallest value long before their full term ends. Thus, the tenure effect on the

time horizon may be nonlinear. To address this concern, I add a quadratic form of tenure in office for both party secretaries and mayors.

Normally, a party secretary and a mayor in a city are two different individuals. Two out of 120 cities surveyed (Quanzhou in Fujian and Xianyang in Shaanxi) had the same person serving concurrently as party secretary and mayor. As the appointment time for the same person with respect to the two positions differs, thereby generating different values for the time horizon, I treat the concurrent party secretary and mayor as two different persons.

Measurement of \bar{k} : Recall that \bar{k} is the constraint in the model. In the empirical analysis, I construct a variable called *land quota per capita* measured by the ratio of total amount of land available for lease to the total population for each city. Annual land quotas are distributed from above at the beginning of each year. Because the time horizon is measured by year, it is possible that political leaders who start their appointment in year 2005 are unable to be involved in the decision-making on land quota distribution for that year. Therefore, the land data are measured in year 2006.

Control Variables: I included a number of controls for factors that might be expected to affect local land quota allocation. To capture the existing economic structure, the ratio of the secondary sector in GDP is included. To capture the fiscal gap between formal budgetary revenue and expenditure facing local governments, I construct the variable *budget deficit*, which follows the measure by Lorentzen, Landry, and Yasuda (2010), using the ratio of local expenditure to local budgetary revenue. A local government runs a surplus when the ratio is smaller than 1, and a deficit when the ratio is greater than 1. The larger the deficit, the larger the ratio. To capture city characteristics, I included the following variables: GDP per capita, urbanization measured by the ratio of urban population to total population, and a city dummy for the 19 cities at provincial and deputy-provincial levels. Another variable that may have an impact on the decision making process of local politicians is their age. Local politicians will be removed from office when they get close to the mandatory retirement age. To take the retirement regulation into account, I construct variables *distance to retirement*

for both party secretaries and mayors, measured by, as of 2005, how many years until they reach age 65 for local politicians at provincial-level municipalities and age 60 for those at deputy-provincial and prefectural-level cities.³¹

To match the World Bank survey conducted in 2005, all variables are measured for year 2005 with only two exceptions related to land quotas. These two exceptions are land quota allocation (i.e., the dependent variable) and the land quota constraint (i.e., \bar{k}), which are measured in year 2006 for the reasons explained above. Table B.1 presents summary statistics of the key variables. The definition and data source for each variable are detailed in Appendix B.

3.5 Analysis

3.5.1 Findings

Table 3.3 reports the OLS regression results for land quotas allocated to industry. To allow for heteroskedasticity across observations, regressions are estimated with robust standard errors. I begin my analysis with the estimates that regress land quota allocation against all independent and control variables identified above, except the quadratic form of tenure in office, and report the results in column (1). The coefficient of CCP secretary tenure is negative and significant at the 5 percent level, meaning that fewer land quotas are allocated for industry as party secretaries increase their time in office. The coefficient of mayor tenure, however, is not statistically significant. Column (2) reports the estimates when the quadratic form of tenure in office is included in the regression for both party secretaries and mayors. In comparison with the regression estimates reported in column (1), this regression produces better results: not only do the coefficients of the variables significant in regression (1) remain significant, but the significance level of two variables (tax rebates ratio and CCP party secretary tenure) also improves. More importantly, the coefficient of the quadratic form of party secretary tenure in office is statistically significant at the one percent level,

³¹Retirement age varies with bureaucratic rank. See State Council, Interim Regulations on the State Civil Servant (国家公务员暂行条例), Aug 14, 1993, Article 78.

indicating a nonlinear relationship between tenure in office and land quota allocation. Thus, regression (2) is preferred and is treated as the baseline model.

I begin my interpretation of regression (2) estimates with the economic determinants, followed by political determinants, the land quota constraint (i.e., \bar{k} in the model), and control variables. The coefficients of all three economic determinants (i.e., VAT ratio, tax rebates ratio, and business tax ratio) are statistically significant at the 5 percent level. The positive coefficients of VAT ratio and tax rebates ratio indicate that more land quotas are allocated to industry as local tax revenue relies more on VAT, consistent with the first hypothesis. A calculation of marginal effect shows that a one percent increase in the ratio of VAT to the total budgetary revenue is associated with an average increase of 0.7 percent in the ratio of land quotas for industry to the total amount of land quotas (for simplicity, I refer to this as the industrial land quota ratio), and a one percent increase in the ratio of tax rebates to the total intergovernmental transfer is associated with an average increase of 0.44 percent in the industrial land quota ratio.³² The negative coefficient of business tax ratio indicates that fewer land quotas are distributed to industry, as the local tax revenue relies on business tax to a greater extent, consistent with the prediction of the second hypothesis. A one percent increase in the ratio of business tax to local budgetary revenue is associated with a decrease in the industrial land quota ratio by an average of 0.63 percent.

The regression confirms a negative relationship between the time horizon of local politicians and land quota allocation: a politician with a short time horizon is interested in the more intermediate revenue associated with tertiary industry, and thus he is likely to invest fewer land quotas in industry. The time horizon of local politicians varies with their time in office. The coefficients of both tenure and its squared term for party secretaries are both

³²Note that the regressand is a logit transformation because the dependent variable, denoted as y , is a ratio bounded between 0 and 1. Denote the logit transformation as $z = \ln(\frac{y}{1-y})$, independent variable as x , and coefficient as β . To get the marginal effect of y on x , I calculate as follows: $\frac{\partial y}{\partial x} = \frac{\partial z}{\partial x} / \frac{\partial z}{\partial y} = \beta y(1-y)$. This expression is nonlinear, I then use the mean, \bar{y} , to calculate the average marginal effect, i.e., $\frac{\partial y}{\partial x} = \beta \bar{y}(1-\bar{y})$, where $\bar{y} = 0.645$, shown in Table B.1, and all β s are estimated by the regression.

Table 3.3: OLS Estimates for Land Quota Allocated for Industry

	(1)	(2)	(3)	(4)	(5)	(6)
VAT ratio	3.014** (1.519)	3.041** (1.493)	3.338** (1.326)	3.216** (1.327)	3.554*** (1.354)	3.842*** (1.334)
Tax rebates ratio	1.721* (0.906)	1.913** (0.880)	2.229*** (0.784)	2.399*** (0.796)	1.991** (0.793)	1.811** (0.849)
Business tax ratio	-2.741** (1.211)	-2.750** (1.188)	-2.116* (1.081)	-2.066* (1.094)	-2.235* (1.178)	-2.333* (1.235)
CCP secretary tenure	-0.132** (0.056)	-0.475*** (0.139)	-0.614*** (0.192)	-0.581*** (0.187)	-0.651*** (0.176)	-0.863*** (0.219)
CCP secretary tenure square		0.044*** (0.016)	0.073** (0.030)	0.068** (0.028)	0.082*** (0.026)	0.117*** (0.034)
Secretary second term indicator			-0.848 (0.570)	-0.794 (0.565)	-0.957* (0.550)	-1.239** (0.573)
Mayor tenure	-0.019 (0.071)	0.153 (0.158)				
Mayor tenure square		-0.019 (0.016)				
Land quota per capita	0.112*** (0.042)	0.100*** (0.038)	0.084** (0.041)	0.098** (0.044)	0.078* (0.041)	0.079* (0.042)
Industry to GDP ratio	-0.030** (0.014)	-0.033** (0.013)	-0.027** (0.013)	-0.027** (0.013)	-0.028** (0.013)	-0.025* (0.013)
Secretary distance to retirement	-0.027 (0.027)	-0.028 (0.027)	-0.029 (0.025)	-0.023 (0.021)		
Mayor distance to retirement	0.013 (0.019)	0.017 (0.019)				
Secretary age as of 2005					0.586* (0.341)	0.461 (0.377)
Secretary age square					-0.005 (0.003)	-0.004 (0.004)
GDP per capita(log)	-0.211 (0.400)	-0.088 (0.407)	-0.167 (0.367)	-0.156 (0.403)	-0.117 (0.362)	-0.116 (0.372)
Urbanization	0.883 (0.809)	0.850 (0.805)	0.792 (0.785)	0.800 (0.815)	0.833 (0.772)	0.814 (0.789)
Budget deficit	-0.137 (0.221)	-0.067 (0.206)	-0.048 (0.170)	-0.042 (0.174)	-0.039 (0.164)	-0.021 (0.162)
City dummy	-0.161 (0.228)	-0.274 (0.225)	-0.235 (0.223)	-0.297 (0.226)	-0.182 (0.230)	-0.114 (0.240)
Tourist ratio				-0.020 (0.061)		
Secretary education				-0.024 (0.100)		
Secretary local promotion				0.077 (0.143)		
Constant	4.154 (3.874)	3.182 (3.937)	3.916 (3.298)	3.800 (3.531)	-12.452 (9.398)	-9.112 (10.279)
Observations	118	118	118	117	118	114
R^2	0.343	0.382	0.387	0.405	0.402	0.415

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$ Robust standard errors are in parenthesis.

Source: Author's dataset.

statistically significant at the 1 percent level, together with their signs, indicating the relationship between tenure in office and the industrial land quota ratio is parabolic with its vertex oriented downward at the tenure of 5.4 years.³³ This estimate is consistent with my theoretical prediction. Recall the institutionally stipulated tenure length for one term is 5 years, and our estimated tenure that produces the shortest time horizon is 5.4 years. That is, as a local politician increases his time in office, fewer land quotas are allocated to industry. The industrial land quota ratio reaches its minimum when the politician stays in office for 5.4 years. After that, if he continues in his position, more land quotas will be distributed to industry.

As in regression (1), the tenure of mayors does not have an impact on local land quota allocation. Neither the coefficient of mayor tenure nor its quadratic form is statistically significant. The party secretary and mayor are the two most important local political elites, but the former, not the latter, has a significant impact on local land quota allocation. There are two plausible explanations. First, the decision-making power on land quota allocation is concentrated in the party secretary, not mayors. In an interview with a party secretary of a district in Wenzhou, the party secretary said, “Our government is now operating like a large corporation. The party secretary is the chairman of the board and the mayor is the CEO” (Interview ZJ12160109). The quote suggests there might exist a division of labor between the two positions, despite both being crucial local figures. In an examination of government transparency using city level data in China, Lorentzen, Landry, and Yasuda (2010) found that only the mayor but not the party secretary matters for improving local government transparency on environmental regulations. This suggests that the division of labor between party secretary and mayor depends on issue area.

An alternative explanation is that the measurement of tenure in office for mayors fails to capture their time horizons. Despite the formal regulation on tenure length (i.e., five

³³Denote the variable of secretary tenure as x_1 and its coefficient is a , and the coefficient for its quadratic form is b . Thus, $z = ax_1 + bx_1^2$. To find the minimum, I derive the first order condition, set it equal to 0, and solve for x_1 , i.e., $\frac{\partial z}{\partial x} = a + 2bx_1 = 0$, thus, $x_1 = -\frac{a}{2b} = -\frac{-0.475}{2 \times 0.044} = 5.4$

years), the CCP has nonetheless acted informally to reduce the tenure of chief government executives (not party secretaries), resulting in their actual time served in office being shorter than the full term. Using a panel data on city mayors from 1990-2001, Landry (2008) found that the average length of mayor tenure has been steadily shrinking from an 3.2 years in 1990 to a mere 2.5 years by 2001. In an examination of county chief executives from 1998 to 2002, Guo (2009) shows that 23 percent of county chief executives in their fourth year are promoted to be party secretaries locally or elsewhere. In the situation where the gap between actual tenure in office and institutionally stipulated tenure is large, some mayors may update their belief on actual time in office and alter their behavior accordingly, while others may be uncertain about whether they will be lucky enough to be promoted long before they complete their terms, and therefore their time horizons and behavior will remain as predicted in my initial discussion. If both scenarios occurred, we would expect to observe two peaks at which the time horizon of mayors reaches local minimum: one at the time when mayors are expected to be taking another position in the middle of their first term and one at the end of the institutionally designated tenure. A simple linear regressor and its quadratic form in regression (2) fail to capture such a relationship.

The coefficient of land quota constraint is statistically significant at the 1percent level. The positive sign indicates that more land quotas are allocated to industry as land quota availability increases. As land quotas increase by 1 square kilometer per 1000 persons, the industrial land quota ratio increases by an average of 0.23 percent. Among all the controls, only the ratio of industry to local GDP has a small impact on land quota allocation. A one percent increase in the ratio of industry to local GDP is associated with a decrease in the industrial land quota ratio by an average of 0.01 percent. Surprisingly, budget deficits do not matter to local land quota allocation. A plausible explanation might be that the formal budget deficit cannot capture the real fiscal pressure facing local politicians because of the alternative revenue sources from intergovernmental transfers and extrabudgetary revenue.

3.5.2 Robustness Check

I conduct three sensitivity tests to check that the major findings are robust to alternative specifications. As the mayor does not have an impact on land quota allocation in regressions (1) and (2), all variables related to mayors are dropped in the sensitivity tests. The variable of party secretary tenure in my data has a mean of 3.3 years and standard deviation of 1.64, as shown in Table B.1, meaning that not many party secretaries were serving their second term at the time when the survey was conducted. It is possible that party secretaries in their second terms behave differently from those serving their first term. To address this concern, a dummy variable *second term indicator* is constructed for party secretaries who remain in their positions more than five years. Column (3) reports the regression estimates. The coefficients for both economic and political determinants remain statistically significant with the same signs. The values of these coefficients are similar to those in regression (2). With slight changes in the value of coefficients, the age at which the time horizon reaches the minimum estimated in regression (3) is 4.21 years, about one year smaller than the estimation in regression (2).

A simple cross-sectional analysis like the one conducted here runs a risk of omitted variable bias. To address this, I include additional variables that might be expected to affect land quota allocation by party secretaries. A city that receives more tourists is expected to have a greater demand for tertiary industry (e.g., hotels, restaurants), consequently more land quotas are likely to be allocated to tertiary industry. I include a variable called *tourist ratio* measured by the proportion of tourists received to the total local population as of 2005. An additional two variables are added to capture the possibility that individual characteristics of party secretaries may shape their preferences on one sector over the other in land quota allocation: education level and a dummy variable indicating if a party secretary was locally promoted to his current position. A local politician with better education may have a longer time horizon than the one who is less educated. A local politician who was locally promoted may care more about the local economy in the long run than one promoted from elsewhere. The results reported in column (4) indicate that none of these additional variables matters

for land quota allocation. The signs, statistical significance, and values of the coefficients of economic and political determinants are all consistent with the estimates in regression (2).

In previous analyses, the effect of age is measured by distance to mandatory retirement age. This measure assumes a linear relationship between age and land quota allocation. However, the age effect may be nonlinear, similar to the tenure effect. To allow a nonlinear relationship, I replace the linear regressor of distance to retirement by two variables: age as of 2005 and its quadratic form. Regression estimates are reported in column (5). The coefficient of age is statistically significant at the 1 percent level, but it is not robust. It is no longer statistically significant once I drop four provincial-level municipalities from the sample because the retirement age for officials at this level is five years greater than that for the rest of the population, as shown in column (6). All the coefficients of economic and political determinants keep their signs and statistical significance. Moreover, the coefficient of second term indicator is now statistically significant at the 5 percent level. The negative sign indicates that a local party secretary in his second term is likely to allocate fewer land quotas to industry than one in his first term. Overall, the main findings that both revenue structure and the time horizon of local politicians matter for local land quota allocation are robust to several sensitivity tests.

3.6 Conclusion

The 1994 fiscal reform had an important impact on local revenue structure. It reduced local budgetary revenue without adjusting expenditure responsibilities, leaving local governments in poor financial condition. The fiscal pressure facing local governments and the land property rights regime made leasing urban construction land use rights an increasingly popular source of revenue to help local politicians fulfill unfunded mandates. The incentive for local politicians to expropriate land however, is constrained by the land quota system, a system that the central government imposed, attempting to preserve land for food security and social stability. This quota system limits the total amount of land that local politicians can expropriate for urban construction, but still leaves local politicians enough autonomy

to determine how to distribute quotas across economic sectors. Taking advantage of sectoral differences in local revenue contribution, this chapter investigates how local politicians balance their land quotas, a scarce resource, between industry and services. It argues that both the local revenue structure and the time horizon of local politicians have an impact on local land quota allocation. With a systematic analysis of 120 cities randomly sampled in 2005, the chapter finds that more land quotas are distributed to industry when the local revenue base relies more on VAT and less on business tax, when local CCP secretaries (but not mayors) have long time horizons, and when the locality is assigned more quotas. These findings are robust to several sensitivity tests.

Some scholars argue that the 1994 fiscal reform motivated local governments to shift their economic development strategy from promoting industry to services, because local politicians do not share with the central government their business tax generated by services, but must surrender 75 percent of VAT, generated by industry, to the central government (F. Zhou 2006; X. Jiang et al. 2007). This argument is consistent with the development of local tax structure over time: the proportion of business tax in local budgetary revenue has been increasing from 28 percent in 1994 to 32 percent in 2008, whereas the proportion of VAT has been declining from 25 percent to 19 percent within the same period. However, the data aggregated at the national level disguise the subnational variation in the local tax base. Using sectoral allocation of land quotas as a case, this chapter provides both an economic and a political logic, explaining the subnational variation in local revenue extraction strategy and refining the argument on the impact of the fiscal reform on local economic development.

My data show that land quota allocation is always a mix of industry and services. Why would we not observe the situation where one industry owns all quotas and the other gets none? To manage a complicated business like land quota allocation, local politicians have many considerations other than their time horizon and the local revenue structure, highlighted in this chapter. An official who was in charge of a national economic development zone in Zhejiang explained, “We cannot earn money by selling land [use rights] to manufacturing firms, and oftentimes we lose money because the profit from land sales is not

enough for us to cover the cost of building infrastructure to attract them to invest here. What we expect to gain from them is not land profits, but their tax contribution in the long run. . . . Our loss from land sales to manufacturing firms can be offset by the profits gained from real estate” (ZJ03190110). Local politicians must balance their budgets (Budget Law, Article 3). Therefore, even local politicians with the longest time horizon, who prefer the development of the manufacturing industry, must allocate land quotas to tertiary industry. Similarly, those with the shortest time horizon, who have a strong preference for windfall land profits from real estate, are forced to allocate quotas to the manufacturing industry so as to fulfill mandates like budgetary revenue and FDI attraction.

Finally, although this chapter focuses on land, the economic and political determinants derived from quota allocation may have broad applications. In China, the state still maintains monopoly control over many resources (e.g., mining), not only land. It is reasonable to expect that politicians will take the revenue structure and their time horizon into account in allocating the resources they control, as long as they care about revenue.

Chapter 4

Land for Welfare in China

4.1 Introduction

Provision of social welfare is a central issue in political economy. Political leaders in democracies are generally expected to provide more public goods and social welfare benefits to their citizens than in non-democracies due to the pressure they face from periodic elections and civil society. Absent democratic institutions, what drives autocrats, who are inherently predatory, to provide social welfare benefits? This chapter explores this question through the lens of social welfare provision in rural China. Two broad mechanisms have been suggested in the literature: the potential threat to the autocrat and the revenue incentive of the dictator. An autocrat may improve social welfare to stave off uprisings (Acemoglu and Robinson 2006). Alternatively, when the time horizon of an autocrat is sufficiently long, he has an incentive to provide public goods and services to encourage economic growth and subsequently maximize his revenue extraction (Olson 1993). Although both mechanisms apply to the case of China to some extent, neither provides a full explanation.

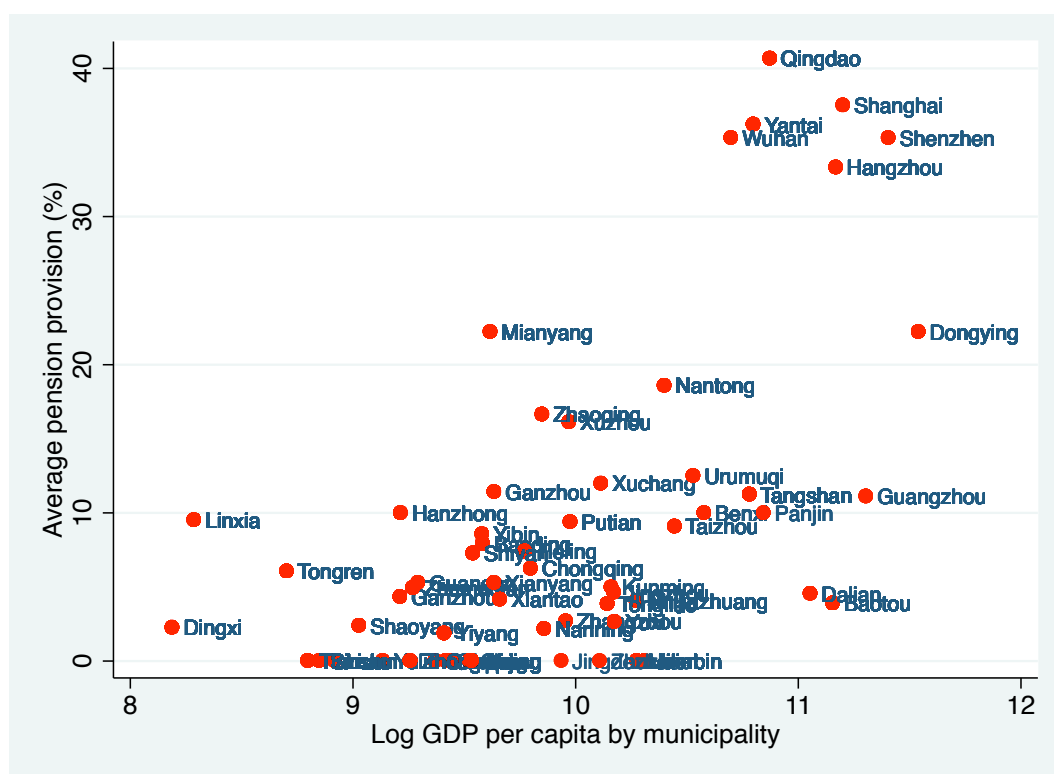
China is an important case to examine autocratic rural social welfare provision, given its massive population, large territory, and increasingly impoverished rural households. It is also an interesting case for the following reasons. First, unlike many countries, a wide range of social welfare benefits (including, but not limited to, pensions, health care, unemployment insurance) are almost entirely provided by local governments. Moreover, such provision varies enormously across subnational governments. For example, data from the China Survey, a nationwide probability sample of over 2,000 rural households conducted

in 2008,¹ show that the coverage of rural pensions at the municipality level ranges from 0 to 40 percent, as shown in figure 4.1. Second, despite impressive economic growth, local governments are financially squeezed by the central government; consequently, they face substantial budget deficits, preventing them from providing public goods and social welfare benefits (World Bank 2002; Oi and Zhao 2007; Wong 2009; Shih, Zhang and Liu 2010). Third, the career prospects of Chinese local officials are determined primarily by their performance in promoting local economic growth and less by social welfare provision (Edin 2003; Landry 2003, 2008; Li and Zhou 2005; Xu 2011). Fourth, China's political system is described as "fragmented authoritarianism" (Lieberthal 1992), within which the central and local governments can sometimes have divergent preferences. While the central government has an incentive to improve rural welfare and mitigate the urban-rural gap, this may not be carried out properly by local governments. Why do Chinese local government officials, who are neither economically empowered nor politically compelled, provide rural social welfare benefits? What explains the subnational variation in rural social welfare provision?

I argue that the provision of rural social welfare cannot be analyzed in isolation from the property rights regime for land in China. The dual land tenure system, inherited from the communist past, allows local officials to extract revenue by expropriating rural land, which, to rural households, has both income-generation as well as social insurance functions. In the process of land confiscation, social welfare benefits are provided to villagers, whose land has been expropriated, to compensate them for losing their land's insurance function. Such provision occurs in some localities but not others, however. The subnational variation in social welfare provision is partially determined by the interplay between central and local governments. The central government sets land quotas for subnational governments, limiting their capability to expropriate land. To get permission to expropriate additional land (beyond given quotas), local governments provide social welfare benefits to signal to

¹See section 4.5.1 for more discussion of the China Survey.

Figure 4.1: Pension Provision in Rural China



Source: Data from the China Survey, 2008

the central government that villagers, particularly villagers who lose land, are taken care of after land confiscation.

The rest of the chapter is organized as follows. Section 4.2 reviews the literature on provision of public goods and social welfare. Section 4.3 theorizes the land for welfare trade mechanism and derives hypotheses. Section 4.4 examines the logic of land for welfare using comparative case studies from Zhejiang and Chongqing. Section 4.5 provides multilevel analysis combining data from the 2008 China Survey and original data I compiled. Section 4.6 concludes.

4.2 Provision of Public Goods and Social Welfare

The dominant explanation of social welfare provision emphasizes the impact of globalization and trade openness. The state provides social welfare benefits to shield actors in the economy from the fluctuations and volatility of the global market (e.g., Katzenstein 1985; Rodrik 1998). There is statistical evidence of a positive correlation between trade openness and government spending (e.g., Rodrik 1998; Garrett 2001). These ideas are derived largely from countries in the Organization for Economic Cooperation and Development (OECD). More recent scholarship has found the opposite holds in the developing world. These differences between developed and developing countries are typically explained with reference to domestic politics (e.g., Rudra 2002; Cook 2007), distinct patterns of integration into global markets (Wibbels 2006), political legacies (Haggard and Kaufman 2008), and postwar economic development strategies (Wibbels and Ahlquist 2011; Wibbels 2011).

Among all the factors above, democratic governance is identified as crucial in the provision of public goods and social welfare benefits.² Having a democratic system generally increases the responsiveness of political leaders to the public because periodic elections make it possible to reward or punish political leaders for their actions (e.g., Przeworski, Stokes

²Public goods are defined as goods that are non-excludable and non-rivalrous. Social welfare benefits are not necessarily public goods. As this chapter shows, some social welfare benefits (e.g., pensions) in China are both excludable and rivalrous. That is, some social welfare benefits are provided as private goods.

and Manin 1999; Besley and Burgess 2002; Foster and Rosensweig 2004; Haggard and Kaufman 2008). Despite the authoritarian nature of China's political system, the introduction of village elections was significantly motivated by the hope that elections would considerably strengthen the accountability of village leaders to their constituencies — villagers. Some statistical evidence shows that village elections increase rural public goods provision (Wang and Yao 2007; Luo, Zhang, Huang and Rozelle 2010). Beyond village elections, local congress elections at the county and township levels allow both the Communist Party and ordinary citizens to nominate candidates, who, however, have to survive the selection by the Party-led electoral committee to have their names appear on the final ballot. Manion (2012) statistically demonstrates that congress delegates nominated by voters deliver more public goods than those nominated by the Party, concluding that there is a “selectoral connection” in Chinese local congresses. Here, I examine the provision of rural welfare by higher-level local governments in China. Government officials at the county level and above are neither directly elected nor nominated by ordinary citizens.³ As a result, both the electoral connection in villages and the selectoral connection in local congresses identified in the literature are absent.

In contrast to formal institutions, Ostrom (1990) derives conditions under which informal institutions can be effective in managing common pool resources.⁴ Empirically, Tsai (2007) observes large variation in rural public goods provision in China after controlling for village elections and level of local economic development. Tsai argues that informal solidary groups (such as churches and lineage groups), rather than the formal institution of elections, induce village leaders to provide local public goods, concluding that village elections are neither a sufficient nor necessary condition for accountability. Murtazashvili (2009) finds in rural Afghanistan, where a functioning government is absent, customary organizations enable

³Unlike many democracies where officials in the executive branch cannot take legislative positions simultaneously, leading executive local officials, such as mayors and Party secretaries, are also congress delegates, but they are usually nominated by the Party, not ordinary citizens.

⁴Common pool resources are defined as goods that are non-excludable but rivalrous.

communities to organize themselves and provide a wide range of public goods and services. A common feature of this body of literature is that public goods provision by informal groups occurs at a small scale, typically villages or small communities. As the scale expands, the collective action problem becomes hard to overcome, making informal groups less effective in public goods provision. As such, reliance on informal group on action for public services seems unable to explain why local governments at municipal and provincial levels provide rural welfare benefits in China.

The political economy literature provides three explanations for public goods and social welfare provision. First, following Olson's logic of collective action (1965), it is easier for groups of smaller size and with more homogenous economic interests to get organized and politically represented than is the case for other groups. This, however, does not apply to villagers in China due to the considerably large size of the rural population. Moreover, Chinese villagers face a situation of "taxation without representation" (Bernstein and Lu 2003) and are unlikely to influence political outcomes. Second, political leaders care first and foremost about political survival. To this end, they buy off the people who have the opportunity to threaten their political survival (Bueno de Mesquita et al. 2003; Acemoglu and Robinson 2006). Third, another alternative explanation emphasizes revenue motives of dictators (Olson 1993). A "stationary bandit," or a revenue-seeking politician, with a long time horizon has an incentive to provide public goods, respect property rights, and enforce contracts. All of these actions encourage citizens to participate in economically productive activities, and subsequently help the ruler extract the maximum possible net surplus in the long run. In an examination of local government officials in China, office-seeking and revenue-seeking assumptions are not necessarily conflicting because revenue extraction crucially determines the career advancement of local officials (Sheng 2010; Shih, Adolph and Liu 2012). Building on the last two explanations, I assume in this chapter that local government officials maximize revenue but at the same time attempt to minimize villager protests so as to avoid villager grievances being heard by higher-level governments (in the worst case, by Beijing). However, a problem with this body of literature is that it

views the state as a unitary actor. China remains a form of “fragmented authoritarianism” (Lieberthal 1992), within which preferences of the central and local governments are not always consistent. As a result, a careful examination of the interplay among state actors is necessary in the context of China.

In conclusion, the dominant literature on social welfare provision examines the impact of globalization. Where the literature explores the effect of domestic politics on public goods and social welfare provision, the focus has been largely on democratic governance. While informal institutions can be effective in public goods provision, they are limited to the grass-roots level. This chapter fills a gap in the literature by investigating social welfare provision by higher-level local government officials in China who are neither directly elected nor effectively restricted by informal institutions. In contrast to the political economy literature that views the state as a unitary actor, this chapter highlights the interaction between the central and local governments in explaining the subnational variation in rural welfare provision. In the context of China, it argues that rural social welfare provision cannot be analyzed in isolation from the property rights regime for land.

4.3 The Logic of Land for Welfare in China

Politicians care about their careers, and Chinese politicians are no exception. Being in power allows political leaders to allocate goods and, when possible, retain resources for their own personal use. In China, the Communist Party holds ultimate authority over the personnel management of all Party and state main leaders through the *nomenklatura* system (Manion 1985; Burns 1994; Lam and Chan 1996). The career prospects of leading government officials are determined largely by their performance, evaluated regularly based on a set of criteria commensurate with the preferences of the Party (Tsui and Wang 2004; Whiting 2000, 2004). The performance targets in the evaluation criteria are not weighted equally, but are biased toward generating local revenue and promoting local economic development (Edin 2003; Landry 2003, 2008; Li and Zhou 2005). Recent statistical analysis shows that provincial-level officials who contribute more revenue to the central government are more likely to be promoted (Sheng 2010; Shih, Adolph and Liu 2012). The land property rights

regime allows local government officials to use revenue from land to fulfill the targets of revenue extraction and economic performance, thereby increasing their chances of career advancement.

4.3.1 Land Property Rights Regime

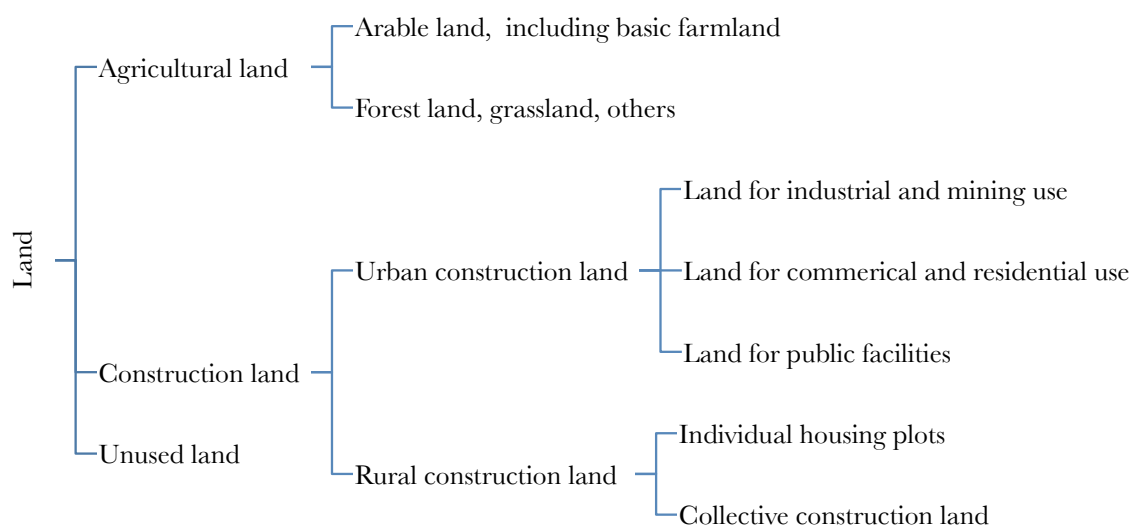
Inherited from the communist past, China's land system divides land into urban land and rural land, with each governed by dramatically different systems of property rights. Urban land is owned by the state while rural land is owned by rural collectives. Since the introduction of the land leasehold market in 1988, land use rights are separated from land ownership rights and can be leased out in the market. From a land use perspective, land is categorized into agricultural land, construction land, and unused land, as shown in figure 4.2.⁵ Agricultural land refers to arable land, forest land, grassland, et cetera. Construction land refers to land for rural and urban housing and public facilities. Urban construction land is further categorized into land used for industrial, commercial, residential, and public facilities; rural construction land is used for individual housing and rural public facilities. The land leasehold market for transferring construction land use rights is limited to urban land. Urban construction land can be leased out for 70 years, 50 years, and 40 years when it is used for residential, industrial, and commercial purposes, respectively.⁶

In contrast, rural land must be first converted to urban land before its use rights can legally be transferred to a potential land user. Such rural-to-urban land conversion is monopolized by the state. As a result, the state—the exclusive body with the authority to

⁵Land Administration Law, Article 4.

⁶State Council, Interim Regulations on Transfers of Urban State-owned Land Use Rights (城镇国有土地使用权出让和转让暂行条例), 1990, Article 12.

Figure 4.2: Land Use System in China



expropriate land—obtains land from rural households while providing limited compensation.⁷ The state, which also monopolizes the primary urban land market,⁸ converts rural land to urban land and then transfers land use rights at a price substantially higher than the land compensation paid to rural households. The price differential between rural and urban land arising from the dual land tenure system generates monopoly rents, easily captured by local governments.

In the process of converting rural land to urban construction land, local governments build infrastructure on the land before transferring its use rights to potential land users. Confronted with substantial budget deficits due to the existing fiscal system (World Bank 2002; Wong 2009), local governments often use land as collateral to apply for bank loans to build infrastructure so as to make water, electricity, gas, and public transportation available to potential land users (Interview ZJ03190110). This process of providing infrastructure on expropriated land is called turning land from “raw” (生地) to “ripe” (熟地). Once land becomes “ripe,” its market value increases and it can be transferred through the land market. Upon the completion of the land transfer, local governments receive revenue generated from land and retain the balance after they repay bank loans. Therefore, revenue generated from rural-to-urban land conversion helps local government officials relieve their fiscal stress and fulfill unfunded mandates.

⁷Compensation is composed of land compensation fees, resettlement fees, and compensation for facilities attached to the expropriated land. The Land Administration Law specifies the compensation to rural households whose land has been expropriated (Article 47).

⁸There are two types of urban land markets: primary and secondary. The primary land market exists between the government, the exclusive land use rights sellers, and land users who buy land use rights from the government through negotiation (协议), bid invitation (招标), auction (拍卖), and quotation (挂牌). In the secondary land market, land use rights switch from one land user to another through transfer (转让), sublease (转租), and mortgage (抵押). The state does not have to be involved in the secondary land market.

Land generates a variety of taxes and fees,⁹ and the dominant revenue contribution comes from the “land transfer fee” (土地出让金), a lump sum payment to the local government upon the purchase of urban construction land use rights. Unlike some taxes that are shared between the central and local governments (e.g., value-added tax and income tax), almost all land-generated revenue is retained by local governments, permitting them wide discretion in spending the revenue.¹⁰ In the period from 2003 to 2008, various land-related taxes and fees made up on average 23 percent of local government revenue.¹¹ In general, urban construction land for industrial use generates substantially less in land transfer fee than does land for commercial and residential use. But local governments use the former to attract manufacturing firms, which generate steadier revenue in the long run, usually in the form of value-added tax. Revenue considerations motivate local officials to expropriate rural land and convert it to urban construction land.

Local officials do not expropriate land without restrictions, however. The rapid shrinkage of rural land has become a major source of social instability and food security, both of which concern the central government. In 1998 the center substantially revised the Land Administration Law, a watershed reflecting an aggressive increase in central involvement in managing and monitoring subnational land use. Under this law, the central government restricts land expropriation at the subnational level by imposing a cap on the amount of urban construction land, or so-called construction land quotas (建设用地指标), that can be

⁹Land-related taxes include urban land use tax (城市土地使用税), land value-added tax (土地增值税), arable land occupation tax (耕地占用税), contract tax (契税). Land-related fee includes land transfer fee (土地出让金), newly converted construction land use fee (新增建设用地有偿使用费), and etc.

¹⁰Local governments retain all land-generated revenue with only one exception. This exception is the newly converted construction land use fee, which is shared between the center and local governments at the ratio of 3:7. See Land Administration Law, Article 55.

¹¹The percentage is calculated by the author. Local state revenue is composed of budget revenue and fund budget revenue (基金预算). Land revenue in the calculation is composed of the land transfer fee, urban land use tax, arable land occupation tax, and contract tax. Data on land transfer fee from 2003-2008 is collected from *China Land and Resource Statistical Yearbook*, 2009, p. 171. Other revenue data is collected from *China Fiscal Yearbook*, 2009, p. 495.

used within an administrative jurisdiction in a given period of time. These quotas specify not only the total amount of urban construction land that can be used, but also the amount of agricultural land and arable land that can be converted to urban construction land.¹² These quotas are distributed top-down, along the administrative hierarchy: 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.¹³ To facilitate local compliance, the central government has invested in satellite remote sensing technology to detect local land violations.

4.3.2 Land for Welfare

For the central government, land development presents a challenge to state legitimacy by threatening food security and social stability. For local governments, land is an instrument to attract investors and promote the local economy, collateral to apply for bank loans necessary for building local infrastructure, and a revenue source to fulfill unfunded mandates specified in the evaluation system. For rural residents, land functions as an income-generating property as well as social insurance.

Like many developing countries that experience an urban bias during industrialization (Lipton 1977; Bates 1981), Chinese rural residents have been discriminated against since the 1950s. Rural residents have received considerably fewer social welfare benefits than urban residents (Knight and Song 1999; Wang 2005; Whyte 2010). This urban-rural gap in social welfare benefits has its roots in the socialist period (Naughton 2007; Whyte 2010). Under the centrally planned economy, urban residents were bound to their place of employment,

¹²There are other types of land quotas, including the amount of arable land that must be maintained and the amount of arable land that must be created through development and reclamation in a given year. See State Council, Regulations on the Implementation of the Land Administration Law (土地管理法实施条例), December 27, 1998, Article 13. These quotas are also specified in several local government documents, which are not publicly accessible, but are available in redacted form by contacting the author.

¹³In practice, there is some variation in quota assignments across provinces. For instance, in Zhejiang, the provincial government bypasses municipalities and directly assigns quotas to its counties (Interview ZJ04200110). The interview subject was a vice mayor of a county-level city in Zhejiang.

the “work unit” (单位). Almost all work units were owned by the state and became a formal hierarchy connecting urban residents with the socialist state. The work unit assigned urban residents various social welfare benefits, including job security, rationed allotments of food and consumer goods, health care, pensions, education and housing. In contrast, collective ownership was the predominant form of ownership in rural China. Villagers were organized through their collectives, which, unlike the urban work unit, were not part of the state hierarchy and thus had no claim on national resources. As a result, rural collectives relied on local resources and labor power with minimal financial assistance from the state. They could provide welfare benefits to villagers only if they generated a surplus, which was difficult, if not impossible, as they were compelled to sell agricultural products to the government at artificially low, bureaucratically set prices. The urban-rural gap in access to welfare benefits was maintained by strict controls on mobility.

While many socialist institutions were dismantled in the process of economic reforms, the sharp urban-rural cleavage in social welfare provision has persisted. In a nationwide survey of a probability sample of over 3,000 households conducted in 2008,¹⁴ respondents were asked if they have unemployment insurance and pensions. About 26 percent of urban residents have unemployment insurance and 57 percent have pensions. In contrast, only 3 percent of rural residents have unemployment insurance and 9 percent have pensions, as shown in table 4.1. Since the 1990s when restrictions on mobility were relaxed, villagers are allowed to move to the cities, but they are denied urban residency and consequently unable to access urban social welfare benefits. In the same survey, respondents were asked about their attitudes toward the statement: “It is fair that rural migrants are not allowed to obtain welfare benefits from cities.” Over 80 percent of residents, urban and rural, “disagree” or “strongly disagree” with the statement, as shown in table 4.2. Despite its unpopularity, the unfair treatment towards rural residents remains. Whyte (2010) describes the urban-rural gap in China as a “caste-like division” (p. 5) that creates “one country, two societies.”

¹⁴More information on the China Survey is provided in section 4.5.1 Data and Measurement.

Table 4.1: Urban-Rural Gap in Social Welfare Provision

Differences between Group Means			
	Pension		Unemployment
Rural residents	0.091	(0.013)	0.028 (0.006)
Urban residents	0.567	(0.033)	0.260 (0.031)
No. of observations	3,400		3,186
Population size	741,927,826		701,075,495
Adjusted Wald test $F(1, 57)$	200.48		55.37
$p > F$	0.000		0.000

Linearized standard errors are in parentheses.

Source: Data from the China Survey, 2008.

Table 4.2: Attitudes toward Welfare Provision for Rural Migrants

Statement:

“It is fair that rural migrants are not allowed to obtain welfare benefits from cities.”

	strongly agree (%)	agree (%)	neutral (%)	disagree (%)	strongly disagree (%)	Total (%)
Rural residents	1.16	7.35	9.16	47.86	34.47	100
Urban residents	3.3	8.03	6.66	48.04	33.97	100
Total (%)	2.7	7.84	7.36	47.99	34.11	100

No. of observations=3,379, population size=762,037,550

Source: Data from the China Survey, 2008.

Under the substantially different systems of social welfare provision for urban and rural society, land functions as more than an income-generating property for rural residents. It also functions as social insurance. Yao (2004) argues that land's social security function promotes rural labor mobility. Knowing land is a last resort to generate income, villagers are motivated to migrate to cities for higher-income jobs. When villagers are too old to farm, they can make their living by renting their land to someone else who can farm. As a result, when rural land is expropriated, villagers lose an income-generating asset as well as social security. According to the Land Administration Law (Article 47), land-losing villagers are typically compensated in the form of a one-time monetary transfer. Empirically however, some local governments have found this form of compensation problematic. The Land and Resource Bureau of Foshan, Guangdong province, in its report on local land expropriation, states: "The drawback of monetary compensation is that it is hard to provide land-losing villagers with a basic living in a long run. After villagers have used up all their compensation, they are likely to ask the government for more money. This creates a potential burden for the government and also affects rural stability."¹⁵ A local official from Hangzhou, Zhejiang province told me an anecdotal story from his locality: A land-losing villager went to a casino in Macao after he received his land compensation money; unsurprisingly, he lost all his money and then kept asking the local government for more compensation (Interview ZJ03190110). Local governments may therefore provide land-losing villagers with social insurance, in addition to monetary compensation. Following this logic, we expect that:

Hypothesis 1: Villagers who experienced land expropriation are more likely to receive welfare benefits than those who still own land.

The central government is certainly aware of the profound urban-rural gap in China. The current leadership, headed by President Hu Jintao and Premier Wen Jiabao, makes great

¹⁵Report on Reforming Land Expropriation in Foshan, October 25, 2008. This document is not publicly available.

efforts to address problems specific to rural area. This is best reflected by the so-called “Central Document No. 1” (中央一号文件), the first policy document issued every year by the Central Committee of the Communist Party and the State Council, outlining the top priority for the coming year. Since 2004, this document has focused on rural issues. The central government promotes “Unified Management of Urban and Rural Areas” (UMURA, 统筹城乡), with the aim of narrowing the urban-rural gap. In doing so, the central government calls for “properly allocating land-losing villagers, providing them with social security” (Central Document No. 1, 2004, Article 16), “exploring the rural pension system corresponding to the level of local economic development. . . . establishing a system of providing guaranteed minimum living benefits (最低生活保障) if conditions permitted” (Central Document No. 1, 2006, Article 22), “encouraging local governments to conduct experiments in rural pension provision” (Central Document No. 1, 2008, Article 5), and “improving social security of land-losing villagers” (Central Document No. 1, 2010, Article 15). These documents signal the central government’s goals but lack concrete procedures to fulfill them, leaving local governments a great deal of autonomy in implementing the policy.

China has adopted an experimental approach in advancing its economic reforms. Reforms (e.g., special economic zones and privatization) started from a few localities as experiments and then spread to a larger context after experimental success. Such experimentation is neither completely top-down nor bottom-up, but involves the interplay between local initiative and central sponsorship (Heilmann 2007). The UMURA project is no exception. Local governments are interested in experimenting with UMURA because it helps them, to some extent, get around the restriction of the urban construction land quota. The way that urban construction land quotas are set is through restricting the conversion from non-construction land (i.e., agricultural land and arable land) to construction land (see figure 4.2 regarding the land use system). This does not apply to the conversion of land from rural construction land to urban construction land, a process by which land ownership is converted from the rural collective to the urban state, while maintaining construction land as the land type. In doing so, local government officials obtain additional construction land without taking up

construction land quotas, but they still require rural-to-urban construction land “conversion quotas” (周转指标) that are available only for the localities permitted by the central government to conduct experiments. Once converted, local governments can transfer construction land use rights, a process generating windfall revenues. To gain permission for rural-to-urban construction land conversion, local governments are incentivized to provide rural social welfare benefits to signal to the central government that villagers, in particular those whose land is expropriated, are taken care of during and after land confiscation.

The central government selectively approves applications for experimenting in rural-to-urban conversion of construction land. Four conditions must be met to qualify as an experimental site.¹⁶ First, the conflict between the demand for and supply of (urban) construction land must be substantial. Rural construction land must have great potential to be reclaimed. Second, both the local government and villagers must be enthusiastic about the experiment. Third, the locality must have relatively rapid economic development and must be able to self-fund the experimental project. Fourth, local government must strictly follow land regulations, but also be creative in institutional innovation. Among these conditions, the first and third are more crucial in determining a locality’s qualification. Figure 4.3 provides a map highlighting the provinces granted experimental status. To protect rural benefits, a portion of the land transfer fee, generated from rural-to-urban construction land conversion, must be returned to the rural area.¹⁷ Following central-local interaction in UMURA experimentation, we would expect that:

Hypothesis 2: Villagers from localities granted “UMURA experimental status” are more likely to receive welfare benefits than those from localities without experimental status.

While UMURA was designed by the central government to mitigate the urban-rural gap, local governments are more interested in rural-to-urban land conversion. After obtaining

¹⁶Ministry of Land and Resources, 2008, No 138 Document (城乡建设用地增减挂钩管理办法), Article 11.

¹⁷Ministry of Land and Resources, 2007, No 169 Document (关于进一步规范城乡建设用地增减挂钩试点工作的通知), Article 4.

Figure 4.3: Provinces with Experimental Status (2007)



Source: Ministry of Land and National Resources, 2007, Document No. 169.

UMURA experimental status, the Chongqing government has prioritized construction land conversion, but not public goods provision to villagers.¹⁸ A high-level government official from Chongqing explains, “Land is the key to our UMURA experimentation” (Interview CQ04280110). Given the size of the rural population, universal coverage of rural social welfare would impose a financial burden on local governments. Since land functions as social insurance, local officials from experimental sites may give priority to land-losing villagers in rural social welfare provision. We therefore expect that:

Hypothesis 3: Land-losing villagers from localities granted UMURA experimental status are more likely to receive welfare benefits than those who still own land in experimental sites and those from non-experimental sites regardless of their land expropriation status.

4.4 Comparative Case Studies: Zhejiang vs. Chongqing

This section presents comparative case studies from two provinces in China: Zhejiang and Chongqing. Zhejiang is a southeast coastal province, bordering Shanghai to the north. Chongqing is the largest municipality located in southwest China. It is one of the four provincial-level municipalities under the direct administration of the central government.¹⁹ Both provinces are highlighted on the map shown in figure 4.3. Table 4.3 shows that the two provinces differ along a number of dimensions, enabling us to construct a comparison between “most different” cases. First, Zhejiang is richer and more urban than Chongqing. Zhejiang is one of the richest provinces in China. As of 2008, GDP per capita in Zhejiang was 41,179 RMB, the second richest province behind only Shanghai. GDP per capita in Chongqing was 21,041 RMB, a little more than half of Zhejiang’s.²⁰ Rural residents accounted for 43 percent of the population in Zhejiang and 52 percent in Chongqing.²¹ Rural residents in

¹⁸Chongqing Development and Reform Commission, Interpreting the State Council No 3 Document (贯彻国务院 3 号文件政策解读手册). This document is not publicly accessible.

¹⁹The other three are Beijing, Tianjin, and Shanghai, all located in the coastal area.

²⁰China Statistical Yearbook, 2011, p. 56.

²¹China Statistical Yearbook, 2008, p. 89.

Zhejiang are wealthier than those in Chongqing. Rural household net income per capita was 9,258 RMB in Zhejiang and 4,126 RMB in Chongqing.²² Second, Zhejiang has a more open economy than Chongqing. As of 2009, there were 28,252 foreign-invested enterprises (FIEs) in Zhejiang in comparison to 4,447 FIEs in Chongqing. Zhejiang attracted foreign investment of \$164 billion, while Chongqing attracted \$27.8 billion.²³ Third, while both Zhejiang and Chongqing governments run budget deficits, the former faces a smaller fiscal burden than the latter. As of 2009, the former collected 214 billion RMB revenue and spent 265 billion RMB, generating a budget deficit of 51 billion RMB. In contrast, the Chongqing government had a budget revenue of 66 billion RMB and budget expenditure of 129 billion RMB, creating a deficit of 63 billion RMB.²⁴

Despite these differences, both provinces were granted experimental status to explore UMURA. The outcome is very similar: villagers, particularly those who lose land, are provided with social welfare benefits in both provinces. In short, other plausible explanatory variables vary, except for experimental status—our key explanatory variable, which supports the argument that villagers from experimental sites are more likely to receive welfare benefits.

4.4.1 Rural Social Welfare Provision in Zhejiang

Zhejiang has the most vibrant private economy in China, which creates high demand for land. Despite the fact that the central government distributes more urban construction land quotas to more developed localities, supply still does not meet demand in Zhejiang, driving land prices very high and consequently generating windfall revenues. As of 2008, one hectare of land in Zhejiang can generate an average land transfer fee as high as 9.69 million RMB, just below the three provincial-level municipalities of Beijing, Shanghai and Tianjin.²⁵

²²China Statistical Yearbook, 2011, p. 352.

²³China Statistical Yearbook, 2011, p. 246.

²⁴China Financial Yearbook, 2010, p. 383.

²⁵China Land and Resources Statistical Yearbook, 2009, p. 171.

Table 4.3: Rural Welfare Provision in Zhejiang and Chongqing

	Zhejiang	Chongqing
Location	East coast	Inland
Economic development	High	Low
Impact of globalization	High	Low
Budget deficit	Small	Large
<i>Land-related variables</i>		
Land quota scarcity	Yes	Yes
Revenue generated from land	Large	Large
Experimental status	Yes	Yes
<i>Outcome</i>		
Rural welfare provision	Yes	Yes
Selective rural welfare provision	Yes	Yes

The total land transfer fee accounted for 53 percent of budget revenue in Zhejiang.²⁶ Land scarcity has forced local governments in Zhejiang to change their developmental strategies. Local governments set some indicators (e.g., firm productivity, tax revenue contribution) and thresholds associated with each indicator to evaluate firms. Only firms that are expected to perform above these thresholds are allowed to locate in Zhejiang. A local government official explains, “We are short of land quotas. . . . We no longer accept every firm as we did before. We have changed from attracting investment (引资) to selecting investments (选资)” (Interview ZJ03190110). To overcome its land scarcity problem, Zhejiang was authorized to experiment with “linking the contraction of rural construction land with the expansion of urban construction land” (城乡建设用地增减挂钩), which essentially permits rural-to-urban construction land conversion, a key component of the UMURA.

Granted an experimental status that draws particular attention from above, local governments have an incentive to protect villagers’ interests during land confiscation. Villagers can easily make a calculation about the difference between the monetary compensation they receive and the skyrocketing market price of their land. Villagers, after calculating this price gap, develop grievances and may take actions to prevent their land from being taken. To ease the process of land expropriation, the local government in Jiaxing, a prefecture-level city in northern Zhejiang, took an initiative in 2008 that has been quickly expanded to many localities. The Jiaxing government provides villagers who voluntarily give up their housing plots three compensation options: urban housing, regular rents from a factory building located in a development zone, and a one-time monetary transfer. The major difference between urban and rural housing is that the former can be sold on the market while the latter cannot, due to the dual land tenure system. Villagers who take compensation with the form of urban housing will have complete control of their house and can determine when, if ever, to sell it. Villagers are allowed to combine options. The government also provides villagers who give up their agricultural land with a pension. A portion of land transfer fee is allocated to

²⁶Budget revenue data are from China Financial Yearbook, 2009, p. 405.

finance pension provision. The government provides job training and consultation to assist those who lose land and become jobless. Agricultural firms and farms that lease agricultural land given up by villagers give priority to local land-losing villagers when hiring.²⁷

In Xiaoshan, Hangzhou, capital of Zhejiang, pension provision is associated with the amount of land expropriated. Every 0.5 *mu* (approximately 0.08 acre) of individual agricultural land expropriated is associated with one person receiving a pension without having to cost-share. If the expropriated land is less than 0.5 *mu*, villagers can pay the difference in order to receive a pension. When a rural household's land is expropriated but the amount of expropriated land is not sufficiently large to provide pensions for everyone in the household, villagers are surprisingly rational in determining who in the household will get the pension. Husbands usually give the chance to their wives. According to local regulations, the age of those receiving pension benefits varies by sex: women start receiving a pension at age 50 while men must wait until they reach 60.²⁸ A villager explains his calculation, "If my wife takes up the opportunity [of getting the pension], she will receive the pension for more than 10 years than I would."²⁹ Younger people give the opportunity to older people, who will receive the pension sooner than they will. So long as they maintain rural residency, they will have the opportunity of getting a pension when rural land is expropriated in the future.

4.4.2 Rural Social Welfare Provision in Chongqing

Chongqing faces a serious challenge of land quota scarcity. After successfully attracting HP and Foxconn—Apple's manufacturer—to locate, Chongqing aims to become the largest

²⁷Working Brief on Establishing New Villages in Nanxun (南浔区新农村试验示范区建设), 2009. The document is not publicly available.

²⁸See Xiaoshan Pension Policy for Land-losing villagers (萧山区征地农转非养老保险新政策), available at <http://www.lzbz.xs.zj.cn/0303/2983.htm>. The age requirement varies across localities. The State Council suggests the age of 60 for receiving pension, regardless of sex. See the State Council, 2009, No 32 Document. (国务院发布开展新型农村社会养老保险试点指导意见), Article 7. Zhejiang provincial government suggests that women and men start receiving pension at their 55 and 60, respectively. See Zhejiang Government, 2009, (浙江省征地补偿和被征地农民基本生活保障办法), Article 16.

²⁹Zhao, Hu and Yu 2008, p. 22.

laptop production base in Asia. Additionally, the municipality aims to become an important growth pole in western China and an economic hub in the upper reaches of Yangtze River. These ambitious development goals create a large demand for urban construction land, but the supply is limited. According to a high-level official from the Chongqing Land and Resources Bureau, to meet its development goals, Chongqing requires 15,000 hectares of urban construction land each year, but receives only 10,000 hectares of land quotas from the central government, generating a gap of 5,000 hectares of construction land (Interview CQ04280110). The Dadukou (大渡口区) District in Chongqing was assigned 200 hectares in land quotas for a period from 1997 to 2010, but these quotas were exhausted by 2003 (Interview CQ05121210). My interviews with officials from economic development zones in Chongqing suggest that they feel more constrained by urban construction land than by capital (Interviews CQ05110110, CQ05110210, CQ05130110). The former party secretary of Chongqing, Wang Yang, initiated the UMURA project that partially relieves pressure from land quota scarcity. Chongqing was authorized to experiment with UMURA comprehensive reform (全国统筹城乡综合配套改革试验区) in 2007, which continued to be carried out by Wang's successors, Bo Xilai and later Zhang Dejiang after Bo's removal.

During experimentation, the Chongqing government has encouraged villagers to voluntarily give up land use rights to their housing plots (宅基地使用权) and control rights to their agricultural land (土地承包经营). In return, those who give up their land receive a compensation package, which combines a monetary transfer and social welfare benefits. These benefits include urban residency,³⁰ housing resettlement,³¹ pension benefits, health

³⁰Local firms are rewarded with quotas of converting rural residency to urban residency, on the basis of firm tax contribution and job creation. They can use these quotas to offer urban residents to their migrant rural workers.

³¹The government generally provides several resettlement options for villagers to choose from. For instance, villagers can choose among three alternatives in Jiulongpo. First, villagers can choose to be resettled in a new residential area created by the government. Second, villagers can choose to accept a one-time monetary compensation. Third, villagers who do not have a stable place to live can rent an apartment provided by the government at a discounted rate.

care, guaranteed minimum living benefits, and education subsidies for their children.³² The government does not provide land-losing villagers with unemployment insurance, but does provide free skills training and employment consultation to those who are able and willing to work. In addition, villagers continue to receive dividends generated from their collectively-owned properties managed by their rural collectives.³³ While villagers have to give up their land to receive these benefits, some seem to have easily forgotten the price they paid. On March 15, 2012, Bo Xilai, the former party secretary of Chongqing, was removed from his post. A message posted on China's microblog, the Chinese version of Twitter, says, "He [Bo] gave rural residents the same health insurance that urban residents had. I miss him" (New York Times, March 15, 2012).

An important institutional innovation of the Chongqing UMURA experiment is the Rural Land Exchange (RLE, 农村土地交易所), unique to Chongqing. The local government collects all housing plots and agricultural land given up by villagers. Once reclaimed, rural housing plots generate rural construction land quotas. The RLE functions as an intermediary to help urban construction land users to access land quotas converted from rural housing plots. Through public auction, urban land users who offer the highest price receive land quotas. This auction process converts rural construction land to urban construction land and meanwhile generates revenue for local governments. About 30 percent of the revenue must be returned to villagers (Interview CQ05060210). Since 2009, the Chongqing government has stopped distributing land quotas to those who use land for commercial and residential purposes (e.g., real estate developers) in the main urban districts. Instead, those land users must acquire land quotas through auction at the RLE (Interview CQ05060210). In doing so, the Chongqing government not only receives a large flow of land revenue from real estate

³²Their children, who have not yet completed the nine-year compulsory education, do not need to pay for textbooks and an enrollment fees (杂费) and also receive a living expense allowance for five years.

³³Party committee of Jiulongpo District, Jiulongpo Interim Regulations on Urban-Rural Unified Management and Transformation of Rural Residents to Urban Residents (九龙坡区城乡统筹发展促进农民变市民试行办法), 2007. This document is not publicly accessible.

developers, but also makes more land available for manufacturing industries, a source to generate steadier tax revenue. As of 2008, one hectare of land generated on average a land transfer fee of 8.42 million RMB in Chongqing.³⁴ The total land transfer fee accounted for 40 percent of budget revenue.³⁵ Local governments also collect reclaimed land converted from housing plots and agricultural land from individual villagers. After pooling all agricultural land together, they lease out land use rights to large-scale land users, who can take advantage of economies of scale. In Jiulongpo District, the local governments collected 407 hectares of agricultural land from 2,300 villagers and leased out the land to over 100 firms growing flowers (Interview CQ05140110). The rent from leasing out agricultural land is then divided between rural collectives and villagers.

To sum up, the conflicts arising from the demand for and supply of urban construction land help, but do not guarantee, an UMURA experimental status for local governments. This experimental status permits local governments to gain additional land through rural-to-urban construction land conversion, thereby getting around some of the restriction of construction land quotas. As experimental status draws increased attention from the central government, local governments in both Zhejiang and Chongqing have taken actions to provide villagers with social welfare benefits. But these benefits have been provided in such a way that access to benefits is not universal, and is instead biased toward land-losing villagers. While a nontrivial portion of land revenue must be used to deliver rural social welfare, a significant portion of it is retained by local governments.

4.5 Data, Measurement, and Analysis

4.5.1 Data and Measurement

I turn now to statistical analysis to test if the logic of land for welfare holds in a larger context. The analysis requires data at both individual and locality levels. At the individual level, I use the China Survey, a collaborative project between Texas A&M University and

³⁴China Land and Resources Statistical Yearbook, 2009, p. 171.

³⁵Budget revenue data is from China Financial Yearbook, 2009, p. 405.

Beijing University, conducted from April 2 through June 5, 2008. The survey is a stratified multi-stage probability sample of 3989 households, covering 59 municipalities in 26 provinces.³⁶ Sampled households consist of 2992 rural residents and 977 urban residents.³⁷ As this chapter focuses on rural welfare provision, I use rural residents, a subset of the sample, in my analysis. At the locality level, I take municipality as the level of analysis due to data availability; I compiled a dataset for 59 municipalities to match the respondents in the China Survey.

Dependent Variable: The dependent variable, social welfare provision, is commonly measured as a proportion of governmental spending (e.g., Wibbels and Ahlquist 2011) or proportion of GDP (e.g., Huber, Mustillo and Stephens 2008). Such a measure is simple and facilitates cross-country comparative analysis. It is somewhat problematic in the study of the rural welfare provision in China for the following reasons. First, rural residents are discriminated against in access to welfare benefits. A simple measure used in the literature cannot distinguish between urban and rural beneficiaries. Second, government revenue and expenditure structures in China consist of budgetary and extrabudgetary components. Land transfer fees, the largest portion of revenue derived from land, fall under the category of extrabudgetary revenue. As discussed in the case studies, a nontrivial portion of the land transfer fee is allocated to providing benefits in rural areas, including welfare provision. As a result, a measure of government spending on social welfare should take into account extrabudgetary spending, which is publicly unavailable. More importantly, I hypothesize that the provision of rural welfare benefits is not universal, but biased toward a select set of rural residents. Rural residents who experienced land confiscation are more likely to receive welfare benefits than those who did not. This hypothesis cannot be tested using the common measure in the literature.

³⁶The China Survey questionnaire, can be found at its website: <http://thechinasurvey.tamu.edu>. Landry and Stockmann (2009) have a detailed discussion of the China Survey sampling.

³⁷The residential status (i.e., urban vs. rural) is missing for 20 observations.

Taking advantage of the China Survey, the dependent variable, social welfare provision, is measured by pensions and unemployment insurance at the individual level. The survey asks the following question: “Except for the commercial insurance you personally purchased, do you have the following welfare benefits?” Both forms of insurance are measured as dichotomous variables: 1 for yes, 0 for no.

Independent Variables: The independent variables of interest include land confiscation and the interplay among state actors. Land confiscation is measured at the individual level using the China Survey. The survey asks the following question: “Did your household experience confiscation of land property or resettlement in the past?” The answer is coded dichotomously: 1 for yes, 0 for no. The interplay between the central and local governments is measured at the locality level, using an indicator of whether the province where each municipality is located received UMURA experimental status. The central government granted the experimental status in an incremental manner. The UMURA experiment had been conducted in eight provinces by 2005 and had gradually expanded to eleven provinces by 2007.³⁸

Control Variables: I include as controls several variables capturing individual characteristics, such as age, sex, years of education, an indicator of communist party membership, and occupation. At the municipality level, I control for level of economic development, government fiscal capacity, and the impact of globalization. Economic development is measured by the logarithm of local GDP per capita. Fiscal capacity is captured by budget deficit, measured by the ratio of budget expenditure to revenue (Lorentzen, Landry and Yasuda 2010). Although budget deficit does not take extrabudgetary component into account, it nonetheless systematically reflects government fiscal capacity. The underlying assumption is that extrabudgetary revenue is used to balance the budget. Consequently, higher budget deficit

³⁸The experimental provinces include Tianjin, Inner Mongolia, Jiangsu, Zhejiang, Anhui, Shandong, Henan, Hubei, Guangdong, Sichuan, and Chongqing. Ministry of Land and Resources, 2007, Notification on experimentation of linking the contraction of rural construction land with the expansion of urban construction land (关于进一步规范城乡建设用地增减挂钩试点工作的通知), Document No. 169.

takes away more extrabudget revenue, leaving local government less freedom in allocating extrabudgetary revenue. The impact of globalization is measured by foreign direct investment (FDI) as a proportion of local GDP (Huber, Mustillo and Stephens 2008). A detailed variable definition, sources, and summary statistics are presented in appendix C for the individual-level variables and in appendix D for the municipal-level variables.

4.5.2 Analysis

I estimate four models specified as follows:

$$\text{logit}\{Pr(y_{ij} = 1)\} = \beta_0 + \beta_1 x_{1ij} + \beta_2 x_{2j} + \mathbf{I}'_{ij} \boldsymbol{\alpha} + \mathbf{R}'_j \boldsymbol{\gamma} + \xi_{ij} \quad (4.1)$$

$$\text{logit}\{Pr(y_{ij} = 1)\} = (\beta_0 + \zeta_j) + \beta_1 x_{1ij} + \beta_2 x_{2j} + \mathbf{I}'_{ij} \boldsymbol{\alpha} + \mathbf{R}'_j \boldsymbol{\gamma} + \epsilon_{ij} \quad (4.2)$$

$$\text{logit}\{Pr(y_{ij} = 1)\} = (\beta_0 + \zeta_j) + \beta_1 x_{1ij} + \beta_2 x_{2j} + \beta_3 x_{1ij} x_{2j} + \mathbf{I}'_{ij} \boldsymbol{\alpha} + \mathbf{R}'_j \boldsymbol{\gamma} + \epsilon_{ij} \quad (4.3)$$

$$\text{logit}\{Pr(y_{ij} = 1)\} = (\beta_0 + \zeta_{1j}) + (\beta_1 + \beta_3 x_{2j} + \zeta_2) x_{1ij} + \beta_2 x_{2j} + \mathbf{I}'_{ij} \boldsymbol{\alpha} + \mathbf{R}'_j \boldsymbol{\gamma} + \epsilon_{ij} \quad (4.4)$$

Where i indexes villagers and j indexes 59 municipalities. The variable x_1 is land expropriation at the individual level and x_2 is experimental status at the municipal level. $\beta_1, \beta_2, \beta_3$ are coefficients associated with land expropriation, experimental status, and their interaction, respectively. \mathbf{I} is a 12×1 vector of individual controls. \mathbf{R} is a 3×1 vector of control variables at the municipal level. $\boldsymbol{\alpha}_{12 \times 1}$ and $\boldsymbol{\gamma}_{3 \times 1}$ are column vectors of coefficients associated with \mathbf{I} and \mathbf{R} , respectively. β_0 is the intercept. ξ_{ij}, ϵ_{ij} are idiosyncratic errors. The error component ζ_j in models 4.2 and 4.3 represents a municipality-specific random intercept and $\xi_{ij} \equiv \zeta_j + \epsilon_{ij}$. In model 4.4 the error components ζ_{1j} and ζ_{2j} represent a municipality-specific random intercept and random coefficient, respectively. The total residual is now: $\xi_{ij} \equiv \zeta_{1j} + \zeta_{2j} x_{1ij} + \epsilon_{ij}$.

I first conduct logistic regressions (model 4.1), taking into account the complex survey structure, shown in appendix C. To relax the assumption of conditional independence among the responses for the same municipality given the covariates, I estimate the model 4.2 using random-intercept logistic regression, which essentially introduces a municipality-specific error component ζ_j in the regression to allow the intercept to vary across municipalities. To

test hypothesis 3, I include an interaction term of the two explanatory variables, i.e., land expropriation and experimental site indicator in the random intercept model (i.e., model 4.3). Finally, I estimate a random coefficient model (i.e., model 4.4), allowing the effects of land expropriation to vary across municipalities. Table 4.4 and 4.5 report estimated results for the provision of pensions and unemployment insurance, respectively. For both measures of the dependent variable, while the value of the coefficients of key explanatory variables differs slightly between the estimations for complex survey and for random intercept model, the sign and statistical significance remain the same.

In table 4.4, both land expropriation and the experimental site indicator have a positive statistically significant association with pension when the interaction term is not included, confirming my first and second hypotheses. The coefficient of land expropriation becomes statistically insignificant once the interaction term is included, but the interaction term itself is statistically significant at the 5 percent level. These results suggest that not all land-losing villagers receive pensions. Rather, land-losing villagers from experimental sites have a higher probability of receiving pensions, supporting hypothesis 3. I calculate average marginal effects of land expropriation and experimental status on pensions, using the results estimated in model 3. The predicted probability of receiving pensions is 3.4 percent for villagers who did not experience land expropriation at non-experimental sites, holding everything else at their mean values. This probability increases to 11.3 percent for villagers whose land has been expropriated at experimental sites. Holding land expropriation at one and everything else at their mean values, a villager living in a locality with experimental status increases his probability of receiving a pension by 9.2 percent.

The analysis conducted here tends to underestimate the effect of land expropriation on pension provision. The estimation in the analysis only considers the situation where local governments offer social welfare benefits and villagers accept. There is another possibility. Villagers may reject the offer of social welfare provision for a number of reasons. Villagers may doubt the credibility of the offer and want to wait and see. Alternatively, the welfare benefits provided by local officials may still not be attractive enough for villagers to give

Table 4.4: Pensions in Rural China

	Logit		Hierarchical Logit			
	(complex survey)		random intercept		random intercept	
	Coef.	SE	Coef.	SE	Coef.	SE
land expropriation experiment	0.643** 1.061***	(0.288) (0.265)	0.392* 0.746***	(0.227) (0.266)	-0.462 0.580** 1.182**	(0.504) (0.273) (0.574)
land expropriation \times experiment						
sex (male=1)	0.165	(0.213)	0.089	(0.186)	0.091	(0.186)
age	0.036***	(0.009)	0.029***	(0.007)	0.029***	(0.007)
years of education	0.170***	(0.045)	0.134***	(0.030)	0.136***	(0.030)
CCP	-0.006	(0.362)	0.480	(0.304)	0.439	(0.305)
agricultural worker	-1.051**	(0.505)	-0.846**	(0.335)	-0.864***	(0.336)
commerce worker	0.249	(1.062)	0.909*	(0.527)	0.948*	(0.529)
sole proprietor	-0.509	(0.464)	-0.139	(0.401)	-0.175	(0.403)
private entrepreneur	0.915	(1.111)	0.220	(0.736)	0.174	(0.740)
industrial worker	0.039	(0.517)	0.463	(0.358)	0.455	(0.359)
party or govt official	1.178	(1.096)	0.928	(0.661)	1.005	(0.663)
enterprise manager	0.066	(0.752)	0.482	(0.809)	0.418	(0.811)
professional	0.305	(0.737)	1.286**	(0.503)	1.323***	(0.505)
globalization (FDI/GDP)	0.869	(0.724)	0.895	(0.687)	0.874	(0.684)
GDP per capita (log)	0.721***	(0.256)	0.812***	(0.257)	0.822***	(0.255)
budget deficit	0.089	(0.140)	0.160*	(0.090)	0.161*	(0.090)
constant	-12.957***	(3.087)	-13.666***	(2.803)	-13.643***	(2.777)
s.d. of intercept			0.569		0.552	
s.d. of random slope					.576	
correlation b/t intercept and slope					.085	
intraclass correlation			0.089		-1	
Observations	2204		2204		2204	
Population size	463039558					
F	12.75					
$p > F$	0.000					
Log likelihood			-505.318		-502.898	
					-502.826	

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are in parentheses.

Source: The China Survey and author's dataset.

Table 4.5: Unemployment Insurance in Rural China

	Logit		Hierarchical Logit			
	(complex survey)		random intercept		random intercept	
	(1)		(2)		(3)	
	Coef.	SE	Coef.	SE	Coef.	SE
land expropriation	0.623	(0.411)	0.564	(0.397)	0.160	(0.798)
experiment	1.256**	(0.477)	0.891**	(0.393)	0.795*	(0.421)
land expropriation \times expt.					0.568	(0.931)
sex(male=1)	-0.644*	(0.338)	-0.543	(0.346)	-0.536	(0.346)
age	0.025	(0.016)	0.006	(0.014)	0.006	(0.014)
years of education	0.269***	(0.071)	0.204***	(0.057)	0.204***	(0.057)
CCP	0.110	(0.855)	0.877*	(0.524)	0.857	(0.524)
agricultural worker	-1.294*	(0.745)	-0.976*	(0.552)	-0.972*	(0.553)
commerce worker	0.785	(1.192)	0.833	(0.727)	0.881	(0.732)
sole proprietor	-0.773	(0.716)	-0.904	(0.730)	-0.909	(0.731)
private entrepreneur†						
industrial worker	0.086	(0.704)	0.527	(0.528)	0.535	(0.530)
party or govt official	1.657	(1.279)	1.023	(0.991)	1.072	(0.994)
enterprise manager	0.329	(0.985)	0.807	(0.980)	0.786	(0.985)
professional	0.680	(0.925)	1.685***	(0.658)	1.719***	(0.660)
globalization (FDI/GDP)	1.156	(1.122)	1.568*	(0.946)	1.560	(0.954)
GDP per capita (log)	0.463	(0.468)	0.480	(0.379)	0.486	(0.381)
budget deficit	0.041	(0.183)	0.079	(0.161)	0.081	(0.161)
constant	-11.721**	(5.548)	-11.045***	(4.253)	-11.041***	(4.265)
s.d. of intercept			0.442		0.445	
intraclass correlation			0.056		0.057	
Observations	2077		2077		2077	
Population size	437456879					
F	11.23					
$p > F$	0.000					
Log likelihood			-174.047		-173.851	

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors are in parentheses.

†:Private entrepreneur is not included in the regressions because of perfect prediction. STATA automatically drops observations with private entrepreneurs equal 1 in regression 1. In hierarchical logit regressions 2-4, STATA does not drop these observations but produces infinite coefficient associated with private entrepreneur with infinite standard errors. I manually dropped these observations.

Source: The China Survey and author's dataset.

up their land. Anticipating that land will become more valuable tomorrow than it is today, villagers, if allowed, may choose to keep their land and reject the offer of the compensation package. While the data do not allow us to consider the situation when villagers reject, we anticipate the effect of land expropriation on social welfare provision will be greater than suggested by the the estimation conducted here.

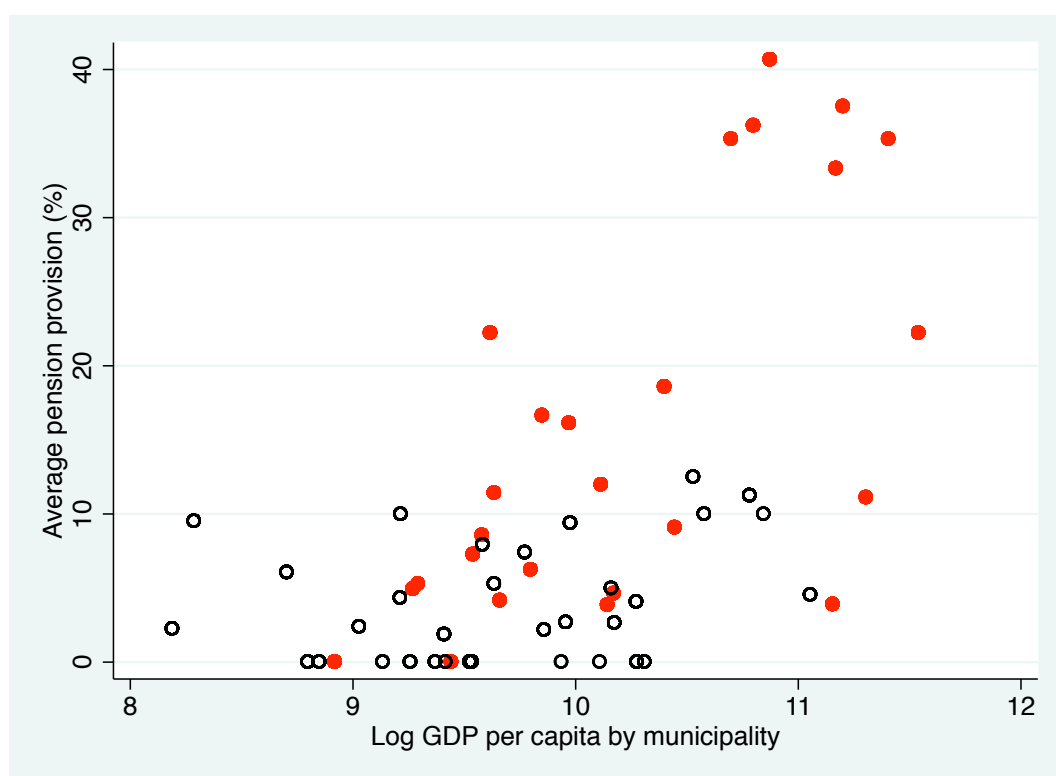
The results presented in table 4.5 suggest that villagers who experienced land expropriation are not compensated with unemployment insurance, rejecting the first hypothesis. UMURA experimental status has a positive statistically significant effect on unemployment insurance at the 5 percent level. However, the marginal effect of experimental status on unemployment is not substantively different from zero. Living in a locality with experimental status increases a villager's probability of receiving unemployment by 0.7 percent if he did not experience land expropriation and by 1.2 percent if his land was expropriated, holding everything else at their mean values. As suggested from the case studies, local governments from experimental sites provide job training and consulting, but no unemployment insurance. In general, it is rare for villagers to receive unemployment insurance. Among the 2,351 respondents who answered the question, only 50, or 2 percent of them, have unemployment insurance, and 34 of them are from municipalities with experimental status. The interaction term is statistically insignificant, suggesting land-losing villagers in experimental sites are not have privileged in receiving unemployment insurance. The estimated (no) effect of land expropriation on unemployment insurance is consistent with the case studies. Local governments refuse to provide unemployment insurance for a number of reasons. Many villagers have other jobs in addition to farming and therefore are not completely jobless after their land is expropriated. More importantly, providing working-age land-losing villagers with unemployment insurance imposes a huge financial burden on local governments.

Individual-level control variables have similar results between the provision of unemployment insurance and pension with two exceptions: age and occupation of commerce worker. Age has a positive, statistically significant effect on pension but not on unemployment insurance. The positive effect of age on pension suggests two patterns in pension provision.

First, older people may be more willing to give up their land when a pension is provided in the compensation package. Alternatively, as the case studies from Zhejiang indicate, when the opportunity of receiving a pension is limited, family members rationally choose to give the opportunity to older people who will receive pension benefits sooner. Villagers who are more educated have a higher chance of receiving pensions and unemployment insurance. Surprisingly, being a communist party member does not provide privileged access to social welfare benefits. Being an agricultural worker decreases the probability of receiving social welfare benefits, while being a skilled worker or professional increases the probability.

Municipality-level control variables exhibit different impacts on the provision of pension benefits and unemployment insurance. The coefficient of globalization is not statistically different from 0 for both forms of insurance, thereby rejecting the idea that globalization leads to a “race to the bottom.” It is worth noting that both GDP per capita and budget deficit have positive statistically significant effects on pension, but not on unemployment insurance. This is interesting because governments from wealthier localities usually run smaller deficits, as indicated by the negative correlation between the two variables shown in appendix D. Positive coefficients of GDP per capita and budget deficit suggest that pensions are more likely to be provided in wealthier localities as well as some localities which may not be very wealthy and also face a greater fiscal burden. I suspect many of these localities are granted experimental status, such as Chongqing, one of my case studies. As shown on the map in figure 4.3, provinces granted experimental status are not all concentrated along the east coast, where the economy is more developed and local governments have smaller budget deficit. I reproduce figure 4.1 to plot the average pension coverage against local GDP per capita, separating experimental and non-experimental sites. The pattern in figure 4.4 confirms what I suspected. A higher ratio of pension coverage is associated with wealthier localities and localities with experimental status, holding the level of economic development constant.

Figure 4.4: Pension Provision in Rural China



Circles = experimental sites, Hollowed circles = non-experimental sites.

Source: The China Survey, 2008

4.6 Conclusion

This chapter examines why an autocrat provides social welfare benefits in the context of China. It demonstrates qualitatively and quantitatively the affinity between land confiscation and rural social welfare provision. In doing so, it offers an alternative explanation of social welfare provision in an authoritarian context, where meaningful elections—the exact mechanism holding political leaders accountable—are absent. The land property rights regime and the urban-rural gap in social welfare provision, both inherited from the communist past, constitute an institutional context in which state actors are embedded. The dual land tenure system creates an opportunity for local government officials to generate revenue from rural-to-urban land conversion. The profound urban-rural gap in social welfare provision allows local government officials to use social welfare benefits as an instrument to facilitate land confiscation. However, local governments have multiple instruments to ease rural land expropriation and the provision of welfare benefits is only one of them. Local governments are more willing to provide rural social welfare benefits when they are granted the UMURA experimental status, allowing them to get around the restriction of land quotas. The provision of social welfare benefits is not universal however, but biased toward land-losing villagers. In developing these arguments, this chapter highlights three factors in explaining the pattern of rural welfare provision in China: communist legacies, the interplay of state actors, and selective provision of welfare benefits.

Due to limited data availability, the social welfare benefits examined in this chapter include only pension and unemployment insurance. But the logic of land for welfare applies to other welfare benefits, such as guaranteed minimum living benefits, another insurance function that land plays for rural population. Rural health care provision may not be closely linked with land confiscation. The central government has taken a more aggressive approach to establish a rural health care system, which, like other reforms, started from a few experimental sites and was intended to be gradually expanded nationwide by 2008 (No 1 Document, 2006, Article 20). The findings on the association between land confiscation and rural social welfare provision are expected to apply to rural public goods. The logic is

similar. Local governments build good communities with better facilities (such as access to roads, flush toilets, sewage treatment), making villagers more willing to move to these new communities. Once they move, their individual housing plots—a source of rural construction land—become available for local governments.

This chapter discusses three actors involved in the process of rural social welfare provision—the central government, local governments, and villagers—each with their own preferences. The actual implementation of social welfare provision reflects a compromise between the central and local governments. The central government fears a potential threat to regime stability from an increasingly impoverished rural population and therefore prefers improving rural social welfare. Its preference is carried out by providing local governments an incentive to experiment with UMURA and gradually expand it nationwide. Local governments are clearly the beneficiaries in the process of rural welfare provision for they gain land and subsequent revenues. But this may not be the case for rural residents because what they receive is a conditional welfare transfer. The price they have to pay in order to receive the welfare benefits is not trivial: they have to give up their land, possibly the most precious asset they have. In the process of land confiscation, land's insurance function is only partially compensated: while pensions are provided, unemployment insurance is not.

Empirically, the provision of social insurance to land-losing villagers has serious consequences. Without provision of social insurance, this group can easily spend all monetary compensation and then become more impoverished than when they owned land. As the size of this group grows, the urban-rural gap does not narrow; rather, it widens. To mitigate the urban-rural gap, the central government has recently taken action to encourage rural pension provision, in addition to issue guidelines (e.g., Central Document No. 1). In August 2009, Premier Wen Jiabao promised that the central government would provide full financial support for rural pension provision in the central and western regions and will subsidize 50 percent of local government spending on rural pension provision in the east. The central government plans to start this project from a few localities as an experiment and will expand

it nationwide by 2020.³⁹ This central government's action provides financial incentive for local governments, but only time will tell whether this action will help expand rural pension provision from land-losing villagers to the whole rural population.

³⁹State Council Holding a Meeting on Experimenting with New Rural Pensions (国务院 10 日召开新型农村社会养老保险试点工作会), available at http://www.gov.cn/ldhd/2009-08/18/content_1394995.htm

Bibliography

- Acemoglu, Daron and James A. Robinson. 2006. *Economic Origins of Dictatorship and Democracy*. Cambridge: Cambridge University Press.
- Acemoglu, Daron and Simon Johnson. 2005. “Unbundling Institutions.” *Journal of Political Economy* 113(5):950–995.
- Bates, Robert H. 1981. *Markets and States in Tropical Africa: The Political Basis of Agricultural Policies*. Berkeley, California: University of California Press.
- Bernstein, Thomas P. and Xiaobo Lu. 2003. *Taxation without Representation in Contemporary Rural China*. Cambridge: Cambridge University Press.
- Besley, Timothy. 1995. “Property Rights and Investment Incentives: Theory and Evidence from Ghana.” *Journal of Political Economy* 103(5):903–937.
- Besley, Timothy and Robin Burgess. 2002. “The Political Economy of Government Responsiveness: Theory and Evidence from India.” *The Quarterly Journal of Economics* 117(4):1415–1451.
- Bueno de Mesquita, Bruce, Alastair Smith, Randolph M. Siverson and James D. Morrow. 2003. *The Logic of Political Survival*. Cambridge, Massachusetts: MIT Press.
- Burns, John. 1994. “Strengthening CCP Control of Leadership Selection: The 1990 Nomenclatura.” *The China Quarterly* 138:458–491.
- Cai, Hongbin and Daniel Treisman. 2005. “Does Competition for Capital Discipline Governments? Decentralization, Globalization, and Public Policy.” *American Economic Review* 95(3):817–830.
- Cai, Hongbin and Daniel Treisman. 2006. “Did Government Decentralization Cause China’s Economic Miracle.” *World Politics* 58(4):505–535.
- Che, Jiahua and Yingyi Qian. 1998a. “Insecure Property Rights and Government Ownership of Firms.” *Quarterly Journal of Economics* 113(2):467–496.
- Che, Jiahua and Yingyi Qian. 1998b. “Institutional Environment, Community Government, and Corporate Governance: Understanding China’s Township-Village Enterprises.” *Journal of Law, Economics, and Organization* 14(1):1–23.

- Chen, Ruoying. 2010. *Divided World: China's Land Tenure System and Implication to Foreign Investment in China*.
- Cheung, Steven. 2009. *The Economic System of China*. Beijing: China CITIC Press.
- China Daily. 2010. *Rural Land Disputes Lead Unrest in China*.
- China Land Yearbook Commission. 1995. *China Land Yearbook*. China People Press.
- China Tax Yearbook Commission. 2002. *China Tax Yearbook*. Beijing: China Tax Press.
- China Tax Yearbook Commission. 2003. *China Tax Yearbook*. Beijing: China Tax Press.
- China Tax Yearbook Commission. 2004. *China Tax Yearbook*. Beijing: China Tax Press.
- China Tax Yearbook Commission. 2005. *China Tax Yearbook*. Beijing: China Tax Press.
- China Tax Yearbook Commission. 2006. *China Tax Yearbook*. Beijing: China Tax Press.
- China Tax Yearbook Commission. 2007. *China Tax Yearbook*. Beijing: China Tax Press.
- Chongqing Government. 2008. *Chongqing Government, Temporary Measures on Management of the Chongqing Rural Land Exchange*.
- Clague, Christopher, Philip Keefer, Stephen Knack and Mancur Olson. 1996. "Property and Contract Rights in Autocracies and Democracies." *Journal of Economic Growth* 1(2):243–276.
- Cook, Oinda J. 2007. *Postcommunist Welfare States: Reform Politics in Russia and Eastern Europe*. Ithaca, New York: Cornell University Press.
- Demsetz, Harold. 1967. "Toward a Theory of Property Rights." *American Economic Review* 57(2):347–359.
- Easter, Gerald M. 2002. "Politics of Revenue Extraction in Post-communist States: Poland and Russia Compared." *Political Theory* 30(4):599–627.
- Edin, Maria. 2003. "State Capacity and Local Agent Control in China: CCP Cadre Management from a Township Perspective." *The China Quarterly* 173:35–52.
- Foster, Andrew D. and Mark R. Rosensweig. 2004. *Democratization and the Distribution of Local Public Goods in a Poor Rural Economy*.
- Frye, Timothy and Andrei Shleifer. 1997. "The Invisible Hand and the Grabbing Hand." *American Economic Review* 87(2):354–358.
- Garnaut, John. 2010. *China's land disputes at crisis point as revolutionary turmoil beckons, says professor of disenfranchised*.

- Garrett, Geoffrey. 2001. "Globalization and Government Spending Around the World." *International Organization* 35(4):3–29.
- Gehlbach, Scott. 2008. *Representation through Taxation: Revenue, Politics, and Development in Postcommunist States*. Cambridge: Cambridge University Press.
- General Office of the State Council. 2004. *Urgent Notification on Regulating Land Market and Strengthening Land Management*.
- Guo, Gang. 2009. "China's Local Political Budget Cycles." *American Journal of Political Science* 53(3):621–632.
- Guo, Xiaolin. 2001. "Land Expropriation and Rural Conflicts in China." *The China Quarterly* (166):422–439.
- Haber, Stephen, Armando Razo and Noel Maurer. 2003. *The Politics of Property Rights: Political Instability, Credible Commitments, and Economic Growth in Mexico, 1876-1929*. Cambridge: Cambridge University Press.
- Haggard, Stephan and Robert R. Kaufman. 2008. *Development, Democracy, and Welfare State: Latin America, East Asia, and eastern Europe*. Princeton, New Jersey: Princeton University Press.
- Heilmann, Sebastian. 2007. "Policy Experimentation in China's Economic Rise." *Studies in Comparative International Development* 43:1–26.
- Hellman, Joel S. 1998. "Winners Take All: The politics of Partial Reform in Postcommunist Transitions." *World Politics* 50(2):203–234.
- Ho, Peter. 2005. *Institutions in Transition: Land Ownership, Property Rights, and Social Conflict in China*. Oxford: Oxford University Press.
- Hsing, You-tien. 2010. *The Great Urban Transformation: Politics of Land and Property in China*. Oxford: Oxford University Press.
- Hu, Yueming, Feixiang Chen, Jinggang Li and Lu Wang. 2009. *Analysis of Land Use in Guangzhou*. Beijing: China Scientific Technoogy Press.
- Huang, Yasheng. 1995. "Administrative Monitoring in China." *the China Quarterly* (143):828–844.
- Huang, Yasheng. 2008. *Capitalism with Chinese Characteristics: Entrepreneurship and the State*. Cambridge: Cambridge University Press.
- Huang, Yiping and Kunyu Tao. 2010. *Causes and Remedies of China's External Imbalances*. China Center for Economic Research Working Paper No. E2010002, Peking University, Beijing.

- Huber, Evelyn, Thomas Mustillo and John D. Stephens. 2008. "Politics and Social Spending in Latin America." *Journal of Politics* 70(2):420–436.
- Jiang, Shengsan, Shouying Liu and Qing Li. 2007. "Land System Reform and National Economic Growth." *Management World* 9:1–9.
- Jin, Hehui and Yingyi Qian. 1998. "Public Versus Private Ownership of Firms: Evidence from Rural China." *Quarterly Journal of Economics* 113(3):773–808.
- Jin, Hehui, Yingyi Qian and Barry R. Weingast. 2005. "Regional Decentralization and Fiscal Incentives: Federalism, Chinese Style." *Journal of Public Economics* 89:1719–1742.
- Katzenstein, Peter J. 1985. *Small States in World Markets : Industrial Policy in Europe*. Ithaca, New York: Cornell University Press.
- Knight, John and Lina Song. 1999. *The Rural-Urban Divide: Economic Disparities and Interactions in China*. New York, New York: Oxford University Press.
- Kornai, Janos. 1992. *The Socialist System: The Political Economy of Communism*. Princeton, New Jersey: Princeton University Press.
- Kung, James Kai-sing. 1995. "Equal Entitlement Versus Tenure Security Under a Regime of Collective Property Rights: Peasants' Preferences for Institutions in Post-Reform China." *Journal of Comparative Economics* 21(1):82–111.
- Kung, James Kai-sing. 2000. "Common Property Rights and Land Reallocations in Rural China: Evidence from a Village Survey." *World Development* 28(4):701–19.
- Lam, Tao-chiu and Hon S. Chan. 1996. "Reforming China's Cadre Management System." *Asian Survey* 36(4):772–786.
- Landry, Pierre F. 2003. "The Political Management of Mayors in Post-Deng China." *The Copenhagen Journal of Asian Studies* 17:31–58.
- Landry, Pierre F. 2008. *Decentralized Authoritarianism in China: The Communist Party's Control of Local Elites in the Post-Mao Era*. Cambridge, Massachusetts: Cambridge University Press.
- Landry, Pierre F. and Daniela Stockmann. 2009. *Crisis Management in an Authoritarian Regime: Media Effects during the Sichuan Earthquake*.
- Levi, Margaret. 1988. *Of Rule and Revenue*. Berkeley: University of California Press.
- Li, Hongbin and Li-An Zhou. 2005. "Political Turnover and Economic Performance: The Incentive Role of Personnel Control in China." *Journal of Public Economics* 89:1743–1762.

- Lieberthal, Kenneth G. 1992. Introduction: The 'Fragmented Authoritarianism' Model and Its Limitations. In *Bureaucracy, Politics, and Decision Making in Post-Mao China*, ed. Kenneth G. Lieberthal and David M. Lampton. Berkeley, California: University of California Press pp. 1–25.
- Lin, George C. S. 2009. *Developing China: Land, Politics and Social Conditions*. New York: Routledge.
- Lin, George C.S. and Samuel P. S. Ho. 2005. "The State, Land System, and Land Development Processes in Contemporary China." *Annals of the Association of American Geographers* 92(2):411–436.
- Lin, Justin Yifu. 1992. "Rural Reforms and Agricultural Growth in China." *American Economic Review* 82(1):34–51.
- Lipton, Michael. 1977. *Why Poor People Stay Poor: Urban Bias in World Development*. Cambridge, Massachusetts: Harvard University Press.
- Lorentzen, Peter L., Pierre F. Landry and John K. Yasuda. 2010. *Transparent Authoritarianism?: An Analysis of Political and Economic Barriers to Greater Government Transparency in China*.
- Luo, Renfu, Linxiu Zhang, Jikun Huang and Scott Rozelle. 2010. "Village Elections, Public Goods Investments, and Pork Barrel Politics, Chinese Style." *Journal of Development Studies* 46(4):662–684.
- Man, Joyce Yanyun and Yu-Hung Hong. 2011. *China's Local Public Finance in Transition*. Cambridge: Lincoln Institute of Land Policy.
- Manion, Melanie. 1985. "The Cadre Management System, Post-Mao: The Appointment, Promotion, Transfer and Removal of Party and State Leaders." *The China Quarterly* 102:203–233.
- Manion, Melanie. 1993. *Retirement of Revolutionaries in China: Public Policies, Social Norms, Private Interests*. Princeton, New Jersey: Princeton University Press.
- Manion, Melanie. 2012. *The Selectorate Connection in Chinese Local Congresses*.
- Maskin, Eric, Yingyi Qian and Chenggang Xu. 2000. "Incentives, Information, and Organizational Form." *Review of Economic Studies* 67(2):359–378.
- Ministry of Finance. 2004. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Finance. 2005. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Finance. 2006a. *China Fiscal Yearbook*. Beijing: China Finance Press.

- Ministry of Finance. 2006b. *Financial Statistical Material for Prefectures, Cities, and Counties Nationwide*. Beijing: China Finance and Economics Press.
- Ministry of Finance. 2007. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Finance. 2008. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Finance. 2009. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Finance. 2010. *China Fiscal Yearbook*. Beijing: China Finance Press.
- Ministry of Land and Resources. 2000. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2001. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2005. *China Land and Resources Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2006. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2007a. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2007b. *Provisions on the Assignment of State-owned Construction Land Using Rights through Bid Invitation, Auction, and Quotation*.
- Ministry of Land and Resources. 2008a. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Ministry of Land and Resources. 2008b. *Measures on management of land use in contracts for expansion and contraction in pilot sites for urban and rural construction*.
- Ministry of Land and Resources. 2009. *China Land and Resources Statistical Yearbook*. Beijing: China Geology Press.
- Minzner, Carl. 2009. "Riots and Cover-ups: Counterproductive Control of Local Agents in China." *University of Pennsylvania Journal of International Law* 31(53-123).
- Montinola, Gabriella, Yingyi Qian and Barry R. Weingast. 1995. "Federalism, Chinese Style: The Political Basis for Economic Success in China." *World Politics* 48(1):50-81.
- Murphy, Kevin M., Andrei Shleifer and Robert W. Vishny. 1991. "The Allocation of Talent: Implications for Growth." *The Quarterly Journal of Economics* 106(2):503-530.

- Murtazashvili, Jennifer Brick. 2009. *The Microfoundations of State Building: Informal Institutions and Local Public Goods in Rural Afghanistan*.
- National Bureau of Statistics of China. 1991. *China Rural Statistical Yearbook*. Beijing: China Statistics Press.
- National Bureau of Statistics of China. 1993. *China Rural Statistical Yearbook*. Beijing: China Statistics Press.
- National Bureau of Statistics of China. 1995. *China Rural Statistical Yearbook*. Beijing: China Statistics Press.
- National Bureau of Statistics of China. 1996. *China Rural Statistical Yearbook*. Beijing: China Statistics Press.
- National Bureau of Statistics of China. 2008. *China Statistical Yearbook*. Beijing: China Statistics Press.
- National Bureau of Statistics of China. 2011. *China Statistical Yearbook*. Beijing: China Statistics Press.
- National People's Congress. 2004. *Land Administration Law*.
- Naughton, Barry. 1992. "Implications of the State Monopoly over Industry and Its Relaxation." *Modern China* 18(1):14–41.
- Naughton, Barry. 2007. *The Chinese Economy: Transition and Growth*. Cambridge, Massachusetts: MIT Press.
- New York Times. 2012. *Upstart Leader in China Is Ousted From Party Post*.
- North, Douglass C. 1981. *Structure and Change in Economic History*. New York: W. W. Norton & Company.
- North, Douglass C. and Robert Paul Thomas. 1973. *The Rise of the Western World*. Cambridge: Cambridge University Press.
- Ofer, Gur. 1987. "Soviet Economic Growth: 1928-1985." *Journal of Economic Literature* 25(4):1767–1833.
- Oi, Jean C. 1992. "Fiscal Reform and the Economic Foundations of Local State Corporatism in China." *World Politics* 45(1):99–126.
- Oi, Jean C. 1999. *Rural China Takes Off: Institutional Foundations of Economic Reform*. Berkeley: University of California Press.

- Oi, Jean C. and Shukai Zhao. 2007. Fiscal Crisis in China's Township: Causes and Consequences. In *Grassroots Political Reform in Contemporary China*, ed. Elizabeth J. Perry and Merle Goldman. Cambridge, Massachusetts: Harvard University Press pp. 75–96.
- Olson, Mancur. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge, Massachusetts: Cambridge University Press.
- Olson, Mancur. 1993. "Dictatorship, Democracy, and Development." *The American Political Science Review* 87(3):567–576.
- Ostrom, Elinor. 1990. *Governing the Commons: The Evolution of Institutions for Collective Action*. New York, New York: Cambridge University Press.
- Peng, Ling, Enjun Ding and Deti Xie. 2011. "An Empirical Analysis of the Relationship between Arable Land Quantity and Land Policy in China." *Journal of Southwest University* 33(11):103–109.
- Perkins, Dwight H. 2009. China's Land System: Past, Present, and Future. In *Property Rights and Land Politics*, ed. Gregory K. Ingram and Yu-Hung Hong. Cambridge: Lincoln Institute of Land Policy pp. 70–92.
- Pollack, Sheldon D. 2009. *War, Revenue, and State Building*. Ithaca: Cornell University Press.
- Przeworski, Adam, Susan C. Stokes and Bernard Manin, eds. 1999. *Democracy, Accountability, and Representation*. Cambridge, Massachusetts: Cambridge University Press.
- Qian, Yingyi and Barry R. Weingast. 1997. "Federalism as a Commitment to Preserving Market Incentives." *Journal of Economic Perspectives* 11(4):83–92.
- Riker, William H. and David L. Weimer. 1993. "The Economic and Political Liberalization of Socialism: The Fundamental Problem of Property Rights." *Social Philosophy and Policy* 10(2):79–102.
- Riker, William H. and David L. Weimer. 1995. The Political Economy of Transformation: Liberalization and Property Rights. In *Modern Political Economy: Old Topics, New Directions*, ed. Jeffrey S. Banks and Eric A. Hanushek. Cambridge: Cambridge University Press pp. 80–107.
- Riker, William H. and Itai Sened. 1991. "A Political Theory of the Origin of Property Rights: Airport Slots." *American Journal of Political Science* 35(4):951–969.
- Rodrik, Dani. 1998. "Why do more open economies have bigger governments?" *The Journal of Political Economy* 106(5):997–1032.
- Roland, Gerard. 2000. *Transition and Economics: Politics, Markets, and Firms*. Cambridge, Massachusetts: The MIT Press.

- Rudra, Nita. 2002. "Globalization and the Decline of the Welfare State in Less-Developed Countries." *International Organization* 56(2):411–445.
- Sened, Itai. 1997. *The Political Institution of Private Property*. Cambridge: Cambridge University Press.
- Sheng, Yumin. 2010. *Economic Openness and Territorial Politics in China*. Cambridge, Massachusetts: Cambridge University Press.
- Shih, Victor, Christopher Adolph and Mingxing Liu. 2012. "Getting Ahead in the Communist Party: Explaining the Advancement of Central Committee Members in China." *American Political Science Review* 106(1):166–187.
- Shih, Victor, Luke Qi Zhang and Mingxing Liu. 2010. *When the Autocrat Gives: Determinants of Fiscal Transfers in China*.
- Shleifer, Andrei. 1997. "Government in transition." *European Economic Review* 41:385–410.
- Shleifer, Andrei and Robert W. Vishny. 1998. The Grabbing Hand. In *The Grabbing Hand: Government Pathologies and Their Cures*, ed. Andrei Shleifer and Robert W. Vishny. Cambridge, Massachusetts: Harvard University Press.
- State Bureau of Land Administration and State Planning Commission. 1997. *Regulations on Freezing Non-agricultural Construction Project Occupying Arable Land*.
- State Council. 1990. *Interim Regulations on Transfers of Urban State-owned Land Use Rights*.
- State Council. 1993. *Interim Regulations on the State Civil Servant*.
- State Council. 1998a. *Regulations on the Implementation of the Land Administration Law*.
- State Council. 1998b. *Regulations on the Protection of Basic Farmland*.
- State Council. 2006. *Circular of the State Council on Intensifying Land Control*.
- Tan, Jun, Yinping Dai and Wei Gao. 2004. "A Case Study of Basic Farmland Protected across jurisdictions in Zhejiang." *Management World* (3):105.
- Tao, Ran, Fubing Su, Mingxing Liu and Guangzhong Cao. 2010. "Land Leasing and Local Public Finance in China's Regional Development: Evidence from Prefecture-level Cities." *Urban Studies* 47(10):2217–2236.
- Tsai, Lily L. 2007. *Accountability Without Democracy: Solidary Groups and Public Goods Provision in Rural China*. Cambridge, Massachusetts: Cambridge University Press.
- Tsui, Kai-yuen and Youqiang Wang. 2004. "Between Separate Stoves and A Single Menu: Fiscal Decentralization in China." *The China Quarterly* 177:71–90.

- Wang, Fei-Ling. 2005. *Organizing Through Division and Exclusion*. Stanford, California: Stanford University Press.
- Wang, Hui and Ran Tao. 2009. "The Zhejiang Model of Land Development Rights Transfer and Transaction." *Management World* (8).
- Wang, Shuna and Yang Yao. 2007. "Grassroots Democracy and Local Governance: Evidence from Rural China." *World Development* 35(10):1635–1649.
- Weimer, David L. 1997. The Political Economy of Property Rights. In *The Political Economy of Property Rights: Institutional Change and Credibility in the Reform of Centrally Planned Economies*, ed. David L. Weimer. Cambridge: Cambridge University Press.
- Weingast, Barry R. 1993. "Constitutions as Governance Structures: The Political Foundations of Secure Markets." *Journal of Institutional and Theoretical Economics* 149(1):286–311.
- Weingast, Barry R. 1995. "The Economic Role of Political Institutions: Market-preserving Federalism and Economic Development." *Journal of Law, Economics, and Organization* 11(1):1–31.
- Whiting, Susan H. 2000. *Power and Wealth in Rural China: The Political Economy of Institutional Change*. Cambridge, Massachusetts: Cambridge University Press.
- Whiting, Susan H. 2004. The Cadre Evaluation System at the Grassroots. In *Holding China Together: Diversity and National Integration in the Post-Deng Era*, ed. Barry J. Naughton and Dali L. Yang. Cambridge, Massachusetts: Cambridge University Press.
- Whiting, Susan H. 2011. Fiscal Reform and Land Public Finance: Zouping County in National Context. In *China's Local Public Finance in Transition*, ed. Joyce Yanyun Man and Yu-Hung Hong. Cambridge, Massachusetts: Lincoln Institute of Land Policy pp. 125–144.
- Whyte, Martin King, ed. 2010. *One Country, Two Societies*. Cambridge, Massachusetts: Harvard University Press.
- Wibbels, Erik. 2006. "Dependency Revisited: International Markets, Business Cycles, and Social Spending in the Developing World." *International Organization* 60(2):433–468.
- Wibbels, Erik. 2011. *Economic Openness, Social Insurance and Development in the other 85 Percent of the World*.
- Wibbels, Erik and John S. Ahlquist. 2011. "Development, Trade, and Social Insurance." *International Studies Quarterly* 55:125–149.
- Wong, Christine. 2009. "Rebuilding Government for the 21st Century: Can China Incrementally Reform the Public Sector?" *The China Quarterly* 200:929–952.

- World Bank. 2002. *China National Development and Subnational Finance*. Washington, DC: World Bank.
- World Bank. 2006. *China Governance, Investment Climate, and Harmonious Society: Competitive Enhancement for 120 Cities in China*.
- Wright, Joseph. 2008. "To Invest or Insure? How Authoritarian Time Horizons Impact Foreign Aid Effectiveness." *Comparative Political Studies* 41(7):971–1000.
- Xu, Chenggang. 2011. "The Fundamental Institutions of China's Reforms and Development." *Journal of Economic Literature* 49(4):1076–1151.
- Yang, Dali L. 2004. *Remaking the Chinese Leviathan: Market Transition and the Politics of Governance in China*. Stanford: Stanford University Press.
- Yao, Yang. 2004. *Land, Institutions and Agricultural Development*. Beijing: Beijing University Press.
- Zhao, Li, Hongbao Hu and Kaihong Yu. 2008. "Empirical Analysis of Implementing Land for Security: A Case Study of Land-Losing Peasants from Xiaoshan." *Township Economy (xianzhen jingji)* 4:20–24.
- Zhejiang People's Congress. 2002. *Zhejiang Provincial Regulations on Basic Farmland Protection*.

DISCARD THIS PAGE

Appendix A: Interviewee List

The interviewee code is organized as follows. The two letters indicate the provinces in which the interview was conducted. The first four digits after the letters indicate the month and date of the interview. The next digit indicates if the interview subject was a group or an individual (coded 1 for group and 0 for individuals). This is followed by a digit indicating the order of group or individual interviewed on that day. The last two digits indicate the year in which the interview was conducted. To make interview subjects unidentifiable, I release only the name of the provinces, rather than more specific locality information. The table below identifies the interview subjects by level (where relevant) and type of workplace institution.

Code	Locality	Level	Interviewee	Institutions
ZJ12160109	Zhejiang	Urban district	Party secretary	Party committee
GD01311110	Guangdong	Prefecture	Group of government officials	Bureaus of Land and Resources, Public Finance, Development and Reform, Urban Planning, Hi-tech Economic Zone management committee
GD03040110	Guangdong	Township	Section chief	Economic development zone
GD03040210	Guangdong	Township	Entrepreneur	Government sponsored land development company
GD03050110	Guangdong	Village	Party secretary	Village party committee
ZJ03190110	Zhejiang	Deputy provincial city	Section chief	National Economic development zone
ZJ03190210	Zhejiang	Deputy provincial city	Director	National economic development zone
ZJ03290110	Zhejiang	N/A	Researcher	University
JS04020110	Jiangsu	County-level city	Director	National economic development zone
JS04060110	Jiangsu	Village	Party secretary	Village party committee
JS04071110	Jiangsu	County-level city	Group of government officials	Hi-tech Development zone
ZJ04120110	Zhejiang	Prefecture	Director	Bureau of Agriculture
ZJ04130110	Zhejiang	Prefecture	Director	Provincial economic development zone
ZJ04160110	Zhejiang	County-level city	Director	County party committee
JZ04160210	Zhejiang	Prefecture	Department chief	Bureau of Land and Resources
JZ04190110	Zhejiang	County-level city	Director	Provincial economic development zone
JZ04190210	Zhejiang	Township	Director	Economic and Trade Office
JZ04200110	Zhejiang	County-level city	Vice mayor	Government
JZ04200210	Zhejiang	County-level city	Deputy director	Provincial economic development zone
CQ04250110	Chongqing	N/A	Researcher	Research Institute
CQ04280110	Chongqing	Province	Director	Bureau of Land and Resources
CQ05060110	Chongqing	Province	Vice secretary general	Party committee
CQ05060210	Chongqing	Province	Section chief	Bureau of Reform and Development
CQ05110110	Chongqing	Urban district	Director	Beibei economic development zone
CQ05110210	Chongqing	Urban district	Director	Xiyong economic development zone
CQ05121210	Chongqing	Urban district	Group of government officials	Bureau of Land and Resources
CQ05130110	Chongqing	Urban district	Director	National economic development zone
CQ05140110	Chongqing	Urban district	Deputy director	UMURA leading group office

Appendix B: A Dataset of 120 Municipalities

Table B.1: Summary Statistics of Key Variables

Variable	Obs	Mean	Std. Dev.	Min	Max
Land quota allocation	118	.645	.181	.113	.962
Land quota allocation (logit)	118	.700	.912	-2.058	3.228
VAT ratio	120	.178	.052	.077	.312
Tax rebates ratio	120	.239	.124	.0193	.559
Business tax ratio	120	.239	.073	.087	.470
CCP secretary tenure	120	3.325	1.641	1	9
Mayor tenure	120	3.342	1.585	1	10
Land quota per capita	119	2.593	2.491	.098	15.272
Ratio of secondary industry in GDP	120	48.499	9.092	27	85.92
Secretary distance to retirement	120	7.833	3.8272	-1	17
Mayor distance to retirement	120	9.35	4.272	1	19
Budget deficit	120	1.834	.765	.811	5.749
GDP per capita (log)	120	9.750	.624	8.340	11.146
Urbanization	120	.404	.199	.116	1
City level	120	.158	.367	0	1

Table B.2: Definition and Sources of Variables

Variable	Definition	Sources
Industrial land quota	Logit transformation of the ratio of land transacted by negotiation to total amount of land available	China Land and Resources Statistical Yearbook
VAT ratio	Ratio of VAT to the total budgetary revenue	Financial Statistical Material for Prefectures, Cities, and Counties Nationwide
Business tax ratio	Ratio of business tax to the total budgetary revenue	Financial Statistical Material for Prefectures, Cities, and Counties Nationwide
Tax rebates ratio	Ratio of tax rebates to the total intergovernmental transfer	Financial Statistical Material for Prefectures, Cities, and Counties Nationwide
CCP secretary tenure	Tenure of CCP secretary in years	Compiled by the author from various sources
Mayor tenure	Tenure of mayor in years	Compiled by the author from various sources
Land quota per capita	The ratio of total amount of land to total population	China Land and Resources Statistical Yearbook
Ratio of Industry in GDP	Ratio of secondary industry in GDP	China City Statistical Yearbook
Secretary distance to retirement	Distance to the retirement age for CCP secretaries (i.e., the required retirement age – the age as of 2005)	Compiled by the author from various sources
Mayor distance to retirement	Distance to the retirement age for CCP secretaries	Compiled by the author from various sources
Budget deficit	Ratio of local expenditure to total budgetary revenue	Financial Statistical Material for Prefectures, Cities, and Counties Nationwide
GDP per capita	Logarithm of GDP per capita in a city	China City Statistical Yearbook
Urbanization	Ratio of urban population to the total population	China City Statistical Yearbook
City Dummy	Dummy variable for the 19 cities at provincial or deputy-provincial level	
Tourist ratio	The ratio of received tourists to the total population	China Tourism Statistical Yearbook
Secretary second term indicator	Dummy variable indicating if the secretary serves his second term, coded as 1 if tenure is greater than 5 and 0 otherwise	Compiled by the author from various sources
Secretary age of 2005	The age of secretaries as of 2005	Compiled by the author from various sources
Secretary education	Education level of secretaries, coded as 1 for doctor, 2 for Master, 3 for college, and 4 for others	The World Bank survey
Secretary local promotion	Dummy variable indicating if the secretary was locally promoted, coded as 1 for local promotion and 0 otherwise.	The World Bank survey

Appendix C: The China Survey

Describing Stage 1 Sampling Units

```

pweight:  wt_psfc (a post-stratification weight taking into account strata, age, and sex. )
VCE:      linearized
Single unit: scaled
Strata 1:  strata
SU 1:     psu
FPC 1:     fpc1
Strata 2:  <one>
SU 2:     ssu
FPC 2:     fpc2
Strata 3:  <one>
SU 3:     tsu
FPC 3:     fpc3
Strata 4:  <one>
SU 4:     <observations>
FPC 4:     <zero>

```

Stratum	#Units	#Obs	#Obs per unit		
			min	mean	max
1	4	235	48	58.8	73
2	4	203	45	50.8	55
3	10	592	49	59.2	71
4	2	138	64	69.0	74
5	8	410	34	51.2	62
6	3	145	39	48.3	62
7	5	260	46	52.0	60
8	2	78	35	39.0	43
9	12	680	38	56.7	73
10	4	168	28	42.0	61
11	7	377	33	53.9	67
12	1*	58	58	58.0	58
13	8	492	45	61.5	89
14	1*	49	49	49.0	49
15	1*	39	39	39.0	39
16	1*	65	65	65.0	65
16	73	3989	28	54.6	89

Table C.1: Summary Statistics for Individual-level Variables

Variable		Mean	Std. Dev.	Min	Max	Observations
<i>Key variables</i>						
unemployment	overall	.021	.144	0	1	N=2351
	between		.054	0	.294	n=59
	within		.139	-.273	1.008	T-bar=39.848
pension	overall	.081	.273	0	1	N=2500
	between		.108	0	.407	n=59
	within		.255	-.326	1.062	T-bar=42.373
land expropriation	overall	.123	.329	0	1	N=2951
	between		.113	0	.528	n=59
	within		.314	-.404	1.108	T-bar=50.017
<i>Control variables</i>						

<i>Control variables</i>						
sex (male=1)		.478	.500	0	1	2992
age		46.000	15.618	18	92	2992
years of education		5.278	3.882	0	17	2958
CCP		.048	.213	0	1	2990
agricultural worker		.767	.423	0	1	2657
commerce worker		.017	.129	0	1	2657
sole proprietor		.068	.253	0	1	2657
private entrepreneur		.008	.089	0	1	2657
industrial worker		.072	.258	0	1	2657
Party or govt official		.006	.080	0	1	2657
enterprise manager		.004	.061	0	1	2657
professional		.015	.123	0	1	2657

Source: The China Survey, 2008.

Appendix D: A Dataset of 59 Municipalities

Table D.1: Summary Statistics, Definition, Sources, and Correlations

<i>Variable definition and sources</i>					
Globalization	Foreign direct investment as proportion of local GDP. <i>China City Statistical Yearbook</i> , 2009.				
Budget deficit	The ratio of budget expenditure to budget revenue. <i>China City Statistical Yearbook</i> , 2009.				
GDP per capita	Logarithm of local GDP per capita. <i>China City Statistical Yearbook</i> , 2009.				
Experiment	Dichotomous indicator of experimental sites. Ministry of Land and Resources, 2007, Document No. 169.				
<i>Summary Statistics</i>					
Variable	Mean	Std. Dev.	Min	Max	Obs
Globalization	0.187	0.198	0	0.908	59
Budget deficit	2.973	2.278	0.869	13.196*	59
GDP per capita	9.927	0.776	8.189	11.540	59
Experiment	0.441	0.501	0	1	59
<i>Correlations</i>					
	Globalization	Deficit	GDP per capita	Experiment	
Globalization	1.0000				
Deficit	-0.4128	1.0000			
GDP per capita	0.4344	-0.7410	1.0000		
Experiment	0.2043	-0.1894	0.3493	1.0000	

*Note: The variable budget deficit has one outlier, 13.196, for Dingxi municipality (定西) in Gansu province. Its ratio of budget expenditure to budget revenue was 11.772 in 2007 and 14.421 in 2009. This consistent pattern suggests this outlier is not caused by error. All analyses conducted in chapter 4 include respondents from Dingxi. I reran all the analyses excluding the Dingxi respondents; results (i.e., sign and statistical significance) remain unchanged.