

The Market Role of Local Governments in Urbanization

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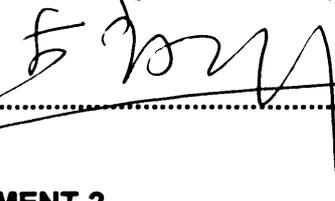
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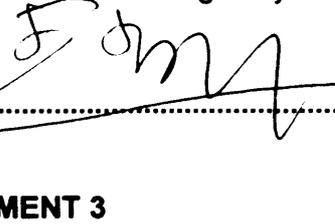
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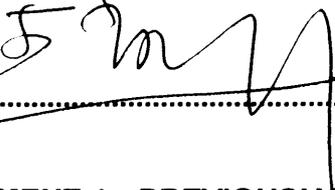
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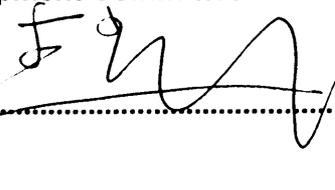
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Summary of Thesis

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Summary of Thesis:

This research explores from the perspective of new institutional economics the role played by local governments in the Chinese urbanization process.

In conventional wisdom of city planning and economics, government is often considered as the opposite of the market: the public goods can only be supplied in special ways, different from that of the common goods. Institutions, planned economy or market economy, are often labeled by how much the government intervenes in its economy. However, theories based on such paradigms can hardly explain the behaviors of governments in the real world.

This research argues that government is a part of the market mechanism, but not the opposite of market. A city government is in nature an enterprise that sells its products and services within its territory. Correspondingly, a city is in nature a place to trade public services, which makes the key institutional difference between a city and a village.

In light of this argument, the theoretical debate on public goods is first examined. Then the behaviors of Chinese local governments are investigated and explained with a new framework, which cannot be achieved with traditional theory. Case studies in China demonstrate that the rapid growth of Chinese cities in recent years results mainly from the success of the business model of Chinese local governments. Lastly the inadequacies and mistakes of traditional urban planning theories in the Chinese context are analyzed and suggestions are made to transfer planning theory to the new paradigm, which is based mainly on the assumption that the behaviors of governments is to maximize their surplus.

In the appendix a new pricing theory is formulated to extend the theoretical ground of this research. With this theory, the public goods can be supplied on a competitive market without substantial distinction from other goods.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

Urban planning is a tool to organize spatial collective action.¹ Government is a key organizer for spatial collective action, playing a role like a *buyer* of urban planning.² Although the academic discipline of urban planning has a long history in the 20th century of extending its scope to the representation and management of the public interest and disadvantaged groups (Susskind 1989, Arnstein 1969), the idea that the urban planner is a representative for public interest has not necessarily been widely recognized in practice.³ Planner have interpreted this professional mandate in the context of the more general mandate of urban governmental. But the actions and motivation of government has been quite misunderstood by the urban planning field.

Urban planners, especially those in China, have typically assumed government to be a substitute for the market or a mechanism to fix *market failure*. This misunderstanding has led the urban planning discipline along a rugged road. Urban dynamics and the interaction of planning interventions with urban processes have been poorly understood and poorly analyzed. Planners have not generally understood the city from an angle of ‘spatial production’, nor have sufficiently precisely generally distinguished who the *producers* and *consumers* of a city are. Foundational urban

¹ Although professional planners also serve individual proprietors, I still put them into the category of architects. To distinguish architects from planners, we need to see whether there are transaction costs induced by collective action or not.

² This is determined by the definition of government. Although individuals and collectives also organize collective action, I define them as government in a broad sense. This point will be further illustrated in the section The Origin of Government in the second chapter. For an NIE analysis of government as buyer of planning services, see Webster C (2008) Are some planning transactions intrinsically sovereign? Journal of Planning Education and Research (in press at time of thesis submission)

³ Rather, those amateurs of urban planning — journalists (Jane Jacobs), teachers, etc. — become the spokesmen of public interests.

theories regard the city as a natural phenomenon arising from human interactions analogues to natural phenomena of physics (Christaller 1933, Burgess 1925, Hoyt 1939, Ullman 1945, Losch 1940, Krugman 1977, Fujita and Krugman et al. 2000). In this context, urban government is regarded as an impersonal agency promoting the public interest.

Under this implicit assumption, the role of government in the formation of cities tends to be underplayed or ignored and the professional role of urban planners becomes confusing. A false theoretical tool leads to a false framework for analysis and action. When government in fact does not fit the ideals of planners, planners have not generally reflected and adjusted their assumptions. Instead, they have tended to set out to correct the *reality*. This takes urban planning and urban studies further from the real world. Planning theories have increasingly become self-entertaining exercises within academia's ivory tower. The complicated theoretical models have become an *art of dragon killing*: increasingly inscrutable, having no use at all. What planners claim (planning theories) is increasingly irrelevant to what they do (planning practices).

The fierceness of competition between urban governments in China would hardly be believed by most government practitioners in developed countries.⁴ Official corruption via blackmailing developers may happen from time to time, yet what happens all the time is that Chinese government woos investors by offering whatever they have. Government is deeply involved in economic competition. Facing such governmental behavior that planning theory generally fails to acknowledge or explain,

⁴ In Pearl River Delta and Yangtze River Delta where there is fierce urban competition, there is a very popular story going round: an investor was negotiating an important investment project with the local government, while the representative of another city waited nearby the scene of the negotiation and got hold of the concluding conditions of their negotiation. With that, he offered more favourable conditions to the investor and simply took away the already-settled project to his own city. Competition among cities has become bread and butter in significant programs like the site selection of Disneyland, Shell Petroleum and so on. Now competition like this among cities has spread to the interior of cities. It is no secret that Haidian District and Chaoyang District of Beijing contended with each other for crucial programs such as relocation of CCTV, Zhongguancun against CBD and alike. In Xiamen, the urban government has established "operation centers" to attract enterprises in the surrounding areas to set up their headquarters in Xiamen so as to broaden the city's tax sources, which has been widely criticized by other cities in Fujian Province. Even among the districts, there are explicit competitions for projects. These districts successively grant the operation centers under their jurisdiction various premium "subsidies".

planners are left weakly making moral judgments against local governmental leaders. Planning has generally failed to figure out the real motives of governmental behavior and the nature of the 'business' of government, not to mention how to define its own role in that business.⁵

This is quite similar to the economics profession half a century ago. In 1957, Anthony Downs criticized government theory in economics in his famous piece *An Economic Theory of Democracy*, arguing that this very theory divorced economics from the real world. He commented right at the beginning of the paper:

Throughout the world, governments dominate the economic scene. Their spending determines whether full employment prevails; their taxes influence countless decisions; their policies control international trade; and their domestic regulations extend into almost every economic act. (p.3)

In the fifteenth chapter of *Comment on the Economic Theory of Governmental Behavior*, he further noted:

Attempts to treat government as an endogenous variable in general equilibrium theory are extremely scarce, because most theorists have followed the classical tradition of considering government as a disturbing influence upon the self-regulating private economy. Therefore they regarded it as an exogenous datum rather than an intrinsic part of the division of labor.(p.280)

Citing a series of descriptions of governmental criteria, Downs summarized:

Behind all of the prescriptions quoted lurks a single conception of government: government is that agency in the division of the labor which has as its proper function the maximization of social welfare. However, because this conception is almost never formulated quite so explicitly, some of its implications have remained unrecognized. In particular, government is rarely treated as an integral part of the division of labor. The classical tendency to regard it as outside the

⁵ Planners who cooperate with the government are typically viewed as reprobates who betray their own professional morality and are criticized by their craft brothers who possess discourse rights.

system being analyzed persists even when the analyst recognizes that government has a specific function in the economy. (p.282)

Downs argued that this mistake in traditional economic studies is caused by a confusion of the motives of governmental behaviour with its social function. To illustrate this, Downs quoted several times the well-known inference in Schumpeter's *Capitalism, Socialism and Democracy* (1950):

But it does not follow that the social meaning of a type of activity will necessarily provide the motive power, hence the explanation of the latter. If it does not, a theory that contents itself with an analysis of the social end, or need to be served, cannot be accepted as an adequate account of the activities that serve it. (p.282)

From the viewpoint of Downs, we should study both the social functions of government and the motivations that drive the delivery of those functions. Government needs to be understood as a public agent of private interests:

In general, men undertake economic activity primarily to further their own private aims and only secondarily to provide benefits for society (i.e., for other men). From the angle of society, the object of each man's action is to fulfill his social function. But from his own point of view, he acts to achieve his own private ends, which are often unrelated, per se, to his social function. (p.282)

But economists tended (in the neoclassical paradigm) to take the social function as government's motive. Downs' criticism of economics half century ago is still good for today's urban planning although its taste may be bitter.

The economists who commit this error are rarely guilty of describing reality inaccurately, because most of their statements are normative, not descriptive. Probably not one of them would contend that governments in the real world actually maximize social welfare. Nevertheless, they make policy prescriptions which assume governments should maximize welfare. But there is little point in advising governments to do so, or forming recommendations of action based on the supposition that they might, unless there is more reason to believe that they

will. Otherwise the economists' advice may very well be as useless as telling a profit-maximizing monopolist to sell his product at marginal cost so as to benefit society. (p.282)

Downs criticized the logic of those economists who confused the motive of government with its inherent function as being groundless. They assume that all the choices of individuals are self-interested except those of people in government. This point of view is “inconsistent with the axioms that explain how all other economic person in society operate.” (p.262). He suggested that “failure to consider government motivation has led to a false generality in the theory of governmental decision-making.” (p261).

The study of governmental behavior in economics entered a brand-new phase after Downs' onslaught. Olson's study of collective action and the rise of states (Olson 1965, 1982); North's study of the evolutionary history of institutions (North and Thomas 1973, North 1981); Tiebout's study of the local government (Tiebout 1956); and Barzel's state theory all viewed government as an organization with independent motives and composed of self-interested individuals.⁶ They have been inadequately explored as a basis for understanding the motivation (behaviour) and social function of planners (and the distinction between the two).

Since the last two decades, many geographers have also started to rethink the market role of local governments. In 1989, David Harvey found that the transformation of urban governance from “managerially to entrepreneurialism” in late capitalism. Andrew Walder (1995) noticed that the local governments in China organized as industrial firm. More recently, Fulong Wu (2002), also took notice of the market-oriented tendency in urban governance in China.

The progress of economic theory provides a significant set of reference points for urban planning theory. I attempt to rethink governmental behaviour and the role of planners by applying insights from institutional economics. In so doing, I attempt to

⁶ The idea that the government is the representative of class interests originally proposed by Marx has returned to the mainstream of economics studies in another way.

provide a planning theory focus that moves from the abstract to the concrete.

1.2 On the market role of Government

1.2.1 Invisible hand and market failure

From the day economics came into existence as a distinct field of study, the role of government has been disputed. In 1776, Adam Smith expressed great doubts about the function of state and the motive of government in his epoch-making *The Wealth of Nations*. In the fourth chapter On the System of Political Economics, Smith analyzed in detail the theory and practice of mercantilism and physiocracy and concluded that:

All systems either of preference or of restraint, therefore, being thus completely taken away, the obvious and simple system of natural liberty establishes itself of its own accord. Every man, as long as he does not violate the laws of justice, is left perfectly free to pursue his own interest his own way, and to bring both his industry and capital into competition with those of any other man, or order of men. The sovereign is completely discharged from a duty, in the attempting to perform which he must always be exposed to innumerable delusions, and for the proper performance of which no human wisdom or knowledge could ever be sufficient; the duty of superintending the industry of private people, and of directing it towards the employments most suitable to the interest of the society.

(Cited from internet: <http://www.adamsmith.org/smith/won-index.htm>)

After rejecting governmental intervention in markets, Smith imposed further restrictions on governmental functions:

According to the system of natural liberty, the sovereign has only three duties to attend to; three duties of great importance, indeed, but plain and intelligible to common understandings: first, the duty of protecting the society from violence and invasion of other independent societies; secondly, the duty of protecting, as far as possible, every member of the society from the injustice or oppression of every other member of it, or the duty of establishing an exact administration of

justice; and, thirdly, the duty of erecting and maintaining certain public works and certain public institutions which it can never be for the interest of any individual, or small number of individuals, to erect and maintain; because the profit could never repay the expense to any individual or small number of individuals, though it may frequently do much more than repay it to a great society. (Cited from internet: <http://www.adamsmith.org/smith/won-index.htm>)

For Smith, the income of a government should be acquired only for the purpose of fulfilling these functions. He continued to put forward three factors for a free system, which were selfish motive, private enterprise and competitive market; and argued that the best way to constantly increase the wealth of a nation was to give total freedom to economic activities. All social economic activities were governed by an *invisible hand* while the government was only a night-watchman of a society.

Although Adam Smith regarded government and sovereign as self-interested individuals, the idea quickly emerged of government as a third party providing public goods (such as providing property assurance). This idea exerted profound influence on succeeding economics. Later, classical economists such as Marx viewed government as a tool to provide public services for special classes mostly because he accepted that the government was a ‘machine’ to maximize social welfare (Downs 1957).⁷

As the neoclassical paradigm became the mainstream of economics, the idea was enhanced by theorization. In the neoclassical paradigm, since the market was presumed to be a system that bore no transaction cost and could maintain balance automatically, the government became a *system redundancy* in this ideal market. As a

⁷ As for why “Most theories in normative economics tacitly assume that government will in fact maximize welfare once it knows how to do so.”, Downs (1957) gave his explanation (see Section One, Chapter 15, Chinese version, page 260): firstly, economists would rather leave this question to politicians; secondly, influenced by Rousseau, It amounts to assuming that governments are not institutions run by men, but are depersonalized, frictionless machines which operate according to mathematical rules; e.g., they carry out the “ will of the majority”. Being machines, they have no private motives; for instance, they represented the wills of most people. As machines, there are individual motives inside the governments; thirdly, economists have been unable to agree either about what social welfare is or about how to determine what it is. Therefore they have concentrated their analysis upon the nature of the social welfare function .i.e., the rule for converting individual preferences into social action.. (page 261)

result, products and services for collective production and consumption became a special kind of goods - public goods - which the market could not price. For products and services that cannot be offered by the market – those subject to so-called market failure - government became an alternative to complement market defects (Musgrave 1939, Samuelson 1954). But because governments tend to possess monopolistic privileges, it was argued that they should be only a forced choice. Government should be strictly confined within the non-market fields of public goods and its decision-making process should be democratic to secure public good production in line with the collective preferences of the majority. In other words, mainstream economics argued that government should retreat from whatever the market can provide and be limited to a certain minimum sphere.

However, in contrast to this theoretical expectation, governmental intervention in the economy has been reinforced rather than weakened in nearly all market-oriented economies. Public expenditures rapidly took up larger and larger proportions in overall social expenditure. America's governmental expenditures was less than 10% of GDP on the eve of WWI and only 11% in 1930, but reached over 1/3 of GDP in the 1990s. Even so, America's ratio was the lowest in the major industrialized countries. Public expenditure in France, Germany and Italy accounted for over 50% of GDP (Stiglitz 1998).

1.2.2 The market provision of public goods

The traditional paradigm of government and public goods was re-examined in the intellectual world most notably by Ronald Coase. In *The Lighthouse in Economics*, Coase (1974) re-examined a well-known example of market failure: lighthouses. After tracing the evolutionary history of England's lighthouse system, Coase found that the lighthouse was not what orthodox economists (such as Mill 1848, Sidgwick 1909, Pigou 1933 and Samuelson 1964) assumed. They had variously argued that lighthouse could not be priced in a market and should be provided by government. However, in the seventeenth century, individuals had commenced building lighthouses that were charged for. By 1820, more than 3/4 of the country's lighthouses were constructed by

individuals. Trinity House – a ‘private organization bearing public responsibility’ in Coase’s words - provided basically all navigation services while maintenance expenditure on lighthouses depended on charging ship owners. Lighthouses were financed, constructed and run by private owners and as private goods, they were sold and passed within families. Coase thus challenged the view that government should be the provider of public goods; turning the example into one that illustrated that the market is able to both provide and price shared goods.

Following Coase’s example, fables of market failure were rewritten one after another, such as toll roads (Klein 1990), apiarists and fruit growers (Cheung 1973, Spulber 2003). Numerous experimental studies have demonstrated that markets need not fail in supplying collective goods. But still, these falsifying examples have not been sufficient to shake the basis of the neoclassical paradigm. After the convincing analysis of the lighthouse case, Coase’s did not ask for an abandonment of neoclassical economics, but suggested that economists propose more convincing examples⁸.

A notable experiment conducted by Michelson Morley denied the existence of ether, but was not sufficient to refute the paradigm of Newtonian Mechanics. Similarly, economics must develop a new paradigm (like Relativity in physics) to explain the facts that are not explained by the old. The facts in this case are evidences that public goods are not necessarily provided by government. Much theoretical innovation has, however, moved little from Smith’s assumption of an invisible hand with support for the idea that government intervention in the economy should be reduced to a minimum. Government is still considered to be non-market oriented.

If we turn back to the tradition of Adam Smith regarding government as a common and self-interested organization, we will find that in Coase's lighthouse case,

⁸ Similarly, after clarifying, with demonstrations, the theoretical dilemma proposed by Meade (Meade 1952) that bee keepers and fruit growers couldn’t fix the price of mutually beneficial actions, Steven N S Cheung (1973) pointed out that he was not against Meade and other economists who followed the Pigou tradition because they used the example of bees to demonstrate a theoretical opinion. He was just criticizing that they used the method which didn’t probe into the real world situation and got the policy implication by pure imagination.

Trinity House is just a certain type of 'government'. Coase reveals that public goods are not an exceptional commodity/service that cannot be priced. Instead, public goods can be provided by government through a market-oriented approach.

1.2.3 Greedy hand

Institutional economists developed the study of public goods provision through a government with a market, or market-like role, developing the idea of government as a *self-interested* market agent. This type of market agent aimed at acquiring potential profits from division of labor through organizing collective action in consumption/production. Its primary method is institution (or mechanism) design. Important works include M. Olson (1965, 1982, 1992, 1993), A. Downs (1965), D. North (1978, 1983, 1991, 1994), D. North and R. Thomas (1973), Y. Barzel (2002) and Tiebout (1956). In effect, they replaced the assumption of an *invisible benevolent hand* with the *greedy hand* of government – like any other market agent (Olson 1993).

Like Downs, Olson was one of the trailblazing economists who insisted that government is a group dominated by self-interested individuals. In his famous work *The Logic of Collective Action*, Olson sets out the premise of the group comprising self-interested individuals:

The view that groups act to serve their interests presumably is based upon the assumption that individuals in groups act out of self-interest.Such altruism, is, however, considered exceptional, at least when economic issues are at stake;,The idea that groups tend to act in support of their group interests...follows logically from this widely accepted premise of rational, self-interested behavior. (p.1)

Later, the economic history school developed a behavioral analysis using the assumption of self-interested government. North wrote in the fourth chapter ('A Framework for Analyzing Economic Organization in History') in *Structure and Change in Economic History* that:

To account analytically for economic organization we must combine transaction

cost theory with state theory. Transaction cost theory is necessary under this condition: competition caused by ubiquitous scarcity results in that less efficient forms of economic organization are replaced by the more efficient under ceteris paribus conditions. And state will only aim at the goal of maximizing the wealth of state agency to encourage and regulate an efficient property rights system. (p.33)

Extending this hypothesis to economic analysis of constitutional theories, J. M. Buchanan (1989) deemed that:

Only individuals choose and act. Collectivities as such neither choose nor act, and analysis that proceeds as if they do is not within the accepted scientific canon. Social aggregates are considered only as the results of choices made and actions taken by individuals. (p.61)

Borrowing words from Hume, Buchanan said:

Political writers have established it as a maxim, that, in contriving any system of government, and fixing several check and controls of the constitution, every man ought to be supposed a knave, and to have no other end, in all his actions, than private interest. (p.64, from Hume 1985, p.42)

It was a significant progress in economic history to put government into the market to be analyzed as a common self-interested organization. The traditional assumption treating government as an impersonalized 'machine' with an independent will to automatically pursue maximization of social welfare has now been shaken thoroughly. The assumption that government is composed of self-interested subjects and acts according to its selfish leaders opened up an academic paradigm that permits analysis of governmental behavior in the provision of public goods. Governments, from this point of view, are similar to other organizations such as an enterprise or family⁹. Although this paradigm is far from replacing the paradigm of market failure

⁹ In his book, Dictatorship, Democracy, and Development (Olson,1993), Olson explains this hypothesis:

Since human nature is profoundly complex and individuals rarely act out of unmixed motives, the

in mainstream economics, it has made substantial progress – and is at the centre of a lively and widely accepted body of heterodox economic theories that I shall use throughout this thesis.

1.2.4 Dilemmas of collective action

The idea that government is an active economic person (or and active economic agent) is distinct from the liberal idea the market can optimise economic decisions spontaneously without government intervention. Rather, it focuses directly on why the market needs government; how government presents itself as a market institution; and how it evolves and competes. The study of government starts from collective action, and Olson's theories offer important insights.

In classical economics, collective action was taken as a fundamental characteristic of human society and received wide and in-depth study. Adam Smith opened his *The Wealth of Nations* (1776) with an insightful study of collective production activity and social division. In Marx's *Capital*, mass-production of industrialization dominated his entire study. From the viewpoint of classical economists, collective action based on professionalized division of labor is the core of modern production. After Adam Smith examined various cases of division of labor in the first chapter 'On Division', he wrote:

if we examine, I say, all these things, and consider what a variety of labour is employed about each of them, we shall be sensible that, without the assistance and co-operation of many thousands, the very meanest person in a civilised country could not be provided, even according to what we very falsely imagine the easy and simple manner in which he is commonly accommodated. (This is cited from internet: <http://www.adamsmith.org/smith/won-index.htm>)

Olson extended the scope of collective action analysis to include collective

assumption of rational self-interest that I have been using to develop this theory is obviously much too simple to do justice to reality fairly. But the caricature assumption that I have been using has not only simplified a forbiddingly complex reality but also introduced an element of impartiality: the same motivation was assumed in all regimes. The results are probably also robust enough to hold under richer and more realistic behavioural assumption. (p547)

consumption such as the acquisition of collective interests like security, fire control, class interest, industry protection and, more generally, the consumption of public goods. But with the assumption of a self-interested and rational person, Olson discovered that collective rationality could not voluntarily arise from individual rationality as had been assumed by Adam Smith. Olson commented in his milestone work *The Logic of Collective Action* that:

Indeed, unless the number of individuals in a group is quite small, or unless there is coercion or some other special device, individuals will not act to achieve their common or group interest. Rational and self-interested individuals will not take actions to realize their mutual interests or the interests of the group.

In other words, even if all of the individuals in a large group are rational and self-interested, and would gain if, as a group, they acted to achieve their common interest or objective, they will still not voluntarily act to achieve that common or group interest. (p.2)

This is because organizing collective actions has a cost. When the cost is large and individuals share a small fraction of the benefit, no single rational individual will voluntarily shoulder the cost of the action alone. With strict and precise logic, Olson completely overruled, in his famed paper, the assumption that public goods could be automatically supplied by organizations or groups. He divided groups by scale:

In a small group in which a member gets such a large fraction of the total benefit that he would be better off if he paid the entire cost himself, rather than go without the good, there is some presumption that the collective good will be provided.By contrast, in a large group in which no single individual's contribution makes a perceptible difference to the group as a whole, or the burden or benefit of any single member of the group, it is certain that a collective good will not be provided unless there is coercion or some outside inducements that will lead the members of the large group to action in their common interest.¹⁰

¹⁰ Olson made a clearer statement of this issue in "Foreword to Collective action"(1992):

(p.44)

In the Preface written for Todd Sandler's *Collective Action* (1992), Olson summarized Adam Smith's invisible hand as *the first law of economics*: "when each individual considers only his or her interests, a collectively rational outcome emerges automatically." Then he put forward *the second law of economics*: "no matter how intelligently each individual pursues his or her interest, no socially rational outcome can emerge spontaneously" (or the original statement of Sandler quoted by Olson "individual rationality is not sufficient for collective rationality").

Olson suggested *the first law of economics* may only be applied to the field of personal products. Once in the field of collective products, it would probably fail even if there were only two individuals in a collective. He listed the famous *prisoner's dilemma* - in any game, one player's dominant strategy is a betrayal to the other player - as an example to demonstrate that "even if there are only two people, collective action is bound to fail."

Then how can we escape *Olson's Dilemma* of collective action? The appearance of mandatory organizations - government is one of them - is a necessity to acquire the potential profit of collective action. Institutional economist Barzel (2002) regarded government a professional organization aiming at reducing transaction cost (such as the third party providing reliable legal and contracting services) of collective action. Olson described the appearance of government as *the first bliss bestowed by the invisible hand* and the providers of collective goods who were driven by selfish and rational motives and exerted mandatory forces as *violent entrepreneurs*.¹¹ In Olson's

In a sufficiently large or "latent" group of individuals with no single member who gets more than a minuscule share of the benefits of a collective good, the incentive for strategic interaction—and even the incentive to bargain with other potential beneficiaries of the collective good—disappears. If no two members, or no other small subset of the members of the group of potential beneficiaries of a collective good, would, in the aggregate, gain from bearing the costs of providing some amount of the collective good, then there is no incentive for individuals to interact strategically or even to bear the costs of communicating and bargaining with each other about how to remedy the lack of the collective good..(Olson p.358)

¹¹ To give the name "entrepreneur" to dictatorial government owner shows exactly the market role of the government. In the following chapters, I will develop this metaphor into a simple proposition: "government is an enterprise that manages space". Because space is the way to define the lowest transaction cost of most public goods, more and more public goods are supplied by government, which

opinion:

Thus government for groups larger than tribes normally arises, not because of social contracts or voluntary transactions of any kind, but rather because of rational self-interest among those who can organize the greatest capacity for violence.....Autocrats of all kinds usually claim that their subjects want them to rule and thereby nourish the unhistorical assumption that government arose out of some kind of voluntary choice. (p.568)

Once mandatory governments are established, they do not collapse easily. As had been depicted by Hobbes, public goods become coercive services to buyers. This solves the free riding problem caused by the non-exclusiveness of public goods, but introduces a possibility of opportunism for mandatory government (especially dictatorial government). According to Barzel's definition (2002), power means capacity to impose cost on others. Dictatorial governments may confiscate private property to reinforce their power as well as having the capacity of imposing costs on others (Wang 2002).

There are two economic schools of thought concerning the opportunism of government. One school led by Olsen, North and Barzel argues for *binding the protector's hand* in order to transform a *natural state* into a *legislative state* via *democracy*.¹² The other school, led by Tieboutian scholars, argues that *voting by foot* can induce competition among governments via liberalism.¹³

The democratic approach is the dominant approach in today's world. Democracy is believed to offer universal and unconditional advantages in keeping coercive

turns the government into the number one supplier of public goods. However, this is not to say that only the government can provide public goods. The government gets to provide more and more public goods because it can be highly efficient. Actually, "space" is the domain of planners and this is why public goods and the career of planners are unusually connected.

¹² This wording comes from the title of the eighth chapter in Barzel's *A Theory of the State* (2002): "Tying the protector's hand: the agreement between subjects and protector".

¹³ With the pricing model advanced in the fourth chapter, this means to transform consumer (citizen) competition into producer (government) competition. If these competitions are sufficient, the democracy, which is used to prevent the opportunistic behaviours of the government — transaction and institution cost — will be greatly saved. One of the aims of my study is to illustrate the essence of democracy — it is not indispensable but the supplement to the deficiency of freedom.

government in check. Selection of a governance regime has become an ideology and an implicit criterion for judgment of political correctness. However, *Arrow's Impossibility Theorem* indicates that even though democracy may *bind the grabbing hand*, it does not necessarily lead to an optimal quantity of public services - voting by hand will not result in proper sorting of preferences for public goods in terms of quantity or variety. Democracy is not necessarily an efficient institution with regard to the provision of public goods.

The alternative approach - voting-by-foot – implies the possibility of alternative institutions to democracy where *technical transaction cost* (cost of flows of people, goods, information, and capital) are low. A significant difference between voting-by-foot and voting-by-hand is that the former is not based on one single ideal form of government but acknowledges various forms of government coexisting and competing with one another. This presumption applies better to the real world where the transaction radius extends to cross administrative borders. In the globalizing market, free flows of productive factors result in competition between governments, which has become a non-democratic approach to restrain state opportunism. My study follows this approach to analyze how non-democratic urban government manages to provide public goods with high efficiency.

1.2.5 Competition among monopolistic governments

As illustrated above, mainstream economics inherited one of the basic assumptions of Adam Smith - government is solitary and there is no competition among governments. In this world, government always has the possibility and motive to seek expediency through institutional design and changes in rules. Therefore, all liberalist economists trust that the only way to limit state opportunism is checks and balances formed by constitutionalism (Yang 2002).

Tiebout (1956) published his classical paper *A Pure Theory of Local Expenditure* examining the role of government in a market economy from a pioneering perspective. Before Tiebout, discussions about the role of government assumed a single universal

form of government that possessed the privilege of intervening in economic activities and was thus a threat to free exchange. In addition, because of lack of competition, the government was not necessarily motivated to improve its efficiency. In an ideal economy, the government was bound to have a high degree of redundancy and effective supervision seemed impossible. Democracy can only provide a very partial supervision to prevent government from rent seeking with its privilege. It is not very efficient at discovering fine tuned improvements in efficiency

Tiebout's study explored a world in which government was not solitary. On levels from the local to the national, there exist in parallel, many organizations similar to government. As long as economic factors (investment, population, etc.) and resources could move freely among different communities covered by these organizations, there would be competition among governments to force them to improve efficiency – as in any other economic organization. In a Tieboutian world, voting by foot can, in principle, force governments to enhance their services far better than can nominal democracy. Using another analogy from the logic of the market, competition between governing organizations forces them to invest in meeting customer needs, what would otherwise be taken as 'profit'. Once the government enters a competitive market, the idea of so-called public goods loses its original meaning. In a Tieboutian environment, a local government is no different from a common corporation and the public goods of a city are also no different to the public goods of a corporation except the level of publicness.

Yang Xiaokai (1994) once made a wonderful description of American federalism:

(Since) the Constitution granted legislative power and tax-collecting power to the states and prohibited the states from levying taxes on inter-state trade, the 50 states were like 50 economically warring nations but without warfare or taxation among one another. People voted by foot because they would 'immigrate' to the state that provided the best tax system and public facilities." As a result each state would spare no efforts in developing high-level public facilities, but not daring to impose high taxes. This was called the 'market of governmental services' by

American economist Tiebout. This kind of market enabled America to become a country that had set up the most developed systems and public infrastructures at the minimum cost. Information distortion caused by external effect, as specified in traditional economics, has been partially internalized by this federal market served by the government in America. (p.144~145)

Based on empirical studies, Qian, Wingast and Roland (Qian and Wingast 1994, Qian and Roland 1994) demonstrated that so long as the system (specifically, the structure of residual rights) is designed reasonably, competition among decentralized local governments will make a local government operate like an enterprise in a market economy.

Before the 1980s, China's governments, from the central to the local, were all in the world of Adam Smith without any competitors.¹⁴ Urban assets were basically state-owned and urban development had nothing to do with other cities. However, several significant reforms changed the role of local governments (especially urban governments) thoroughly. China's urban governments shifted from Smith's world into Tiebout's world. And because of Tiebout's world, efficient and competitive urban management has become both necessary and possible.

Qian and Wingast analyzed regional decentralization in China and pointed out that China has developed a federalism with Chinese characteristics: financial decentralization accompanied by personnel centralization. Yang Xiaokai argued that this financial federalism has led to local reforms¹⁵ (Yang 1994). The local governments have rapidly switched their roles from administration to development.

In a Tieboutian world, a city would not develop automatically without good management. Only those urban governments capable of managing their cities can survive in the competitive economy. By the same token, a mayor is more like an

¹⁴ When the central government faces directly the competitions from other countries, in a certain sense, it is also in a Tiebout's world.

¹⁵ But Yang Xiaokai insisted on the necessity of institutional reform of the central government. The latest research of Qian Yingyi and others (Wang Yijiang, Bai Chong'en, Li Daokui, Qian Yingyi 2000) discovered that, after the entrance into WTO, global competition may encourage the central government to keep its promises.

entrepreneur than a judge or night-watchman, and the organization and behavior of an urban government is similar to an enterprise.

In the orthodox political economy, a government's promise is not trustworthy unless it is checked and balanced by democracy (Hayek 1944, Yang 2002, Barzel 2002). Without checks and balances private property is not protected and it is not possible to develop a private economy because government would own infinite taxation rights, monopolize all resources, and play the role both of referees and players. Furthermore, because people believe the government would abuse its public power for private interests, they will resist tax collection. To solve this taxation problem, taxation in England was decided by Parliament, which initiated decentralized constitutionalism (Pipe 1999) and democratic election system in western nations and thereby created safe and reliable space for the economy based on private property rights. According to the traditional economics, the economy would not develop successfully without political reforms of this nature, because a market economy could not exist without protection of private property (Yang 2001).

But Tiebout's theory challenges this common sense. In Tiebout's world, there is not one single government. On the contrary, the market is characterized by governmental competition. This very competition forces the governments to make trustworthy promises and credible commitments. This viewpoint has been evidenced by practices such as the institutional changes in early Europe observed by North (1998) and Schumpeter (1918)¹⁶ and the rapid growth of Asia's Four Little Dragons (Singapore, Korea, Hong Kong, and Taiwan) and Japan in its early developmental stage lacking standard democracy. China provides its own evidence. China has gone

¹⁶ According to the observation of North, fierce competitions existed among small but independent free cities in early Europe. This competition forced administrators to improve the institution so as to provide safe and cheap institutional environment for free trade. China, on the other hand, had long been unified as a whole, so there was no competition whatsoever to exert pressure on institutional reform. The competition in early Europe gave birth to western capitalism while China went downhill. Joseph Schumpeter's (Joseph Alois Schumpeter 1918) *Diekrisedes Steuerstaats* describes the process of this competition: in late Middle Ages, with the increase in war expenditures, rulers had to give up some rights to the parliament for taxes. This change drew people's attention to the national economy and voters began to demand free management of the economy. However, in countries that didn't fulfil institutional transformations like Spain, this kind of fight resulted in constant bankruptcy, arbitrary confiscation of property and a depression which lasted for three centuries. (Douglass North 1998)

through fast economic growth in the past twenty years in contrast to the standard democratic countries such as India and Philippines and therefore challenged the orthodox view of the universalism of democracy.

One of the reasons that traditional economics is failing is that the world today is getting to be more like Tiebout's world rather than Smith's. In this world, authoritarian states are motivated and capable of providing trustworthy promises as competition forces them to follow rules rather than do whatever they like.¹⁷ I argue a new pricing mechanism of public goods in the following chapters. In my opinion, the state's monopoly on public goods can be considered a kind of consumer competition. Democracy is needed to prevent state opportunism in cases of supply shortage, in which the public has little choice so they need to be empowered to monitor the government via democracy. On the other hand, when public goods are provided by governmental competition, the state's monopoly on public goods turns to be producer competition, in which oversupply happens and the public has various options of substitute products (*Hayek Products*). In this case, democracy is not really necessary since the competitive states will maximize public interest automatically.

Since the reform and opening up of China, decentralization has resulted in resource allocation via markets in stead of the central government. Also, tax sharing system helps local government share a large portion of financial surplus. The interaction of the decentralization and tax sharing system has resulted in increasingly violent competition among regions and cities. In order to attract investors, urban governments compete to improve urban governance (such as tax reduction and exemption) and environment (such as infrastructures, landscape and natural environment). The state of *economically warring nations* has been taking shape.

This perspective of institutional analysis is of great importance because it

¹⁷ Later, I will try to show that democracy and decentralization gained trust at the cost of efficiency. Therefore, it is not hard to explain that even in the so-called "democratic countries", organizations (army, enterprise), to whom efficiency was of great importance, were not completely managed under democratic systems. People never worried that the leaders would abuse their rights because their adversaries would force them to self-consciously improve efficiency. Under this circumstance, competition was a more effective check than internal supervision.

indicates the essence of city operation and helps us understand the direction of institutional design. Moreover, it helps us learn from enterprises and shortens the path of learning and development in the evolution of urban management. Ignoring local government's role as an agent in the market leaves us without explanatory power with respect to China's rapid growth and prevents an adequate analysis of problems and policy. *Tiebout's model* is close to China's reality and I use the idea of the competitive government 'firm' to explore what roles Chinese urban government and urban planners have played and should play in the shaping the countries cities.

1.3 Methodological considerations

1.3.1 Evolution of planning theories

The field of urban planning changed dramatically after World War II. Nigel Taylor (1998) divided the changes into two phases:

The first of these occurred in the 1960s, with the shift from the urban design tradition to the systems and rational process views. The second change occurred during the 1970s and 1980s, and represented a shift in view of the planner's role. In particular, there was a shift from a view of 'facilitator', drawing in other people's views and skills to the business of making planning judgments...A significant change in the history of western thought occurred from what has been called "modernism" to "postmodernism".(p.158~159)

Although Taylor repeatedly stressed that the term *paradigm* should be used with precaution, he still named these changes *fundamental changes of planning theories*. He wrote of the first paradigm shift in planning theory:

Hence the systems and rational process views of planning which burst on to the scene in the 1960s represented a rupture with tradition—a change in planning thought which can be seen as a paradigm shift in the most fundamental, Kuhnian sense.....The shift was so significant that it was profoundly unsettling to many planners and planning students reared in the design tradition of town planning.

Suddenly, town planners who had seen themselves as “artistic” urban designers were being told by a new generation of planning theorists that their former conception of town planning was inappropriate and that they should see themselves as “scientific” systems analysts. (p.159-160)

In my opinion, Taylor is only half correct, if he is correct at all, because the old paradigm was cast into doubt but no new paradigm was really constructed. Planners still subconsciously viewed themselves as the real city shaper, like mechanical engineers assembling machineries and architects designing building forms. In most western countries - in the English tradition in the extreme – planners, or at least planning theorists, rejected a designer role but did not find a suitable alternative role. Where regulative powers were strong, the role of bureaucratic administrator or planner regulator readily was easily taken up. But the reality did not match the theoretical idea of systems controller. And in the post-modern phase, where planners see themselves as facilitative spatial planners, city shapers and place makers, their view still lives awkwardly with their modus operandi – their skills and the instruments available to them.

Planners have in all periods of their theory, by and large, struggled to find a satisfactory decision-making rationalization and theorization that matches their intentions with reality. There is a deep irony in the urban planning profession: it is apparently a social function of great importance; but that function always seems to remain elusive. Planners have always lived with a good deal of illusion about what they can do. Perhaps there has also been illusion about what they should do, but it is less easy to label a normative assertion as illusionary. Certainly looking back over the second half of the twentieth century, it is tempting to say that the normative project of planners was indeed frequently illusionary.

One of the reasons why urban planning lags behind in establishing a more satisfactory new paradigm is a failure to bring together appropriate knowledge from different intellectual fields – and possibly an ideological predisposition that inhibits the search for appropriate knowledge. The contributors to mainstream western

planning theory have tended to be distrustful of markets. The idea that markets are institutions of decentralised decision making is a strange one to them. For most planning theorists, decision making tends to mean collective decision making and there is a preference for political solutions to the collective action problems of urban society. Therefore to place themselves (planners) and their own activities within a market framework is as deeply disturbing to most as was the idea of systems control to the designer planners of the 1950s.

But unless we wake up from the illusions planners and their theorists live with and more explicitly and honestly articulate the actual part they play in market processes, a more satisfactory paradigm will not emerge and nor will the old paradigms be satisfactorily torn down.

The purpose of this thesis is to develop knowledge and build theory. Its main contribution is in the construction of ideas that shed light on the economic and social role of urban planners and, more generally, urban government. Its method can be described very simply. First, it reviews a set of ideas necessary for the construction of a theory of public spatial planners as market agents. This was started in an introductory fashion in the preamble of this chapter. These ideas are elaborated in the theoretical part of the thesis. The discussion in chapters 2 to 4 go beyond a traditional literature review. They review but they also develop building blocks of theory at the same time. In the empirical part of the thesis I use case studies from Chinese cities – principally Xiamen – to both illustrate these theoretical ideas and to test them. It is not a formal test, of course, because these are case studies not scientific experiments. In the course of testing the ideas I develop them further. Many of the ideas have been already exposed to public discussion through publication in the academic and practitioner Chinese planning journals. They are controversial and have generated heated debate. But that may be expected if a new and more powerful paradigm was struggling to emerge against old paradigms that are held partly for ideological

reasons.¹⁸

In conducting the empirical studies I have made use of published documents, many from local government sources, and also personal tacit knowledge acquired as Director of Planning in Xiamen, a city with a population that has grown from 0.327 million¹⁹ in 1980 to 1.95 million in 2007²⁰ and a built-up area that has increased from 20 square kilometers into 225 square kilometers during the same period.

1.3.2 Structure of the urban planning discipline

Since the thesis is principally concerned with theory building, it is appropriate to be methodical in specifying this task. An improved theoretical framework might consist of the following building blocks, phrased as questions:

1. Is the city a spontaneously accidental process or a product of conscious human design?
2. If it is consciously produced, who is the consumer and who is the producer?
3. Are consumers and producers driven altruistically or self-interestedly?

¹⁸*See:*

1. Zhao Yanjing, Zhuang Shuting(2008) Explanation of Government Behaviors Based on Tax System, City Planning Review, 2008[4]
2. Zhao Yanjing(2007) Revising the Price Theory on the Basis of Coase Theorem, Journal of Xiamen University(Arts & Social Sciences) 2007[1]
3. Zhao Yanjing(2002) From Urban Administration Towards Urban Management, City Planning Review, 11, 2002
4. Zhao Yanjing(2005):Urban Planning in the Perspective of New Institutional Economics, City Planning Review, 2005[6][7]
5. Zhao Yanjing (2006) 'Tax Policy Insufficiency Distorts Local Government Behavior', China Macroeconomics Information Network, date: 09:52, 19th, October 2006.
6. Zhao Yanjing (2008):Economic Thoughts on Urban Planning, Public Management Review, Beijing, forthcoming.
7. Liu Zhaoying, Zhao Yanjing (2006): Restructuring Land Property Rights in China's Land-expropriation-urbanization:Xiamen Model, World Regional Studies, 2007 Vol16[3] 51-58

¹⁹ There is 1980 city population. The total population was 934 thousand and urbanization level lower than 20%

²⁰ reference: Xiamen stat. Bureau: Xiamen statistical yearbook 2007

4. If they are self-interested, what are the behavioral law governing consumption and production? For example, do they follow profit maximization or utility maximization? What can be said about this under certain ideal assumptions?
5. What can be said about city building behaviour by relaxing ideal assumptions?

A theory built around these questions should be able to abstract from practical problems and develop a set of useful models that deliver testable hypotheses. It should be capable of define laws of action of various subjects in an ideal state (similar to the state of zero gravity or zero friction in physics). Pricing – pricing by whom, under what behaviour and with what outcome? - is the central theory of economics. Behaviour in response to incentives is also fundamental for an understanding of planning.

In stage (5) a series of analytical tools would need to be developed, which can be used to examine and illustrate practical urban problems by modifying certain assumptions of the ideal model. For instance, we may add some institutional factors to observe and elucidate the characteristics and possible outcomes of various interventions. We may propose or observe alternative systems of property rights to compare the efficiency of collective actions and propose efficiency improvements. We may modify assumptions about profit-seeking behaviour of governments to better understand the impact of institutional structure. We may generalize urban planning and its related field into some basic input-output relations and make assumptions about fixed and variable cost of city production. This would allow us to incorporate traditional planning domains (professional skills such as urban design, functional division, public participation, interest coordination, art, transportation, infrastructure, etc.) into an integrated analytical framework (e.g. the analysis of input-output relations in the context of competition).

The purpose of such theory would therefore be to link the divers and often

unrelated planning fields in a unified analytical scheme. The ideal would be that every planning concept or rule can be falsified. Every change of assumption at some basic level would yield changes at higher levels of reasoning, permitting more systematic progress of the discipline.

This is an ambitious project. The thesis takes on an important part of the agenda by focusing on the role of government. I attempt to develop a unified theoretical framework for understanding planning and urban government in terms of motives, behaviour and pricing. Then I present empirical analysis of urban government operating in business model in order to test the theoretical reliability of the model and its practical feasibility and usefulness. To avoid deviating from this core purpose, I limit the depth of certain discussions (such as price theory) to a certain range that enables applications to be made to urban planning and governance. This admittedly leaves some parts of the theoretical argument insufficiently developed in terms of more general economic reasoning.

1.4 Dissertation structure and summary of core ideas presented

1.4.1 Institutional role of government

In chapter 2 and 3, I apply recent insights from the economic theory of government to develop the idea that government is not the counterpart to the market but an integral part of it. New-institutional economics is taken as my fundamental analytical tool. From one viewpoint in classical and New-institutional economics, institutions are human-designed with a purpose rather than the fruit of unconscious, random activities. On the other hand, there is an extreme school of thought in institutional economics that sees institutions emerging and evolving unguided by any conscious human design. The truth must lie between the extremes. There are no doubt some institutions – certain customary practices and conventions and certain elements of common law for example – that are truly emergent, being discovered locally and spreading as efficacious practices. But even many of these types of institution will have been designed to some degree. For example, a local practice in some early

economy of moving from bartering to the use of some generally valued commodity such as rare seashells or silver, that eventually leads to the institution of money, will first have been institutionalised locally somewhere at some time. It is the *spread* of an institution that is characterized by spontaneous processes and this happens as a process of social discovery. The spontaneous development of an institution is not generally an accidental consequence of social activities; rather, it is a selection process that happens by competition – a kind of market competition for rules that achieve certain social ends, but without conscious social organisation. Only in the case of revolutionary constitutions do whole rafts of social institutions tend to get drafted by design. This has been relatively rare in the history of civilization. Generally, institutions are not designed by a few institutional designers. Their basic form might be shaped by a few innovators locally, but they then get shaped through competitive and destructive testing, in the mode of Schumpeterian destructive and creative competition. Separation of institutional design and selection helps to clarify individual roles in the institutional development. By understanding the motivation and behaviour of different types of individual, we can analyze the driving force and direction of institution design.

The motives of individuals involved in the making of cities therefore need to be clarified. Why are individuals motivated to provide public goods? I choose the viewpoint of the historical school in institutional economics - that collective goods are supplied by self-interested individuals. Mancur Olson's study of the mode of provision of public security - roving bandit gangs turn into resident bandit gangs – explains how from selfish beginnings, so called public government institutions emerge to obtain collective interests. Through experimenting with property right structures, humans have experimented with various forms of state (dictatorial, collective, and democratic) in order to reduce the transaction cost of acquiring collective goods - mainly the type of transaction cost related to securing credible promises.

Now we come to the next logical question: what is the criterion of market

selection in the search for better institutions? What kind of institution can triumph among so many players? Or in other words, what kind of institution will be abandoned by markets and according to what criteria? This question is readily resolved by a proposition about government's enterprise nature: profit maximization is the criterion for institution selection. The thesis peruses this in the special case of Chinese local government and planning, but there is a more general case that I explore as the argument develops.

The ultimate purpose of government catering for public preferences, improving public services and offering new infrastructure and services is to respond to or defeat challenges from other players (and institutions) in the market. Once one institution is far more efficient than others at providing collective goods, it will ultimately replace other institutions and be selected by society. But because public demand is very diverse, the market will not offer a single type of institution: they will tend to multiply as knowledge, entrepreneurship, social demand and capital supply all deepen. In particular institutions will tend to diversify as the demand for public goods, and with it, congestion of such goods, increases. As all this happens, an increase of social surplus will tend to lead to an increase of scale and scope of governments (and of governance institutions more generally).

The premise of *enterprise-like government* creates a challenge for the traditional logic of urban planning. One of the most important challenges is in respect of the role of democracy. My discussion on this sensitive topic leads to an analysis of the trade-offs between democratic decentralization and monopolistic competition and I explore what roles planners would play under the different paradigms. This is done in order to illustrate that the theoretical mode chosen by planners implicitly or explicitly influences their actual performed roles.

1.4.2 Operation mode of Chinese local governments

Based on above the ideas introduced in the previous sections, in chapter 4 I go on to further explore the nature of government. Taking Chinese local government as the

case, I explain how the change of business model affects the efficiency of local government behavior and thus illustrate the importance of mechanism design.

The proposition that government is a self-interested subject, or more accurately, an organization and set of institutions manipulated by self-interested subjects, profoundly challenges the discipline of urban planning as well as the role of urban planners. According to Kuhn's theory of scientific revolution (1962), whether a new paradigm is more powerful at explanation determines whether it can contend with traditional paradigms and finally replace them. In chapter III I consider urban government as a self-interested enterprise to explain governmental behavior that is poorly explained by the traditional paradigm of market failure. I take Xiamen Municipal Government as an instance to illustrate my proposition.

In doing this, I depict the behavior of the various actors in terms of input-output relations. Thus, in effect, creates a new production function for government (and planning) based on the idea of profit maximization in classical economics, which helps explain governmental behavior via an analysis of input-output relations. I analyze the business model of China's local states and reveal their elaborate enterprise nature. The so-called business model is the profit making mechanism of enterprises. The best way to analyze business model of an enterprise is to examine its input-output flows.

According to the production function device I introduce, public good producer factors are composed of fixed cost, variable cost and profit. Producers seek positive profits. They are motivated by profit maximization. In terms of this principle, the biggest problem all producers face is how to handle the unbalanced input-output relations caused by dynamic situations between lump-sum input of fixed cost and long-term output or between regular input and lump-sum output. As capital investment, fixed cost is at the core of organizing production and obtaining scale economies.

This approach can be applied to analyze the emergence and growth of a city. All

long-term inputs into infrastructure may be regarded as sunk fixed cost, whereas daily maintenance and public services may be taken as variable cost. Whether a city can provide infrastructure depends entirely on whether it can create a business model to gain reasonable returns. Free riding (or income leakage from investors) is the biggest problem in devising a business model for public goods. The less the benefits spill over and leak, the more is the net benefit (income or profit), and the better the product that is provided. The key to the institutional design, I suggest, is for urban government to create efficient profit making business modalities.

Staying with the perspective of profit making, I analyze the institutional revolution of China's cities since the reform and opening and rethink the reasons for the rapid growth of Chinese cities and the behavior of local government. My study reveals that the exceptional rapid urbanization of China has benefited from a highly efficient business model shaped in the past twenty years. With institutional innovations like tax sharing system and land leasing, especially government's monopoly of the primary land market, the base input of urban government has generated huge returns. Rapid urbanization has thus become the primary mainstay of China's fast economic growth in recent years.

This perspective helps reveal the specific institutional problems in China's cities. It also helps elucidate the phenomena that traditional planning theories fail to explain. For Chinese local government, the gap in return between lump-sum input of infrastructure investment and long-term regular output of tax revenue cannot be complemented by loans. This constraint forces local governments to create financing from land leasing income. In addition, because of lack of a stable tax resource, especially property tax, local government has to use land leasing income to subsidize industrialization to gain long-term regular business taxes to pay expenditures of urban maintenance. In this way, urban government's financial circulation is characterised by (a) subsidizing land cost to compete for industrial investor's business tax to pay urban maintenance expenditure and (b) maximizing commercial and residential land prices to gain lump-sum land leasing income for industrial subsidization.

1.4.3 Empirical studies

In chapter 4, I rethink the present debate about Chinese local governmental behavior in monopolizing the primary land market. Governmental behavior should be analyzed in a specific institutional context rather than independently. Chinese urban government is, in fact, an evolving institutional model rather than a model that is totally strange to traditional economics. The special business model of Chinese urban government challenges the existing paradigm of government characterized by property tax and service orientation in the western world. The Chinese way reveals that urban government can also provide public facilities and services efficiently through competition even though it is not democratic. Quite obviously, *competition* can work as effectively as (or even more effectively than) *democracy* in restricting state opportunism.

I reject the marginal analysis of neoclassical welfare economics and instead adopt Coase's paradigm as my analytical tool to study microeconomic behavior. I discuss the monopoly of government in the primary land market in terms of models of the optimal allocation of land property rights - a typically Coasean approach. My study shows that complete land property rights do not exist. The bundle of land property rights is distributed between land owners (landlords) and territorial managers (governments) from the beginning. The typical line taken in the economic theory of property rights deems that the more complete the rights, the more efficient the allocation of resources. I challenge this, however, posing a more subtle and sophisticated argument. There should be different optimal distributions of property rights, (optimal structures of residual rights in economic terminology), at different stages of economic developmental. The criterion of an optimal structure of residual rights is the well known *Coasean optimum* - maximization of total social surplus. My argument is that this is time and stage of development dependent, when considering the optimal allocation of primary land rights.

Coase's method smoothly introduce institution into the center of economic activities and is thus crucial in the analysis of urban land issues. The issue of optimal

resource allocation in traditional microeconomics can then be allowed to quietly retreat. My study shows that surplus maximization is a more practical criterion than utility maximization in determining optimal system of land property rights – and it does this by applying a Coasean method. Specifically, transaction costs fundamentally influence economic efficiency and institutions determine (moderate) transaction costs. Therefore, institutional design becomes the most important means for urban government to improve efficiency. As urban planning is expected to play an influential role in decision making relating to urban policies, urban planning has to transform itself from a “consumer” of institutions to a participant in institutional design. Urban planning needs to be jointly concerned with physical and institutional design. Yet, success in this challenging role relies on whether urban planning field can develop an appropriate theory and analytical tools. In many ways, this is the core intellectual goal of my thesis.

Considering government a self-interested enterprise therefore creates a new perspective from which to deal with the urban questions that traditional planning theories cannot explain. The study, as I have said, is specifically of Chinese urban government, but I suggest that it has wider and more general explanatory power. The new paradigm can be further generalized to more widely explain urban governmental behavior; to examine pricing issue relating to public goods; and provide a powerful tool for urban policy mechanism design.

Chapters 5 and 6 take Xiamen Municipal Government as an example to verify the propositions about the profit mode of urban government and the allocation mode of land income. In chapter 5, I describe the observed behaviour of a typical profit-seeking Chinese urban government, through analysis of the input-output structure of Xiamen Municipal Government. The process includes four steps. First, urban government expropriates village land at the price of agricultural use and provides urban infrastructures. Second, the government obtains lump-sum income by leasing commercial and residential land to balance the infrastructure investment. Third, the government leases industrial land to enterprises at a very low price to create

employment and local consumption. Finally, the government gains business tax and income tax from industrialization and further provides regular public services. The government may or may not be aware of this process – or view it as a process – yet any reforms digressing from this order have typically sooner or later reverted to the old order. When this happens, the government is blamed for “unreasonable inertia” in resisting reforms. In fact, the response of government to the reforms is not unreasonable - they are just following the existing institutional order. Failure of such reforms is caused by ignorance of government’s profit mode and the reforms are, in this sense, badly designed institutional realignments. To work, an institutional adjustment to the process of municipal government and planning has to explicitly articulate with the profit mode of local government. Partially transplanting institutions from developed economies will not enhance government’s efficiency but instead create obstacles to existing institutions and increase the operational cost of cities.

In order to further exemplify the enterprise nature of government, decision making processes and implementation mechanisms of government are also analyzed at the project level in this chapter. Although no urban government would admit to a profit purpose of governance as explicitly theorized in this thesis, (they publicly pursue many traditional public welfare goals), they quite obviously play the role of an enterprise when individual projects are examined. What government declares and thinks is not necessarily what they actually do.

Institutions are the rules that determine a player’s actions. Even though the institution may violate the will of all decision makers, it still determines their behavior - like an invisible hand. When we put aside the annual Report of Works of a Local Government and directly observe decisions at the project level, we find the enterprise urban government - they are constrained by budget and seek surplus maximization as a first priority as a means to achieve more general proclaimed public service goals.

The projects I have examined in the work behind this thesis reveal that a government’s ability at urban management is determined by its ability at financing. In this sense, the project level is the best strategic position for urban planning

intervention in pursuit of economic goals. A good planner, with a profound understanding and sharp intuition of the urban economy, can enhance project benefit by organizing productive factors spatially (location) and temporally (priority). Government behavior can be seen as an aggregation of individual projects, all of which, even the so-called commonwealth projects, have to take income and output into account directly or indirectly.

In chapter 6 I take land expropriation in Xiamen as an example with which to analyze the distribution of land value between government and landlords using a Coasean method. The purpose of this chapter is to respond to the debate of land surplus distribution - allocating land appreciation between state and 'landlords'. The debate has so far tended to focus on fairness. But in practice, the economic efficiency of residual rights structure may be more important. The case of Xiamen shows that if residual rights are designated to landlords, there will be less transaction cost but also less social surplus created by those landlords. On the other hand, in the case that residual rights are designated to government, economic efficiency and surplus will be raised but there will be higher transaction costs of land expropriation. Whether the more efficient producers can obtain property rights of land depends on the level of transaction costs. In reality, land appreciation is neither completely distributed to the state nor to the landlords; rather, the portions they share change according to marginal institutional change.

Xiamen Municipal Government is capable of creating net surplus in spite of high transaction cost of land expropriation, so it ends up getting the residual rights. The government becomes the dominant entrepreneur who acquires the right and role of developing the city. In Nanhai, village collectives obtain residual rights of land in order to save transaction costs and the collective landlord therefore became the entrepreneur²¹ that develops the city. Both models are found to have their strengths

²¹ It needs to be pointed out that the Nanhai model is based upon collective land ownership in rural areas, which is different from completely private land (such as in India). The village collective is like a mini government and can greatly reduce transaction costs induced by the dispersion of landlords. Therefore, the Nanhai model cannot be simply described by "profit from increase in price belongs to the farmers". The correct way to put it should be "profit from increase in price belongs to the

but their long-term economic efficiency remains to be seen. However, they can both be explained by the same rule: the Coasean Optimum: to maximize net social surplus.

1.4.4 Theory extension

In the last chapter of this dissertation, I point out the contribution of the dissertation to the theorization of urban planning by responding to selected current academic debates in planning and directing the extension of my theory to future studies.

First of all, is the issue of the market role of government. Through tracing the origin of government, I address the proposition that government is a self-interested enterprise of spatial operation seeking surplus maximization and accordingly I define the market role of planners. Second, is the issue of the spatial operation mode of government. Based on the first proposition, I address the resolution of problems of uncertainty, risk and credit caused by the gap between lump-sum fixed cost and long-term regular income - the core of an enterprise's production organization. It follows that in a profit-mode of public goods supply an organization will and should focus on how to reduce income leakage caused by free riders. Finally, and generalizing about governmental behavior and its business model, I speculatively apply my new price theory to the following studies.

First, it can be used to redefine the function of urban planning and the market role of planning professionals. The bias in the academic field of planning is highlighted by the definition of government as an enterprise of spatial operation. Here I give an opinion on why the urban planning field is characterized by academic chaos; lags behind other domains of knowledge; and fail to develop theory that is of much use to practice. It is fundamentally because planners recognize the role of government in a wrong way. This ingrained mistake leads to the split between theory and practice of urban planning. Once planners locate their professional function correctly, not only can they reclaim their academic discourse rights and comprehend more profoundly

collective”.

the essence of urban planning policies, but should also be able to develop a series of planning tools that place urban planning at the center of urban studies and practices.

Second, the definition of government's market role can be applied to reassess the controversial issue of governmental competition. From my point of view, competition and democracy share the same goal - to limit the opportunism of self-interested government. Yet, the planning field emphasizes the importance of democracy (such as public participation) on the one hand, but unfairly holds an unfavorable opinion towards governmental competitions on the other. The planning theorists consciously ignore the cost of democracy (low efficiency) but over emphasize the cost of competition (such as the throat-cut competition). I argue for a rethink of the economic essence of urban competition and public participation to correct the paradoxical *academic consensus*. My argument is that the best way to protect consumers is to transform consumer competition into producer competition. Only if consumers are unable to freely choose among different producers is there is no alternative to democracy in urban planning (and more generally, in urban governance).

Third, considering the blind faith of planning theorists in democracy, I discuss public participation from the viewpoint of *enterprise-like government* in order to rethink the differences in the meaning of democracy between China and the developed countries. I argue that the market role of competition-constrained government is completely different from that of democracy-constrained government. Democracy implies (time specific) monopolistic government while competition implies authoritarian government. As long as competition exists, authoritarianism should not threaten private property security. On the contrary, once competition disappears, the monopolistic privilege of government will turn producer competition into consumer competition. In this case, in order to protect private property, democracy becomes an institutional necessity. Once there is a misplaced combination, such as democracy under competition or authoritarianism under monopoly, the institutions become inefficient.

1.4.5 Theorization of institutional analysis

The Appendices in the thesis aim at theoretically extending the analysis of public goods used in the main part of the thesis. It uses insights from the analysis of land, planning and urban governance to challenge the one of the foundations of economics: price theory. It is a speculative and highly unorthodox endeavor, but is included in this thesis because, for the interested reader it opens up new paths of thought and analysis. In developing this new theory of pricing, I generalize many of the public goods issues addressed in the thesis by modifying the basic analytical tools of micro economics to apply to a broader set of economic phenomena. My approach is to rethink the origin of institutional economics to uncover its implicit pricing rules; explore its differences from neoclassical economics; and further extend its pricing rules to processes of supply-demand and production-consumption.

In the appendixes, I develop a new analytical tool for understanding price in order to put a sounder corner stone in place for my study. The reason why public goods are regarded as a special product and urban government is considered an exceptional (non enterprise) organization lies in the inability of existing theories at analyzing the pricing of collective goods. The market rules and pricing mechanisms presented by mainstream economics fail completely in characterizing genuine enterprise behavior. However, when some problem manifests in the foundation of economic analysis, economics responds by relaxing its original assumptions (e.g. information asymmetry, transaction cost, wage rigidity, exogenous technological progress and so on). The result is the emergence of exceptions and academic branching (institutional economics, developmental economics, macroeconomics, microeconomics, etc). A good theory should be compatible to explain various economic phenomena in a broader range. I do not attempt to provide a specific tool for analyzing the provision of public goods; instead, I attempt to generalize a price theory of public goods as a common analytical tool for all economic phenomena.

The new pricing rules I derive are based on two fundamental assumptions: *economic person* and *rational person*. In order to simplify demand analysis and avoid difficulties of aggregation and comparison of utilities, each transaction of a *natural*

individual is regarded as equivalent to a consumption event with an independent preference. The unit of analysis therefore becomes not the individual but the individual transaction. The aggregation of these preferences is seen a continuum for mathematical convenience. In addition, the assumption of the rational person implies the pursuit of surplus maximization. Consumers maximize *consumer surplus (a budget and utility concern)*, producers maximize *producer surplus (a profit concern)*, and surplus should not be a negative value.²²

Based on the two assumptions, I propose a different assumption from neoclassical price theory since Marshall: there is, I contend, no stable equilibrium of price and quantity between supply and demand. There are only two types of relations between supply and demand: either oversupply or underproduction, within which the price-quantity equilibrium is determined by different types of competition.

In an underproduction situation, competition exists only among consumers. Price will depend on the marginal consumer. In an oversupply situation, competition emerges between the optimal and the second optimal producer, which I call *Schumpeter Competition*. The market price is determined by the optimal producer and second optimal producer. While the market can accommodate several producers, the price is determined by the marginal producers

According to the assumptions above, preferences of economic person (individual transactions) differ from one another. In this sense, theoretically any product can only satisfy one consumption (economic person). The growth of market scale and surplus creates the possibility of new products. Price reduction (or an equivalent income increase) will lead to the presence of new products but not further expansion of the

²² As for whether a rational production agent abides by utility maximization or surplus maximization, I choose the latter. This is not only because utility is difficult to handle technically (compare, aggregate, measure) and thus is unpredictable, but also because countless cases in reality show that even though the income of a rational agent far exceeds the amount required to satisfy his welfare, he will still strive for higher profit and even sacrifice his own welfare as long as he is part of market competition. Once in economic competition, he must win because there is no room for individual utility. This is similar to economic games, where the athletes keep sacrificing their welfare (exercise assiduously) to strive for better results even though they have reached fairly high athletic levels. If we assume the athletes pursue utility maximization, their behavior cannot be predicted. It is the same with a rational economic person (not consumer). As long as utility is positive, they will seek for surplus maximization rather than utility maximization.

scale of demand. A *Hayek Product* creates a new competition: variety competition (*Hayek Competition*) which exists alongside quantity competition of any single variety. To realize profit maximization, producers of one variety will maximize the amount of their products. This means fierce *Hayek Competition* will still develop among similar products even if a certain product is monopolized.²³ Unless there is no similar substitute, competition will not cease because of monopoly.

Under the pricing rules I abstract in this chapter, institution can be analyzed in a generalized framework. Institution (including customs, taboos, canons, family discipline, and clan rules in a broad sense) can be taken as part of the social fixed cost or assets. All of my arguments illustrate my proposition - government is an enterprise profiting from the provision of public services - and can be successfully analyzed using this new framework. Competition among governments is not abnormal but a precondition of the maximization of public interest.

In Appendix 2, I illustrate further the relationship between transaction cost/Auction theory and consumer competition in my theory through revisiting Coase and Vickrey.

1.5 Conclusion

The primary purpose of this dissertation is to make use of recent developments in economics to redefine the role of government and reveal the actual process of city production – the city being the biggest of all public goods – and thence to clarify the professional function of urban planning. I do not deal with all of the problems urban planning faces; rather, I focus on a fundamental question of the discipline that is singularly the cause of much intellectual and professional confusion - the market role and motives of urban government. If the fundamental perspective is wrongly placed, planning theories based upon it will remain as they are - built on shifting sand and unable to establish a platform for meaningful communication in common language.

²³ Generally speaking, the shortage of kindred Hayek products will only be temporary (e.g. through buying out the technical patent of kindred products). With the development of technologies, certain entrepreneurs will finally invent this product.

The best way to study theories of the real world is to generalize the real behavior in practice into simple analytical models. The rules in these models should be confined to the very basic and relate to the observed motives and behaviour of the actors. Whether these basic assumptions are true or false determines how far the gap is between the models and the real world. I attempt to illustrate a very basic assumption: whatever governmental behavior appears to be, or are imagined to be by academics, they are, in fact, motivated by self-interest like any other economic agent (or economic person). On this basis, public goods are like any other goods and can be priced by market mechanism – provided that the territorial governing agent supplying those goods can control leakage and provided that competition between territorial governments is sufficient to induce governments to accurately and without opportunism, discover and provide to the demands of individuals within their territory. In these circumstances, there is neither market failure nor public goods that must be provided by non-market mechanisms. Government is a market players.

In sum, starting from a general but partial question of economics - the provision of public goods – the thesis analyses the birth of a city and government; advances an assumption of the role of urban government; applies the assumption to examine the real world (China’s urban government) in order to verify its explanative power; and finally generalize the model of public goods provision to a more general economic analysis.

As a caveat, it needs to be pointed out that the thesis focuses on the urban governments of China’s coastal area, whose formation and operation differ greatly from the standard modes in developed countries (and even the modes of other developing countries). The conclusions and policy suggestions made in this dissertation should be understood in this context. They are not explicitly presented as an analysis of urban governments in other countries, nor indeed of all local governments in China. Nevertheless, it will already be clear that I believe the perspective taken and theory developed, is of more general use. The test of this I leave to other scholars and practitioners.

CHAPTER 2

THE INSTITUTIONAL ROLE OF GOVERNMENT

2.1 Introduction

The purpose of this thesis is to explore the nature of territorial government and in particular reflect on its relationship to private firms. In the case studies in Chapters 4 and 5 I present evidence that is consistent with the idea that the government is just like a firm. This is particularly the case in China where the government owns the land. However the argument may be applied more generally.

In the current chapter I review this and related ideas. The chapter ends with an explicit model of the urban government as a firm. To arrive at this, however, other important ideas from the literature are discussed. Section 2 reviews the place of institutions in economic analysis. Neo-classical economics has traditionally ignored institutions. This is tantamount to placing government outside of the market economy. The role of government is a residual and special one: to correct the failure of the market. Section 3 reviews new institutional economic theory, particularly focusing on the analytical role of transaction costs. By replacing the neo-classical assumption of costless transactions with one of positive transaction costs, institutions suddenly matter in economic analysis. The nature of prevailing institutions shapes the way property rights are assigned, resource allocation is negotiated and in the end, the efficiency of a resource allocation. In this model, governance is brought inside economic analysis. We cannot analyse the efficiency of a resource allocation without understanding the governance structure.

Section 4 and 5 take this further. Drawing on ideas of government like the ‘settled bandid baron’, they examine the idea that governments are territorial firms. This also leads to a discussion of the role of democracy in urban planning. The ideas are

elaborated beyond the arguments found in the existing literature, drawing on the innovative price theory developed in the Appendix of this thesis. It also forms the basis for the case studies analysed in the remaining chapters. Throughout the chapter, there is a tension between generalising and making the analysis specific to China. The principal thrust and purpose is to create a critique of urban planning in China and to re-fashion the concepts with which planning in that country is understood and understands itself. However, there are many points that are more generally applied to urban governance and planning. I do not pursue these far, however, since that would require an engagement with a far broader literature and take more time and space than I have in writing this thesis.

Institutional analysis has a long history in economics. In the eyes of the great classical economists, *institutions* are both the basis and objects of analysis. In Adam Smith's *An Inquiry into the Nature and Causes of the Wealth of Nation*, Book I - Of the Causes of Improvement in the Productive Powers of Labour, And of the Order according to which its Produce is Naturally Distributed among the Different Ranks of the People - focused on the processes that deliver an emergent spontaneous social order and inevitably therefore focuses on institutions. The analysis of national institutions - structures of rules and laws - and the institutions governing transactions is deeply embedded in almost all chapters of Smith's book.

The capital theory of Karl Marx is based upon the idea of *surplus value* and its distribution. Changes in institutions, especially property ownership, are the core of Marx's theoretical perspective and method.

The classical economists never succeeded, however, in establishing their own microscopic analytical approaches. This was true of their analysis of transactions and of the rules that govern them. Their institutional analysis was therefore carried out at a macroscopic scale.

The marginal revolution of the 18th century provided the basis for developing a microscopic method in economics. Modern price theory based on Marshall's analysis

of demand and supply, has become the foundation for analysis in orthodox economics - the model of today's so-called *Neoclassic Economics*. Marginal analysis permitted the reduction of economic principles to mathematical equations. When Arrow-Debreu developed a method for modelling general equilibrium with strict mathematical proof, economic modelling and to a large extent economic analysis as a whole, became an independent system. The cost of achieving this was loss of institutional focus. The reason was that to represent systems of exchange by systems of equations, assumptions had to be made about the institutions that govern exchange. For a long time - most of the twentieth century in fact - mainstream economic analysis made the simplifying assumption of a single and homogeneous institutional form, the perfectly competitive market. It was not until the last quarter of the twentieth century that earnest intellectual endeavour was applied to extending economics' rigour to models that relaxed this assumption. A so called *New Institutional Economics* (NIE) emerged as an heterodox ideas, many of them reviving insights from classical economists and those who, at the end of the 19th century and start of the 20th century specifically focused their attention on institutional form – the so called *Old Institutional Economics*, led by John Commons, Thorstein Veblen, Wesley C. Mitchell and Clarence Ayres.

NIE, which began to develop as a self-conscious movement in the 1970s, traces its origins to Coase's analysis of the firm and social cost (Coase 1937, 1959, 1960), Hayek's work on knowledge (Hayek 1937, 1945) and Chandler's writing on the history of industrial enterprise (Chandler 1962), along with contributions by Simon (1947), Arrow (1963), Davis and North (1971), Williamson (1971, 1975, 1985), Alchian and Demsetz (1972), Macneil (1978), Holmström (1979) and others.

However, NIE has not yet achieved acceptability in mainstream economics. This seems to be due in part to its lack of stringent analytical tools. This is not an entirely fair explanation, however, although it is a common perception. There are in fact two branches of NIE. The one attempts to apply and extend the methods developed in neoclassical economics to the study of institutions. Authors include Eccleson and Hart;

the latter, for example, developing equilibrium models of contracts in order to analyse the efficiency of *ex-anti* contractual arrangement in governing *ex-post* contract hazards. The other branch either find it unnecessary to develop models, or are ideologically predisposed against them. The latter position is influenced by Von Mises and his disciple Von Hayek of the Austrian Economics School, which generally emphasised the subjective nature of economic knowledge.

What can be said about institutional economics new and old, is that it is a source of creative and in-depth big ideas about how individuals interact economically under different rules and organisational contexts – work flag-shipped, for example, by Commons, Veblen, Mitchell, Galbraith, Coase, Williamson and others (a good review is by Brue 2000). NIE represents a movement to put the *political* back into *economics*. The change from *Political Economics* to *pure Economics* was a product of the neoclassical project of the 20th century. The approach taken by the classical economists was something that today would be seen as interdisciplinary. Ekland and Heber (2000) note that to Smith, Bentham and others, the noun and adjective in ‘political economy’ had equal importance. The formalisation of economics in the 19th and 20th century led to the subject becoming a branch of mathematics and a narrowing of its research scope. NIE revives many of the big ideas and big questions of an older political economy that was really a quest to understand the nature of social cooperation.

The seeds of an institutionalist revival actually emerged in the mid 20th century at the height of the modernist-reductionist movement that supported the development of the neoclassical paradigm. The Constitutional Economics of Buchanan (1986 Nobel Prize laureate in economics); the New Economic History School of Douglass North and Robert Fogel (1993 Nobel Prize laureate in economics); the ballot-casting, constitutional and public choice theories of Arrow, Bowen, Tiebout, Turock and Sen (Nobel laureate in 1998); the transaction costs economics of the followers of Ronald Coase (Nobel laureate in 1993) and the related Chicago schools; the neo-Austrian followers of Hayek (Nobel laureate in 1974) all contributed to the re-emergent

political and institutional analysis of economic processes and patterns. Their analysis is political because they all in their differing ways acknowledge the importance of property rights or entitlements in the analysis of economic efficiency. It is institutional because they all recognise the role of rules, formal and informal, in assigning those rights.

One of the most important of these contributions was Coase's well-known thesis developed in his 1960 paper *The Problem of Social Costs*. Coase received his Nobel prize for two papers – a remarkable achievement, all the more so since the ideas developed in the earliest paper were drafted when he was still an undergraduate almost 60 years earlier. In the 1960 paper, he effectively creates an analytical device capable of standardising the analysis of institutional factors. He introduced the concept of transaction costs. Because he used the conceptual mechanisms of neoclassic economics, his critique (of the neoclassical Pigovian – after Arthur Pigou - analysis of social costs) generated a much bigger impact in mainstream economics than did the earlier transaction costs emphasis of John Commons.

Coase's thesis provided a common basis for much of the new institutional economics. His contribution in his 1960 paper was two fold. First, he posed what became known as the *Coase Theorem*, named afterwards by Stigler. This recognised the importance of property rights in the analysis of economic efficiency. By showing, in an artfully simple way, that with full information, the allocation of entitlement rights does not influence allocative efficiency (because bargaining will take place with compensation flowing one way or the other), he demonstrated that in the real world of incomplete information, property rights do actually matter in the allocation of resources. Implicitly this also amounted to saying that institutions matter in economic analysis, since institutions allocate property rights. Second, developing the thesis in his 1937 paper 'The nature of the firm', he re-introduced Commons' notion of transaction cost. With zero transaction costs (the flip-side and equivalent assumption to full information) bargaining between generator and consumer of social costs will lead to the same equilibrium allocation whoever holds the initial property rights.

Since the costs of making economic transactions are in fact not zero in the real world, then in reality, transaction costs will influence the efficiency of resource allocation. Transaction costs matter. This was mutely denied by neoclassical orthodoxy, which assumed that resources costlessly flowed from lower to higher productive uses.

In the next section, I look at the market with positive transaction cost as Coase does in his article, *The Problem of Social Cost*.

2.2 Institutional analysis: a world having transaction cost

Transaction costs are most generally defined as the costs of making transaction. Some authors limit this to the costs of using markets. This distinguishes them from costs of production, which are the costs of technical transformation of reources. However, there are also costs of transacting outside the market (costs of governance) and the concept is readily extendible to the world of planned order, as Coase demonstrated clearly in his 1937 paper.

Transaction cost may be divided into two categories. One is *technical transaction cost* like transportation that can be reduced via advances in technology. The other is *institutional transaction cost*, brought about by information asymmetry and credibility of commitment problems that can be reduced by institutional design²⁴. These are the costs of defining property rights and making and policing contracts. Institutions and the second category of transaction cost are logically interrelated in economic analysis: institutions (rules) are redundant in a world with *zero transaction cost*.

The extent of institutional analysis in economics is therefore linked to transaction cost. The idea that all transactions are costly has been the key to the success of Coase's framework. This is nowhere better captured than in his basic thesis in *The Nature of the Firm*. Firms (governments) form when the cost of transacting in the market become too costly. Organised transactions within a firm replace spontaneous transactions in the market place. But the costs of organising transactions are not zero

²⁴ New technical progress sometimes can also help to reduce this type of transaction costs, for example, automatic monitoring technology.

and rise with the size of the firm. At some stage, organisational costs may outweigh the savings on market-based transactions and the firm becomes too large. At that stage, reorganisation will occur and some transactions will be removed from the firm to the market. Transaction costs therefore provides an analytical device for exploring the dividing line between planned and market economy and between state and market.

Consider in more detail the role of transaction cost in planned and market based systems of exchange and coordination. In a market system, property rights are privately owned. This means that transaction cost is inevitable since owners can be expected to act in their own interest, including withholding information, pre and post contract. Socialist theorists believe that this kind of transaction cost can be avoided if the transaction is carried out by the state in a planned manner. The idea is not intrinsically socialist, however, as *The Nature of the Firm* demonstrates. Firms form to reduce transaction cost. The analogy to government is more than an analogy. Governments can be said to form to avoid costs of interaction in the market place. Planned economies were designed just for that purpose.

The practices of socialist countries, however, have shown that planned economies produce a less efficient division of labour than market economies. In the Coasian model, collectives of individuals form spontaneously in pursuit of lower cost forms of coordination. Socialist governments may be said to arise by spontaneous social and political processes but not by spontaneous economic processes. At the start of the 20th century they were perceived as being lower-cost forms of economic cooperation but practice proved the perception wrong. Transaction cost is unavoidable with any division of labour, be it centrally coordinated or decentrally. Marx tried to eradicate private ownership to solve the problem once and for all. However, practices have shown that the eradication of private ownership inevitably leads to the degeneration of market functions in a society (at least where social accumulation and surplus is not sufficiently high). This is due to the incentive problem. Take away ownership and you take away incentive to invest in and use resources. Nowhere is this more true than with labour, which is a kind of property as Zhou Qiren succinctly describes, drawing

on Yoram Barzel's economic theory of property rights:

A person is born to be a human resource that is totally different from a non-human resource. Human resources are termed by Barzel as "active resources" and their owners, or individuals, are fully master of their utilization. Therefore, when part of the proprietorship of a human resource is restricted or deleted, the owner of the human resource may shut off the corresponding part of the human resource so that it seems to be nonexistent at all. What is even more special is that this restricted or deleted part of human resource can never be collectively owned by other masters for the same utilization. One confiscated plot can be transferred to a new owner with the same area and fertility; however, a "confiscated" person may be defiant even if he is under the control of a slave owner. To put it simply, the defects of a human resource may substantially dwarf its economic value. (Zhou 1996: 71-72)

The intrinsic private nature of labour makes all or most collective ownership arrangements something of a fantasy (voluntary religious communities being a possible exception) and determines the universality of transaction cost in respect to the coordination of labour.

The discussion so far demonstrates the universality of transaction cost and the universality of social structures designed to reduce such costs (the family being the most primitive form perhaps). It also demonstrates the dynamics of these structures and shows that a lack of understanding that transaction cost is ubiquitous - existing in and out of organised structures - leads to poorly designed institutions. The socialist states of the 20th century are the most extreme example. So long as we interpret economic problems in terms of property rights, transactions of those rights and the costs of making those transactions, we have a tool for bringing institutions into the analysis of resource scarcity (a definition of economics).

So far, I have been talking about the positive analysis of institutions. The Coasian model of the firm states that corporate institutions will emerge to lower transactions

costs. North's model of economic history states that the rules of government will emerge to give a country a competitive advantage.

This naturally leads to a normative question: is it possible to design an efficient institution? There are two very different answers, found originally in classical philosophy. Some have chosen to believe that successful institutions are or must be the result of purposeful human activities. For instance, the Greek philosopher Plato; the English philosopher Hobbes; the Chinese masters before the Qing Dynasty and later Mao Zedong; and the German philosopher Marx. All were preoccupied with the prospect of designing more reasonable (fair, efficient, workable) institutions. The planned economy was a Herculean experiment in institutional design. Modern urban planning attempts to design institutions that will bring about the fairer and more efficient allocation of land resources. Urban plans and the laws that attempt to make them work are institutions that in the end are put in place to reduce the costs of coordination in the development and use of land.

Others have argued that successful institutions are the outcome of numerous spontaneous human interactions not of purposeful design. The Scottish enlightenment political economists were of this persuasion (Adam Smith's invisible hand) and followed a long history of ideas related to spontaneous order stretching back to the medieval economist-theologians in Spain and elsewhere. In this paradigm, human beings are passive institution takers. The institution is like the price in neoclassic theory. It is determined by an invisible and impersonal mechanism. Nobody can 'design' a truly efficient institution (Yang 1997): they have to be discovered. Hayek developed this viewpoint further than anyone else, in many ways summarising, abstracting from and synthesising 500 years of European thought on spontaneous order (Hayek 1996).

In his work *Principles of a Liberal Social Order* (1966), Hayek develops the thesis that liberty and the institutions that deliver it, evolve by trial and error and is not and cannot be designed. He argues the same in respect to the division of labour and the division of knowledge (in *Road to Serfdom* (1944) and the *Dispersal of*

Knowledge (1937, 1945, 1946)).

The disagreement over the possibility of designing efficient institutions naturally became the focus of dispute between socialists and liberals (Hayek 1948). It underlies modern discourses by critical social theorists attacking so called neo-liberal government policies. In matters relating to the governance of urban growth and development, it underlies challenges to accepted practices of land regulation and the discussion about more market-oriented instruments to governing land transactions (Zhou 2003, Webster and Lai 2003).

With the worldwide failure of the planned economy, there is a sense in which the Hayekian view has emerged as superior. However, this is not the whole story. An extreme passive view is not very helpful when it comes to addressing practical problems that require consciously applied collective action. To deem institutions non-designable is to settle for a long, slow and painful journey of social discovery. More helpful is to see the process of institutional design itself as a process of trial and error and to believe that over time, with sufficient information and feedback, society is capable of improving on its institutional designs. Webster (2005) gives an account of the evolution of urban planning institutions in the UK using this essentially Popperian version of Hayek.

Here I return to Coase's Theory of the Firm (1936). Another perspective on this thesis is that firms (or governments) are institutional inventions. They are the product of purposeful design - by their owners, employees, lawyers and other advisors. The creation of a new firm is a conscious, purposeful experiment at designing a new form of social order for a particular nexus of production-oriented exchanges. In this framework, institutional formation and growth feature scale economies and increasing returns. Just as machines are invented to undertake a large amount of repeated work, institutions are invented to reduce the costs of repeated transactions associated with a particular division of labour.

The repeated use of a machine means that scale economies can be realized by

amortization of fixed costs. In the same way, an institution is a capital product that can be used repeatedly to reduce repeated transaction cost. In other words, an institution is a tool for governing transactions. A good institution will help to complete a transaction in a way that would not have been possible in its absence. Many or most institutions in the modern world, like machines, are designed. Also like machines, they are risky investments. They may work or they may not. They are tested by trial and error as they are put to the test. In this sense we can say that while institutions tend to be the product of design, good institutions are discovered.

The economic reason for the emergence and evolution of institutions (the visible hand that shapes the invisible one) lies in the increasing scale of the economy. The institutions of corporate structures permit less costly productive cooperation with greater combinations of knowledge and greater volumes of output from those combinations. The more complicated the division of labour and the larger the scale of production, the more complicated the institutions and the greater the saving of transaction cost.

However, it is not always better to have more complicated institution. An institution should fit in exactly with the resource allocation issues to be settled. This is the point of the classical theorists such as the English Jurist Hayle, who argued that good law is discovered law (as in the English Common law system). An eight lane elevated highway is not necessarily better than a simpler traffic management system (although the former may be more advanced). To put it in term of Marx's theory, the economic base determines the superstructure (institutions) and the superstructure determined the economic base. An institution's success may be gauged by whether it can provide more surplus than others. Institutional and productive relations evolve hand in hand. They co-evolve. If improvements in the allocation of production or consumption related resources are hindered by existing institutions, new rules will be demanded. This is a Hayekian and Northian view. Its application to the evolution of the order that governs cities and more generally urbanisation, is explored at some length in Webster and Lai (2003). However, a better institution will not

necessarily replace the original one as such a replacement imposes costs as well. This is a Coasian view and also one expressed in the organisational theory of the Berkely-based leading contemporary transaction cost economics proponent Oliver Williamson. Only when the better institution brings more surplus than the replacement costs will such replacement finally take place. The inevitability of institutional progress is dependent on processes of political and administrative feedback. And of course, institutions benefit certain groups over others. The path to greater social efficiency is not a singular and monotonic one therefore. There are many paths and there are cul-de-sacs.

From this discussion we can draw some conclusions about the efficacy of designing institutions.

1. Although, as North, Hayek and others have shown, there are many institutions in society that have emerged over long periods of time with no or little conscious design, most of the institutions that address modern problems of coordination are the fruit of the active design and invention.
2. An institution may be invented by a single designer, such as a lawyer or constitution drafter or it may be fashioned by drawing on the practice of numerous human beings, as when statutory law is formalised from common law.
3. All institutions are tested in competition. It was not so much their planned institutions that led to the failure of planned economies - after all the U.S. and French constitutions were planned. Their failure was due to their practice of restricting institutional creation and testing – the elimination of fair competition among different institutions.
4. In the case of free competition among different institutions, the winning social institution is the one that creates the best net social surplus after the deduction of replacement costs. So-called civilized society is a society where there is a huge variety of institutions. Applied to the problems of governing land and the

development of cities, the challenge is first, to make sure the instruments of governance and control are appropriate to the tasks at hand and second, to make sure that there is sufficient space in the governance regime for new and better institutions to emerge, succeed and replace less effective institutions.

The Coasian analysis of institutions based on the idea of scale economy is a great discovery. It provides a paradigm for researching institutional design. The growth of a firm follows economies of scale in the institutions of internal governance. At some point diseconomies set in and institutional growth is bounded. In the world of zero transaction cost within an organisation, an institution would be unbounded. In its field of competence it would, in principle, dominate all transactions. In the extreme, the economy would be organised by one firm and firm and government would merge into one single organisation. The government as a firm, the firm as a government. But organisation costs are positive and firms and governments both grow to a size that reduces the social product.

In the framework, which will be presented in the Appendix, I further Coase's thought on the matter. Differing from Coase's proposition that organisation cost must increase faster than the increase of income, in my framework, the size of an organisation (firm, government) may also be confined by competition from its neighbours, so called *Hayek Producers*, who supply similar products in overlapping market. Since every consumer has different preferences, the accumulated surplus causes the bifurcation of demand and the enterprise will give birth to new products inevitably. That means that even if there is unexhausted scale economies (without increasing internal organisation cost) the bounds of the market or the size of firm is also potentially confined by its competitors. The economy, in that case, will never be dominated by single monopolistic government or firm²⁵.

²⁵ I introduce this digression into the price theory developed in the Appendix at this point partly to show that the theoretical exploration in that chapter arises from the main enquiry of the thesis and partly because in my view, the review of Coase's theory of the firm would be incomplete without pointing out this alternative direction of analysis. The reader should be able to grasp the basic point being made at this stage and is invited to consider the more details arguments in the later chapter.

2.3 The market role of government

A major function of urban planning is that it defines different proprietors in the planning and development process. It defines the original or an initial allocation of property rights. It attempts to provide institutions to reduce the transaction cost associated with exchanges of land, buildings and infrastructure. It aims to improve or to maximize the utilization of private and social resources. This is not a traditional view of urban planning. It requires redefinition of the roles of stakeholders in urban planning and shifts the attention of planners from the search for the moral roles of planning (e.g. redistributing benefit from stronger to weaker groups) to the search for optimal rights allocation. In this re-conceptualisation, it is essential to redefine the role of government since in reality, it is the most important consumer of the product of urban planning. If governmental behaviour is non-economic, economic tools of analysis will be useless in understanding urban planning. This is not the case, however. Governments of all types act with economic motives. Their roles can be understood with economic analysis, therefore, and without it, we end up with only a partial understanding of the planning and development process.

In order to make an institutional analysis of urban planning, the starting point is to identify the economic agents²⁶ (government, developer, citizen, etc) and to assume that each seeks to maximise (or optimise) some kind of gain. Traditional urban planning theory based on neoclassic economics regards government merely as a solution to market failure. Non-economic theories of planning also tend to ignore the motives of government as agents. In mainstream theories of urban planning, market participants are all self-interested (profit-oriented in the case of land consumers and suppliers and special-interest oriented in the case of lobby group) except government. Government is seen as a guardian of public interests and a nonprofit organization whose responsibility is to serve social justice. Also in the eyes of classical economists, government is a fair judge regardless of its own interests. However, such an ideal government does not exist in reality.

²⁶ Or 'consumer equivalents'

In universities, planning and urban design students are taught that the location of parks, and roads is reasonable if it fits certain design criteria, regardless of the institutional and governance context. When students of economics learn how to infer a general or partial equilibrium solution, the nature of governance is similarly an irrelevancy. When the planning schemes of urban planner or of the economic planner do not fit with the real world, they tend to focus attention on how to change (or at least criticize) the real world. They both implicitly assume a world with zero transaction cost in which government implicitly is a redundancy.

In his paper, Notes on the Problem of Social Cost, Coase (1988) criticizes the economists' preference for the logically perfect but impractical Pigouvia tax as follows:

In my youth it was said that what was too silly to be said may be sung, In mordern economics it may be put into mathematics. (p.185)

The criticism may also be laid at the door of the physical planner working in the tradition of urban design: in modern urban planning, silly schemes may be rendered in computer drawings.

When new institutional economics adopts the standardized analysis of transaction cost, the government is no longer an institutional redundancy. Coase points out at the end of his 1960 paper that “we must consider the operating costs of various arrangements (whether market institutions or government organs)”²⁷. In other words, the crucial variable becomes the cost of an institution in relation to its purpose. The analytical focus becomes designing institutions that cost effectively produce a desired change in resource allocation.

The analytical breakthrough comes when the government (or government controller) is no longer conceptualised as being a non-profit agent but a

²⁷ Although this statement still features the wrong ideal that a “government organ” is not a “market mechanism”, this is a big progress considering the definition of market mechanism in traditional economics.

profit-oriented economic agent²⁸. The historic analysis school established by Douglas North and the collective action theory of Mancur Olson are most striking in this respect. North (1981) points out that we have to apply a *transaction cost theory* combined with a *state theory* in order to define an economic organization analytically. In order to establish such a framework, he assumed that the state will only set up a property rights regime that is effective if managers of the state can maximize their own fortunes (however 'fortunes' are defined) (Sheng 2003: 294). In many ways this idea is a more general successor to the more limited (and discredited) Marxian view of the state as a tool of class oppression. The state is not inert or benign. It is an instrument through which certain individuals seek their own benefit.

Taking this idea further, it will be useful to review Olson's famous article *Dictatorship, Democracy and Development* (1993). In it he conducts an in-depth analysis of the nature of government. His thesis probes the economic causes of a government arising out of anarchy and then makes a comparison of democratic and autocratic institutions from the perspective of institutional economics.

He first makes an analysis of an anarchic society, saying that anarchy robs individuals of the incentive to produce and robs society, therefore, of productive capacity. Violence prevails and people are at constant risk of loss - material and personal. He then asks why and how most of the heavily populated societies in history have managed to avoid the state of anarchy. His answer is not arbitrary or based on conjecture but based on an analyses of China in the 1920s. Olson (1993) describes it as follows:

In the 1920s, China was in large part under the control of various warlords. They were men who led some armed band with which they conquered some territory. They taxed the population heavily and pocketed much of the proceeds. The warlord Feng Yu-hsiang was noted for suppressing bandits and for his defeat of the relatively substantial army of the roving bandit, White Wolf. Apparently most people in Feng's domain found him much preferable to the roving bandit. (p.568)

²⁸ Or consumer equivalent

Olson (1993) developed this into an analysis of the difference between *settled bandits gangs* and *roving bandit gangs*. Why do victims regard warlords, or the settled bandits gangs who repeatedly steal, as better than roving bandit gangs who rob then leave? The reason, he posed, is that if a roving bandit gang settles down to make a business out of stealing (demanding regular payments) and maintains a monopoly position in the territory, then victims will regain the incentive to produce. They will no longer have to worry about the unpredictable mobile thieves. They will know exactly what residual wealth will be left for them after paying *tax*. They get to keep a predictable proportion of earned or accumulated capital after the bandit's takings and thus have the incentive to invest. Investment increases both revenues and taxes in the future. That, in turn, gives an incentive to the settled bandit to keep the tax stable, or even to adjust it downwards in order to increase longer term gains through protecting his victims' investments. Anarchy therefore ends when theft becomes monopolised. As a by-product, subjects (victims) of production taxes receive protection since the autocratic ruler has the incentive to protect his subjects which will increase the long term returns within his territory.

In this way, Olson comes up with his shocking conclusion:

Thus government for groups larger than tribes normally arises, not because of social contracts or voluntary transactions of any kind, but rather because of rational self-interest among those who can organize the greatest capacity for violence. These violent entrepreneurs naturally do not call themselves bandits but, on the contrary, give themselves and their descendants exalted titles. They sometimes even claim to rule by divine right. Since history is written by the winners, the origins of ruling dynasties are, of course, conventionally explained in terms of lofty motives rather than by self-interest. Autocrats of all kinds usually claim that their subjects want them to rule and thereby nourish the unhistorical assumption that government arose out of some kind of voluntary choice. (p.568)

This is a theory of government based on individual behaviour. It is a theory of the origins of government couched in terms of a situation that does not hold today.

However, its logic is no less compelling for its historic setting.

It contrasts with arguments held by other renowned institutional economists such as Barzel and North who attribute the emergence of various governments partially or fully to willing deeds aimed at reducing the transaction cost of social cooperation. The two views are not necessarily contradictory, however. Olson's contribution is to analyse the motivation for the origins of government or the prototypical choice between anarchy and government. Barzel's and North's idea that governments (collectively supported institutions) emerge to avoid the costs of wasteful competition does not necessarily preclude the Olson mechanism. It is open to any motivational mechanism, that being just one.

Olson goes further to analyse the difference between an autocratic (private) government and a democratic (public) government. As a part of his logic, he assumes that the political leader of a democratic regime is as selfish as the bandit gangs, making every effort to acquire majority support. He rejects the viewpoint that regards a dictator as a "predator", believing that the metaphor obscures the fact that the settled bandits are more efficient than anarchy and underestimates the advancement of civilization that results from this symbiotic relationship. From this viewpoint, the more common idea of a selfless democratic government is problematic.

In developing this idea, Olson poses the situation in which two candidates compete for presidency or two parties compete for the right to form a government. The candidate, or party, will try to purchase the support of a majority by shifting or proposing to shift the incomes from the general public to the anticipated majority via taxation and targeted spending. The cost of doing this is to damage incentives among both parties – those redistributed from and those in receipts of redistribution - and to reduce aggregate social output. This has the same effect as when a dictator redistributes incomes to himself. Olson details this argument in *The Logic of Collective Action*, suggesting that while tax rates in a regime of majority control tend to be lower, the majority rule tax system will favour special interests with virtually no incentive to consider the social costs of the redistribution. It may be wrong, therefore,

to infer that a democratic regime will always feature less redistribution than a dictatorship.²⁹

Why then, might a democratic nation be thought better than an autocratic one? Olson's answer does not attempt to claim that a dictatorship is less efficient than a democratic government in terms of the dead-weight loss of arbitrary (as opposed to efficiency-related) redistribution. The argument is that a democratic government will provide longer-term protection of property than a dictatorship. This may be explained with reference to investment rates. When an economy develops to a certain level, a high investment rate is necessary to sustain and grow the standard of living. A dictator needs his subjects to believe that their property (investments) will be permanently protected from both theft by others and arbitrary expropriation by the dictator himself. If his subjects are fearful of either such loss they will not invest.

In order to deliver this security, a society needs a fair and reliable system of ownership documentation – in the form of long-term title deeds over property, loans and other forms of contract. Long term and stable growth requires a long term institutional structure to encourage long term commitment to investments. The country also needs a stable currency to make this possible.

So society demands a settled bandid, who is forward-looking and willing to invest in his territory – including investing in liberalising institutions. The only way a dictator can guarantee long term security of this nature is to make sure he is not deposed or does not die. Dictators do in fact tend to attempt to secure a full and extended lifespan, typically also rationalising their pretensions to immortality in terms of a desire to serve their subjects. It is a pretension, however, and a dictator cannot credibly supply the long-term security required to sustain ongoing voluntary investment of private resources (including labour). No individual leader is able to ensure the credibility of his commitment. There will therefore be an inevitable move to transform government from one based on individual leadership to an abstract and

²⁹ Yang (1997) finds that a democratic regime has even higher tax rates than an autocratic regime in his comparison of Britain after constitutional revolution and other European countries.

impersonal agency. Following this line of Olson's reasoning, a democratic government is better than a dictatorship because it ensures property safety and commitment credibility both in space and in time.

The expansion of an economy involves an expansion of individual market transactions over both of these dimensions – time and space. Economic history shows that the costs of ensuring commitment credibility (or credit), is the highest transaction cost in a market economy. It must surely be much higher than the universally recognized *spatial transaction cost* (transportation cost). Advancements in transportation technology reduce spatial transaction cost and promote economic development. Advancements of legal technology reduces the costs of contracting. The longer the term of the contract (and the larger its value), the greater the transaction cost. The administrative costs of taking out a house mortgage are high because of the thoroughness of credit and income checks and checks on the value of the property *vis a vis* the loan and so on. Such contracting is made much less risky - indeed, is made possible at all - by the presence of impersonal governmental institutions. This offers an explanation for the emergence of all levels and types of governance. Impersonal companies replace individuals' personal relationships as economic agents. Barzel develops this argument (1998), suggesting that ultimately it is the ability to capitalise or underwrite a contract that gives the firm (emergence of corporate government) its justification (he relates this to the costs of contracting).

This leads to the proposition that more stable governments have longer life spans, provide longer term security and permit longer periods of economic growth.

Now consider an interesting extension to this line of reasoning: the trade-off between democracy and freedom of exit from a government's rule. If people can freely flow among competitive governments, an extension to the standard Tiebout world (Tiebout 1957), those governments no longer need the expensive democratic institution to maintain their credibility as a guarantor of contracts. The democratic institution becomes unnecessary. Democracy, in other words, is a compensation for the loss of freedom to exit. This is a version of Hirschman's 'exit versus voice' formula

(Hirschman 1970). Or to put it another way, the increase of freedom is a substitute for democracy. Therefore, we can increase transaction credibility by providing either more democracy or more freedom.

The same rule applies at the level of the individual transaction. Interpret freedom as freedom to enjoy the benefits of a property right purchased in a specific contract (freedom from ‘hold-up’).

In a transaction, the more risk to freedom (the easier it is to be held up), the more important it is to have an agreed governance arrangement governing post-contract opportunism. This is an idea found in the works of transaction cost economists Oliver Williamson and property rights theorist Oliver Hart (Williamson 2001, Hart 1988, Hart and Moore 1990, Grossman and Hart 1998). If there is little risk to post-contract opportunism, transacting parties can be said to be free to enjoy the anticipated rewards from the contract (or transaction).

One implication of this line of reasoning is that a society where most citizens own private property demands far more democracy than a society without private property. Another is that inter-state competition can lead non-democratic governments to act in the interests of citizens. This is an extension to the *closed city* model of neoclassical land economics. There will be a greater internal pressure for democracy the more closed is a territory (movement away is not easy). A small and open state (like Singapore for example) can be expected to act benignly towards its citizens even with high degree of autocracy.

Developing further the idea that geography affects institutions, consider the following. In a world with increasing returns and scale economy, broader spaces and longer time span (increase in spatial and temporal scale) create more surplus³⁰. Government is an enterprise that manages space and prices its services within its administrative boundary.

In a paper (Zhao 2003), I showed that the concept of “public product” is created

³⁰ I review this idea in (Zhao, 2003).

due to the absence of the concept of “space” in economics. In standard economics, the spatial transaction cost of economic factors is assumed as zero [Krugman (1997) once quoted Walter Isard (1949, 1956) to criticize economic analysis as occurring in a “wonderland with no spatial dimensions”]. However, the public product defined by Samuelson is no longer a special product but an ordinary commodity that is “exclusive” and “congested” in space if we introduce spatial factors. The government prices its services (security) by way of “tax” and excludes non-taxpayers by spatial means (boundaries) to avoid the congestion caused by free riding. Similarly, the government that provides the so-called “public product” is just an ordinary enterprise that prices its products and services using spatial means in the market.

Political institutions emerge to overcome transaction credibility problems caused by time and space. In particular they lower the transaction cost caused by the lack of credibility in the time dimension but space impacts on this too as I have argued. All this means that a democratic institution is not a pure product of moral improvement, but an institutional creation for the purpose of transaction cost reduction, particularly during a time of economic expansion in the time dimension. Evidently, different economic scales require different optimal institutions. An institution will tend to survive only when the transaction cost it saves exceed its running costs.

Under this conception of government, the abstract ideas of democracy and freedom are not universally applicable to all economies. A superior institution can emerge only when the economic scale is large enough to lead to transaction cost savings in excess of the high costs of institutional creation and maintenance. Arguably, this inequality was not achieved in India, perhaps until its recent economic boom. Democracy and economic development may not always coexist in the long run from this perspective, because of high institutional costs but low economic necessity.

Summarising some of the points already made and applying them to urban planning we can say the following. The proposition that government is an enterprise paves the way for an institutional analysis of urban planning. Many economic phenomena unaccountable with an ‘irrelevant government’ model can more readily be

reasonably explained in institutional economics (e.g. the social justice objective in planning can be understood as a social necessity to lower the costs of transacting, or more generally, cooperation between divided and specialised labour).

The governmental urban planning function is an enterprise (Zhao 2002). This means first, that the planning agency is a *rational but selfish* organ and second, that it is not an opponent of the market, but a part of it³¹. This conception of the governmental role is of paramount importance to introduce institutional economics into urban planning. Otherwise, the institutional environment that urban planning relies on cannot be explained in a proper manner and we will not be able to predict reasonable government behaviour.

This analysis challenges the orthodoxy economic perception of the government planning agency as an outsider to the market economy (the provider of public goods and protector of weaker groups). It is merely one of the market participants and both its motives and behaviour bear similarities to other enterprises. Its behaviour also respects the rules of the market (profit maximization, variously defined). The naturally endowed monopoly of government, including its monopoly over land and/or land regulation, makes it unaccountable in the perception of traditional economics. However, government behaviour becomes understandable when we apply monopolistic competition theory to government. The government is merely an enterprise that charges for its spatial services. The competition among governments is little different in principle from that among enterprises. Competition among governments is wasteful and inefficient in the eyes of traditional economists and urban analysts since it allegedly produces no benefits and wastes taxpayers' money. However, seen in the context of a spatial market in competitive territorial 'firms', the competition is not only beneficial but also essential and it can save resources by way of institutional innovation³².

³¹ Some Chinese scholars have termed my viewpoints as "neoliberalist" and attempted to carry out moral criticism on my viewpoint on such a basis. The basic viewpoint of neoliberalism, however, is its emphasis on the effects of the "invisible hand" and its opposition to the government's interference in economic life. This runs against my views on the market role of the government.

³² For instance, adjustment of administrative limits, establishment of city alliances, "North America

The definition of government as an enterprise leads also to a conclusion that the private sector may also play the role of a government³³. In urban planning, this means that private firms and government should both be seen as the planners, shapers and governors of territory. In recent years, the residential communities in Chinese cities have expanded in scale and many residential projects are as big as small cities. These big projects have all the functional facilities of a city including primary and secondary schools, kindergartens, hospitals, shops and markets. Many real estate developers regard themselves as an *urban operator*. Very few urban planning theories can explain or happily accommodate this phenomenon. However, in the eyes of institutional economics, this is merely a fulfilment of the lost functionality of civilian government by a *settled bandits gang*³⁴. Alternatively it is simply an extension of the Coasian idea of the emergence of territorial firms, led by contemporary business entrepreneurs rather than political entrepreneurs.

In China, public services cannot be priced because the government of a city does not levy a property tax. As a result, municipal governments are not sufficiently financed to provide the civic public goods that the market will allegedly undersupply or fail to supply. So developers of large real estate projects, having the capital that government does not, emerge to produce not only houses but complete neighbourhoods and cities, including contractual urban governance and management. Property management fees become equivalent to property tax and fund public services for residents. In practice, many public services provided by civilians are not worse than those provided by the government and sometimes even better (see Glasze,

Free-trade Zone” and “Euro Zone”, etc. Even forced annexation of territory may be regarded as an approach for “illicit” property right transfer. The approach that features the lowest transaction cost will be the best one.

³³ As a matter of fact, it is even unnecessary for us to distinguish a “private” government and a “public” government. A “public” government is only a club made up of many individuals. The transition from a private government to a public one of the same nature as the vertical integration of enterprises because both aim to prevent either transacting party being held up and to guarantee the credibility of transaction commitments.

³⁴ The rise of mafia in many places is due to the absence of government functions. Once a government is not able to provide security, the mafia that collects protection fees will emerge in place of the government. The reason why some mafias even enjoy sympathy from the residents is that the legal “policemen” sometimes are more like a “roving bandit gang”, i.e. they provide no protection and sometimes even plunder directly although they do not charge.

Webster and Frantz 2006 for a set of international examples including China).

The phenomenon of communal or private government replacing political government in providing public services is universally present in developed countries. As incomes increase, so demand for public goods diversifies and developers in higher income countries in which this model is permitted will then strive to provide communities with exclusive functions oriented towards a specific niche market. This is the case with the universally popular Common Interest Developments (so called *gated communities*) in developed countries, especially North America. It is also becoming true of the middle and high income commodity housing belts in Chinese cities. Developers are increasingly building micro territories, differentiated not only in their design specification and price of homes but in their governance too.

2.4 Public participation and collective decision

Now we move to the issues of public participation and direct democratic decision making that are emphasized so strongly by urban planners. There is a long standing literature on public participation in western planning going back to the 1960s and 70s, such as the seminal work, *A ladder of Citizen Participation*, by Sherry Arnstein (Arnstein 1969), and many others (Davidoff 1965, Susskind, 1989, Friedmann, 1979, 1987). Orthodoxy in urban planning ideology views democratic planning procedures as unconditional, i.e. the more the better if possible. Planners are merely intermediaries for communications and collaboration between different interest groups. This is a strong line of thought in western planning theory and has been since the 1970s. Most of the literature assumes that public participation is always good without conditions. Some of it criticises participation failures (Forster, 1987, 1989, Arnstein 1969, Fischer 1990, Dluhy 1990, Fagence 1977, Thomas 1988, Friedmann 1979, 1987); some make unfair comparisons with ideal democracy that could never work in practice. More recently (Healey 2006) there has been an emphasis on conceptualising planning as a collaborative and deliberative activity and on designing approaches to capture this sense of purpose. Few have commented on the costs of

participation in relation to the results and fewer still have commented on the underlying paradox of group decision making.

In 1951, the US economist Arrow (1972 Nobel Prize laureate) made an analysis of the ballot institution, the foundation of democratic institutions, in a mathematic way. He was surprised to find that it is impossible under any circumstances to come up with the preferential sequence of a group by integrating the preferences of all individuals. To be more exact, the Arrow Theorem cannot be satisfied when there are at least three candidates and two electorates, which is his famous impossibility theorem (Arrow 1951). This conclusion means that there is no approach through which society can jointly express its preferences or through which collective public decisions can be made by scientific procedure even under perfect and reasonable conditions³⁵.

Arrow's discovery threatened the foundation of the ballot-casting democracy and aroused much attention in western academia and criticism from staunch supporters of democracy. Arrow's basic viewpoints remain tenaciously unchanged, although Sen (1998 Nobel Prize laureate) partially modifies Arrow's conclusion by imposing additional conditions. Arrow's discovery shows that there is no institution that can pave the way from individual preferences to collective choice. For urban planners, whose job it is to design and shape cities according to some kind of social optimum, this is a great challenge. The public interest does not exist. Individuals have different preferences. The impossibility theorem proves that even the sequencing of preferences is impossible. Public participation of whatever kind cannot lead to a uniform, unambiguous and optimal result whatever approach is adopted. It is not surprising, therefore, that public participation is typically problematic even though it is strongly advocated by planners.

In response to this, there is a risk that planners go to the other extreme, making autocratic and elite decisions. This is as detectable among the urban design

³⁵ For example, the electorates have definite and stable preferences and nothing is present to mislead or coerce the voters to vote against their will

community, even in democratic countries where the public participation ethos is deeply embedded. The paradoxical stance is probably a reflection of the underlying realisation that when all views and opinions are collected, someone has to make the plan. The tension is only resolved by truly participatory approaches, such as so called *planning for real*. These community design workshops have very high transaction cost and cannot produce unambiguous aggregation of individual preferences for the reasons enumerated by Arrow. The best that can be said of them is that they expose new solutions and that in the discovery of these, some preferences can converge. So they are preference forming, changing and converging devices (Sager 2005).

Mostly, especially in countries where planning is close to architecture and predominately a design activity, planners thus bestow themselves with the privilege of distinguishing between options. In countries with a strong democratic tradition, this includes distinguishing between the strong and the weak and being champions of justice. Planners become the final arbitrators in the allocation of scarce land-related resources. They attach moral standards to their democracy in order to find correct moral solutions to the problem of urban public goods allocation. As moral agents they offer their self-defined truths to the governing authorities. In the planning academy at least, the realisation that the real world often does not recognize this self-appointed moral role, planners become indignant and prone to critical reflection on the evils of the market and colluding governments.

The role of public participation in the mind set of practicing and academic planners shows a lack of appreciation of the dynamic and underlying rationale for democracy based on collective choice. Institutional economics tells us that the real function of ballot-casting democracy is not to acquire collective preferences - because the abstract public interests never exist. In essence, democracy is not for moral justice, but is an institution for ensuring the distribution of property rights in a way that restricts the possibility of opportunism in transacting. Democracy's great role – and the reason for its great evolutionary success as a social institution – is to ensure the credibility of commitment during future transaction where credit is absent.

With this understanding, we can have a different discussion about public participation and direct democratic decision making - one that has transaction costs in focus. A democracy will be reasonable if the increase of transaction costs is lower than the potential loss brought about by the absence of credibility and the ensuing transaction failures. Otherwise, democracy will become a kind of social institutional redundancy. The optimal democracy will maximize the surplus of its transaction after its running costs are deducted. According to this criterion, democracy is unnecessary if credit is ensured during transaction. But it is rational for society to tend to choose democratic institutions if the majority sense the possibility of hold up in their transactions and view the commitments of transacting parties as unreliable.

More democracy is not necessarily better, however. The degree of democracy needs to fit the potential risks of property loss (the opportunity cost of lost democracy). After all, as individuals, we exercise this discretion in all kinds of choices. In some matters we accept the authority of an expert. In others we seek the council of many. There are decisions that we insist, if we can, on being involved in and there are others we are happy to cede to others. In each situation we weigh the costs of direct involvement against the benefits (perhaps not explicitly, but in principle). More democracy means greater running costs for social decisions. Spending too much democratic energy on the protection of a property with low value suggests the dissipation of social and individual welfare³⁶. Therefore, democracy is only one yardstick with which to gauge an institution. Different institutions feature different degrees of democracy and the evaluation of a democratic institution depend on the institutional environment as well as the value of the resources in question. This is affected, among other things by the level of a country's economic development.

Clearly, democracy (at least high-level democracy) is redundant when a society has very few properties or the transaction is completed on the spot (which means that both parties can freely enter or quit the transaction as the Tiebout model describes).

³⁶ It also shows that we can ensure the safety and credibility of property rights transaction via institutional design and therefore democratic costs can be saved.

The recent institutional progress in China is a good example. Before China's economic reforms, public ownership prevailed with very few private properties and thus democracy was merely a form (sometimes not even a form). From the perspective of new institutional economics, the lack of democracy was efficient in this period.

In fact, the goal of socialist public ownership was to reduce the transaction cost that is unavoidable under private ownership. Marx has the most in-depth understanding of the economic impact of institutions among all classical economists. His thoughts transcended those of most other economists in the past and today and he became the first thinker to regard the optimal institution free of transaction cost as the foundation of economics. His communism actually aimed to eradicate transaction cost once and for all and to realize the optimal distribution of social resources by eliminating private ownership. Coase discovered a similar thought several years later. The difference, of course, is that the solution put forward by new institutional economics does not aim to radically eradicate private ownership (as this would also get rid of the market and the wealth-enhancing division of labour). Instead, it aims to study how to lower transaction cost³⁷ by improving institutions under private ownership.

China's reforms have in essence involved the reestablishment of private proprietorship. Ever since the economic reforms, especially the establishment of household responsibility system in rural area and urban housing commercialization policies, Chinese citizens' private property has increased by leaps and bounds. This has imposed a high demand for the protection of private property. As a result, many

³⁷ With this understanding, we can compare the advantages and disadvantages of different economic institutions. Planned economy features weak incentive for production and low transaction cost; market economy features strong incentive for production but high transaction cost. The difference in efficiency of different economic institutions is determined by the surplus of total social output minus total social costs. As Marx says, the superstructure must fit in with its economic foundation. There is no good or bad superstructure (e.g. democratic institutions); the key point is the superstructure's conformity to the economic foundation (productivity). The failure of the planned economy shows that the eradication of private ownership results in lower efficiency than market economy. Unless we hope to eradicate the division of labor and get back to the primitive age, we will have to accept transaction costs, the institutional friction brought about by private ownership.

urban planners have started to advocate western democratic style public participation in urban planning. It is not necessarily wrong to do this, but copying western democracy without changes may bring some problems because *the public* at the current stage does not refer to consumers of cities in the same sense as in the West. From the perspective of institutional economics, democracy must take place among different transacting parties. But in China at present, there is a fundamental sense in which the public and government are not in a transacting relationship, as I explain in the following.

In China, the general public does not pay tax to city managers, i.e. the government, and urban management does not impact the fortunes of consumers directly. Since the public is not the direct consumer of cities, it is senseless for the public to demand democracy directly from the government. In China today, the consumption of urban services consists of two transaction forms and three transacting parties. The direct supplier of most urban services is the government and the direct consumers are companies, not the public³⁸. The government obtains taxes and rentals from companies and the public acquires salaries and products from the companies but pays no direct taxes to the government. In these two transaction forms, companies have high mobility and can choose different cities to investment in while the city government must create a sound investment environment. If the government breaks its promise after a transaction, its credibility will be damaged it will find difficulty in attracting additional investment and companies. As a result, the transaction between the government and companies are basically credible. Even though there is no democracy as such. The government also has the motive to improve its services. In this way, the relationships between the government, residents and developers are similar to those among a television station, its viewers and advertisers. Any opportunism on the part of any transacting party will be restricted by another and the credibility of all parties is generally guaranteed.

³⁸ As I have already implied, at the neighbourhood scale, this is changing as private developers and property management companies progressively carve out a contractual neighbourhood governance market.

The general public of a city, on the other hand, have very low mobility and cannot choose among different cities. They can, however, choose different companies (e.g. real estate developers). As a result, the general public is actually the indirect consumer of the city through its transaction with the developers who must flatter the general public to sell their products. However, the developers feature high mobility while the public features low mobility. The general public actually buys a service that flows within the life span of a purchased property. In other words, a real estate transaction will be completed 70 years later and any price increase or nonconfirming service quality on the part of the property management company must be endured by the general public who finds it hard to get away and refuse what it dislikes.

In this circumstance, relevant democracy is needed as a guarantee. As a result, the actual public participation in Chinese cities, unlike the one between government and foreign investors, is between residents and property management companies and between residents and resident committees after housing commercialization.

Since residents are not the direct consumers of a city, Chinese citizens and western citizens are not alike: the former are not taxpayers in a real sense. Although we have seen a substantial increase of income tax in recent years, it still remains nominal, both for the government and for individuals. As a result, we can predict that the democracy between the government and the public will remain immaterial³⁹ until China starts to levy real estate property taxes. Because the public does not have to pay any cost during public decision-making, it will support any public expenditure to its benefit⁴⁰. In such a circumstance, ostensibly democratic institutions like public participation in planning are likely to be useless and may even be harmful⁴¹. Any

³⁹ Similarly, if this analysis is right, we may foresee that urban residents become the direct consumers of the city and the relations between the government and citizens will gradually resemble western democracy with the increase of individual wealth and the levy of real property tax by the government. The final result is a combination of “democracies” among different transacting parties with different deeds.

⁴⁰ In a contentious article (Zhao, 2002), I state an example of the planning scheme of downtown Zhangzhou. The choice of location of Xiamen Library is also similar. Five location alternatives were given for determination by citizens, of which the most easily accessible location was chosen without doubt. The result could also be obtained without this democratic process so long as the goal is interest maximization and government expenditure has nothing to do with individuals.

⁴¹ We can imagine that no new passenger will be allowed if his boarding is to be determined by all

democracy is a kind of property right transfer aimed at maximizing aggregate social surplus. Any arbitrary application of western public participation that transcends the economic development stage will only hamper instead of promoting efforts at more efficient planning⁴².

The absence of democracy may not necessarily slow down the growth of an economy if consumers can enjoy the freedom of choice through mechanism design. This is like the TV system in China. In this system, TV stations do not collect money from the public; they are funded by the advertising market. The preference of consumers can apparently be captured through the advertisement market. Therefore a consumer of TV doesn't have to participate directly in the decision making process of TV production.

Similarly, in the recent development of Chinese cities, the investors played a major third party role in City planning, so that a resident of a city does not have to participate in the policy making process of the city. The municipal governments improved their infrastructure and services mainly because they wanted to attract more investors. This system was not founded on any payments by resident to the urban government. The practice demonstrates that the urban economy can grow fast without standard democracy.

Since 1997 the base of this system has been changed due to the housing system reformation. Most residents in Chinese cities have bought their own properties, which means a step towards a different model, in which they buy government service directly. Therefore the voice of citizen participation has naturally been getting louder and louder.

In a word, the absence of cost signals in the citizen-government transaction runs

passengers on board in a democratic way. Of course, no bus company will award this right to its passengers. Similarly, Shenzhen would never expand as it is today if it allowed its residents to determine the acceptability of additional new residents in a democratic manner. Such a democratic choice is unfair for new residents actually.

⁴² This is why the public participation organized by most city governments today seems like a show. This ostensible public participation merely adds transaction costs and honors those political leaders with few substantive benefits.

the risk of inefficient supply of territorial goods. In principle, it may slow down economic growth and if this happens in a way that doesn't give equivalent social gain then inefficiencies will prevail. When footloose land developers and industrial investors provided the cost signals, in a period of intense inter-regional and inter-city competition in China, consumers had a measure of protection and their lack of direct ability to signal preferences was arguably not an impediment to growing efficient cities. It remains to be seen whether the new wave of home ownership will lead to more direct financial-political transaction between residents and city government or whether private property management companies (PMCs) and proprietary neighbourhood-owning firms will play a new form of governance intermediation. Competitive PMCs and land-owning firms could play a similar role to competitive investing industrial firms, offering credible governing promises, under the discipline of a competitive PMC market.

It is worth broadening the idea of credibility and credit. The credibility of transaction is a hot topic in economics today. The loss of credit will bring far more transaction difficulties than information asymmetry does (although research on the latter has contributed to the emergence of many Nobel Prize winners in economics). Similar to transportation cost in the space dimension, the insufficiency of credit may be regarded as the "transportation cost" in the time dimension. The so-called civilized world is actually one with a huge collection of institutions that have emerged or been designed to increase social credit. These have become permanent in the form of social customs, taboos, practices and religion.

In western civilization, religion has traditionally – and is still does residually – provide for the accumulated of 'credit' in large quantities. Therefore, many modern societies established their initial credit institution on the basis of religion⁴³. In eastern civilization, Confucianism (benevolence, justice, courtesy, intelligence and credibility) prevails over the whole society where social credit mainly relies on strong kinship

⁴³ For example, Webb notices the relations between protestantism and industrialization, and the Jew's long-term aptitude in business has always been regarded as unaccountable by economics.

(like families). This leads to the so-called *differential sequences* termed by Fei (1947(1998)), i.e. social relations among individuals, families, clans, confraternities, friends and town fellows through which social credit and trust is established. As a result, the corporate institutions within Eastern countries are oriented towards the concentration of credibility and the reforms oriented in this direction have achieved notable success.

For example, the household responsibility system in the rural areas of China in the early years is now recognized widely to be key to the success of Deng's reform. Through simply cancelling the collective system and relocating land to the household, the productivity of agricultural industry increased dramatically and saved the Chinese economy from the edge of bankruptcy. As a more specific example, the cluster of family enterprises in Wenzhou city gave rise to more vigour and vitality than any single state-owned enterprise in Qingdao (Zhong 2005). This can also explain the reason why most successful firms in oriental states are family owned—it is simply because there is more credit within a household than that in a collective or state owned organisation.

In his work, *Trust: the Social Virtues and the Creation of Prosperity*, Fukuyama (1996) noticed the importance of social credit in reducing the costs of transaction. He (2000) takes trust as a kind of social capital. It is equivalent to the idea of the institution in NIE or to the idea of the fixed cost in urban institutions that I develop later in the thesis. Many studies of institutional reform fail to consider the background of different civilizations. Instead they simply compare the advantages and disadvantages of the corporate institutions in various countries and distinguish them as advanced or backward arbitrarily. Chinese institutional designers of planning laws and procedures need to understand the purpose, limitations and dynamics of public participation devices. It is all too easy to reify democratic-looking institutions without considering their costs and benefits in the particular context proposed.

The nature of government as firm gives us a new angle to understand public participation. Like any consumer, it is not necessary for a resident to participate in the

process of policy-making. Government offers public services (security, education, fire fighting, etc.) and residents pay tax for these. For those whom do not pay tax, such as residents under a planned economy, democracy is functionally meaningless (it may of course have some ideological value independent of its functional value).

To summarise: in what circumstances do people need democracy? The answer is: (i) when they lose the freedom to choose to the contract—if they cannot vote with their feet, they need vote with their hand; and (ii) when they become the shareholder of a firm—if they buy the fixed property of a city, it means they become the stockholder of the city.

Democracy is a compensation for the loss of freedom. Once consumers are constrained to a certain territory, the local government has a motive to change the contract – to offer less service and levy higher taxes. The residents, as consumers of public services, will then want more voice in policy-making. Where residents buy fixed property, this means they have a long term demand for long-term service and their lack of mobility makes them vulnerable to hold-up by governments and their agencies. Governments will seek to change the rules of levy and the level of service after residents buy the real property. To avoid opportunist behaviour in government, residents will therefore wants to be ‘shareholders’ of the city so as to protect their property. This happens through the emergence of democratic system. It can happen with municipal democratisation and it can also happen with incorporation – for example Shenzhen’s joint stock company urban villages. Either is like the vertical integration of a firm in which customers are brought into the firm in order to avoid hold up problems and to raise the aggregate social value of the contract between customer and supplier (Grossman and Hart 1986, Hart O. 1988, Yang and Ng 1993).

This section has attempted to show that if we take the government as a firm, the behaviour of citizen participation can be understood and explained within the framework of firm theory. Democracy is simply a mechanism to protect the credibility of a trust-lacking contract. Like any kind of democracy, public participation is expensive. It generates huge transaction cost. Therefore, only if the contract could

bring enough surplus, is public participation necessary. It is not surprising that the movement of citizen participation was initiated in developed countries where citizens generally own their real property.

Public participation is only one institution for reducing transactions costs in urban planning. It may not in fact do that – at least not in all situations. Indirect contracts between citizens and a municipal government may also reduce transaction costs and help to keep the freedom of contractual choice. Social capital shaped through long-term repeated games in history, such as the customs of culture, the taboos of religion, and rules of organisation (family, race, fraternity or language), can also help to add the credibility to contracts.

2.5 Conclusion

This dissertation aims to restructure the analytical categories of the science of urban planning from the perspective of institutional economics and establish a common academic language among planners. This will help oil the conversations needed to reform practical urban planning in China. According to traditional planning theories, good urban spatial layout means building spatial layouts by technical principles; based on ideas about the “reasonable” division of land and road structure. A “good” plan will not become “bad” due to a different institutional context. However, practice has shown that usually a technically “good” plan cannot be implemented. For one thing, there is a transaction cost incurred in changing an ‘unreasonable’ layout to a ‘reasonable’ one. The cost will not be zero if the selection of optimal space requires the transaction of property rights in the real world and the optimal spatial layout will not, in fact, materialise. In other words, the technically optimal spatial layout scheme will not be the actually optimal one so long as the transaction cost is higher than the benefits brought by spatial layout. The Coasian world with zero transaction cost in traditional urban planning theories is actually only theoretical, like the ideal physical world where there is no friction.

When an architect designs a building (or a community), there is only one single

proprietor and thus no transaction cost involved in the optimal layout. What matters is whether the design techniques are optimal. However, an existing city (like a building or residential area that has been sold to multiple different users) consists of multiple proprietors and any modification to the existing proprietorship will create transaction cost. This is the biggest difference between a planner's world and an architect's world and also between planners in a planned economy and a market economy. Chinese urban planning senses the tension but has not, by and large, shifted mode.

In the new mode, planning consists of both design analysis and institutional analysis. A planner must take two steps when considering any spatial layout: the first step uses spatial analysis and design criteria in assessing the technical optimality of a scheme (planning theory is far from mature in this regard). The second step is an institutional analysis, where the interests of different proprietors are considered in the design of an institutional approach. This is aimed at compensating the losing parties so that the optimal scheme can be implemented – and indeed, so that the compensation can be factored into the optimal plan. It is equivalent to the economist designing instruments to secure the optimal structure of property rights.

In practice, most planners in China are not professionally trained to carry out the second step and thus regard a city as a building and themselves as the architects of the city. With the frustration that their ambitious ideas cannot be implemented in the real world, they have moved in two directions. Some retreat further back into to world and mind-set of physical planning, searching for what can be done as architect-planners and retreating from what cannot. This inevitably leads to a focus on the fine-grained scale of urban design. Others look for inspiration in the west and dabble in the niceties of democratic-oriented process-style planning.

Both directions contain misleading illusions, however, and tend to leave the problems of coordinating Chinese urban development un-resolved. Mere physical urban design can only solve coordination problems where there is unitary ownership. Looking to public participation as a solution is likely to be as empty a search, for reasons discussed in this chapter. Actually, public participation is only one possible

institutional design for reassigning property rights. As I have argued, it can have high transaction cost with few benefits.

The way the Chinese planner must go is to learn new techniques of institutional design. This takes their knowledge domain into the world of the economist, political scientist and organisational theorist. Knowledge about incentives, contract design and risk will help find the really optimal spatial prescriptions. The guiding criterion is the reduction of transaction cost. Planners have been trained for years to optimise along a single transaction cost dimension – distance. Hence, for example, the urban designer’s preoccupation with lines of sight, shortest path, straight-line access and permeability. Hence, also, the regional planner’s preoccupation with *Christaller Geometry*⁴⁴. Take these preoccupations into a world of non-zero non-transport transaction cost, including the costs of government and other costs of coordination and you have a profession that designs in physical space, in time and in institutional (relational-legal) space.

What implications for urban planning flow from the idea of the Chinese municipal government as a firm? Several points may be made.

First, there is no western-style political democracy in China at the moment - such as municipal elections. But if there were, the municipality might be viewed as a public

⁴⁴ During the stage of booming urban growth, planners play the major role of “city architect” who determines the layout and orientation of roads, bridges and large-scale basic infrastructures. At this moment, the urban property rights are relatively simple and urban functionality and spaces are “designable” to a large extent. With the formation of “city buildings”, the planners will be confronted with the major task of distributing existing spaces to more efficient users. Planners must design the rules to enable the effective circulation of urban resources to accommodate the needs of economic development. This is the major reason why “institutional designer” will gradually replace “architects” as the major function of a planner. The planners not capable of institutional design will finally be eliminated in the market.

Refusing to adjust their tools according to the changing world is the fundamental reason why the profession of planner has deteriorated in developed countries. The planners refuse to learn new things, turn a blind eye to institutional design that is playing a more and more important role in urban planning and finally have to get back to academic study and render their arena to surveyors and economists. Now they find that even academic study is impossible for them if they keep on shunning away from the reality. Despite efforts by such masters as Friedrich to raise the proposal that the Euclidian planning shall be turned into post-Euclidian planning, urban planning is still unavoidably deteriorating from its glory down to the bottom. It is pitiful that many planners are still trying to adopt the overseas “advanced planning concept” and many overseas students mistakenly regard themselves as superiors and transfer back to China the wrong and fatal viewpoints of planners in developed countries.

corporation, owned by the tax-paying citizenry. Not only is there no ballot-based representative government but neither is there local property taxes. So the municipal firm is definitely not a publicly-owned corporation. This is similar to the early stage of industrialisation in other countries, where only a chosen few had the right to vote and the real right of policy making was in the hands of few people or families. Alternatively, cities are like private firms – in the hands of cadres who inherited them from the cadres of the pre-reform era. Or to be more precise, the Chinese city is more like a collective corporation owned by a monopolistic group (the communist party).

In western countries, the various professional manager groups compete with each other in a municipal election and the public chose the one that seems to meet their preferences best. In China, the competition takes place inside the monopolistic group (communist party), where professional managers compete with each other at the local level, and higher rank manager select the winners to run the municipality. At the top of the hierarchy, national leaders in China face a kind of competition from foreign professional groups, doing an equivalent job in other countries.

Urban residents have until recently been the labour in the Chinese city firm. They have not traditionally cared much about the problems of management. The urban planner's role has been to prescribe future land use allocations that optimise the firm's objective function. For the past two decades or so this has meant maximising local economic growth and/or maximising revenue from land.

Since the end of last century, the reform of the housing supply system has changed this dramatically, however. Residents are not only the labours, working for and renting homes from the companies that pay tax to and demand infrastructure from local governments. Residents have bought real property and become the stockholders of the city firm. The voice to participate the management of the city consequently gets louder, notably so at the community level. The observation supports the hypothesis that the state of ownership in society shapes the demand for democracy, not the other way around.

Second, planners have to find instruments appropriate to this political economic context - instruments that acknowledge the nature of the firm they work for. Public participation is unconstrained in this context because of the lack of any financial liability built into the preferences expressed by the public. With public participation they may demand more and more but without any direct financial discipline in the form of a tax bill.

Of course, public participation might be a route to changing the nature of the municipal firm, but that is another discussion. I concern myself with the status quo for the present analysis - trying to point a sensible and pragmatic way out of the urban planner's present impasse. Their room for manoeuvre is to work more smartly with the market to achieve both good physical planning and the economic goals of the municipal firm. This means taking a more proactive coordinating role that looks for opportunities to add value to private land by the enhancement of the public realm. This means using the planning language of the real estate developer but thinking bigger. It means entrepreneurially tying in diverse interests into schemes that provide mutually beneficial gains. The envisioning language will be only partly visual. Plans and maps help interested parties - the municipal firm, venture capitalists, community groups such as village committees and home owner associations - buy into a vision. But the language also has to be institutional - legal, organisational and financial, since when it comes down to it, interested parties have to know what they will get out of a project and what they must put into it. Planners are like contract designers therefore, shaping agreements that create new built environmental futures. Their plans bring people to the table and offer shared gain for a price. The gains and the price will be different for different interests and this has to be respected in the 'contract' - the allocation of reward, responsibility and liability. For the contract (plan) to have a chance of materialising, the relative power and relative capitalisation of the different parties have to be recognised.

Third, in this role, government urban planners and planner-architects working for private developers are less different than in democratic states. They work to some

extent at different spatial scales, although in China this is not necessarily the case since private firms plan, build and manage very large projects (see for example the for-profit company town of 200,000 people discussed in Webster, Wu and Zhao, 2006). Government planners in China do not have a constitutional role to discover the land-used needs of the people. They are not bureaucratic agents to the elected representative principals. They are employed technical servants of the private 'family' owners of the municipal firm just as planners employed by private development firms are employed servants of the owners of those firms.

I finish the chapter with a speculative set of thoughts on the relationships between different types of territorial firms, their boundaries and the role of spatial planning within them. In doing so, I make links with ideas developed in subsequent chapters.

First, consider a neoclassical model in which all public goods are provided within territorial firms – which are many, homogenous and perfectly competitive. In this imaginary world, scale economies would mean one big firm and so an assumption is made (in the neoclassical analysis) that there are no scale economies. Firm size is bounded only by the relative rate of increase in costs and profits as a firm grows in size. A neo-classical model of society governed by private territorial firms would be one of many competitor micro-territorial private governments delivering a uniform product in which local public goods are internalised and paid for either by bundling their cost into property price or by fee. The size of the territory and the local public goods supplied are arbitrary in the model since there is no mechanism for expanding scale within the analytical framework. There might be a model for small territorial firms providing only a single shared street and a model for large firms providing a full range of shared facilities and services. The neoclassical framework allows only for the entry and exit into this spatial economy, its spatial spread as new firms join and, following Von Thunen, its sorting into bands or rings of firms of different size or value if the model makes the initial assumption that there are, in fact, different types of territorial firm (like the different crops in *Thunen's Model*). It is also similar to Christaller's settlement model, where (to interpret Christaller as a public goods rather

than the original private goods model), the territories are determined by distance decay of demand for local public goods and services. Beyond this distance, another entrepreneurial 'settled bandit' will have a chance to develop another spatial monopoly.

In this artificial world, the only role for the spatial planner is in helping entrepreneurs design the territorial units – including differentiating them if there are several types. This may be a purely physical design role or it may also involve institutional design - making the intra-urban or city-scale 'clubs' work by various organisational, financial and legal specifications. But outside the firm, there is no need for spatial planning in the sense of specifying optimal land use arrangement. The perfectly competitive market will do the job on its own. Jostling for land, the territorial firms will bid away profit in bid rents and neatly arrange themselves in a pattern that optimises costs and benefits. The planner's optimal city layout would be the same as the market outcome so his role is superfluous.

Second, consider a neoclassical model with collective action problems - such that public goods are not supplied or under-supplied and externalities are over supplied. Here, the planner has a bigger role - to shape the accessibility and value landscape of the city by designing infrastructure systems and imposing regulations including land use zones to separate non-conforming uses and reduce externalities. This supposes another territorial firm exists - one that makes money out of supplying strategic infrastructure and institutions. There are two kinds of planner therefore, those working for the strategic firm and those who shape the land controlled by the micro territorial firms. The boundary of individual firms cannot be changed by planners since these are fixed by assumption. But the boundary of the strategic firm can be controlled if it chooses to prohibit growth by regulation. The geographical shape of the strategic firm can also be changed by the planner through the choice of infrastructure and regulatory zones.

Third, imagine a city made up of Buchanan-style clubs. Here the boundaries of individual territorial firms can change by physical and institutional design. If the firm

invests in more local public goods, then it can sustain more members. The tessellated geometry of this type of ideal city might be constantly changing as entrepreneurial club owners compete by investing. There are economies of scale in Buchanan clubs – up to the point at which net gains from cost sharing are exceeded by net losses from congestion. But new investment can increase capacity and in principle, allow a firm to expand without limit. The role of the planner at the micro-level is more crucial for the city's development here than in the neo-classical model. This is a city that evolves more spontaneously than the second and less predictably than the first (the first model evolves spontaneously but in an entirely predictable way). If a planner invents a new way of designing and organising a territorial firm capable of growing limitlessly through continual investment, one firm could eventually take over the city. This is a bit like a spatial variant of the settled bandit-baron model. The territorial firm works out a winning way of making money out of territorial services rendered. If the market is perfectly competitive then there is no robbery going on. But the greater the size of the firm and territory the more its monopoly power (by virtue of both the lower number of competitors and the greater degree of spatial monopoly) and the more it can transfer consumer surplus to itself. The planner may be the agent of the robber baron therefore, but this is not to say that s/he works against the people. The monopolistic city firm, as in China, needs to keep hold of its ownership. Take too much consumer surplus and it risks being deposed by a potential competitor. So the planner working for this kind of municipal firm balances the interest of the firm with the interests of the people in order to find an optimal (sustainable) level of monopoly rent for his employer. This is the condition of the government planner in China.

However, returning to the Buchanan city model, it is unlikely that a single territorial firm will keep ownership of the innovation that gives it such potential success. Other firms are likely to copy and there will be increasing differentiation as competitive, or perhaps collusive sub markets emerge offering specialist territories to different niches.

Fourth, imagine a Tieboutian city made up of micro local governments all

offering different bundles of local public goods for different a tax price. This is not very different to the Buchanan city (there is a very blurred boundary between the economic literatures on clubs and local public goods). If the population is heterogeneous then people will sort themselves into preference-homogeneous jurisdictions just as they will sort themselves into different clubs. The only real difference between the two models is that entrepreneurs organise Buchanan clubs while political parties (implicitly) organise *Tieboutian clubs*. The role of the planner in both is to give competitive advantage to the locality/club/territory and to share the gains judiciously between the principal (entrepreneur or political government) and the people in such a way that makes the spatial order sustainable. It matters not, really, whether China's municipalities are viewed as monopolistic *Tieboutian clubs* or *Buchanan clubs*. Since they do not charge a tax price (at least to individuals) then they may perhaps be more appropriately thought of as entrepreneurial clubs. As such, they tell us something about how a Buchanan-style urban model might develop. Few municipalities in China exercise pure monopoly power. Most take part in a monopolistic competitive market for economic activity (as I have already noted, it has been mostly firms rather than residents that have voted with their feet between competing municipal areas). So the boundary of the monopolistically competitive municipal club-firm is bounded by the uniqueness of its territory and that of its neighbours. In this, the planner has an exceedingly important role - and this largely accounts for the elevated position of the urban planner in China at the moment.

Fifth, imagine a city made up of Coasian territorial firms, bounded by transaction cost at the margin. This has a subtly different dynamic to the other models. The business of the territorial firms is to make money from public goods. They are robber barons competing for dominance. Their business is essentially to organise coordination between residents. To find out what shared goods and services they need and to organise the collection of payment and to organise supply. All these organisations are costly. As the size of the territory increases, so too will the organisational costs. At some point, these costs may exceed the savings made by

organising public goods outside of the market. At some point, it becomes so costly to obtain the education and environmental services that you want via the firm (by lobbying, voting etc) that you go outside the firm and purchase directly from a specialist supplier. Perhaps you group together with others to obtain economies of scale in demand. Entrepreneurs arise to challenge the monopoly provision of the settled bandid baron firm and thus the organisational landscape of the city changes as a result of transaction cost. This is a good description of the rise of the private neighbourhood market in China's cities. The transaction cost of organising well-serviced neighbourhoods of houses and shared environmental goods are too high. The cost of creating a property tax system capable of funding this is too high and the cost of lobbying the government to try and do so is too high. Altogether, the means are not in place to allow municipal governments to successfully deliver good quality neighbourhoods. And so residents buy them from private entrepreneurs. This has created a huge demand for the services of urban planners - to create attractive liveable environments that can be sold to increasingly discerning home buyers, industrial and commercial interests. This model highlights a role for urban planners that I have emphasised throughout this chapter - the design of institutions as well as physical space. The principal to which the planner is an agent is the entrepreneurial neighbourhood developer and the business of the principal, as I have said, is providing ready-made environments within which individuals can happily and relatively costlessly interact, coordinate and transact with each other. The successful planner will need to understand the dynamics and economics of the coordination that her physical plan facilitates and will therefore make sure those designs are matched by an organisational and institutional specification that make them work.

CHAPTER 3

A BUSINESS MODEL OF CITY GOVERNMENT

3.1 Introduction

Most economists know very well that actual entrepreneurial behavior has little to do with marginal theory and general equilibrium. Enterprise theory in mainstream economics is an economist's enterprise theory rather than an entrepreneurs' enterprise theory.

Since the publication of Coase's pioneering paper in 1936, enterprise theory has gradually become the primary concern of mainstream economics. It has developed there via critiques of neoclassical economic's black box approach to organizations and by efforts to incorporate enterprise behavior into equilibrium models. It tends to focus on aspects that economic tools are able to handle, such as enterprise's nature and boundaries, its capital structure, separation of ownership and control rights, the internal configuration of its hierarchical organization and so on (Qian 1989). But from the viewpoint of entrepreneurs, the enterprise theories of economics have hardly initiated anything new and useful. What economists have been interested in is to make their models more realistic rather than develop new models uncomplicated by equilibrating systems.

In this chapter I further elaborate the arguments made in the last chapter about the government being an economic agent. I view government as a territorial enterprise and examine its business model. As a method for taking this further I will create a hypothetical Tiebout circumstance: 1) there are many governments competing in markets; 2) the mode of government competition is similar to what happens between common enterprises⁴⁵. I propose that studies conducted from this angle may bear

⁴⁵ It is more vivid to compare governments to shops that sell different services and contend with one

some meaningful relationship to the real professional world of planning and be capable of providing a useful theoretical platform for the development of practical planning tools.

While conventional enterprise theory tends to study enterprise efficiency under a given institution, I suppose that institutions can be designed and attempt to observe how institutions influence government behaviors from a viewpoint of the entrepreneur. Rather than the optimal allocation of factors of production, the most important task of an entrepreneur (or an enterprise) is to locate (or more precisely to design) the optimal way to make profit, which I call a *business model*. The zero economic profit, identical marginal rate of substitution and general equilibrium presumed in perfect competition are perhaps one natural outcome of entrepreneurial behavior, but in reality, an entrepreneur will never notice these fabricated economic concepts. And in any case, continual discovery and pursuit of profit opportunities are likely to move an economic system quickly out of equilibrium if it ever got there. For the entrepreneur, the idea of opportunity cost has much less meaning than is presumed in much of economics. His knowledge, technology and equipment will only be used to manufacture a specific product. Neither will he waste his energy monitoring marginal rates of substitution while fixing a price. In all business models, profit is the main concern of entrepreneurs. Entrepreneurs designs institution, fixes price, and allocates factors, all with the aim of maximizing total surplus. The success of an entrepreneur relies first of all on the success of his business model.

In the remainder of this chapter I argue that the taxation system - *government's input-output mode* - determines government's behaviors⁸. Analysis of administrative efficiency and the effects of government should not depend on empty claims for lofty aims and moral ideals, but on the study of its profit-making mode as an enterprise. Similarly, government behavior will not be changed by attacking its motives. Governance reforms should be carried out via the fundamentals of taxation systems.

I analyze the changes in profit-making modes of China's local governments and

another for customers (taxpayers-residents, developers, enterprises, etc.).

the emergence of urban competition in the second section of the chapter. In the third section, I explore the fundamental problem that city governments face: contradiction between lump-sum investment in urban infrastructures (fixed assets of cities) and long-term urban services. The fourth section argues how China's city governments overcome the contradiction through transforming lump-sum land leasing revenue to long-term regular taxes under an absence of property taxes. Finally, I develop the point that the business model of city governments is the driving force of China's rapid urbanization beginning from the 1990s.

3.2 A business model of city government

The term business model came into existence as early as the 1950s but was not widely recognized until the 1990s when e-commerce began to develop. Osterwalder (2004: 43) advanced a widely cited reference model containing nine elements:

1. *Value Proposition: Value provision of a company via products and services. Value proposition asserts the utility of a company to consumers.*
2. *Target Customer Segments: the customer segments a company targets have common characteristics with which the company creates value (by focusing on those common characteristics). The process of classifying customer segments is also called market segmentation.*
3. *Distribution Channels: the various means of the company to contact its customers. This describes how a company expands its market. It involves the company's marketing and distribution strategies.*
4. *Customer Relationships: the links a company establishes between itself and customer segments. It is related to the task of customer relationship management.*
5. *Value Configurations: the configuration of activities and resources.*
6. *Core Capabilities: the capability and competence necessary to execute the*

company's business model.

7. *Partner Network: The cooperative network with other companies to efficiently offer and commercialize value. This also describes the scope of business alliances.*
8. *Cost Structure: the monetary description of the means employed in the business model.*
9. *Revenue Model: the way a company makes wealth through a variety of revenue flows.*

There are many elaborations of these basic themes and elements, for example, Timmers (1998) and Rappa (2003). The noun 'business model' is now very widely used in a technical and more general sense, but there is still no consensus as to its definition (Radovilsky 2005). But these various descriptions and definitions are very poorly linked with relevant concepts in economics and thus it is very difficult to include them in the normative analysis of economics. In this chapter, I define business model as:

The input-output model designed by entrepreneurs to transform potential market demands into profitable methods of supply.⁴⁶

In other words, the business model is an elaborated institute designed by entrepreneur to price his/her product or service on Mrket. There are many potential demands in the market and the primary task of entrepreneurs is to develop profitable models to satisfy these demands, or these demands will remain forever potential demands. This definition draws a clear boundary between entrepreneurs and inventors. Inventors create the latest technology while entrepreneurs integrate the technology with existing factors of production to create a profitable production. This is similar to Schumpeter's definition of the entrepreneurial role.

Filthy communities indicate demand for cleaning services, but it will remain a

⁴⁶ Maybe "invent" is a better verb than "design". But since the idea of a business model allows for imitation and learning, I will still use "design" to describe the behavior of entrepreneurs.

potential demand unless an entrepreneur finds a way to charge for the services. The delivery of letters is an underlying market demand, but it was only extensively available through market channels after the postage stamp system was invented. TV technologies and the invention of the Internet meet the demand of large-scale information transfer but technologies alone are far from enough. Only after the birth of a mechanism designed to obtain sufficient income through advertising markets, could the transfer of public information advance at the tremendous pace that it has using these technologies. The standard food of MacDonald, the direct marketing of Amway and the customized service of Dell are all distinct business models that distinguish these companies from other producers of similar products.

Business models designed by entrepreneurs consist of input and output parts since they need to generate positive business profit through minimum input and maximum output. I deal with each in turn in the following.

Input (minimum cost). Factors of production of entrepreneurs are composed of fixed costs and variable costs. An important way to reduce costs and obtain increase returns is continuous production. Entrepreneurs put lump-sum capital input into reusable *tools* like machines, institution and knowledge and carry out mass production and thereby lower the average cost of products through reuse (of equipment, technology and institution). Since the input of fixed cost may only be recovered over time, operation risk becomes an indispensable part of the business model of entrepreneurs, whose success lies largely in whether they can lower that risk, reduce the demand for credit and acquire enough lump-sum capital. It is very clear that financial capital plays a key role in the continuous production of entrepreneurs.

Output (maximum income). Entrepreneurs have to pay for returns from their services or products. Every entrepreneur faces a crucial question of pricing her products. In reality, no entrepreneur will price her products according to their marginal productivity or marginal cost - what she is more concerned with is how to maximize net surplus. Take roads and bridges for example. As they are provided through charging toll fees, a high price will lead to a decrease in scale of operation

and result in a decline in total surplus, but a low price will generate less return and result in decrease in total surplus too. If the total surplus can be maximized, there may be room for a second construction projects based on market segmentation. After weighing these factors, entrepreneurs will price their products to seek the maximization of aggregate surplus⁴⁷.

With regard to the input part of a business model, it is essential to handle the risk and financing problems caused by lump-sum input and long-term production. As for output, it is important to prevent income leakage caused by the opportunistic behavior (*free riding*) of consumers. Most of the goods and services provided by urban governments are so called public goods - products and services for which it is extremely difficult to eliminate free riders by normal means of exclusion, or products and services which may only be effectively priced and kept from income leakage through territorial supply mechanisms. Since government is regarded as an enterprise that possesses territorial property rights and profits by managing its territory, all government policies should center on how to design business models for public goods. And at the heart of the institutional design problem is the prevention of income leakage. Reliable returns will greatly reduce the risk of long-term investment and financing difficulties and help ensure sustainable supply of public facilities.

National defense, judicial protection and fire control are typical examples of public goods. Since it is extremely hard to display the real preference of consumers, a taxation system helps to establish supply-demand relations between governments (producers) and residents (consumers) and effective returns. Urban infrastructure is another type of product the government may provide at higher efficiency than private corporations. Although toll systems makes the private sector a possible supplier of urban infrastructure, difficult to charge for infrastructure selective free of charge services can enhance the profitability of a territory. There is therefore a business case for the indirect recovery of costs by taxation on real estate. Providing selected public goods and services for free will engender benefit spillover, which raises the value of

⁴⁷ I will discuss optimal pricing in a more general sense in Chapter 5.

real estate generally in a city. Therefore, public goods and services may be priced on the basis of taxes imposed according to the market value of real estate.

Efficiency is the key factor in deciding whether a product or service should be provided by a territorial enterprise (government) or a non-territorial enterprise. If government taxation is more efficient at recovering the investment and produces less leakage, territorial enterprise (government) will become the main agent providing such infrastructures. On the other hand, non-territorial enterprise will be the dominant supplier of infrastructure and services where benefits are less leaky within the territory and an individual cost-recovering price can therefore be efficiently charged⁴⁸. The boundary between public goods and non-public goods is not static. When technological progress makes exclusive consumption possible (such as charged CATV) or institutional design makes indirect pricing possible (such as TV or network media supported by advertising), non-territorial enterprises will accordingly become more efficient at recovering their investment. They will tend to replace territorial enterprises (government) by competition for the services once provided by the latter. In this sense, public service is just a special business model, not fundamental market failure⁴⁹. In the context of perfect competition,⁵⁰ the wax and wane of the proportion of territorial and non-territorial enterprises in the field of public services is an outcome of market competition rather than an indicator of the level of marketization.

China's rapid economic growth, especially its fast urban expansion, resulted from fundamental institutional evolution over the last thirty years. Especially important have been institutional changes that allowed China's city governments to gradually develop a highly efficient input-output business model. China's fiscal revenue totaled 350 billion yuan in 1992, to which the central government contributed 100 billion

⁴⁸ Strictly speaking, it is not accurate to divide market subjects into government and private enterprise. As mentioned in the last chapter, organizations managing territory may also be privately-owned (many urban governments in history were effectively private-owned).

⁴⁹ According to this argument, we may elucidate various urban phenomena including walled or gated communities - the essence of all exclusive communities is a business model aimed at preventing income leakage and providing a public service to satisfy special demand.

⁵⁰ Full competition is not the perfect competition of neo-classical economics. There are alternative choices in full competition and the transaction parties may withdraw freely.

yuan and local governments, 250 billion yuan. The fiscal expenditure of the central government reached over 200 billion yuan, resulting in a deficit as high as 100 billion yuan, most of which was borrowed from banks⁵¹. In 2006, the fiscal revenue of the central government amounted to over 2 trillion yuan and the total taxes at national level reached 3.76 trillion Yuan. These figures only include so called budget revenue, and do not include other revenues such as land leasing income. The fiscal revenue increased 16.5% annually on average from 1990 to 2004 and 19.9% in 2005. If we consider fiscal revenue as a source of profit for the government, we can see how successfully China's enterprise governments have managed their businesses.⁵²

3.3 Changing government roles

If we compare enterprises to vegetation, institutions will be their habitats. However, a difference between the environments of enterprises and natural habitats is that the environment of enterprises can be designed and chosen purposefully. In a broader sense, the selection of institutions determines the emergence, growth and decline of enterprises in different ways. Taxation systems are the core of all governmental systems. In *The Fiscal Crisis of the State* (1918), Schumpeter pointed out that taxation is so closely related to the idea of the modern state that the modern state should be called the *fiscal state*. The revenue mode of government determines governmental behavior to a large extent. In the following, I review the evolution of the financial system in China's local governments - the key to explaining the rapid urban-based economic growth since China's reform and opening up.

Before reform, China's local governments did not have genuinely independent finance. Their performance almost totally depended on support from the central government in allocating funds derived from state-owned industrial enterprises, which

⁵¹ Finance had to borrow money from vice premier Zhu Rongji who was also in charge of banks. Rather than agree to the request, Zhu initiated tax distribution reform which proved to have played a significant role in China's economic development. (Zhao Yining, 2003)

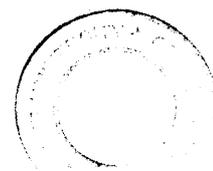
⁵² In 2007, the number of people registered for civil servant recruitment examination soared as high as 640 thousand, an increase of 21% over the previous year and the enrollment rate reached 1:60 while just ten years ago, foreign enterprises were the most favored choice of career.

were the main source of the central finance. The performance of a local government in public services lay almost solely on its ability to secure projects from its superior level of government.

After reform, the central government began to split profits with local governments through a so called *contract system*. A taxation system reform in 1994 in particular symbolized the beginning of a period of ‘dining in respective pots’ – a more independent financial arrangement for local governments. Local governments became a genuine economic entity that bore its own profits and losses. The wealth and administrative efficiency of local governments increased significantly accordingly and fierce competition commenced. In the taxation system reform, there were three chief reforms.

The first was the reform of the urban real estate system. Before 1990, property rights of urban land and houses were not assigned to private owners (in other words, they were all state-owned). The real estate market reforms carried out successively in the 1990s turned urban immovable estates into products that could be priced and traded in the market. Through the *Land Act* and the *Urban-Country Planning Act*, local governments, especially city governments, were authorized to allocate and charge for land use. Thus, city governments were allowed to possess their own goods to operate for the first time. If we regarded tax revenue as a sort of land rent in a broad sense, the primary aim of the operation of city government became to obtain maximum income from the land it owned.

The second reform would be the tax-sharing system in 1994 that made local government gain residual right for the first time. Through this institutional arrangement, distinctive boundaries of financial rights were erected between the central and local as well as inter-local governments. Local governments could operate freely within their boundaries and were made responsible for their financial operations. Local governments no longer had to worry if the central or other local governments would take their land resources away through administrative power; neither could they shirk the responsibility of their land, infrastructure and other



financial investments and operations.

The third crucial reform caused by globalization starting from the 1980s and reached its peak in the 1990s. Due to the so called 'opening up', city governments acquired their first group of *customers* - foreign direct investment. These customers bargained land price down and led to a competitive land market. They were footloose. They would vote by foot between competing city governments. City governments had to promote their cities to the customers through competition. This was totally different to the traditional way of distributing resources by political power and relationship in the command economy. Local governments could no longer reap profits through exploitation of enterprises. On the contrary, to contend with other cities, they had to contrive various favors for these enterprises. Once this business model was established with FDI, the target of urban competition expanded further to include domestic enterprises and footloose population (after the liberalization of property rights over homes). Cities in the area of Pearl River Delta proposed to 'retain the rich', and conducted intense competition to attract residents from Hong Kong. Recently in Shanghai, up to one fourth of the demands for real estate came from non-residents. With the increase of the mobility of economic factors, more and more resources were bound to be involved in the competition among cities.

Among the fiscal reforms, the tax-sharing system was the most important institutional innovation¹⁴. The financial decentralization between the central and local governments in 1994 was a huge milestone. This decentralization had three features. First of all, most public services (general education, medical treatment, transportation, etc.) were transferred to local governments. Second, taxation emphasized the

¹⁴ In the 80s and 90s of the twentieth century, the proportion of central finance to total finance was so low that the central government had to borrow money from local governments and the authority of the central government was affected. Therefore, in 1994, tax distribution reform was carried out and value-added tax, the biggest tax source, was divided between central and local governments at a ratio of 75:25. What's more, its accumulative and sequential mechanism drove more financial power towards the central government; some local taxes such as enterprise income tax, personal income tax and so on were first collected by local government, later shared by central and local governments and later on central government's proportion in shared taxes increased again. With regard only to the mechanisms of central and local taxation structure design, central financial concentration tended to get stronger and stronger. At present, local financial revenue takes up about 45%, decreasing from the highest of 85%, while the affairs local governments shoulder increased from 40% to about 75%.

industrial sector as the principal tax base, in which the central government shared a major part (75%) of added value tax. Finally, land revenue was informally assigned to local government⁵³. Together these changes meant that land revenue became the main financial source for local government⁵⁴.

It was this great set of reforms that transformed local government to a genuinely independent financial entity so that initiatives of local governments were brought into full play. China's economy now is driven by both central and local governments. There is no longer only one engine - central government – but many. As a result regional economic differences became one of the most noticeable economic phenomena in China in the past decade.

Due to the principle of *dining in respective pots*, local governments are now in possession of more and more financial interests. The policy game between central and local governments has become an intrinsic part of the national economy. Blame on Local governments for their 'unwillingness to be summoned'; for 'being anxious about political achievement of projects'; for 'excessive investor attraction'; and for 'lack of rational attitude to development' has become all too common. These are explanations of their disobedience to the central government's orders and fronts on which central and local governments fight.⁵⁵ In this context – with multiple semi-independent urban-based motors of growth – it is easy and natural to blame local governments for fluctuation in the macro economy.

The new conflicts between central and local governments are not so much about the monopolistic practices of the latter, as about their entrepreneurial behaviour. This is an interesting state of affairs. From the viewpoint of mainstream economics, when

⁵³ Increase in tax income from real estate related developments.

⁵⁴ Scholars (eg. Zhou Tianyong 2007) have noticed that since the local government has to shoulder 75% of the affairs with 45% of budgeted finance, it has to obtain financial income through selling land and thus to balance the financial gap. Generally speaking, in areas in the east of China, profit from selling land takes up a higher proportion of local finance, about 1/3 estimated by Zhou Tianyong. The total income from selling land in 2006 in China was estimated to be RMB 700 billion, a large part of which was not accounted for in the budget.

⁵⁵ There are so many similar views that it is unnecessary to quote more. In 2006, the cover article of one issue of 'Outlook Weekly', the most celebrated political periodical in China, was "Central-Local Game".

governments behave as profit-making entities, they will exclude potential competitors by their monopolistic power. Social surplus will be reduced since government lacks the motive to improve its products and services. However, the practice of China's reform and opening challenge this orthodoxy. The large-scale intervention of government brought about large numbers of competitive cities rather than degrading the quality of urban performance. With breathtaking levels of infrastructure investment and low levels of taxation, China attracted direct foreign investors from across the world and cheap and fine products made in China have swept over the worldwide markets. A crucial element of this story is the unusual and fierce competition between local governments at all scales.

China's reform and opening did not start by weakening governmental power and large-scale privatization. One of the impetuses of China's economic growth stems from the transformation of local governments after decentralization into profit-maximising organisations⁵⁶ (Yang 1994). Competition among governments conveyed a message from the market to government and compelled local governments to open the market, lower costs, improve facilities and enhance efficiency. As a result, within a short period of twenty years, China's local governments have erected vast quantities of urban infrastructure comparable to that of developed countries.

Looking at countries like India and Latin American, countries where local governments compete for votes rather than investors, it is obvious that profit-making governments like China's are more capable of promoting economic growth and

⁵⁶ In his article "Recent Study of China's Economy by Western Economic Circles", Yang Xiaokai (1994) gave a vivid descriptions of American federalism: The Constitution gives the states legislative and taxation powers and forbids the states from levying taxes on inter-state trade, which makes the 50 states 50 economically warring nations, but without fighting with or imposing taxes on one another. The people vote by foot and will "immigrate" to whichever state that can provide the best taxation system and infrastructures. This forces the states to try hard to develop high-class public facilities while daring not to impose high taxes. This government-serviced market, the name given by American economist Tiebout, has enabled America to establish the most developed systems and public infrastructure at lowest cost.

Yang Xiaokai conferred through this that, "financial federalism" formed by China's tax distribution system was the real motive for reform at a time when China had not yet realized privatization. (See Yang Xiaokai, *Modern Economics and Economy of China*, China Social Sciences Press 1997.)

eventually provide better investing environment and welfare both for enterprises and local residents. In other words, this violent competition forced Chinese local governments to rapidly raise their administrative efficiency and infrastructure quality to a level at which they now have the advantage in competing with other economies. (Zhao 2002)

The practices of a market-oriented economy mean that nonprofit organizations do not necessarily serve public interests better than profit-seeking enterprises. Enterprises that encounter fierce competition have stronger motives to improve their services than organizations grounding on moral willingness. Likewise, a so-called people-elected government is not likely to offer better public services than profit-chasing non-people-elected government. So long as market competition exists, government will invest its profit in pursuit of the interests of its customers (tax payers - enterprises or residents), with the single-mindedness and efficiency of a common enterprise.

Many examples may be used to illustrate the fact that democratic governments focused on pleasing electors cannot possibly participate in international competition for capital and technology as efficiently as the Chinese government. By the same token, highly competitive local governments are not a drain on the national interest; rather, they are the real fundamental driving forces behind China's international competitiveness in a condition of extreme shortage of technology and capital.

From a perspective of globalization, the central government is itself like a competitive local government in the world, confronting competition from other countries all the time.¹⁹ So far, most of the explanations of China's economic growth have centered on *reform* without much concern about the influences of *opening*. Actually, 'opening' has been as important as internal reform. Thanks to opening up, China's central government has to face competitions from other countries so that the central command economy, which had once run the whole show, has effectively been overthrown. In one sense, this result was due to the competitive pressures of foreign

¹⁹ Only for the local government, consumers do not move so much. But the flow of capital and goods can as well cause competitions among central governments, although not as fierce as that among local governments, where there is much less hindrance to the flow of economic factors.

governments.

In today's globalized economy, government is not so much the monopolistic organization as depicted by modern economics. As an economic entity, to compete, it must improve its services and boost its efficiency like other common enterprises. If it does not, factors of production (labor, capital) will drift away to better areas through voting by foot.

3.4 Business model of Chinese city government

In 'operating' its territory, Chinese local government obtains profits in two main ways: one is to impose taxes on economic activities; the other is to lease land that is equipped with infrastructure.

In general, tax revenue is mainly spent on regular payments for public services like the judicial system, public security, education, fire control, maintenance of infrastructures and so on. Lump-sum land revenue, on the other hand, is largely spent on the construction cost of infrastructure. Both are integral parts of the governmental financial model. When one source of the revenue is in shortage, the other will be provided as a supplement. Whether coming from regular taxation or lump-sum land leasing, the government's revenue is basically a pricing mechanism for their services.

In China, the urban economy works generally like this. First of all, government obtains rural land at a comparatively low price (at the opportunity cost of the original use) through land expropriation. Second, government constructs urban infrastructures (such as urban roads, municipal pipelines and ground leveling) according to the requirements of enterprises - manufacturers at the beginning of the modern growth period, service providers later on. The third step is to attract investors, overseas enterprises at first, local enterprises later on. Before this step, what local government has done is to invest heavily. Enterprises get land or standard factories at a very low price due to government subsidies. Once the enterprises start producing, they will pay

taxes⁵⁷ and provide employment.

A problem – or management challenge - with this economic chain lies in the contradiction between lump-sum investment in infrastructure and long-term returns. By law, China's local governments are prohibited from carrying debts, so the start-up phase will always experience a capital bottleneck. At an early stage of the reform, construction contractors were sometimes asked to pay money in advance to cover infrastructure costs and reimbursed with urbanized land. However, this did not work well and led to numerous triangular debts due to difficulties in land liquidation.

The land market was initiated starting from a basic land reform in 1990 and housing reform in 1998. This has offered a new source of finance for local governments. Industrialization led to derived land demand from commercial and service industries and to employment, which led to a buoyant commercial real estate market. This drew local governments into active market participation, using their primary land monopoly to get lump-sum land leasing revenue. This is the fourth step in the urban economic chain. Yet, a new problem arose, which was the opposite one to the previous phase. Due to lack of property tax, government was in possession of large amounts of cash but was short of a sustainable cash flow. Therefore, government had to throw more and more cash into infrastructure and draw more enterprises in to gain sustainable tax revenues for new public services (middle and elementary schools, hospitals, public security, urban landscape and sanitation, transportation and so on). The circulation of this economic chain has accelerated China's urbanization in recent years.⁵⁸

Any step in the chain is indispensable. It is vital to resolve the contradictions between lump-sum input and long-term output at the industrialization stage, and lump-sum revenue and long-term service expenditure at the urbanization stage. By

⁵⁷ Foreign enterprises enjoyed tax favors for a period of time.

⁵⁸ This analysis also reveals the reason why housing system reform, started in 1998, has become the engine of recent economic growth. With regard to the urban economy, the formation of a real estate market makes it possible for the government to obtain capital in large amounts through land. Thus local government can avoid inefficient and nonstandard actions like uncultivated land mortgage and so on, overcome the restriction that local government can't run up debts, and solve the contradiction between lump-sum infrastructures investment and long-term regular income.

integrating these two phases, China's city government has built up a capital circulation and overcome financial problems caused by financing difficulties and property tax shortage.

Two competitions exist in this economic circulation. One is competition among local governments for investors; the other is land competition among developers. If we consider a city as a market of location and a local government an enterprise that produces *location*, according to my analytical framework in Chapter 1, the first competition can be classified as producer competition where few investors face many urban governments. The second is like consumer competition where many developers contend for limited land.

In the first type of competition, investors are consumers and they can vote with their feet among different city governments. This tended to result in over-supply of urban infrastructure. The investors were thus in a position to accrue consumer surplus. Investors would tend to get the location at the price at which the most competitive local government succeeded in outbidding the second most competitive. Here the efficiency of producer (government) is a key factor in determining land price.

The production function of entrepreneurs is not composed of factors of production as described by a conventional Cobb-Douglas function. In reality, the costs incurred by producers (city governments) are made up of fixed cost and variable cost. Fixed cost refers to urban infrastructures involving lump-sum investment. Variable cost means regular expenditures spent by stages.

In the first competition of urban economic circulation, investor attraction, government must above all, provide a high-specification of infrastructures. Then local governments compete by fixing the initial land price extremely low, sometimes even zero, to reduce the risk of the investors. If the initial land price is not competitive, enterprises will move to other cities that offer preferential land prices. Under this condition, the city can only recoup its investment in the future through taxation and local consumption both from enterprises and their employees. Tax exemption may

accompany artificially low land price as an inducement to enterprises. This makes the financial link between lump-sum investment and long-term return even harder to resolve.

To prevent opportunism in local government in the form of overdrawing its credit at the expense of the central government, China's law forbade local governments from issuing bonds. This greatly restricted the investment of local government in infrastructures. Before the 1990s, infrastructure in Chinese cities ran up huge amounts of debt and certain measures, such as urban population limits, had to be taken to lighten the pressure on infrastructure budgets.

The so called 'user-pay policy' of land development provided a new financing channel for urban government. An amendment to the Constitution (1988) ratified a bundle of land property rights, in which use right was separated from ownership and could be legally leased. In May 1990, the State Council Promulgated the *Interim Regulations of the People's Republic of China Concerning the Assignment and Transfer of the Right to the Use of the State-Owned Land in the Urban Areas* (the famous Decree No. 55) and the *Interim Measures for the Administration of the Foreign-invested Development and Management of Tracts of Land*. With these tools, a user-pays policy of land development turned local government into millionaires in one swift institutional move.

By 1995 they had collected 245 billion Yuan of land leasing revenue. In order to lease land, the governments had to firstly invest large sum of money to transform rural land with little facilities to urbanized land equipped with various supporting facilities. However, at that time city governments didn't have the substantive capital needed for infrastructure construction and were forbidden by the original financial regulations to raise loans. Faced with that conundrum, the local governments monopolized the primary land market and, through what was effectively a disguised land mortgage, acquired the capital needed for lump-sum infrastructure investment.

Usually, the local governments would assign part of the rural land to construction

companies, who paid in advance for the construction of infrastructure. Afterwards, land equipped with infrastructure would be leased to foreign investors. If governmental revenue was not sufficient to pay back the expenses of infrastructure, construction companies could take this appreciated land to the market for cash. The *Lending General Provisions* law, implemented in 1996 further loosened the restrictions on indirect loan raising activities such as land mortgage of the local governments. According to *Lending General Provisions*, borrowers must be legal persons, economic organizations, individual industrialists or merchants or natural persons. It did not include local government, but local governments could easily bypass this restriction. First of all, local governments set up *land reserve institutes* as a legal corporation that could raise loans through mortgaging or pawning the use right of state-owned land. Second, the local governments provided financial guarantee. This made it possible for the local governments to raise loans indirectly through the land reserve system.

Through these methods, China commenced its first large-scale constructions of urban infrastructures in the early 1990s and consequently drove China's economic growth at a two-digit rate for several years. Starting from specially designated developmental zones, new towns expanded at an amazing speed, gradually spreading throughout the old cities. This was the first peak of urbanization since China's reform and opening. During this period, land functioned like money and local governments released land on a large scale and continuously, at the same time as the banks kept easing money. As a result, the scale of credit throughout Chinese society swelled rapidly. From the end of 1991 to 1992, the number of real estate development companies rose radically to more than 12,400 from 3,700 and real estate turnover reached 52.9 billion Yuan, with 700 million Yuan of foreign capital. This trend gained a sharp increase in momentum in 1993. In the first half year, investment in development actually increased 143.5% over the same period of 1992. Although the central government carried out macro regulation policies, the annual increase in 1993 was still as high as 124.9%. The formation of a land market had released a huge

amount of stock wealth and stimulated independent economic growth, which to a large extent counteracted the impact of western countries' economic blockade following the Tian'anmen Square Protest in 1989. International pressure failed to produce any real influence on China's economy. In this way, China established a solid basis for its move to the center of the world economy later in the 2000s.⁵⁹

However, this land-based business model also brought a series of problems. Quite a number of companies and individuals who had acquired land were speculators without access to buyers. They held land but could not find enough demand because real estate demand was not released at sufficient scale until housing reforms in the late 1990s. Sufficient currency supply caused a large quantity of capital to flow into the land market and boosted land prices. Lots of people became rich overnight by speculating on land. After 1994, the central government began macro economic regulation designed to tighten money markets and currency devaluation. This broke the capital chain of land speculation. A lot of projects without actual demand were abandoned. In 1997, the Asian financial crisis broke out but China was spared the crisis because of the internal problem just described. Nevertheless, the construction of infrastructure in Chinese cities slowed down for a while.

After the 1997 financial crisis, the central government implemented expansionary financial policies. The central government raised loans for its public works such as freeways, and for lending to local governments for urban infrastructure projects. But the loans or money lent were far from enough to balance the decrease in local governmental investments. The second high tide of China's urban infrastructure construction was switched on by competition among developers, the second competition in urban economic circulation.

The so-called developer competition refers to the competitions among real estate developers for the possession of urbanized land. Although commercial real estate

⁵⁹ See Zhao Yanjing (2000) "China's Urbanization under the International Strategic Situation", *Urban Planning Forum*, 2000, (1), p6-12, Zhao Yanjing (2001) "The Institutional Change, Small Town Development and Urbanization in China.", *City Planning Review*, 2001, (8), p47-57; Zhao Yanjing (2002) "The Judgment on the Situation of Current Urban Development in China", *City Planning Review*, 2002 (3), p8-17

supply emerged almost at the same time as the user-pays policy of land was launched, there was no extensive demand because the traditional welfare-oriented public housing system was still in operation. In 1998, the central government decided to suspend the welfare-oriented public housing system and initiated a market-oriented housing supply, which spurred the birth of an unprecedented real estate market almost overnight. It was this huge demand that aided China through the enduring Asian financial crisis and promoted a new round of high-speed economic growth from 2000 onwards.⁶⁰

The government's monopoly in the primary land market has played a key role in this business model. The land system has prevented *free-riding* by developers during the process of urbanization, ensuring the rapid increase public services. The cost of public service consists of two parts—fixed cost and variable cost. The fixed cost is the direct investment on infrastructure, such as roads, pipelines, bridges, etc. The variable cost includes long term maintenance and services, such as security, gardening, and education. Generally speaking, the price of land covers the direct cost of infrastructure and property tax covers the over-head cost of public services. The main problem for public service delivery is free-riding - neighboring property owners enjoy the benefit of public service freely. 'Positive-externality' is another term referring to the leakage of public service suppliers' profits. Obviously, the more externalities, the more leakage and the harder to recover the investment. Therefore, the most important task of local government is to invent a business model to reduce the leakage of the interest created by public investment.

The monopoly in the primary land market, designed to reduce positive externality loss, has proved to be a highly successful institutional design. By law, Chinese local government is the exclusive agent that can expropriate rural land, turn it into urbanized land and lease it to developers. No farmer is allowed to convert her or his land into non-agriculture use. All developers, at least theoretically, have to buy

⁶⁰ See Zhao Yanjing (2004) "Real estate: an explanation to the key thread of the current economic phenomena", Urban Development Study, 2004,(4), p14~19

primary development land from the government. Since there is no property tax in China, the price of first-hand land consists of direct costs (of land conversion) and the costs of urban services (estimated for the next 70 years⁶¹). This monopoly position provides local governments with a legal financing channel that replaced the disguised land mortgage. It resolved the problem of finding massive amounts of capital for lump-sum investment in infrastructure construction. In this new market, local government is the supplier of urbanized land while developers are the consumers. However, in contrast to the competition among producers (governments) for investors, the competition in the real estate market takes place among consumer-developers.

The fixed cost here refers to the costs of land expropriation (compensation) and of rural land conversion. Government obtains rural land by means of land expropriation. Compensation for land expropriation is based on the expected income of future from the original land use and is determined according to the bargaining power of land owners. Having expropriated land, through the planning system, the government alters land use and intensity with its legal power and invests to equip the land with infrastructure appropriate to its planned new use.

Variable cost refers to the continuous public services after this land is leased. The public services can be supplied by different agents, such as government, private or company, at different levels. Since spatial territory is the most efficient way to supply public services and get the investment return, public services are generally supplied by different levels of government. In my study, the term 'government' is generally used to refer to those agents who supply public services based on income collected within a legally defined spatial territory. At the state level, it is central government, while at the neighborhood level it could be a condominium organization of property owners. Like the supplier of any product, government may be privately owned as well as public owned. It could be based on either a dictatorship or democracy.

The different types of government have different business models — the mechanism of converting inputs to outputs. In a planned economy, government owns

⁶¹ This helps to explain why land prices in some Chinese cities are even higher than developed cities.

all factors - land, labor and capital - and takes the profit from enterprises directly. In a market economy, governments supply public goods to and levy tax on people in its territory. The tax system is the core of the business model. Different models have different transaction costs. The main difference between China and other market economies is the lack of the property tax. Copying the system from Hong Kong, the main way for government to get an investment return on infrastructure is to sell its land on the primary land market. Note that the lack of property tax implies that the residents could get free public services for subsequent years⁶². After the expropriated rural land has been converted to urbanized commercial or residential land, the government auctions the highly appreciated use-rights for 70 years to the developer that offers the highest bid. During the subsequent seventy years of lease duration, the government is responsible for public service like public security, fire control, education, medical treatment and so on.

This is typical consumer competition: large numbers of demanders compete for small numbers of supplies. The market price relies on consumers (developers) bidding.⁶³ According to the Coase-Vickrey pricing rule, supplier auctions limit the amount of land in the market, and the demander offering the highest bid gets the land at a price that happens to be low enough to exclude the second competitor. The base price should be higher than the cost to the producer, including lump-sum expenditure of land compensation and infrastructure construction. In the absence of property tax, the land price in a 70 year lease, should also include the cost of public service for the next 70 years. The next question is how to transfer the lump-sum land income into sustainable long-term income. If a local government fails to do this it would be hard to supply long-term public services.

⁶² This explains why colonial government did not adopt the same system as Britain. It is because that colonial government will not stay forever. Leaving public services to future governments could maximise the income of the colonial government. This can also explain the high price of land. It is simply because the price of land consists of the income of future government.

⁶³ In Chapter 7 I give a more general theoretical analysis of the production function of entrepreneurs and competition between consumers and producers.

In a common developed country, fixed cost and variable cost are respectively practiced by two different subjects. The lump-sum development can be carried out by non-governmental corporations and then projects that are developed are sold to residents on a freehold basis. Government charges property tax and provides public services for the residents. But in China, due to the lack of property tax, government has to charge for both fixed and variable cost once and for all. This induces an opposite problem to the previous form of competition: government acquires large amounts of lump-sum income while the services it provides are long-term and durable. City government has to transform part of the income from land lease into sustainable cash flow - tax revenue.

The basic function of urban government lies with combining two independent sectors into one comprehensive process to satisfy respectively lump-sum input of fixed cost and long-term output of variable cost. In China this means acquiring lump-sum capital for infrastructure by leasing at an above-cost price, primary land market and transferring it to enterprises capable of yielding tax revenues. Industrial prosperity creates a demand for commercial real estate. In this input-output chain, two different markets interact with each other to meet different needs. This financing model provides a reasonable explanation for why China's local governments emphasize both development and services rather than being a solely service-oriented government. Chinese local government combines the two independent financial flows into an integrated circulation in order to afford lump-sum fixed investment and long-term variable expenditure. Via commercial and residential land auction, the government gains lump-sum capital for lump-sum investment in infrastructure. Via industrial land leasing at very low price to attract manufacturing enterprises, the government gains long-term taxes.

To clarify the above discussion, imagine a presumed city with size of one square kilometer. The cost of buying land from farmers is 1,000 Yuan. The land occupied by public goods, such as school, road, garden etc. is 20 hectare (ha.). The direct cost of that infrastructure is 1,000 Yuan. Presuming the overhead cost to maintain those

public services is 100 Yuan per year. The total cost of 70 years is 700 Yuan. The government/developer could charge more than 2,000 Yuan for the land and 100 Yuan property tax per year. If there is no property tax, theoretically, the government must charge more than 9,000 Yuan and transfer 7000 Yuan of it to the next 70 years.

The way to transfer the 7000 Yuan to the next 70 years is to attract industry and commerce and collect tax from them every year. To do this, the government should give part of the land to industry. Presume the industry tax is 20 Yuan every year per hectare and the industries do not have to pay for their land. To cover the cost of public services, at least 50 hectares have to give to industries. Therefore the rest of the 30 hectares must charge at least 2,000 Yuan. That means the total income of government must be higher than 9,000 Yuan. In China, industry land is not totally free. The price of industry land depends on the price of residential land. The higher the residential land price, the more government can subsidise industry, and so the lower the price of industry land. This model suggests that the rational behavior of local governments in China is to attract industries rather than satisfy the demands of property owners.

In addition, industrialization brings demand of commercial and residential real estate. Therefore, the municipal government has built up an integrated input-output circulation consisting of industrial and commercial land markets. This explains why the feature of Chinese municipal governments has to be development-oriented and public service-oriented at the same time. It is not reasonable for them to simply turn to the latter under the present institutional constraints.

The difference between lump-sum investment costs and lump-sum land income is the capital available to pay for the cost of future services. Since the service level in the future will not remain the same as at the time of sale but will increase, future services would be in the red if this capital could not yield profit. After investment capital is deducted from lump-sum land income, the remainder has therefore to be reinvested. The income that a government acquires from land cannot satisfy the requirements of future services. Otherwise it would be adequate to just evenly distribute this land income over time to future governments without investing it.

In China, governmental deposits do not earn interest. To sit on its capital reserves therefore means disinvesting in future services. Non-interest bearing reserves do not even keep base with average social capital gains and inflation. Governments therefore have no choice but to reinvest in land in order to create more and more tax sources. This has meant investing in land generally for industry at first, and then for tertiary uses that stem from industrial activity. The investment in tax-yielding land is typically achieved by attracting manufacturing enterprises with subsidies. Tax income from manufacturing industries, together with tax income from the tertiary sector, sustains the increasing demand for public services. Profits from the local government business are whatever is left after the payments of fixed cost and variable cost.

3.5 The land system and leakage of revenue

Economic studies show that the biggest problem with the provision of public goods is their non-excludability, which makes it difficult to avoid opportunism. Free riding consumers will lead to considerable income leakage and the government will obtain less share of net surplus and consequently reduce the scale and quantity of the provision of public goods. Once the share of surplus acquired is less than the cost, the provision of public goods will be impossible (without relying on transfers from higher levels of government). Therefore, reducing income leakage becomes the primary concern of all business models of organizations seeking to supply jointly consumed goods.

The success of Chinese city governments lies basically in their business models, which as I have shown, is based on a strong monopoly of the primary land market. This system distinguishes the city governments of China from those of most other developing countries. In particular, governments face less revenue leakage and spillover of public goods and greater guaranteed recovery of investment costs.

This is much like a patent system for inventions or a trademark system for brand management. Technology invention and the establishment of commodity credit are achieved at a cost but may be easily imitated or copied. A technology invention is

unlikely to become a product if there is no business model to recover the cost of the invention. The formation of a patent system prevents income leakage from the technology inventor caused by imitation. The effect of a patent system is to secure the incentives necessary for continued research, invention and commercialisation.

In advanced capitalist countries, the public services provided by the government may be recouped through various taxes including property tax. For instance, the investments of a government to reduce fire and security risks in its administrative jurisdiction will enhance the value of individual property (especially real estate). This in turn increases property tax revenue of the government. Broadly speaking, local governments balance infrastructure and service costs with tax revenues, a significant part of which is raised from real property in their jurisdiction. A government's investment in education, open spaces, landscape and infrastructures will tend to add to the total tax revenue of the city. Other soft investments like planning regulations, nuisance laws and environmental health regulations may also contribute to property value and raise the aggregate tax return. With a property tax, most of the services invested in by the governments will not suffer from revenue leakage from free riders. By and large, resident house-holders and businesses pay for what they get. Because services are, with the possible exception of that portion consumed by visitors, delivered to the same population covered by the property tax base, leakage is avoided. A tourist tax closes the free-riding loop whole.

The better the business model of local government, the less the revenue leakage and the better incentives it will be to invest and continue investing in life and business-enhancing infrastructure. But for most developing countries, setting up water-tight taxation systems involves huge costs. Deficient laws and weak compulsory execution either makes taxation systems nominal and unexcitable or incur substantial administration cost that eats into the income recovered.

A poor taxation capability will affect a local government's credit rating and reputation so that banks dare not grant it long-term and large-scale loans, something almost fatal to massive and sustained infrastructure investment and city building.

Developing countries relying on property taxation, therefore, often find it difficult to prevent government investment leaking away. Direct stakeholders such as owners of land near to accessibility-enhancing infrastructure free ride; reaping windfall land value and land rent. If there is so much income leakage that investment and service costs cannot be compensated, the city will become impoverished in respect of urban services and facilities.

China approach based on local government's monopoly of the primary land market is an alternative model. Having described the basic business model, I elaborate on the details in the remainder of this section, including the role of land use planning.

The so-called primary land market refers to changes in land usage use, especially the change from rural land to urbanized land. There are two types of land ownership in China: state-owned and collective-owned. The 1982 *Constitution* regulated that "land in the cities is owned by the State" (Article 10) and the *Land Administration Law* issued in 2004 reaffirmed that "land in urban districts is owned by the State" (Article 8). Although this article was widely disputed, the *Real Right Law* promulgated in 2007 still prescribed that "land in cities is owned by the State" (Article 47).

In accordance with this provision, the *Land Administration Law* ruled that "the State is to carry out control system on land use", based upon which, "the State shall draw up master plans of land use and classify land use into three categories of farming, construction and the unused. Strict control is to be placed on the transformation of land use in farming to construction in order to control the total amount of land for construction use and exercise a special protection on cultivated land." (Article 4). This means land use may only be altered with the approval of a local government on behalf of the State and any unauthorized change in land use is illegal.

Land use change from rural land to urbanized land will create a large difference in land value. Understanding this, national enabling laws developed the system that gave city governments a monopoly position in land transactions. A key instrument in

this is the so called land reserve. Land reserve institutes or state-owned corporations set up by the government apply to banks for loans specifically to be used for land expropriation and the removal and relocation of residential houses and manufacturing firms. In practice, this mainly means the removal of farmers from their villages; the removal of farm land from a village that is left intact; the removal of village businesses from a village; or the removal of derelict state factories and related housing.

The process of converting this land into urban fabric and a future tax base has already been described. The urban planning process is clearly crucially important for a local government's business model. It is the principal mechanism by which local government exerts monopoly power. Conferring a general urban zoning designation generates a huge value increase. Designating specific designations adds additional value. Planning and then implementing various kinds of infrastructure enhancements adds more. Without planning control and without ownership of the primary and market, all this value would, as I have argued already, be pocketed by a few direct beneficiaries at no cost to them, save perhaps the costs of speculation. Through altering land uses on land already leased from the government and increasing floor ratio, these land owners would reap much of the spillover benefits from the improvement of infrastructure. Monopolistic primary land ownership plus monopolistic control of development and redevelopment is a powerful institution. Changes in land use and floor area ratios are heavily controlled, plugging the biggest potential hole through which public investment created value can drain. It is because the government obtains most of the value created by the upgrading of infrastructure that such rapid, massive and capital intensive city building has been sustained while achieving a balanced set of urban accounts.

To illustrate this argument, consider the example of Xuanwu District, Beijing. Currently the District has 7.33 square kilometers of developable land, among which community renewal projects take up about 3.17 square kilometers and other land stock about 4.16 square kilometers. Ru Xiaobin (2005) at the Xuanwu Branch of

Beijing Municipal Bureau of Land and Resources estimated that the total land price would be 73.3 billion yuan if the land price is calculated at 10,000 yuan per square meter or 58.6 billion yuan if calculated at 8,000 yuan per square meter. Of this, altogether 44.1 billion yuan of compensation will be needed to compensate existing occupiers of the land – villagers, township residents and state owned enterprises. This includes 15 billion yuan for 60 thousand households (250 thousand yuan compensation fee for each household) and about 29.1 billion yuan for state-owned organizations (7,000 yuan per square meter) that need to be relocated. This leaves a healthy 15 to 30 billion yuan for capitalizing the construction of urban facilities. The renewal of the District is likely to be achieved with a balanced budget.

This business model of the modern Chinese city has been formed step by step. At the beginning, the land market was not open. The government transferred land to developers at bargain prices (usually very low) with the purpose of attracting investors. Government revenue did not rely on land price but the subsequent tax income. But the opacity of this process brought plenty of rent-seeking and corruption, especially in commercial and residential land assignment. The move to an open land market quickly transformed the process of city building. Consider the example of Beijing again.

Beijing implemented an open land market with public bidding, auction and listing in November 2001 and the annual land supply was 3,500-4,000 hectares in 2004 and 6,500-6,600 hectares in 2005 and 2006.

Table 3. 1 Changes in the budget revenue and land leasing revenue of Xiamen

	2000	2001	2002	2003	2004	2005	2006
Municipal budget revenue (million yuan)	5,185.11	6,530.90	6,427.18	7,339.07	6,822.60	10,380.56	14,390.88
Land leasing revenue (million yuan)	1,676.69	2,523.17	3,957.02	2,947.56	4,424.38	5,466.99	16,412.71

Source: *Yearbook of Xiamen Special Economic Zone*

During this period, the day August 31, 2004 was a turning point in the process of the city's land management and urban financing system. From this date, the central government required that all residential and commercial land of government must be sold on the open market. The compulsory requirement to establish an open land market with public bidding, auction and listing led to heated demand (see table 3.1 Xiamen's case). This was encouraged by an oversupply of cash and led to an explosion of land leasing revenue for city governments within the city. Land leasing revenue of many cities equaled or even exceeded the total value of local taxes. Before August 2004, only about 20-30% of Beijing's commercial land was traded through public bidding, auction and listing. 70-80% was allocated administratively through an assignment contract. From August 31st, all rights for commercial land use projects had to be priced and determined through public bidding, auction and listing and private enterprises withdrew completely from the primary land market. Local government became the only developer in the primary land market. The usage, floor area ratio, and many planning conditions are decided by government. The owner of land can only inherit and transfer the rights and interests but not change them. Land revenue also began to roar. From November 2001 to April 2006, 215 plots of land measuring 1,491 hectares were traded in Beijing's land market. The turnover totaled 38 billion yuan. The cost of primary land development took up 25.9 billion yuan of this, leaving a government income of 12.1 billion yuan (Yang 2006). By 2006, there were 86 plots of land publicly sold in Beijing in that year, with a turnover of 27.1 billion yuan and a land value increment of 26% which counted 5.6 billion yuan.

The city of Xiamen had a similar experience. In 2000, land lease income only

accounted for 1.67 billion yuan, much less than its budget revenue 5.18 billion yuan. However in 2006, Xiamen's local budget revenue climbed to 14.4 billion yuan and land leasing revenue reached 16.4 billion yuan, higher than the budget revenue so that the city can be said to have made a staggering surplus of 2 billion yuan. (Table 3.1)

The open market policy has had a remarkable effect nationwide. Since the implementation of the system of public bidding, auction and listing, China's land leasing revenue has maintained fast growth in each successive year. Nationally, land leasing revenue was 580 billion yuan in 2005 and 768 billion yuan in 2006 and exceeded one trillion yuan in 2007.

This revenue accounts for the country's rapid urban expansion and to the large increase in fixed asset investment over the recent years.²⁶ The monopoly of the primary land market has turned out to be a very successful institutional design and has played a key role in the business models of Chinese city governments. It has tackled the tricky problem of revenue leakage (free riding) that is a constant headache for many governments and constitutes the main driving force of China's high-speed urban expansion. Compared with a business model totally reliant on property tax, China's version of the land-leasing approach possesses the following advantages: low institutional costs due to short payback period and low credit risk; no interest costs induced by the risk of payment term; no need to organize complex property evaluation and a massive tax department; no need to worry about changes in taxation policies during the payback period.

The success of this business model has elevated (literally in some cases) the level of infrastructures of many coastal cities in China close to that in developed countries. Beijing and Xiamen are the epitome of the modern well-organised and efficiently

²⁶ Investment in fixed assets is the primary power that drives China's economic growth. According to the proportion of investment in fixed assets to GDP of various countries in 2007 estimated by CIA, China came second with 44.3% after Azerbaijan (44.9%). As for other major developing countries, India ranked 19th with 29.2%; Brazil ranked 88th with 20.2%; Russia ranked 114th with 18.2%. Among developed countries, Japan stood 53rd with 23.7%; Germany stood 119th with 17.3 %; America stood 124th with 16.6%. The growth rate of China's investment in fixed assets has more than doubled that of its GDP for many years. Without the support of a constant stream of land-based income, it would be impossible to maintain such speed and scale. This is also the substantial difference between the present investment in fixed assets and the one without supporting income in command economy.

priced Chinese city. Changes in the revenue profile of these municipal governments, reflects the transformation of their business model. That business model not only explains why municipal government investment in fixed assets is such a distinctive characteristic of the recent and current round of economic growth, but also helps explain the driving force behind China's rapid economic development.

3.6 Conclusion

To regard the government as an *enterprise that manages territory* opens up a new angle for the theoretical study of urban planning and places the study of urban government's business model at the center of urban planning theory. This is extremely important if the academic orientation of urban planning is to return to the real world.

In this chapter, I have used as a framework a general municipal business model that focuses on inputs and outputs. The framework is a general one for thinking about the behaviour of entrepreneurs; and urban governments, I have suggested, should be looked upon as entrepreneurial economic agents. With regard to the input part, entrepreneurs need to focus on various problems such as financing, credit and risk brought about by fixed cost and variable cost. As for the output part, entrepreneurs have to figure out a charging mode capable of eliminating free riders and reducing income leakage. In this respect, institutions and policies are of paramount importance, shaping business model of the entrepreneur and keeping alive the incentive to invest in the discovery of new knowledge and in its commercial application. The practice of China's city governments shows that fiscal and tax decentralization provides an incentive to local governments to act entrepreneurially. And the monopoly of the land market – of primary land ownership and of the right to develop – makes possible the efficient recovery of public services.

A business model analysis of city government also throws light on the origin of cities - an obscure but intrinsically interesting issue in urban geography and spatial analysis. In almost all classical geographic models, cities (or central places/central markets) are presumed. Their existence cannot be explained within those models. Due

to lack of appropriate analytical tools, these models abstract from the reality of institutions and look for optimal location and scale of economic activity through various mechanical algorithms that spread activity over space.

But in practice, what really drives the formation and growth of cities is the business models invented by entrepreneurial city governments. Just as the value of a mineral resource depends on the entrepreneurial endeavors of mining and processing firms and individuals; so the value of land at a particular location relies on the business models used by entrepreneurs to profit from that location. In this sense, it may be deemed that it is entrepreneurs and inventors of business models for making profitable use of space – at all scales including at the city-wide scale - that created urban value. Many studies of economic geography and spatial analysis tend to divorce themselves from business models and employ abstract mathematical models to explicate the origin and growth of cities; using doubtable assumptions to explain simple reality. The elegant spatial models decorated with the enigmatic maths of the neoclassical urban economists and regional scientists are mostly little more than self-entertainment among academics.⁶⁴

Although geographers have little defense when confronted with economists' criticisms on their failure to explain the emergence of cities, mainstream economics itself has traditionally failed to offer a powerful explanation of the emergence of enterprises. The parallel is not coincidental. Regional science was a spatial take on neoclassical economics and both chose to overlook the role of institutions and the creative activities of entrepreneurs for the sake of abstract generalizations that can be articulated in closed systems of equilibrating equations.

A more substantial epistemological reason for this oversight in economics is that

⁶⁴ See, for example, Fujita and Thisse, 2002, Fujita, Krugman and Venables, 1999. Krugman (1995) once made insightful criticisms concerning popular spatial analytical theories, but his own "new economic geography" failed to make much significant advance beyond his predecessors. One significant reason is that the tools he adopted (such as the CES function) were still unable to normatively analyze institutional issues.

enterprises are seen as a substitute for, not a component of, a price mechanism in economic theory. In his innovative paper Coase pointed out (1937) that Knight was wrong in using uncertainty to interpret enterprises. Coase suggested the alternative view that the distinctive character of enterprise is that it is the substitute for price mechanism⁶⁵ (Coase, 1937, the third paragraph in the first section). This is part of Coase's insightful theory of the firm. But in one sense it has led enterprise theories astray. Cheung (1983) argued that "it is not accurate to say an *enterprise* replaces the *market*; it would be better to say that one form of agreement supersedes another." (See: Cheung, S. 1983, The Contractual Nature of the Firm, Journal of Law and Economics, 26(1), 1-21). The distinctiveness of an enterprise rests on its possession of a business model to sell its own products in the market rather than being a substitute for the market's price mechanism. Coase was saying that some transactions are taken out of the market by the formation of an enterprise. But the reason for so doing is to impose what might be called meta order on the market – organizing certain transactions outside of the market (within the firm) in order to make greater gains when transacting within the market. A business model is a particular meta-order imposed on a sub-set of transactions.

If an economic agent⁶⁶ has its own business (input-output) model and owns the residual rights over the resources it deploys, it is a complete enterprise whether it is a sole individual, a manufacturing organization or a municipal government. An economic agent's choice of inputs: labor, services, taxable land, simple home-spun knowledge etc, determines the components of his own production function: it does not differentiate a producer from an enterprise. The distinct characteristic of an entrepreneurial enterprise is its possession of residual rights and the responsibility it takes for business operation, including assuming liabilities.⁶⁷ Simplifying the idea of enterprise in this way, what does the idea of an optimized business model mean? Simply that an enterprise's optimal set of rules and policies are those that make it

⁶⁵ Or as Yang Xiaokai (1997) says: "enterprises replace intermediate good market with labor market".

⁶⁶ Or consumer equivalent

⁶⁷ In Chapter 7, I generalize this conclusion into an economic criterion – a 'Coase Optimum' to replace the 'Pareto Optimum' of neoclassical economics.

capable of producing the most surplus for entrepreneurs. Note that this adds a Schumpeterian understanding of entrepreneurship – someone with new ideas that can be exploited for commercial (or social) gain but who often needs to join forces with others to realize those gains. Business models serve to mix the ideas of entrepreneurs with the resources of capitalists, owners of land and labour and so on, in such a way that their needs for reward are efficiently matched with the needs of consumers of various types. This model serves as framework for examining the advantage and disadvantage of alternative urban institutions.

In contrast to academic economists in their ivory towers, planners have to spend most of their time dealing with municipal governments. Planners will not therefore be able to propose useful policy suggestions if they do not properly understand municipal government behavior⁶⁸. Urban institutional systems are adopted and developed in the context of particular geo-political contexts at particular stages of development. As long as we can comprehend the fundamental principles of local governmental behavior, we will be capable of designing workable institutions adapted to those specific contexts. Meanwhile, how to begin regime transformation when an old system of institutions is ineffective, is a serious task that planners the world over must face.⁶⁹ Dispute at an abstract level cannot tell which theory is more powerful at explaining and forecasting the real world. Just like new medical equipment invented to give doctors a deeper understanding of symptoms, urban planning theories must discover new analytical tools to better understand urban problems.

⁶⁸ The planners may even get into a moral conflict as to whether to “conspire” with the local government or to insist on their professional integrity. For instance, Zhou Yixing once doubted “could planners keep certain independent characteristics, stick to professional morality and persist with scientific planning and forecasting?” (Zhou Yixing, 2006, “Who should be Responsible for the Out-Of-Control Land Use?” *City Planning Review*, 3(11) p65. Lu Dadao even directly condemned the idea that “while working, planners tend to follow leaders’ will and do not have independent scientific spirit. As for evidently unreasonable and unfeasible dreams, some planners also chime with the others or even boost these unrealistic dreams.” (Lu Dadao, 2007, “China’s Urbanization Progress and Space Expansion”, *Urban Planning Forum*, 4 (5))

⁶⁹ Different tax systems lead to different government behavior as I have argued. The development stage of a city decides whether it should rely chiefly on land income or property tax. Even in different areas of the same city, these two tax systems may apply to different districts. Generally speaking, in the startup phase of urbanization, it is easy for a land income-dependent government to develop the construction of infrastructure. But when urbanization enters a stable phase, it is necessary for the government to transform in a timely way into a property tax-dependent government.

We can judge whether an urban planner is professional or not through observing whether his tools are analytically powerful enough to deal with routine and tricky urban problems. The analysis of urban business models of all kinds – not just of municipal government but of other actors in land and property markets - provides professional tools for urban planning and enables planners to better understand practical problems and propose more professional suggestions to policy makers and decision takers.

By extending the business model analysis of city government to understand the spatial division of labor at city and regional level, we will find answers to questions about the concentration of urban infrastructure investment and the homogenization of industrial structure among the municipalities in China.

In the next chapter, I review some criticisms targeted at city government from the viewpoint of business models and extend the discussion of optimal allocation of urban resources - an issue closely related to optimal production. We will see that using new analytical tools, planners are able to achieve sharper observations and advance their own unique professional suggestions.

CHAPTER 4

RETHINKING URBAN PROBLEMS

4.1 Introduction

In this chapter, I elaborate the business model of Chinese cities developed in the previous chapter by demonstrating its superiority in addressing selected urban problems. According to the theory of Lakatos (1970), if a research paradigm intends to replace an old one, it should not just stick to demonstrating things: it should be able to explain abnormalities incomprehensible to the old paradigm and help discover new problems as well. Growth is an essential character of science. In the competition of the theories and methodological frameworks of research, those that offer greatest explanatory power will tend to win.

Competition between urban governments and government monopoly of the primary land market are the two defining characteristics of the business model of China's urban governments. Since existing theories generally fail to explain the behavior of governments, urban scholars have often resorted to attacking observed governmental behaviour - like tailors blaming customers for failing to fit into their clothes. Notwithstanding the academic's criticisms, governments and urban planners tend to carry on regardless under the compelling logic of the business model I have outlined. In this chapter, I respond to the criticisms coming from academic commentators by reframing them. In particular, I argue that in the present institutional environment (especially the institutions of taxation), the criticized behavior is the necessary behavior of governments acting as an enterprise.

4.2 Rethinking governmental behavior

In standard economics, the government's function is to provide public goods that

cannot be provided by the market due to malfunction. There is neither the necessity nor a motive for governments to compete with one another. However, the practices of China's urban governments indicate that public goods, like other commodities, can be acquired in a competitive market as well.

Like a common commodity market, the smooth running of this mechanism depends essentially on two things: one is competition, the other is pricing. There must be certain degree of competition between local governments; and competing governments should be able to earn profit from the infrastructure and services they provide⁷⁰. It will be impossible to comprehend the behavior of local governments without understanding this mechanism. Current problems facing the Chinese local governments (continuous construction, large-scale farmland requisition and the relentless expansion of new real estate markets) actually derive not from disorderly competition, but from the current rules of competition: the limitations on the channels through which local governments can obtain revenue creates what some view as problems and shapes the government's response to these problems.

Local governments are currently centering their main attention on meeting the needs of developers and entrepreneurs. However, this is not because the government is especially in favor of them. Under the current system, the local government cannot impose taxes directly on residents except a small amount of personal income tax; which makes enterprises (rather than residents) the main tax-paying customers of

⁷⁰ There are large quantities of economic writings concerning the behavior of local government, among which the study of the famous American economist Tiebout is the best-known (Cao Rongxiang, Wu xinwang 2004). Tiebout pointed out in his pioneering article 'A Pure Theory of Local Expenditure' (Charles M. Tiebout, 1956) that at least theoretically, competition among governments, with residents moving around freely ("voting by foot") would be sufficient to make sure the services of local government could be priced like other commodities in the market. If this view is correct (and can explain more facts in reality), the enterprise nature of government is a more powerful analytical tool than the government as a handler of market failures. From the view of Olson, another famous economist who studied the supply of public goods (Mancur Olson 1980), government is not an organization that obtains the collective interest through forced collective actions. Go deeper into this view and we can see that government is the same as the army, an enterprise or a union: they are all organizations that aim at lowering the costs of collective actions and acquiring potential collective interests. In other words, there is no essential difference between public interest and other commercial interest. Similarly, there is no difference between enterprises which obtain commercial interests and governments which obtain collective interests. This excludes government from the category of commonwealth-oriented organizations and puts it in the category of profit-oriented organizations.

public services. The local government can only indirectly provide urban residents with public services by creating a better investment environment for investors. The large number of investors brings fierce competitions among the producers of territories.

Many analyses of the problems of China's rapid urbanization have stated that it is the possession of strong land management powers that brings about the subsequent urge of local government to 'make money with land'. Large-scale occupation of farmland, it is often concluded, is caused by the government's suppression of land price and excessive business promotion; while housing prices remain high as a result of collusion between local governments, banks and developers to drive up land prices. Naturally, people therefore call for measures such as more rigid supervision, land income division, restriction of land-income expenditure and cutting back land management powers.

However, this seemingly reasonable analysis does not probe the root of the problem in that it cannot explain the contradictory conduct of local governments: promoting business while lowering land price and selling land while driving up land price.

Local governments behave contradictorily in different land markets because the corresponding channels to realize land income in those markets vary. Local governments can only depend on lump-sum land income from the primary land market for profit. The public services that local governments provide are durative and continuous, whereas land income is a lump-sum deal. To sustain expenditure on public services, local governments had to come up with a way to turn lump-sum income into long-term and sustainable cash flow. And the solution is tax revenue from industries and commerce⁷¹. Since the demand for commerce mainly comes from industries (enterprises' and employees' demand for services), the only way to expand

⁷¹ This explains why in Xiamen, where the price of residential real estate is much higher than that of shopping malls and office buildings, the government is prepared to forgo huge sums of lump sum income on the coastal sites, where the land price is very high, preferring hotels and office buildings which can yield sustainable cash income.

local governmental income and sustain public services is to energetically bring in businesses and encourage industrial development. Local tax revenue and land price thus become the 'daily-bread' of local governments. A local government gets a competitive edge over other local governments by discounting these two 'prices'.

But such price reduction has a limit. Whoever is the most efficient can reduce the price to its lowest⁷². Generally speaking, cities located in advantageous geographic environments and with advanced management skills are capable of offering better infrastructures and public services. This can be shown from the comparatively high floor price in first-class real estate market. High profit in primary land markets enables local governments to provide more subsidies for industrial land, the price of which thus becomes more competitive. More industries will gather and bring more demand for primary land. The land price will be driven even higher, yielding the government more profit to support industries.

The nature of all taxes is ground rent. Selling and leasing (for taxes) are just different ways of acquiring land income. In some cases, local government attracts business with free land. This conduct is described by scholars and the media as 'imprudent and risky'. However, it is rational economic behavior aimed at turning lump-sum profit into regular income. The relentless business promotion by local government is not the 'pursuit of short-term political achievements', as it is often portrayed in the media; but a responsible long term investment in the local economy⁷³.

An equilibrium land price in the industrial land market should not be too low, however. It should be neither more nor less than the price sufficient to exclude less

⁷² Compared with capital of great liquidity, there is more territory than capital in the current development stage. Therefore, the main mode of current urban competition is for territory to run after capital (or for governments to run after developer). If we regard developers as customers for territory, the government will be the supplier. The surplus of territory causes competition in the market among producers. The price of territory is decided by the most efficient city according to the cost of the less efficient cities. The price of a city (tax income and land price) lies with the cost of the local government. Obviously, cities with higher land incomes can offer higher discount to industries.

⁷³ Acquisition of lump-sum income from land transfer has its virtues. For example, China's urban infrastructure is much more advanced compared with countries with the same level of development. This is because lump-sum land income has balanced lump-sum infrastructure investment. Investment in infrastructures is made once and for all, while recovery of the investment is realized in the long run. In more normal urban fiscal models, it is hard to gather huge amount of investment at the early stage of economic development by way of regular income from tax revenues.

superior local governments from winning the competition for mobile investors. This is the cheapest price that enterprises should be able to enjoy. To the local government, industrial and commercial tax income, primary land market income and industrial subsidy (land price and tax reduction and exemption) are accounted as a whole. Together they add up to the net income of a local government. As long as industrial subsidies can generate more income through taxation and related commercial housing, it will be a reasonable economic practice to offer industrial land at a discounted price, even for free.

After seeing through this industrial circulation formed during the pursuit of long-term income, we can now understand the two completely contradictory pricing behaviors of the local government in industrial and commercial land markets and also explain why the more developed an area is, the lower its industrial land price can be — because low industrial land price and high commercial land price are two consistent ways through which the local government turns lump-sum profit into regular income. All the behaviors of the local government should be taken as a whole, and any comment on one of them as an isolated link (low industrial land price or high commercial land price) will come to the wrong judgment that the economic behaviors of the local government are irrational.

There will be winners and losers in competitions. This applies to national governments and local governments as well.

It's true that the local government protects its own interest when dominance of the central government eases. It is also true that there are repeated constructions and unfair competitions in some disadvantaged places. But it is still improper to simply conclude that these are all vicious competitions⁷⁴. In monopolistic competition model, second-best producers are not just 'losers'. They crouch around the 'winner' and wait for their chances so that the winner dare not take advantage of its monopolistic status to lower the quality of their products and services.

⁷⁴ Refer to: Economic Observer, 2006-11-2, Cumbrance of Vicious Competitions in Yangtze River Delta Development Area and Qiao Xinsheng, Local Regime in Disguise of Urban Management, People's Daily Online, 2004-07-15.

From this perspective, the struggles of local governments to ‘cheapen’ services and offer favors are no longer ‘excessive business promotion’ or ‘vicious competition’; quite the opposite, it is just these seemingly fierce, even cruel competitions that has made China a place that appeals the most to investors all over the world. Japanese enterprises have strong international competitiveness not because they are protected by their country, but because they have experienced much crueller domestic competitions. All the same, the competitiveness of China’s local governments originates from ruthless regional competitions that have sustained China’s rapid economic growth.

As a matter of fact, the central government is also an indirect beneficiary of the competitions among local governments. To compete, local governments put large-scale investments into infrastructures with the income obtained from primary land market and offer industrial subsidies by means of cutting down on land prices. Accordingly, China’s industries possess unusual competitive edges in global competitions and this has led to rapid increase in industrial tax revenues⁷⁵.

Since a large portion of China’s tax revenue comes from industrial production and the central government gets a larger share according to the new tax distribution system, the finances of the central government has grown at a speed faster than that of GDP in recent years. This growth is also closely related to the rapid increase in local governments’ income from primary land markets. Low industrial land price and high commercial land price are two sides of a coin. The rocketing central finances are the

⁷⁵ From 1990 to 2004, China’s fiscal revenue increased by 9.3% on average annually and 19.9% in 2005. From 1999 to 2005, the per capita annual growth rate of GDP was 9.3% on average, while during the same period from 1990 to 2004, the average annual growth rate of rural residents’ net income was only 4.3%, and the per capita annual growth rate of townspeople’s disposable income was 7.7%. In 2005, the per capita average net income of rural residents was 3,255 yuan, an increase of 6.2% over previous year; the per capita average disposable income of townspeople was 10,493 yuan, an increase of 9.6%. It can be seen that the growth rate of fiscal revenue is much higher than that of per capita GDP and income of rural residents and townspeople. If off-budget income and land income, is counted, the actual income value and growth rate of the government is even larger and faster (see Zhou Tianyong: *Eight Problems Facing China’s Economy in the Future*, Aug. 9, 2006, *China Business Times*). Statistics from the Ministry of Finance show that the total national fiscal revenue from January to June is 2,611.784 billion yuan, an increase of 30.6% over the same period of last year, taking up 59.3% of the budget. In 2003, China’s fiscal revenue reached a record high of 2 trillion yuan, 2.5 trillion yuan in 2004, 3 trillion yuan in 2005 and nearly 4 trillion yuan in 2006.

outcome of the transfer of local governments' land income. In an attempt to cool down local investment and land enclosure, some central government departments are now suggesting that local governments should be prohibited from attracting business by discounting land prices and restricted in their tax-maximising strategic use of the primary land market⁷⁶. In fact, these are unwise suggestions because they do not show an understanding of local governmental behavior in China's market economy.

4.3 Designing a business model

Proper solutions require proper explanation. Explaining the business model of governments should help develop more targeted plans for improvement.

4.3.1 Governmental behavior

A question that arises from the discussion so far and easily comes to Chinese scholars' minds is why local governments in other market-oriented countries do not have such a strong 'market urge' and 'business fever'. Why are they able to withdraw from competitive fields and focus on public services? One crucial reason is that local governments in market-oriented developed countries have different revenue channels from that of China's local governments. Their revenues come primarily from sustainable and regular income — property tax (real estate tax) rather than lump-sum land income. Property tax generally refers to a series of governmental taxes that use the estimated market value of a property as the tax base. These kinds of taxes mostly belong to local taxes in developed countries; in many developing countries the administrative and legal infrastructure is frequently insufficiently developed to support a reliable and sustainable revenue base from property tax (Chen 2005).

Take America as example⁷⁷. Federal taxes are composed principally of three

⁷⁶ Recently, the Ministry of Land and Resource in China decided on the lowest prices for industrial land in different areas, seeking to restrict developed areas from attracting further industries through low land prices. But local governments were quick to think of other disguised subsidies (e.g. providing employees with low cost accommodation - changing land subsidy into labor subsidy). For enterprises, the means by which subsidies are provided are not important as long as their profits increase.

⁷⁷ With regard to the taxation structure of American government, federal tax income comes mainly from personal income tax, social security tax and enterprise income tax, with personal income tax counting for about 50%, social security tax about 30%, enterprise income tax about 10%. State tax and

direct taxes: personal income tax, company income tax and social insurance tax, complemented by consumption tax, inheritance and donation tax and customs tax. State taxes principally include sales tax, supplemented by personal income tax, company income tax, consumption tax, inheritance tax and other taxes. Property tax is the main source of local tax revenue, complemented by sales tax, personal income tax, other taxes and fees. A tax on fixed assets such as buildings is generally considered efficient since it is a form of capital that does not depreciate easily and rises quickly in value; is hard to conceal; with a high accumulation efficiency and low cost of taxation. Property tax has therefore become the primary source of tax revenue for local governments. Property taxes in the USA can constitute up to 76% of local revenue.

The uniformity of financial model in developed countries arises from many decades of experimentation and institution building. In China, local governments vary widely in the specific models they adopt and the services they provide. If we regard a city as a community, local governments in most cities in developed countries are equivalent to a property management company. Where there is no great need to boost a locally failing or lagging economy, urban governments only need to improve local security, the environment, water supply, electricity supply, schools, hospitals, transportation and so on. As they supply these services, property value within the community will increase accordingly. The better the services are, the higher the value of the properties will be. Consequently, local government will get more property taxes. On the contrary, degradation of services will cause the emigration of local residents and devaluation of property values, which will bring down governmental revenues. If the situation worsens, the residents will 'fire' the government by 'election' and turn to another 'property management company' who can provide better services.

China's urban governments are more like developers and the city is a 'community' to be developed. Since the government is not authorized to charge property management fees (property taxes), it can only get its income once and for all.

urban or county tax mainly consist of property tax, sales tax and personal income tax, the total of which takes up about 75% to 80% (Zhou Tianyong "Rapid growth guarantees high employment rate but why does China have high unemployment rate?" 08:54, 11th, Jul. 2006, China Economic Times.

In order to sustain community services in the future, property management fees in the coming 70 years have to be collected on a discounted present value basis in a lump sum; and then commerce and industry is built for regular rental income. At this time, urban government has to price its land very high (equal to a promise of 70 years of free after-sales services while transferring land) and transforms lump-sum income into long-term regular income through attracting businesses (rather than by increasing the values of local properties).

In this economic flow, the payment for public services provided by China's local government does not come directly from residents. Therefore, it is not necessary for the government to 'observe the facial expressions of property owners' as governments in developed countries do. Chinese residential property owners cannot urge the government to improve services by voting, as tax paying residents do in developed countries. This causes gaps and inefficiencies in the public services delivered by some local governments.

Obviously, unless China's local government can fix the prices of public services directly by regular property taxes as developed countries do, the function of local government will never be transformed from production to service orientation. At present, the widely-criticized behavior of Chinese local governments is still a reasonable business strategy given the absence of property tax.

4.3.2 Property Tax

Consider the benefits of imposing a property tax. First, it lessens local government's dependence on industrial investments, easing excessive 'investment urge' and 'business attraction thirst'. Governments with a well-founded property tax system do not need to place the responsibility on their industrial development arms for acquiring regular cash flow⁷⁸. Diversification, horizontal division of labour and

⁷⁸ The PX Project, which caused quite a disturbance in Xiamen in 2007, is a typical case of the influence of the lack of property tax on governmental behavior. A lot of top-grade property already exists in Haicang, the site of this project. Property affected by the project has a total value of several 10 billion yuan. After the project is completed, the market value of the property will definitely be increased. But since the value of the property has nothing to do with the government and the income tax increase brought about by the project will be net profit, the government will surely insist on

product variety competition are all made possible by property tax, Governments in different territories do not have to set up a complete set of industries to transfer the land income into more sustainable business-industry tax.

Developing this thought, consider the thought that in pursuit of an industrial tax-base, it has been risky for China's cities to just concentrate on the development of one specific industry. If cities want to survive and achieve sustainable incomes they must generally start from the construction of industries in order to set up a complete industrial circulation. This has tended to force all cities to form small but comprehensive independent industrial chains. Every city has had to have its own complete set of economic sectors. With the implementation of property tax, cities can diversify, however. Cities like Sanya and Haikou may be able to develop professional services and tourism⁷⁹, while other cities that have other comparative advantage, such as being near to a port or specific markets, could develop specialized industries. Residents could choose different locations for production and consumption while cities seek the most suitable development paths through horizontal division of industries among themselves. Local governments could make use of their comparative advantages and change the competitions among them from pure price competitions to diversified variety competition.

Second, an alternative way of gaining income would change the behavior and focus of governments. A regular income acquired from the increase of value of local

carrying on with PX Project. This is because the huge amount of tax income brought by this project every year can sustain the long-term investment needed for regular services the government has to provide. The residents of the properties affected, property owners being the main part, protested strongly and unusually, that the project was grounded. Suppose that real estate tax based on the market value of property existed. The government would then compare tax income decrease caused by the loss and devaluation of property with tax increase brought about by this project. If the decrease of property tax (including compensations to the residents) were higher than the increase of tax income brought about by PX Project, the government might consider giving up the PX Project by its own cost-benefit evaluation. But in reality, the government will compensate the loss of property owners and carry on with PX Project.

⁷⁹ Actually several major cities of Hainan Island once put forward the plan of developing industries, even heavy chemical industries. For example, Sanya had once claimed it would develop a super city with a population of one million, production value of 10 billion and an area of 100 square kilometers. Although the booming tourism offers new economic support in recent years, the problem of equipping large quantities of real estates (mostly used seasonally) with services has not yet been solved. Without a sustainable industrial and commercial tax income, it will be hard to sustain Hainan's economy. Apparently this runs counter to the original idea of Hainan's planning (optimal division).

residents' properties would help a government move from being development-oriented to service-oriented and encourage it to provide better public services for residents within its jurisdiction. In the built-up areas of cities, it is difficult to get a financial return from the investment of schools, roads, education, and fire protection without property-related tax. A service-oriented government could not achieve financial balance. Therefore, local government is compelled to focus its primary attention on the new areas where it can make money from a monopolistic primary land market. Without developing new urban areas, a government would not be able to get sufficient support for high-standard public services in the old city. Of course, a government may lift its industrial and commercial tax to make ends meet. But it would result in the increase of cost of production. The enterprises would vote with their feet and move to another city.⁸⁰

Once a government can tax property, it can make use of the tax to improve public services (public security, fire control) and facilities (cultural and sports facilities, parks and greenbelts, roads and bridges, etc.), which will directly enhance the property value within its jurisdiction. The broader tax base would therefore increase governmental income, thus enabling the government to further polish public services. The government is able to bring into its routine agenda the many practical commonwealth projects that once were only performed occasionally. In order to increase tax income and attract residents, the competition among local governments will shift from attracting business to public services. It is quite possible that 'pleasing residents' would replace 'pleasing investors' as the new administrative goal of local

⁸⁰ Yang Baojun once criticized planners in an article: "they created grand projects for the leaders so the leaders can brag about their political achievements, while failed to build urban public space which can be enjoyed by the public" (Yang Baojun: "Loss and Reborn of Urban Public Space" 《Urban Planning Forum》, 11th Issue, 2006). However, few planners can explain why political achievement projects like "big roads, big squares" do not disappear despite repeated restrictions. As a result, these criticisms can do nothing to reality except boosting the moral image of planners. Actually, it is easy to explain this governmental behavior: to rebuild and improve public space in the old city will certainly increase the value of surrounding properties, but due to the lack of property tax, the government only invests without getting return. To show off politically once in a while can truly gain temporary favorable comments, but it is not feasible with regard to finance. But it is quite different in the new city. Since the government monopolizes the primary land market, newly-constructed office buildings, big roads and big squares can bring along the increase in land value in surrounding areas. Whatever the investment, it can be balanced by land income.

governments.

Third, property tax would allow the government to relax the limitation of the household registration (hukou) system, which is one of the few institutional legacies passed down from planned to market economy without fundamental reform. The reason why China is unable to abolish this system is the lack of economic means to identify the status of urban residents. We do not know who the real urban consumers are or who are qualified to enjoy the various subsidies contained in public services (housing, education, medical treatment, transportation, etc.). This is crucial for the trade of public goods. With property tax, the identity of a resident would be clear at a glance. As long as a resident pays property taxes in a city, it would mean s/he buys the public goods of this city and automatically qualifies as a resident of the city (ie, has the right to vote). The system of Hukou would not be required. The Hukou system is similar in nature to a nationality system, which allows the producers of public goods (governments) to identify their consumers. Without such a mechanism for identifying 'paying customer' no city would be inclined to improve the level of local services with a large population of so called 'floating' residents enjoying (free-riding on) urban welfare provision on the same basis as permanent residents. Improving services without property tax and without household registration would be to invite increasing numbers of 'hitchhikers', which would aggravate further the difficulties of maintaining government finance. Obviously, for the purpose of citizen status and identification, personal tax via property tax is a more just and efficient way than the household registration system. If a property tax system were in place and households could opt to become urban tax paying citizens, the household registration system can be weakened in its function and used as an auxiliary management instrument⁸¹.

Fourth, imposing property tax also helps prevent land and its relevant properties from being seized by inefficient users. At the moment, on the one hand, there is a

⁸¹ Before discussions of the establishment of a property tax system all suggestions of abolishing household registration policy had only been armchair strategies. The cities would invent some lower efficient way to exclude the free-riders (Zhao Yanjing, 2003).

substantial shortage of land and many projects are left without space to develop; on the other hand, many individuals and enterprises hoard and occupy lots of space in the form of empty plants and land. Even the residents tend to buy more houses than they need and simply leave the houses empty, neither living in them nor renting them out. The reason is that land is costless to keep after the first paying the price. Residential land user pay for land when they buy houses - when the price of land is relative cheap. The improvement of public services and infrastructure promotes a rise in land price but the residents don't have to pay for the extra services. That means the more land they occupy, the more they share additional public goods they enjoy. After the implementation of property tax, all types of landlord would have to pay for the additional public goods. Likewise the decline of public goods would automatically reduce the property tax. It would be impossible for those property owners and enterprises that leave housing and land unused to keep enjoying the free treat of governmental services; rather, they have to calculate the cost of their resources and are forced to lease or transfer them. What is more, new investors also have to give thought to whether the income is sufficient to pay for the cost of property ownership. With the release and transfer of idle resources, speculative demand will decrease, the severe land shortage will be effectively eased and real estate bubbles will be at least dampened, if not restrained.

Property tax should be introduced together with housing system reform or even reform of the system of allocating land and land use. The later the reform is initiated, the more people will own properties, and the greater the obstacles to the reform. To smooth the path of a new property tax system, at the beginning, property tax can be primarily aimed at corporate bodies and individuals who possess more than one home. Property owners who hold just one small-sized home can be reimbursed for, or exempted from, property tax. Or a method of progressive collection could be applied in cases of multi-home and unused land, i.e. based on quantity and period of possession, to crack down on speculative hoarding. Meanwhile, taxes should be reduced in the production sector to counteract the increase in enterprise cost

contributed by property tax.

Current financial decentralization is not yet genuine *financial federalism*. Local government does not have major taxes. Shared tax and transfer payment⁸² are the important features of current finance and taxation systems. Once there is the slightest sign of disturbance, the fragile financial decentralization will go backwards easily to ‘unified revenue and expenditure’. The establishment of a property tax would symbolize that local government has begun to have independent financial resource beyond land leasing. Without property tax, which introduces a price for governmental services, local government will not be driven to change its role. The behaviour of officials depends on the rules of the game. With a shift of tax income base to property, government budgets will naturally reflect residents’ preferences. Currently, though the government is not elected by enterprises, enterprises supply the government with a substantial majority of its income and local governments have no choice but to reflect the preferences of enterprises. Once residents become the main source of tax revenue, whatever the preferences of officials are, local budgets will naturally reflect resident preferences. The greater the proportion residents’ taxes are to total local government revenue, the more thoroughly the wills of residents will be reflected in budgets, investments and services.

Like any institution, no property tax system is perfect. It might affect the efficiency of decision making, for example. Democratic election of local government is not necessary when enterprises are the main demanders of public goods. The high mobility of enterprises allows them vote with their feet and leads the producer competition. When the residents become the main contributors of the budget of a government, democracy becomes necessary. This is simply because the low mobility of residents limits the choice of consumers of public goods; and thus producer competition would turn to consumer competition. To reduce the opportunism of government and protect the security of property, consumers must participate in the

⁸² In 2006, the central government transferred RMB 914.3 billion from its finance to local governments.

process of supplying public goods. This is a less efficient way to supply public goods because the democratic process is very costly. In China, in spite of the absence of democracy, public goods and services are much better than cities in other developing countries which have so-called standard democracy system, such as India, Philippines and Thailand.

4.3.3 The ideal input-output model

China's economy is like a series of big economic games. To simply call off a game will not correct the misconducts of athletes (local governments); rather, the rules should be adjusted. Blind rebuke can't settle the deep-seated problems which have caused the misconduct of local governments. Although it seems that many current problems arise from local governments, they actually have their roots in the central government because central government has the power to set the rules of the game, tax legislative power (tax type and tax base). All that local governments can do is to abide by the rules (and sometimes avoid or bend them) and compete in the games.

I do not mean to explain all local governmental behavior by means of the taxation system. But of all institutions, the taxation system has the most profound impact on local governmental behavior (the absence of property tax is only part of it). It is this system that has bred fierce competition among local governments and struggles between central and local governments. The competition and struggles are not necessarily negative features of the macro economy but are powerful drivers to promote China's economic growth and enhance government efficiency⁸³. It is true that there are problems with the fiercely competitive behavior of local governments. But this is not caused by the competition itself; rather, the rules of competition are the root. Rules will lose effect without competition, and central government will be deprived of

⁸³ When interviewed by 《On Equilibrium》 Magazine, Zhang Weiying put forward a similar opinion:

The so-called local competition chiefly refers to the competition among local governments for capital attraction, entrepreneurs, market share and so on. To attract resources, local government has to improve transportation, enhance infrastructures and increase the quality of government services and so on. These activities will certainly be good for economic growth.

an important way of exerting influence on local governmental behavior. Therefore, what is really needed from macro control is the regulation of competitive behaviors but not outright restriction of competition; i.e. we need better rules but not to call off the match.

Improvement of the rules is much more effective than direct restriction on local governmental behavior or even making central decisions for local governments. Problems brought about by the market economy can only be settled by market-oriented solutions. Implementation of a property tax can resolve the contradiction between lump-sum land income and regular expenditures on public services of local government and is able to correct governmental behavior distorted by taxation insufficiencies. To oppose local government taking land as the stimulant to economic growth does not mean preventing local government from obtaining reasonable profit from land. It is now very urgent to start the collection of property tax and gradually make it the main tax source of local government.

Yet, transformation from the development-oriented behavior based on land to the service-orientation based on financial taxation does not imply that Chinese local government can imitate other countries and totally abandon its monopoly over the primary land market. Although property tax is able to handle the contradiction between lump-sum land income and long-term services, it will bring with it a new contradiction between lump-sum infrastructure construction investment and long-term property tax return. As can be shown from the foregoing arguments, even though the government is widely criticized for its monopolization of primary land market, lump-sum land income is the chief solution to resolve the contradiction between lump-sum investment in infrastructures and long-term capital return. Removing its land monopoly will for sure weaken the motive and financial power of local government to construct high-level infrastructures. Unless we have developed financial systems and complex finance and taxation arrangement (e.g. local government debt securitization) (Wu 2007), the rapid progress in infrastructure, which is deeply admired by all developing countries, will slow down quickly. The

competition between local governments to improve the investment environment for enterprises will abate accordingly. For Chinese cities whose scales of maintenance and expansion are extensive, the optimal business model is likely to be the combination of property tax and land monopoly therefore. Only with the completion of urbanization and the ebb of the construction wave may the property tax-based market value gradually replace lump-sum land transfer income and become the main channel for charging for urban public services.

Practices show that an important solution to the shortage of infrastructure investment is for local government to raise loans. But in developed countries where the financial system is not developed and local governmental finance and economy are not well-disciplined, opportunist behavior will emerge in local government. United Nations Human Settlements Programme pointed out in *Global Report on Human Settlements 1996* that:

Local government access to capital markets is often restricted. Since central governments generally implicitly guarantee local debt at least to some extent, they understandably wish to restrict and control local governments' access to the treasury and to obviate the possibility of local bankruptcy and hence demands on central funds....some annalists have expressed concerns about the possibility of inexperienced local authorities getting into difficulty by injudicious borrowing and have urged that controls should be instituted to ensure that local access to capital markets does not cause unwanted difficulties. (p.182)

Warnings of the World Bank are not baseless. There were significant local governance finance problems, for example, in South America countries during the implementation of financial decentralization. Even in a highly developed country like America, there are many occurrences of financial imprudence. When local governments go bankrupt, the federal government has to bail out. For this reason, in China, local governments have traditionally been forbidden from raising finance in the capital market. Given the nature of local government, especially its bureaucratic nature and the prioritization of political over economic goals (which can obscure clear

financial evaluation), the debt market is not a perfect solution to infrastructures investment issues. To compare with raising capital from debt markets, raising capital through a monopolized primary land market is less risky since developed land must invest upfront, which relies on the current budget rather than on the future's would-be income.

If capital market financing is not part of a long term stable financing model, then the ideal policy should include both lump-sum land income and long-term property tax. It should establish corresponding input-output relations with lump-sum infrastructure investment and long-term public services. It should sustain lump-sum infrastructure investment from land income and regular expenditure on public services and facility maintenance from regular property tax. Urban governments may greatly shorten the payback period of investments and thus boost its credit. On the other hand, if governments invest only in infrastructure but don't possess and sell the appreciated lands, they have to rely on future tax income to cover the costs. This also allows governments to use their own budgets to build the infrastructure rather than use the tax income of the next government as a mortgage to obtain the loan from debt market. Since loans are normally repaid by the next government, this practice would encourage government to take out too many loans and to be reluctant to repay them on time. The opportunistic behaviors of the current government to overdraft on future income will also decrease significantly. In this way, the government may play both 'developer' and 'property manager' during high-speed urbanization, providing large-scale infrastructures and meanwhile maintaining a high-level public services.

This business model may be theoretically demonstrated by a simple interest-exclusive static model. Suppose the lump-sum construction cost of certain infrastructure is 50 yuan, its service life is 50 years and maintenance cost 1 yuan each year⁸⁴. The total revenue of this service must be greater than or equal to 100 yuan, which is the total of 50 yuan of lump-sum investment and 50 yuan of annual maintenance costs. If there is no land transfer fee and this revenue can only be

⁸⁴ The cost here includes necessary profit.

recovered through property tax income, at least 2 yuan of property tax has to be paid each year over a period of 50 years. The shortcoming of this model is that the lump-sum investment has to be raised at the preliminary stage of infrastructure construction while revenue comes in over the lifetime of the infrastructure. Given risk factors (ignoring interest), the cost of a loan for the investment will be greater than 50 yuan, say 70 or 80 yuan or even higher (depending on the creditability of the government). The cost of risk may be relatively low for developed countries with mature legal systems but rather high or even impossible for developing countries with immature legal systems. This infrastructure will only be provided when the total revenue is greater than the total cost including cost of risk.

Currently, this investment is recovered by Chinese cities through lump-sum land income rather than property tax. Calculated in this way, the land price plus charges for 50 years of services should be no less than 100 yuan. However, consumption capacity is limited at the early stage of economic development and the greatest ability to pay may only be, say 70 yuan. The government may avoid incurring debts in the first year by paying the cost of infrastructure construction, but this will increase the burden of consumers and also leave a 30 yuan deficit for later in the project. Future governments will have to sell new land to make up this deficit until urbanization is completed. By then there may not be enough demand for the newly-provided land and the financing model will no longer work.

Hence my suggestion that the combination of these two models is appropriate. First, the government recovers all lump-sum infrastructure investment, i.e. not less than 50 yuan, through monopoly of primary land market. Then it sustains maintenance cost through collecting not less than 1 yuan/year from a property tax. In this way, there will neither be a fiscal gap nor debt for future governments. Besides property tax, governments will continue to obtain income from primary land markets, causing no additional expense to consumers. Financially, this combination is just separating the prepaid service income of the future government from land income. As a result, the income of the current government from primary land market will decrease,

but not disappear.

4.4 Rethinking governmental monopoly in the primary land market

I have argued that the monopolized primary land market is the essential part of the business model of Chinese urban governments that prevents leakage of public goods investment and acquires land income. Landlords will always pursue windfall spillover income from the government's infrastructure investments by altering land usage. Through institutional comparison, the last part of this chapter further examines the different arguments underlying this unique institution, revealing how institutions affect efficiency⁸⁵.

⁸⁵ Developed economies also face the problem of how to prevent leakage of income from public goods. Fred Foldvary (1994) quoted detailed North American cases in his famous work *Public Goods and Private Communities*. In the classical case of Disney Park, Foldvary tells how a private "government" prevented leakage of income from public goods and services. This is exactly the same as the case of the monopoly of primary land market of China (like the construction of special economic zones and urban development areas). (Foldvary F 1994 "Public Goods and Private Communities". Northampton MA, USA: Edward Elgar Publishing Company)

4.4.1 Dispute of land appreciation⁸⁶

The apportioning of income from land appreciation has long been a hot topic in economic studies. ‘Profit from increase in price belongs to private sectors’ and ‘profit from increase in price belongs to the public’ are the two contradictory views that currently prevail in China’s academic circles. The opinion that profit from increase in price belongs to private sector agents (farmers) is tabled with a view to increasing the income of farmers. Scholar Zhou Cheng summarized this opinion as follows:

In the attempt to add to farmers’ income, some proposed to reasonably allocate the natural appreciation gained after the conversion of agricultural land into non-agricultural land. Some firmly believe that one of the basic reasons why farmers’ income is poor and rises slowly is that the compensation standard for agricultural land requisition is too low: “the existing compensation principle rules that compensation should be made according to the original usage of the land requisitioned...it has nothing to do with the future usage and increase in

⁸⁶ At present, there are three basic arguments over the distribution of the natural appreciation gained after the conversion of agricultural land into non-agricultural land in China. One is the theory that profit from increase in price belongs to private sector agents (farmers), a traditional argument which claims all the natural land appreciation should be owned by farmers who have lost their land. This is currently represented by Cai Jiming, professor at Tsinghua University, and Zheng Zhenyuan, former deputy secretary of the Department of Planning of the State Land Administration Bureau. It is not at all clear what the historical roots of such an argument might be. The second is the theory that “profit from increase in price belongs to the public”, an innovative opinion which claims natural land appreciation should entirely or basically belong to the public. This opinion was historically represented by English economist J. S. Mill, American economist Henry George and Dr. Sun Yat-sen. Currently Shen Shouyu, professor at Nanjing Agricultural University is a prominent proponent. The third, is the theory that “both the private sectors and the state should be taken into account”, a conciliatory view which advocates that after those who lost land are sufficiently compensated, with the remaining part transferred to the central government and used primarily in support of rural areas across the country. This view was initiated and now represented by Zhou Cheng, professor at Renmin University of China. At present, the most powerful voice is the theory that profit from increase in price belongs to private sectors (farmers), with numerous advocators and publications in support. There are also many who support the theory that profit from increase in price belongs to the public, although without much enthusiasm. The latest masterpiece that vindicates this view is a book ‘Research on Land Development Right in China: New Perspective for Land Development and Resource Protection’, published by Professor Sun Hong in 2004 and explicitly advocating that land development rights should belong to the public. Those who support the theory that “both the private sectors and the state should be taken into account” are trying to perfect this argument through discussion. For instance, Zhu Qizhen, professor at China Agricultural University, emphasizes that: “income from land development rights derives from contributions to social progress made by all social members, so it should be shared by them all, i.e. ‘profit from increase in price should be shared by all’.” (China Land, 2006.4, see also Li Yarong: Basic Understanding of Issues Concerning the Allocation of Natural Appreciation Gained after the Conversion of Agricultural Land into Non-agricultural Land, reprint China Economic Times, 2007-2-1.

price of this plot of land...this way of compensation is actually...excluding farmers from the distribution of differential income of land during industrialization.” (Jiang Shengsan, Liu Shouying, 2003). “To share land appreciation should have been the primary means to increase farmers’ income. However, since the 1990s, numerous plots of land have been transferred, land price has soared, but all this is none of the farmers’ business.” (Zhou Qiren, 2005) It is estimated that “during 25 years of industrialization and urbanization, industries and commerce of the state and cities have transferred and accumulated a capital of over 900 trillion yuan.” (Zhou Tianyong, 2004) As a result, some demanded this practice be corrected—the natural appreciation gained after the conversion of agricultural land into non-agricultural land should be entirely owned by farmers...

...the basic support is the theory of “compensating for non-agricultural development right of land”. This theory holds that farmers should own complete property rights of agricultural land—except for the rights to occupy, use, profit from and dispose agricultural land, complete “non-agricultural development right” should be listed as well. This means that when agricultural land is converted into non-agricultural land, former owners should get the “price of non-agricultural development right”, i.e. “price of non-agricultural land”. Only in this way can we say that “farmers’ land property rights are complete”. (Huang Zuhui, Wang Hui, 2002) To put it another way, the natural appreciation gained after agricultural land transforms into non-agricultural land should all belong to farmers who have lost their land. Otherwise, It will be deprivation or exploitation. (Zhou Cheng, 2006)

The opposite is the theory that ‘profit from increase in price belongs to the public’. Zhou Cheng summarized this theory as follows:

The theory that “profit from increase in price belongs to the public” is a revolutionary and innovative theory proposed to challenge the theory (institution) that “profit from increase in price belongs to the private sectors (farmers)”,

which had long been observed in feudal and capitalist societies. This theory has a long history. British economist J. S. Mill (1806-1873) had addressed this theory long ago. American economist H. George (1837-1897), chief representative of this theory, pointed out in his book Progress and Poverty that: "The value of land does not mean payment for production...it stands for the exchange value of monopoly. It is under no conditions created by individuals who occupy land; it is created by social development. Therefore, the society is entitled to take it all over". (George, p.347, 1995) The four Chinese characters "Zhang Jia Gui Gong" (which means profit from increase in price belongs to the public) were coined by the followers of Mr. Sun Yat-sen to expatiate on his idea "equalization of land rights" and meant that when the price of land rose after land owner made an offer, the government seized the rise through land appreciation tax. Sun Yat-sen held that: "the price of land soars due to social improvement and industrial and commercial progress, which should be attributed to the force of the public. Therefore, increase in land price as a result of such improvement and progress should be owned by the public but not private sectors." (Sun Yat-sen, 1866-1925, p.200, 2001) The theory that "profit from increase in price belongs to the public" also applies to land requisition. In the opinion of Lin Yingyan, professor and economist in Taiwan, China, "the market price of land...contains huge amount of natural appreciation which should be owned by the entire society. To make compensations according to market price means natural appreciation is regarded as personal property and also compensated. This is clearly unreasonable." (Lin Yingyan, p.174-175, 1999)

The monopoly of primary land markets in Chinese cities is deeply affected by the idea that 'profit from increase in price belongs to the public'⁸⁷. Meanwhile, it is also

⁸⁷ The idea that "profit from increase in price belongs to the public" had been practiced in China long before the planned economy. Scholar Wang Guolin wrote in the article Investigation into Farmers Who Lost Their Land that:

The idea that "profit from increase in price belongs to the public" was firstly practiced in Jiaozhou. After Germany captured Jiaozhou in 1898, the local government promulgated the policy of land appreciation tax to curb overheated land and real estate speculation. Before the 1911 Revolution, Sun Yat-Sen formulated the idea that "profit from increase in price belongs to the public". He thought that natural land appreciation caused by social progress and political and economic construction should be

an institutional heritage of the planned economy.

4.4.2 Grabbing land rent

Just as institutional economics has predicted, the constant perfection of China's urban infrastructure and consequent increase in land price has brought about a strong incentive to free ride. As land price rises, landlords expect to share the income from land appreciation. One way to achieve this is for collective agricultural land situated at the edge of cities to evade laws and regulations which prescribe that urban land in the country is transformed through municipalisation. Land gets transform in various disguised ways. At the early stage of reform and opening, such transformation was mainly achieved in the form of township enterprises. In the planned economy, the business model of urban government made it barely possible to provide urban infrastructures profitably. Local governments nearly went bankrupt and the seriously overburdened urban infrastructure couldn't meet the demands of industrialization. China therefore adopted a development route to industrialization and encouraged the countryside to develop township enterprises on collective land. As a result, many villages at the edge of cities exploited market vacancy left by state-owned enterprises and grew their businesses rapidly on their own collective land. By the 1980s,

shared by the entire public. This idea was reflected in the Draft Constitution of the Republic of China (1936), which ruled that "increase in the value of land not caused by labor capital shall be shared by the public through imposition of land appreciation tax." The Constitution of the Republic of China (1947) reiterated this rule. Yongjia County of Zhejiang Province began to levy land appreciation tax in 1938 and collected "over 7000 yuan" in the city area within two months. The tax was paid during the transfer of land ownership. In Taiwan area, transfer in the form of conferment was also included.

As for the proportion that should be owned by the state, Dr. Sun Yat-Sen recommended "all income from increase in price be owned by the state". Taiwan area adopted a progressive system and regulated in 1954 that: "for each time more than the original price of land, 20% more tax will be imposed. If the land price is four times more than the original price, the increased part shall all belong to the government." Due to increase in population, economic development, sharp rise in land price and serious monopoly of land investment in the suburbs, tax rate was lifted to 30%, 50%, 70% and 90% in 1958 and lifted again in 1976 to 40%, 50% and 63%. The policy that "profit from increase in price belongs to the public" achieved remarkable effect. Appreciation tax collected in Taiwan area added up to 75.9 billion TWD (Taiwan dollar) from 1975 to 1981. It also effectively curbed land speculation and maintained order of land market. Appreciation tax was firstly collected in the metropolis of Taiwan area, but with rapid economic growth and expansion of metropolis, price of land outside of the metropolis rose dramatically. "There is no regulation on price of land in this area, so profit from increase in price has mostly been seized by private sectors. Speculators took advantage of this opportunity and purchased land outside the metropolis without restraint, awaiting rise in price and subsequent staggering profits." The government of Taiwan area took immediate measures and land price was stabilized within one year from 1977 to 1978. Appreciation tax was launched over the entire Taiwan area to rectify land market. (Wang Guolin, p62)

township enterprises became the main power of industrial development.

In the 1990s, foreign enterprises steered clear of cities whose costs were high and production factors (labour as well as land) restricted by the planned system. They partnered directly with township enterprises to form large-scale rural industrial clusters in several major areas, especially around the Pearl River Delta near Hong Kong. In this way, rural land was turned into industrial land on a large scale. However, institutional reform unfolded in cities during this period. The institutional innovations already discussed in this chapter brought China's urban governments into the development and industrialization game. The business model that sustained large-scale infrastructures from land appreciation conflicted dramatically with the interests of township enterprises. Through granting subsidies to industries and collecting taxes, urban governments were able to provide better infrastructure than the townships and provide public services at lower prices for foreign enterprises. Thus township enterprises lost their competitive edge completely. The demand of industries for rural land far from cities and offering no free ride on urban services, decreased greatly. This trend was strengthened by stronger urban land regulation. At the current time, no villages or townships in Xiamen is now able to convert rural to urban land through township enterprises.

The methods of rural land conversion changed accordingly in this period. Rural land turned into urban housing mainly in two ways: legal housing land (for private use only according to law) and unauthorized construction. The specific practices are as follows.

1. Enhancing the development intensity of original housing land by, for example, increasing construction height illegally and leasing the buildings to migrant workers.
2. Building low-cost apartments to lease to the immigrant population by changing the nature of original collective farmland illegally. Since they are usually of low construction standard and pay no taxes and situated in areas

with large amounts of immigrant population such as industrial zones, such housing has low risk even if they are discovered and removed because most of the investment will be recovered by then.

3. Building formal urban housing on housing land or fields and selling it to urban residents illegally. This type of housing is often very low in price since it incurs no land leasing payment to the government. Those houses have no formal quitclaim deed and therefore cannot be transferred, mortgaged or inherited in the legal real estate market, so it is also called 'small property right' housing. People risk buying those houses without any protection. Once those houses are expropriated, they can be neither compensated for nor sold back to the collective.

The analysis of the previous chapter shows that the monopolized primary land market has been the key to China's urban governments' recovery of investments in infrastructure and related public services. The practice of developing rural land and township governments entering the urban market illegally is little different to the practice of illegal duplication of audio and video products and selling them on a black market. The poor public services and backward infrastructure in many developing countries are caused by the lack of legitimate institution to prevent leakage of income from government investment. To avoid this and supported by law, the government exerts severe control over land that enters the market illegally, from disallowing registration and restricting various transactions to removing housing forcibly. The monopoly practices of government effective in protecting the erosion of primary land market price by land that enters the market illegally. Large sums of land revenue yield quality infrastructure and public services. The price of agricultural land on the edge of cities differs greatly from urban land with complete infrastructures, however and governments meet strong resistance when assessing expropriated according to its agricultural use. The landless peasants do not necessarily grasp the idea that (a) it is the government and the urban economy that creates the big rural-urban value gap and (b) that the urban value premium is the city's (and the country's) lifeline to financial

solvency and prosperity.

4.4.3 Academic Disputes

Recently academics have joined the dispute over the rights and wrongs of the government vs. farmers debate. The government is widely criticized by academics for monopolizing primary land markets because, they allege, neither the practices of market economies in developed countries nor standard economic theories are able to provide necessary explanation and support for this system. The land monopoly practiced by a few economies like Singapore and Hong Kong is most of the time regarded by theorists as an exception. A report published by the Development Research Center of the State Council (Development Research Center of the State Council, 2006) pointed out that:

There has always been clear distinction between China's urban land policies and rural ones. Urban land and rural land are subordinate to different systems of rights and managed by different agencies and rules. Besides, as the sole arbiter to decide on the transfer from rural land to urban land, the government has the exclusive right to requisition rural land and assign it to urban users. (p.1)

This is very unique by international standard—no major market economy in the world maintains absolute division between the cities and countryside in land right, management and market as China does. Actually the global trend is quite the opposite. These countries are increasingly aware that with further integration of urban and rural economy, the fast growth of cities and the flow of population and capital, it will be behind the time to treat land differentially. Even though different types of land require different ways of planning and different levels of regulations and economic intervention, it is still not the best way to factitiously put urban and rural land under two totally separated systems. (p.9)

Their reasons are explained:

Rural land owners and users are in a disadvantageous position because they can't partake of the land appreciation incurred when it enters urban market; rural land

can be acquired factitiously at low prices, which has encouraged the investment model of more extensive utilization and brought about inefficient urban expansion; to local government, land income has become an important way to obtain off-budget revenue and a major source to provide subsidies for development, which has made the local government wild about land expropriation and land transfer; these also create opportunities for corruption and degradation. (p.1)

The main criticism targeted at the government is: “land requisition process and compensation standard are deemed unfair by farmers who lose land ownership and use right” (Development Research Center of the State Council, 2006, p.1):

The current practice is quite disadvantageous to rural land owners and users because it makes them unable to share the appreciation of their own land in urban market. On the other hand, they can't launch their own land directly into the market either. Meanwhile, the land compensation they get is only related to the value when the land is used for farming. Usually only several times the value of agricultural value, the compensation is far lower than the value when it is used in the cities for other purposes. (p.9)

For those owners and users, a ‘fair’ price would enable land owners to share the increase of land value from the conversion of agricultural usage into urban usage, or rural land should simply be permitted to enter urban land market directly. This report of the Development Research Center of the State Council and the World Bank shows that the economists circle hasn't truly understood the underlying meaning of the monopoly of land market in China. This viewpoint focuses on the substantive income from land use change, but is apparently unaware of the huge financial input that creates that premium and the risk associated with it.

4.4.4 City built by government

To simplify, we can apply a general Coasian model to interpret the economic essence of this problem⁸⁸.

⁸⁸ In Chapter VI, I discuss the meaning of the Coase Theorem in pricing mechanisms in a more general

Let's replace the farmers in the famous Coase case of cattle-damaged neighbor's grain with village collective i that produces agricultural products and replace the cattle rancher with urban government (urban developer) j . To cultivate or develop land, both the collective and the developer need production factor L . For product A , producer i needs an input of $C_i=10$ yuan and will get a return of $R_i=20$ yuan and a net surplus of $S_i=10$ yuan; for product M , the input is $C_j=100$ yuan, the return $R_j=150$ yuan and net surplus $S_j=50$ yuan. According to Coase Optimum, if there is no *transaction cost*, the net surplus will be $S_j=50$ yuan when production factor L belongs to producer j . When factor L belongs to producer i , producer j pays 10 yuan to producer i for factor L and manufactures product M . The surplus S_i of producer i remains the same at 10 yuan and the net surplus from product M for producer i will be $S_i=40$ yuan. The total social surplus remains unchanged of 50 yuan. However, when there is transaction cost C_t and the initial property right of the factor belongs to producer j , the result remains the same. When the right belongs to producer i , the transaction cost has to be lower than 40 yuan. The lower C_t is, the more producer surplus and the faster expansion there will be. Once C_t is higher than 40 yuan, product M will yield no profit and thus the production factor will still be used to manufacture product A .

In the primary land market of Chinese cities, the government obtains land after it compensates farmers based on the income of original land usage. According to Article 47 of the *Land Administration Law of the People's Republic of China* (1998), "For requisition of land, compensation shall be given in accordance with the original use of the requisitioned land."

The compensation fee for the cultivated land requisitioned includes a land compensation fee, subsidy for resettlement as well as compensation fee for ground appendages and young crops. The land compensation fee for the cultivated land requisitioned is set at six to ten times the average annual output value in the three years prior to requisition. Subsidy for resettlement after the cultivated land has been requisitioned is calculated on the basis of the agricultural population that requires

sense.

resettlement. The rate of subsidy for resettlement per head of the agricultural population that requires resettlement is set at four to six times the average annual output value in the three years prior to requisition of the cultivated land. However, the maximum subsidy for resettlement for cultivated land requisitioned per hectare cannot exceed fifteen times the average annual output value in the three years prior to the requisition.

Additional subsidy for resettlement may be provided for those peasants who require resettlement and cannot maintain their original living standards on the basis of the land compensation fee and subsidy for resettlement. However, the total land compensation fee and subsidy for resettlement shall not exceed thirty times of the average annual output value in the three years prior to requisition of the land. These payments are made following these nationally-set guidelines and are subject to the approval of the peoples' governments of the provinces, autonomous regions and municipalities.

Returning to the example, 10 yuan compensation corresponds to the situation that government absolutely monopolize the primary land market, while 50 yuan compensation corresponds to the situation that all the land increment income belongs to the landlord. Let's assume the compensation standard set by the government totally offsets the agricultural loss of farmers and any compensation higher than this standard means the reduction of government income. If the farmers should share the appreciation of their confiscated land in the urban market rather than getting compensation related only to its previous farming value (following the recommendation of the Development Research Center of the State Council), then producer i , (i.e. the manufacturer of product A), will exact more than 10 yuan of surplus. Obviously, the transaction could take place when the compensation is in the range of 10 to 50 yuan, but the more compensation is exacted, the less income the government will get and the slower will be urban expansion and growth. Once the surplus that i exacts exceeds 50 yuan, the government will get no surplus and urban expansion will cease altogether. This is similar to when producers of crude oil request

to share the market value of petroleum sales. To transform crude oil into petroleum costs something and if the price of crude oil is too high and the price of petroleum remains the same, the profit of petroleum refineries will decrease. Once profit of the petroleum producers reduces to zero they will quit production.

In other words, it is the optimum land-user that creates land appreciation during usage conversion and farmers make no contribution to the appreciation.

The market pricing of land also observes a simple supply-demand relation. When supply exceeds demand, the market price of land is determined by land owners - to be specific, the landlord who pays the lowest cost. When supply falls short of demand, the market price of land is determined by users with a demand for land - to be specific, the demander who offers the highest price. Due to the unique character of land location, demand for urban land typically exceeds supply and landlords tend to get excessive surplus (producer surplus). Therefore, for most economies, the surplus of urban developers is often greatly reduced due to exorbitant land prices. Consequently, the transformation from agricultural use to urban use will tend to progress rather slowly. The decentralization of land owners brings about huge negotiation costs, which further adds to the cost of the requisition of land for urban construction. Nonetheless, China's unique system of land monopoly has reversed the supply-demand relation.

This has been achieved by the Land Administration Law (1998). There are three important clauses. First, the eighth article of the *Land Administration Law* (1998) rules that land in urban areas of cities belongs to the state, thus excluding the possibility of other subjects managing urban land and making the government the only buyer of rural land and the only seller of serviced primary urban land. The government needs not worry about other competitors in the primary land market.

Second, the fourth article of the *Land Administration Law* (1998) prescribes that "The state practices the system of land use control": "...and classifies land as farmland, land for construction and unutilized land. Strict restriction shall be imposed

on turning farmland into land for construction...”. This prevents land owners from profiting from changing land usages and turns the government into the sole operator of urban land.

Third, the second article of the *Land Administration Law* (1998) rules that “The state may, out of necessity of public interest, requisition land collectively owned in accordance with law”, allowing the government to forcibly requisition collective land in accordance with law⁸⁹.

This institution has greatly lowered the land requisition cost of the government. Although farmers on the outskirts of cities share part of the spillover appreciation of land through township enterprises and unauthorized buildings (such as so called *inside-city villages*), the regulation that strictly restricts the conversion from rural land to construction land has nonetheless effectively reduced the leakage of appreciation

⁸⁹ There have always been two ways to define “public interests”, one loose and the other strict. Liu Shouying and others have blamed local government for confusing “development” with “public interests”, arguing that the law hadn’t bestowed local government with the right to requisition collective land for *any* kind of construction. The newly promulgated Real Right Law (2007) again failed to clearly define “public interests”. According to the theories reviewed and applied in this chapter, with the absence of property tax, capital for public services and infrastructures comes mainly from the appreciation of commercial land. That being so, land assignment in the primary land market, though a profit-seeking activity, is still for the sake of the “public interest”. Similarly, to requisition land for business promotion is also for the sake of “public interest”, for industrial and commercial tax revenue is the financial source of regular public services.

Recently, even developed countries that levy property tax are inclined to adopt looser explanations of “public interests”. On June 23, 2005, the Supreme Court of the United States announced its ruling concerning “*Kelo v. City of New London*”, giving a new explanation of the concept “eminent domain”. The city of New London, Connecticut, was a small town that used to be located on a military base. Due to disarmament, the federal government closed the military base in 1996 and dismissed 1500 employees. The town lost its economic support and fell on hard economic times. In 1998, its unemployment rate reached twice that of the average rate of Connecticut and its population decreased to 24,000, a historical low for 80 years. The crisis posed a great challenge to the state government and local officials. To revitalize economy, the government made a plan to develop the area which was the former naval base. In January 1998, the state government approved the issuing of bonds to finance New London Development Corporation (NLDC), a private non-profit entity, to carry out urban planning activities. The city approved the layout for 90 acres of land to be used by NLDC for the construction of a commercial park. In February 1998, Pfizer Pharmaceuticals Limited, a pharmaceutical plant with a total investment of 300 million dollars, was established. This plan made land requisition necessary and so involved some private land owners. The lead plaintiff in this case, Ms. Susette Kelo, lived in a house and was not willing to move out. Although the government offered a compensation fee of 1.6 million dollars, she still hung out a board which read “This house is not for sale” on her gate and afterwards sued the city in the Connecticut courts, arguing that the planning target of the government was not public use. Finally the case was heard at the Supreme Court of the United States, which in a 5-4 decision vindicated the ruling of the Supreme Court of Connecticut and determined that the land requisition plan of New London complied with the purpose of “public use” specified by law and the application of “paid requisition” by the government of Connecticut and New London also complied with law (see Zhang Xiaomei, American-style “Housing Removal”: Legal Conflict in the Dilemma of Urban Development, *China Real Estate Business*, 2006-8-14.)

income caused by free riding land owners. The accumulation of the surplus of urban government has not only sustained high-levels of infrastructure and services but also equipped China's export products with extraordinary asymmetric advantage through an effective industrial subsidy. It could well be said that this very institutional innovation has made China's urbanization a vital driving wheel of China's economy and even of the world economy (Stiglitz, 2000)⁹⁰.

4.4.5 Cities built by private sector

Now let's examine the second situation and assume the rancher in Coase's cattle-damaged neighbor's grain fable may also raise cattle. In other words, former land owners may also give up agricultural production and turn to non-agricultural production. Would the government's monopoly of the primary land market be necessary then? This has also been suggested by the Development Research Center of the State Council as a way of letting rural land enter urban market. In their opinion, it is unrealistic and unreasonable to assume that rural land owners can only manufacture agricultural products. The history of urban development in many countries indicates that cities may undoubtedly be provided by private or non-governmental corporations. This raises another question: whether the government possesses a unique advantage in terms of its ability to organize urban construction and management.

According to the theoretical perspective developed in this thesis, when a corporation starts to manage a city, it has already taken on the properties of a government. The real question is which form of government is more efficient.

Let's adopt the previous model again and assume the producer of product A is entitled to produce product M. Now the question changes from which is the optimum property right structure? to who can create the maximum social surplus? Take again, a simplified Coase Model and suppose that producers i and j produce the same product M with factor L. The production cost of i is $C_i=90$ yuan, income $R_i=120$ yuan and net surplus $S_i=30$ yuan while that of j is $C_j=100$ yuan, $R_j=150$ yuan and $S_j=50$

⁹⁰ According to Stiglitz, China's urbanization is one of the two driving forces of today's world economy. The other is the so-called American "new economy" represented by high technology.

respectively. According to Coase Optimality, factor L should be owned by j and now the maximum social surplus is $S_o=50$ yuan, higher than the 30 yuan when i owns L. When there is no transaction cost, the total surplus will be 50 yuan if B owns the initial property right of L. If i owns the right, j offers i 30 yuan to acquire the property right of L and j 's surplus S_j will decrease to 20 yuan, but the total social surplus will remain 50 yuan.

However, when there are transaction costs C_t and the owner of the initial property right is not the optimal user j , the value of C_t , through which the institution is executed, becomes extremely important. In reality, seeing the huge income from land use change, the village collective will often refuse to accept compensation based on the standard of agricultural land and strive to share the surplus of land appreciation by one means or other. The higher is the potential income of land, the fiercer will be the resistance of the village collective. In order to get the land right, the government has to pay additional transaction cost including the cost of demolishing unauthorized buildings, preventing farmers from transferring land without permission and executing land requisition forcibly. When such transaction costs reach a certain level (for instance, when C_t in the previous example exceeds 20 yuan), it will be a second-best choice to let agricultural land into the market at a lower efficiency.

We may rank the efficiency of different property rights through a simple comparison as follows.

1. When there is no transaction cost C_t , as long as $S_j > S_i$ (the government is the more efficient land user) whether rural land is allowed into the urban market or not, the optimal property right arrangement will be that government j compensates village collective i according to the opportunity cost of agricultural land to acquire the right to develop. Factor L creates $S_o=50$ yuan, the maximum social net surplus. The only difference is the proportion of social surplus retained by the government and village collective. If the use of farmland cannot be changed, the government only needs to compensate 10 yuan and will get a net income of 40 yuan. The economic effects are a weak

private economy, small income gap, fast urban expansion and a high-level of infrastructures and public services. If the use of farmland can be changed, the 'fair compensation' fee will rise to 30 yuan and the surplus of the government will decrease dramatically to 20 yuan. The economic effects are an overnight 'windfall' enrichment of village collectives and farmers at good locations, a developed private economy, big gap between the rich and the poor, slow urbanization and low infrastructure level.

2. When there is transaction cost C_t and $C_t < 10$ yuan in the example, the optimal property right arrangement will still be that the government acquires land surplus after compensation. In this case, the total social surplus S_o is less than 50 yuan and greater than 40 yuan. It does not matter whether the government has the right to monopolize primary land market (or whether it is allowed to change the usage of village collective land) or not. The economic effect will be the same as that of the arrangement without transaction cost. Social wealth will remain unchanged, but will be redistributed among different groups. The essence of the monopoly of the primary land market will now be that the economy chooses between strong private enterprise/big income gap and strong public service/small rich-poor gap.
3. If C_t is greater than 10 yuan, the optimal property right arrangement will be that the village collective owns the land and the government gives up its monopoly of the primary land market and allows free land use conversion. Now the social net surplus S_o will be $S_f=30$ yuan, which is created by the village collective through maximum utilization of factor L; if the government maintains its monopoly of the primary land market, there will be two outcomes. First, when C_t is less than 40 yuan and greater than 10 yuan, the government pays the village collective 10 yuan for compensation and then gets the property right of land. The social net surplus S_o will be less than 30 yuan without government monopoly of the primary land market but greater than $S_f=10$ yuan, which is created by the village collective when land use is

not changed. Second, if C_t is greater than 40 yuan and the village collective is not allowed to change land use (the government monopolizes primary land market), the optimal property right arrangement will be that the village collective utilizes land according to its original usage. The social net surplus S_o will now be S_i 10 yuan, which is created by the village collective through maximum (agricultural) land utilization;

4. The worst property right arrangement is that when $S_j - C_t < S_i$, ($C_t > 40$ yuan) and the government requisitions land forcibly. In this case, the total social surplus will always be negative, whatever the form of property right transfer.

When there is no transaction cost, a monopolized primary land market only changes the distribution of total social surplus between the two parties without changing the amount of the surplus. But when there are transaction costs (which of course there always are), total social surplus will depend on whether primary land market is monopolized by the government or supplied in the market by the current landlord.

4.4.6 Transaction costs from compensation bargaining

In practice, transaction costs are to a large extent caused by the lack of monopoly of primary land market. Without government monopoly of the primary land market, the usage of rural land will change freely and the location values of land will exhibit great variation. Discovering a price, in itself, would imply huge transaction cost. Figure 4.1 indicates that it is impossible to set up a uniform land expropriation standard since only one location is exactly equal to market value. The actual land value will either be higher or lower than a single land requisition standard. As a result, landlords at good locations will consider the price too low while landlords at poor locations will insist on the same compensation standard with other landlords⁹¹. Wide disputes over 'fair' compensation will arise accordingly.

⁹¹ Although most of the media coverage is about land disputes caused by dissatisfaction with low compensation price of land requisition and housing removal, there are many farmers in reality looking forward to land requisition and housing removal. The former are mostly landlords nearby cities, while the latter are generally farmers in remote areas.

Currently, dissatisfaction with ‘fair price’ is caused by the fact that a great amount of unauthorized construction around the cities has weakened the governments monopoly of the primary land market. At the early stage of reform and opening when the institution that urban land belonged to the state was strictly implemented, the transaction cost of land requisition was actually much lower than today. If rural land cannot be used for non-agricultural use, ‘fair compensation’ will unequivocally be the opportunity cost of agricultural income and the pricing of land requisition is simplified as ‘fair compensation’ price is of the same order for all locations.

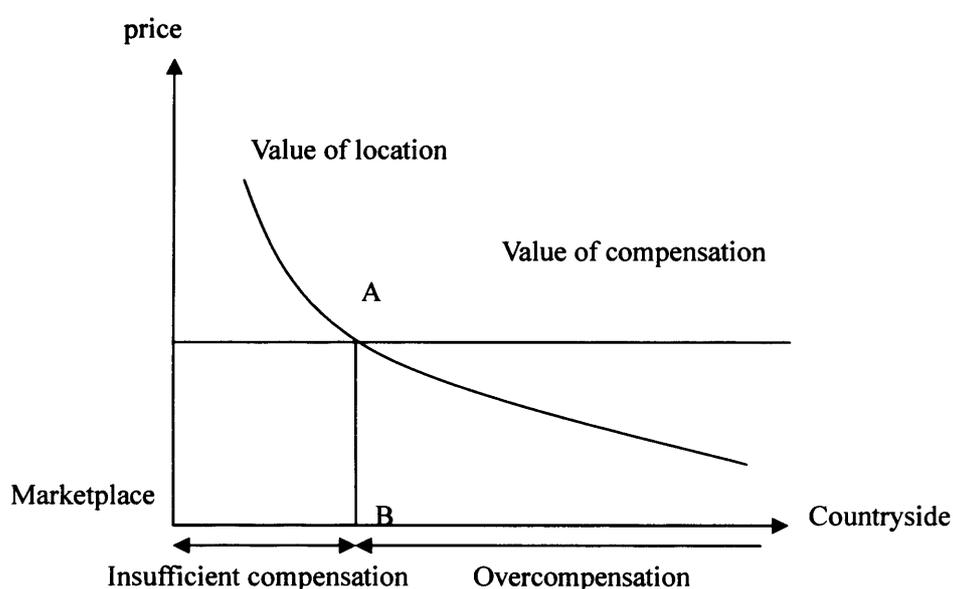


Figure 4. 1 Difficulty in determining ‘fair’ compensation without governmental monopoly of the primary land market

4.4.7 Transaction cost from property tax

The taxation system itself determines the business model of urban government, as I have already argued. Once collective land is permitted to enter the urban land market freely, public services have to be supported by tax revenues since there are no monopoly profits to substitute. Most industrial taxes collected by China’s local governments are turned in to the central government and the lack of property tax means a huge gap in public services. Apparently the Development Research Center of the State Council has realized this point, so they have suggested changing the income

channel for local government alongside their proposal to abandon a monopolized primary land market:

Local finance generally depends on the transaction cost of land realized mainly through land reserve agencies. This practice is unsustainable. It has formed an ill mechanism and caused extensiveness and ineffectiveness of land use. It has become the pressing demand of the moment to try out levying property tax based on market value as an optional source of local finance. With the decrease in land transfer income, property tax will replace the current mode and become a long-term and sustainable income source of local finance. (p. 4)

But this brings about another problem: the collection cost of property tax. The assessment, proclamation, collection and supervision of property tax requires substantive manpower and material resources that create heavy transaction costs. Since property tax is targeted at households rather than organizations, the efficiency of collection will vary greatly and the problem of tax evasion is likely to exceed that of resisting land requisition and housing removal. To ensure social stability, the government will have to exempt certain groups of people from taxation or offer rebates. This will definitely lead to leakage of land income. As a result, in developing countries with incomplete legal systems, most of the tax sources come from organizations that engender low collection costs (business tax, value-added tax, enterprise income tax) but not individuals (property tax, personal income tax). According to the analysis of this thesis, to impose tax directly on residents with low mobility will unavoidably deprive the government of certain power and result in increase in democracy and decrease in government efficiency. Once the subsequent transaction cost exceeds the cost caused by the landlords' resistance to land requisition and housing removal, the entry of rural land into the urban market will probably become a less efficient arrangement than the monopoly of primary land market.

The collection of property tax develops with the gradual perfection of legal systems improvement of collection efficiency. It cannot be assumed that a modern tax

system can quickly be established in China as an alternative to the monopoly primary land market. When there are no such economic tools in practice, we can only use what is available. At the early stage of urbanization when an economy is underdeveloped and legal and tax systems are immature, a monopoly primary land market is likely to be a more efficient arrangement than the free entry of rural land into an urban market.

A good land monopoly system (like Singapore) may not only lessen dependence on tax collection that engenders higher transaction cost, but also realize fair distribution of social wealth, especially new wealth from urbanization, across a wider range of the population. The reason that landlords are willing to transform land from agricultural usage into non-agricultural usage is that the latter is able to yield more income due to change in social production mode and relevant input into infrastructures. Location has hence overweighed land fertility and become the primary element to determine land price. Rather than being created by the investment of the landlord, the increase in the value of land at a certain location is mostly the income spillover or leakage engendered by change in the usage of nearby land (infrastructures such as airports, expressways and parks). If the landlord is permitted to change land usage at will, he will be able to get the wealth leakage of other investors for free. This kind of *free ride* is essentially the same as plagiarism and piracy targeted to evade patent or copyright system. Due to the uneven distribution of such wealth in space (Figure 4.1), the wealth 'stolen' by landlords at different locations will vary. Generally speaking, this distribution complies with Thunen-Alonso land price curve: landlords close to cities can expediently enjoy the location of urban infrastructures and receive more spillover wealth; as distance increases, spillover wealth decreases gradually. Allowing land into the market freely will bring huge amount of wealth to landlords close to cities for free. The *villages-in-city* commonly seen in Chinese cities are typical phenomena of enjoying this kind of socially-generated income for free. The wealth of landlords close to cities grows much faster than that of farmers in remote areas and even that of most original urban residents. A primary land market monopolized by the government makes it possible to avoid land income leakage and

to redistribute the massive land appreciation premium to a wider range of people. The practices of the local government of Singapore and China suggest that the government may redistribute new wealth in a bigger spatial scale through low-rent housing or agricultural subsidies so as to realize the equilibrium growth of overall social welfare. This in return will reduce other social transaction cost arising from uneven distribution of social wealth.

Most of the studies of neo-classical economics focus on profit maximization, but lack normative analytical theories and tools concerning distribution mechanism. The studies of urban land systems indicate that different systems will profoundly impact the total amount of wealth that can be distributed across society and change the distribution of that social wealth. The selection of a certain system signifies the selection of a corresponding distribution model.

4.5 Will government be more efficient?

The recommendation of the Development Research Center of the State Council to annul the government's control over and monopoly of land usage and allow rural land to enter urban land market freely - is based upon two presumptions. Firstly, requisition of rural land engenders huge transaction costs; secondly, the government is not the most efficient land user. As mentioned before, the transaction cost in the first presumption results from the rent-seeking due to incomplete execution of the constitutional regulation that urban land belongs to the state. Due to historical reasons, village collectives close to developed coastal cities have already begun to share the leakage of land income through township enterprises and unauthorized buildings. This has brought about loopholes in land use control. The government's monopoly of the primary land market thus finds itself trying to take the already acquired benefit away from those landlords and the fierce resistance of vested interests inevitably results in huge transaction costs. Direct entry of rural land into urban market may reduce the transaction costs of land requisition and housing removal but would give rise to a series of other more expensive transaction cost related to the collection of property tax

and the uneven distribution of social wealth. Therefore, the transaction costs of requisitioning rural land is not induced by land monopoly but by the half-enacted land use control.

The key lies with the second presumption, in which the government is less efficient at changing land usage compared with former land users. The Development Research Center of the State Council suggested that:

Factitious acquisition of rural land at low prices has fomented investment in more extensive land utilization. By stressing outward urban expansion rather than more effective utilization of the existing urban space, it has stimulated ineffective utilization of land (this practice is strengthened by the current urban land system). New demand for land for real estate and other commercial developments around cities is to a certain extent created artificially, because there is nothing against it to bring cheap and ready rural land under control. Other conditions unchanged, this mode makes it difficult to design and carry out measures to protect rural land.
(p.9)

This criticism itself is reasonable. The key question is whether the government or the village collective is 'more' inefficient. My argument so far has been based upon the assumption that the government can create more surplus than the village collective. If this conclusion does not stand or the situation is the opposite - the village collective can build and manage cities better than the government – then a city developed incrementally by village-led redevelopment should be allowed. The principle is that the factor of production should be in the hands of the optimal user. In principle, as long as the use of rural land is allowed to be changed freely, land will naturally yield the maximum income. Theoretically speaking, there are two limitations that make it impossible for the village collective to become a more efficient provider of cities than the government. One limitation is institutional. The village collective has no power of tax collection and thus is unable to support long-term and large-scale infrastructure and public services (like schools, airports and power plants). As argued already, lump-sum input and staged payback is one method of providing urban infrastructures.

Without credible preliminary tax revenue, it will be impossible to raise large-scale loans through credit systems like banks. Some may argue for granting the power of tax collection to the village collective. This question does not affect our discussion: if granted the power of taxation, the village collective will turn into a *government*. As discussed before, tax collection also induces cost. The various expenses once imposed on China's countryside (such as food levies) were actually disguised taxes. They were withdrawn by the central government due to fierce resistance. The shortage of sources of funds has kept public services in the countryside at a fairly low level for a long time, forming a sharp contrast with the rapidly maturing infrastructures and public services of cities.

4.5.1 Spatial transaction cost

The other limitation is spatial and is often ignored by economists unfamiliar with spatial cost. The so called Nanhai Pattern advocated by Jiang, and Liu (2003a, b), Zhou (2004) and the State Land Policy Reform Group of the Development Research Center of the State Council (2006) included several elements. First, joint-stock land centralization: convert the land contracting management rights of farmers into stocks and let the economic organization of the village collective centralize the land and carry out district planning, management and operation within the framework of a farmland protection district, economic development district and a commercial district. Farmers receive dividends in accordance with their stocks. Second, the entry of collective construction land into the market. According to the *Measures of Guangdong Province for the Circulation of the Right to Use Collective Construction Land*, collective construction land may be assigned, leased, transferred, subleased and mortgaged. Land may be transferred in profit-oriented projects, including commerce, tourism and entertainment, following the procedures and methods of open-market transaction of state-owned land, realized through bidding, auctioning and listing in the land market. Since the property right of rural land is inherently discrete, the Nanhai Pattern will inevitably lead to decentralized urban construction, the level of decentralization being determined by the size of area covered by collective joint-stock

centralization. The Nanhai model is the typical pattern of village-led decentralized development that emerged at the early stages of Guandong's development. In this model every collective could act a small government.

The biggest difference between the owner of collective land and the government is that the spatial range of the former is usually very small. This constrains the scale of development since bigger infrastructure will require cooperation from nearby land owners. Due to spatial restriction, dispersed owners of collective land can only build public service systems like roads, water supply, waste water and rubbish treatment within their own scope of property rights. In developed areas like the Pearl River Delta, hundreds of waterworks may appear within a single county. Due to the expense of treatment cost, waste water is often directly discharged into the natural environment without any treatment. The 'blue-green algae' outbreaks in Taihu Lake in the Yangtze River Delta in recent years are has resulted from random discharges of waste water by dispersed township enterprises. The increasing deterioration of the environment can often be attributed to lack of coordinated approach to urban facilities design and management. Infrastructure costs are mostly functions of size/length. The longer a network infrastructure and the higher the capacity, the larger is the investment. Roads, bridges, pipelines, post and communications, fire control and regional security are all alike. According to the so-called Nanhai Pattern, decentralized property rights will inevitably develop into discrete urban spatial distributions of public goods and services (Figure 4.2). For scale economy, this model is obviously less efficient than a government-dominant model which centralizes land requisition and limits the transformation of rural land into urban land. Once a decentralized urban model takes shape, the long-term operation cost will lower the competitiveness of a city in the long run.

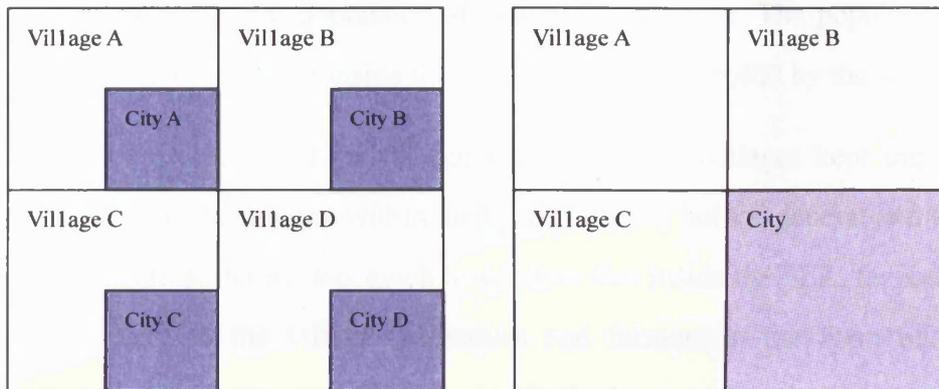


Figure 4.2 Spatial Distribution of Different Development Models⁹²

Practice shows that the organization level and land utilization efficiency of the two models will differ greatly, even if they both develop to cover all rural areas and form unified metropolises. The crucial issue is in determining the scale at which any particular item of urban infrastructure is most efficiently developed.

The question is most clearly posed in Shenzhen, where there were two completely different urbanization models at the very commencement of China's fastest developing Special Economic Zone (SEZ): government-dominant and village collective-dominant. Inside the SEZ (four districts including Futian, Shangbu, Nanshan and Yantian), the urban government expropriated all the land once and for all. With little appreciable leakage of investments in infrastructure, the area inside the SEZ turned from a small town with a population of about 15,000 into a super city with a population of millions within a short period of 20 years. By the end of 2000, the permanent population inside the SEZ reached 2,053,000. Outside the SEZ (Bao'an, Longgang), based upon the decentralized village collective economy and helped by spillover benefits from the urban services and infrastructures of Hong Kong and

⁹² These two models would provoke the old but still hot argument about the optimal size of a city. According to club theory the smaller club may meet special utility better than that big one. And fiscal federalism also implies the independent small jurisdiction may stir up more competition among governments. It is also clear that the different types of infrastructure have different scale economy dynamics and therefore different efficient sizes of provision area/ jurisdiction. In the appendix I frame a general model to deal with the optimal quantity-variety issue. This model suggests the expansion of a city would go with the bifurcation of sub-communities so to reduce the utility loss. At this point of the thesis, however, I would rather leave this argument open. It needs more evidences as well as more pages to explain.

Shenzhen SEZ, massive industrial clusters came into existence. These admitted millions of additional population at extremely low cost. The population outside the SEZ came to exceed that inside the zone, reaching 2,276,400 by the year 2000.

In order to contend for foreign investment, the villages kept improving public services and infrastructure within their jurisdictions, but the general and strategic level of public infrastructure was much lower than that inside the SEZ, for most of the land income went to the village collectives and farmers in the form of rent (factory buildings, low-rent apartments). In 2000, the green area per capita was 5.8 square meters inside the SEZ and just 1.3 square meters outside the SEZ; the number of beds in hospitals reached 2.4 per thousand population inside the SEZ and only 0.8 outside the SEZ; the annual water consumption per capita was 123.9 cubic meters inside the SEZ and 76.3 outside the SEZ. There is even more evident difference in the output efficiency of these two models. In 2000, the GDP of per-square-kilometer of construction land was 940 million yuan inside the SEZ, but only 110 million yuan in Bao'an District and 130 million yuan in Longgang District. Even though there are many incomparable elements⁹³, twenty years of practice is adequate to prove that government-dominant development model (monopoly of primary land market) is more efficient than the village collective-dominant model (free change in rural land usage). I have to admit this argument is to some extent based on intuition more than on reliable evidence. And also I do mean to imply that I want to prove that bigger jurisdictions are more efficient than smaller ones. At least it seems unsafe to assume arbitrarily that the village collective landlords are able to better protect farmland and create more output.

⁹³ For example, the lower GDP/sq meter may simply reflect the distance effect: more productive activities are better able to bid for more central locations.

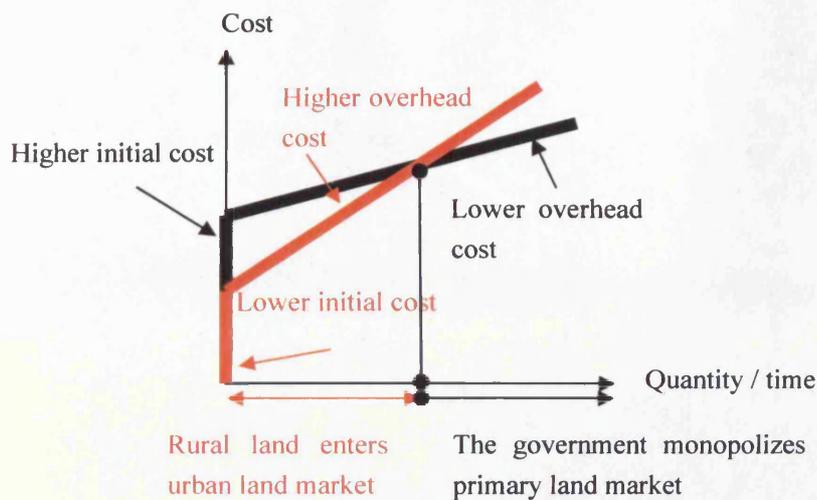


Figure 4.3 Scale-time relation of developmental models

In China and East Asia more widely, the coexistence of and competition between the two models are quite common, but to different degrees. Examples are Xiamen vs. Quanzhou, Suzhou vs. Dongguan, Qingdao vs. Wenzhou and Singapore vs. Taiwan. There may be both government-dominant development areas and village collective-dominant township enterprises within one city. For instance, the Songshan Lake Science and Technology Park of Dongguan City is government-dominant. Grounded on the original state-owned land, the Xinzu Science and Technology Park and Neihu Science and Technology Park in Taiwan were also initiated by the government. In terms of practical effects, the model in which landlords enjoy large shares of land appreciation benefit has low earlier transaction cost and incurs little social obstruction during development. Former landlords can get rich quick and the non-governmental economy can develop fast. However, the income flowing to the government is relatively low and the level of public service facilities correspondingly low. Enterprises are likely to move out of areas developed in this way when they develop to the stage that require high-levels of public services. On the contrary, the model in which government monopolizes the primary land market has high earlier transaction cost and encounters fierce resistance during land requisition and housing removal. Nonetheless, the succeeding regular costs are relatively lower and the level of public services (including infrastructures) is comparably higher. This model has an

evident competitive edge while attracting high-end enterprises that request high-level services and high quality urban environments. (Figure 4.3)

4.5.2 Transaction cost of credit

The large-scale entry of rural land into urban markets in the Pearl River Delta and the decentralized urbanization of Xiaolan Town, Zhongshan City and Nanhai City are grounded upon unique institutional causes with credit as the primary factor and it will be improper to apply them to all areas. Like all developing countries, the lack of credit is the main reason that China finds it difficult to foster a fine division of labour and long contracts as developed countries do. In Chinese culture, blood tie is the social relation that stores the most credit. With blood ties in the center, social credit radiates outward via blood kin, countrymen, schoolmates, comrades in arms and so on to form the *character of structure of grade*⁹⁴ devised by the famous sociologist Fei Xiaotong. The only exception is government, where there is a relatively impersonalized organization formulated by the powerful tradition of planned economy. Government is viewed as the most creditable organization among modern institutions in China. No private organizations can be as 'long-lived' and capable as government. Thus it is understandable that government-related organizations (including enterprises) have absorbed most of the capital in economy. Even though the government is repeatedly blamed by economists for excessive monopoly of resources, it is playing an increasingly important role in China's economy.

The Pearl River Delta became an exception due to its relation with Hong Kong. The complete legal system of Hong Kong ensures the credibility of non-blood transactions (without any blood relationship) and long-period agreements. As a result, non-blood foreign enterprises preferred to do business in Hong Kong, although they knew the manufacturers are actually located in the mainland⁹⁵. There is close blood tie

⁹⁴ In the opinion of Fei Xiaotong, the base structure of Chinese society "centers on 'oneself' and spreads out like a piece of stone cast into water. The relation with others...is like ripples, radiating out one circle after another. The farther the ripple, the thinner it is and the more indifferent 'oneself' will be." (Earthbound China, 1937, p.27). In China's grass-roots society, both blood ties and geo-ties are confined within the character of structure of grade encircled by these ripples.

⁹⁵ In 1991, 80% of Hong Kong people spoke Cantonese (Zhu, 1991).

between Hong Kong and the mainland, especially among Pearl River Delta communities, so the transactions between them became sufficiently creditable. From 1986 to 1991, 60% of the foreign investment of China came from Hong Kong (Redding 1995), 40% of which landed in Guangdong (the World Bank 1997). This unique credit system backed the unusual development model of Guangdong. In the most part of China, however, there is no such legal environment, so the government has to act as the major credit provider at the stage of economic start-up. During this stage, the government will be more efficient than former collective landlords if it owns the key factors (especially land).

4.5.3 Governmental monopoly of the primary land market

I have argued in various ways that the government's monopoly of the primary land market is not as inefficient and unfair as widely deemed by current academic and popular debates. Rather, it is an option for low transaction cost during the stage when China's legal and credit systems are immature and when there is no property tax. This institution has effectively avoided the difficulty of determining compensation standards; maintained fair opportunities for farmers both close to and far from cities; and evaded the huge institutional cost of property tax. It has thus contributed to the provision of high-level intensive infrastructures. It is also extremely important that the government's control over the primary land market has to a large extent, lessened the free riding problem in respect to the provision of public goods and services. It has enabled China's urban governments to get large-scale and long-period investments within a short time and hence unfolded an amazing urbanization course at an unprecedented speed and scale.

Rather than an incidental economic outcome, China's rapid economic growth has profound institutional explanations. Government's monopoly of the primary land market, a unique institutional legacy of the planned economy, has given rise to the special competitive edge of the business model of Chinese cities. Many developing countries exercise the system of private land ownership rather than a state land monopoly, but few of them are able to achieve the extensive successes of China's

urban governments. In recent years, India has also made attempts to develop SEZ. However, it encountered strong resistance during this process, because of the huge transaction costs needed to forge a truly competitive edge⁹⁶.

The Indian government planned to open up a SEZ, introduce a large Indian company and build a petrochemical plant at Nandigram of West Bengal, but encountered strong opposition from the local residents during land requisition. It was estimated that over a 3 month period in 2007, about 40,000 Indian farmers who lost their land due to this SEZ plan dug and broke roads and set up road-blocks to prevent government officials from entering Nandigram. Local police attempted to restore order by entering this area with force and came into conflict with the villagers. The police used tear gas and rubber bullets and 14 civilians were killed and dozens of people injured during the conflict. This incident led to a strike that spread over the state of West Bengal. On March 18, 2007, the government of West Bengal decided that the SEZ originally planned to be build in Nandigram would be relocated.

According to some commentators, those farmers were not against the SEZ in principle. What they wanted was to share the income of land appreciation. They were reported to have either refused to sell their land and attempted to make higher offers or requested to negotiate face-to-face with foreign investors. (Xinhuanet 2007)

The experience of Singapore shows that even where there is a relatively complete legal system and an advanced economy, strict control over land usage is still an effective way to provide a high-level of public services. The two institutions, namely monopoly of primary land market and free entry of rural land into urban market, should be viewed specifically. The monopoly of the primary land market may only

⁹⁶ The Indian government was recently compelled to lay aside parts of its SEZ plan. The Indian government had originally planned to open up about 600 SEZs and attract foreign investors through tax reduction and exemption and the provision of modern infrastructures. It hoped that these SEZs that closely follow China's model would become the mainstay of India's manufacturing industry and create employment for thousands of farmers left out by India's economic prosperity. By the end of last year, India has authorized 237 SEZ plans. However, the farmers of India seemed unwilling to accept the "good will" of the government. Since January this year, a series of violent protests took place due to farmers' refusal to transfer their land. The most serious protest occurred in Nandigram of West Bengal. Plans for sixty-three authorized SEZs had to be suspended. (Xinhuanet, 2007-03-20, 07:48)

show an effect when transaction costs are low enough. This wasn't the case in India where property rights are very decentralized. In Singapore, the widespread land rights of the state have been preserved since the country's foundation. When the transaction costs of government action are high, a government can only opt for the second-best institution that loosens rural land conversion and allows landlords close to cities to free ride and obtain windfall land premiums.

4.6 Conclusion

Coase pointed out as early as 1988 that:

Without some knowledge of what would be achieved with alternative institutional arrangements, it is impossible to choose sensibly among them. We therefore need a theoretical system capable of analyzing the effects of changes in these arrangements. To do this it is not necessary to abandon standard economic theory, but it does mean incorporating transaction cost into the analysis, since so much that happens in economic system is designed either to reduce transaction cost or to make possible what their existence prevents. No doubt other factors should also be added. But it is not easy to improve the analysis without more knowledge than we now possess about how economic activities are actually carried out. (p30)

The proposition that urban government is an enterprise that manages territory provides a theoretical foundation for the introduction of institutional analysis into urban planning. According to Olson, the market will not supply public goods automatically. Traditional economics has failed to fully explain the rapid economic growth of China over the last 30 years⁹⁷. However, if seen from the perspective of institutional economics, China's economic growth is not mysterious at all. The key is that the urban governments of coastal cities of China have discovered a low-cost and efficient business model to reduce the transaction cost engendered by *free riders* and to provide collective products on a large scale even in the absence of a mature

⁹⁷ Steven N. S. Cheung recalled that as early as 1979, at the early stage of reform and opening, Milton Friedman had made a prediction that: "The man who can explain China's economy should be awarded the Nobel Prize in Economics".

municipal fiscal system. The main task of entrepreneurs is to originate a business model through institutional design so as to supply this potential benefit in a profitable way. China's land institutions have played a key role in the efficient allocation of factors. Collective action (in consumption and production) have huge potential benefits and these have been organized via a state monopoly of the primary land market . The institutional structures governing land have been a key to the fast development of Chinese cities.

A basic premise of this chapter is an old one in economics: that land appreciation should belong to its creator, whether the creator is the former landlord or new developer. Currently in China, land appreciation is caused by infrastructures and public goods supplied by the government, so with the absence of property tax, government's monopoly of primary land markets is a reasonable and justifiable institutional arrangement. However, it needs to be stressed that the arguments of this chapter in defense of this monopoly are chiefly targeted at the "mainstream viewpoint" that denies a role for such monopoly and advocates that landlords should own all income from land appreciation. In empirical studies in the following chapter, I explore a development of this position. I argue that the optimal land allocation mode is neither to allocate all land appreciation to farmers - in this case the government will lose its motive to invest in infrastructures; nor to allocate to the state – for the transaction cost of acquiring land would be progressively high in a rapidly maturing economy. The allocation of land income should be something in between. To ensure that transactions are successfully carried through, both the government and farmers should obtain positive profit.

Under this condition, allocation partial to landlords will lead to poor public services but a powerful private economy; allocation in favor of government will bring about outstanding public services but an underdeveloped private economy. As a firm that manages territory, the government owns incomplete land property rights, as is the same with the landlords. Who should possess a majority of the bundle of property rights may lie not with the so-called principle of *fairness* advocated by some

economists, but with the competitiveness of both models. In essence, the two options are a trade-off of interests. If there are only limited resources, we can either use them to consolidate a large ship for higher collective safety, or distribute one swimming ring to each crew for higher personal safety. Different choices are not only affected by cultural traditions and national characters, but also determined by the relation between the 'ship' and 'crew'(owner or employee). No matter which model is deemed better or worse, market competition will surely eliminate the least efficient model.

CHAPTER 5

INPUT-OUTPUT MODE OF URBAN GOVERNMENT

5.1 Introduction

In the previous chapters I have proposed an enterprise framework of territorial management to understand Chinese local governments, their business models and the driving force behind China's economic growth. In my analysis, land leasing revenue is an integral part of the business model. The combination of lump-sum land leasing revenue and long-term regular taxation forms a unique capital circulation system in Chinese cities.

In this chapter I take the city of Xiamen as a case study, to illustrate details of the financing of public service provision. In the first half of the chapter, I focus on how land leasing revenue works as a profit model in Xiamen's capital circulation. In the second half I use case studies to further illustrate the processes of urbanization dominated by municipal government entrepreneurialism and to evidence the claims made in previous chapters. From these cases, I conclude that institutional design is decisive to economic development. As long as competition exists between governments, governments will be driven to improve their service provision whatever monopoly privilege they have.

5.2 Financial Structure of a Chinese Local Government

To analyze Xiamen's financial structure in accordance with my proposition, I first divided local revenue and expenditure into two categories, lump-sum/fixed and regular/variable. Also, in order to keep data consistence from different sources, officially available data are used from 2000 to 2006.

Xiamen's budgetary revenue and expenditure showed an increasing budget deficit,

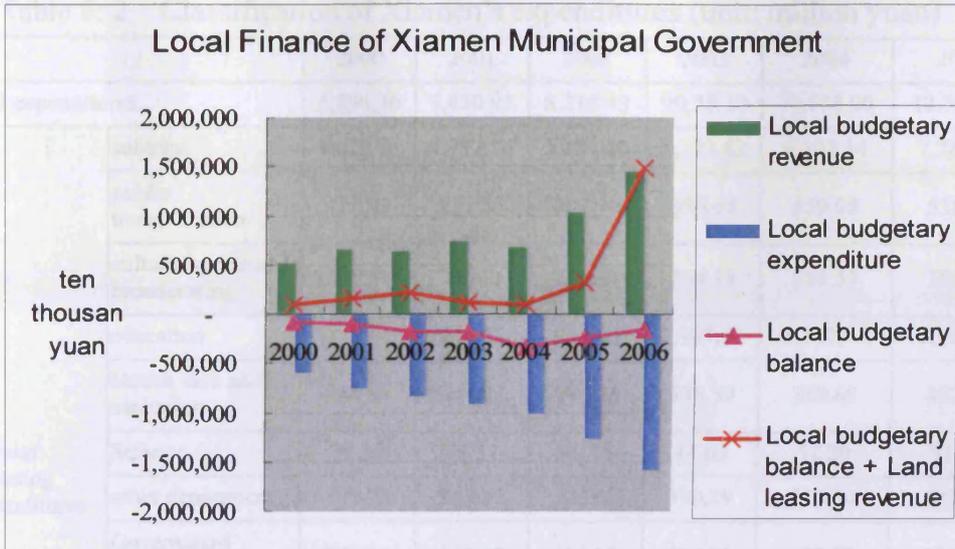
growing at an annual rate of 42.8% between 2000 to 2004. From 2005 to 2006, however, Xiames's budget deficit had started to decreased and local budgetary revenue experienced a substantial increase. Land leasing revenue went up greatly in this period (Table 5.1 and Figure 5.1).

On the basis of a division into fixed and variable cost, I have classified local expenditure into four groups: (1) regular operating expenditure, including operating expenses of government departments such as public transportation, culture, sports, broadcasting, education, health care, sanitation, science, government administration, public security, procurement, court of justice, subsidies and so on; (2) regular construction expenditure, including expenditures for urban maintenance, science and technology promotion, environmental protection and support for rural production; (3) significant construction expenditure, including expenditure on capital construction, additional appropriation for enterprises and debts; and (4) other expenditure, including expenditure on various funds and other construction (See Table 5.2). So-called funds are those taxes that have an appointed use and are managed by the governments.

Table 5. 1 Xiamen's local revenue and expenditure (unit: million yuan)

	2000	2001	2002	2003	2004	2005	2006
Local budgetary revenue	5,185.11	6,530.90	6,427.18	7,339.07	6,822.60	10,380.56	14,390.88
Local budgetary expenditure	5,896.36	7,430.95	8,218.43	9,025.10	10,158.90	12,723.91	15,912.53
Local budgetary balance	-711.25	-900.05	-1,791.25	-1,686.03	-3,336.30	-2,343.35	-1,521.65
Land leasing revenue	1,676.69	2,523.17	3,957.02	2,947.56	4,424.38	5,466.99	16,412.71
Budgetary balance + land leasing revenue	965.44	1,623.12	2,165.77	1,261.53	1,088.09	3,123.64	14,891.06

Source: *Yearbook of Xiamen Special Economic Zone*



Source: *Yearbook of Xiamen Special Economic Zone*

Figure 5.1 Local finance of Xiamen Municipality

Note: This set of data shows that Xiamen's budget is in deficit when excluding land leasing revenue. Note that after 2005 the surplus goes up dramatically due to a big increase in land leasing revenue. Since 2004, all commercial land must be leased via inviting bids, auction and listing. A heated real estate market and the opening up of land market expanded primary land leasing revenues sharply.

Table 5.2 Classification of Xiamen's expenditures (unit: million yuan)

	2000	2001	2002	2003	2004	2005	2006	
total expenditures	5,896.36	7,430.95	8,218.43	90,25.10	10,158.90	12,723.91	15,912.53	
Regular operating expenditures	subtotal	3,022.74	4,717.56	5,234.46	5,723.82	6,193.14	7,282.54	9,071.21
	public transportation	192.43	233.25	317.96	336.65	450.98	538.73	672.59
	culture, sports and broadcasting	238.84	255.21	256.21	264.13	286.54	365.29	511.00
	education	776.14	949.27	939.92	1,107.53	1,147.94	1,306.51	1,638.56
	Health care and sanitation	244.86	264.84	296.25	336.59	389.68	457.68	622.94
	Science	29.35	38.57	40.75	44.65	51.20	51.45	59.35
	other departments	193.75	363.37	340.15	390.29	518.64	623.36	768.35
	Government administration	282.31	349.19	411.30	506.86	609.87	722.38	899.70
	public security agency, procuratorial agency and court of justice	294.85	358.29	450.86	595.86	641.82	754.55	971.37
	Subsidies	67.06	58.58	45.41	59.55	35.06	40.16	89.78
	Others	703.15	1,125.18	1,270.69	1,218.41	1,098.12	1,238.16	1,377.70
Regular constructive expenditures	Subtotal	602.05	642.99	605.13	542.25	524.81	662.35	912.33
	Urban maintenance	176.01	276.13	211.29	247.29	230.85	278.93	436.73
	innovation, science and technology promotion	237.13	181.20	192.67	226.26	277.26	352.71	422.93
	environmental protection				68.70	16.70	30.71	52.67
	supporting rural production	188.91	185.66	201.17				
Significant construction expenditures	Subtotal	1,368.61	1,375.00	1,643.17	2,093.14	2,788.02	3,850.21	4,590.91
	capital construction	757.48	663.76	1,042.74	791.01	957.90	1,290.36	1,719.13
	additional appropriation for enterprises	458.98	644.23	565.60	894.64	1,295.84	1,547.34	1,600.92
	debt expenditures	152.15	67.01	34.83	407.49	534.28	1,012.51	1,270.86
Other construction expenditure				40	10.71	366.62	434.03	
expenditure for funds		360.73	372.41		309.71	562.19	904.05	

Source: Adapted from *Yearbook of Xiamen Special Economic Zone*

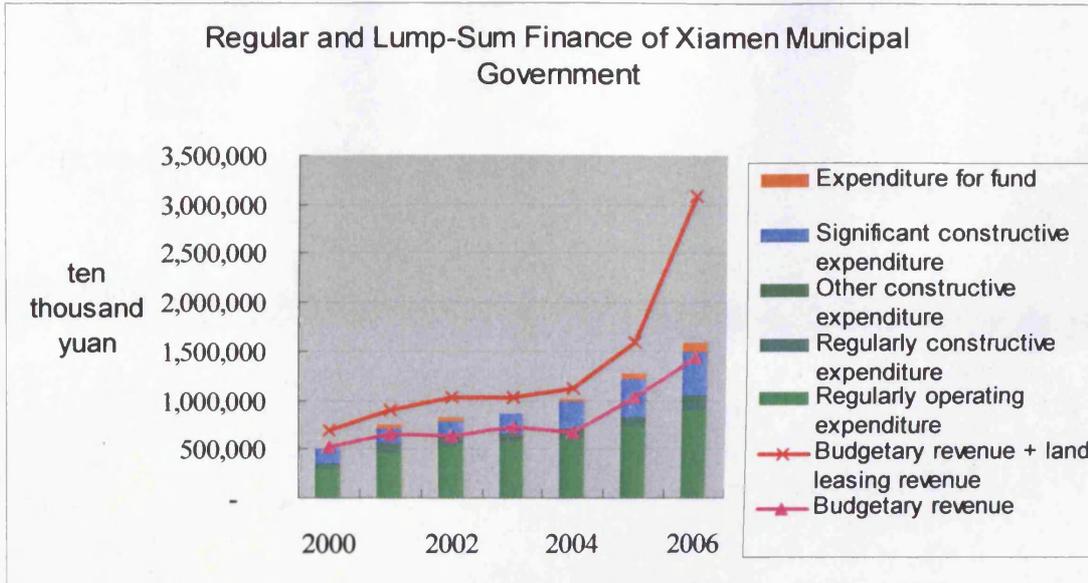


Figure 5.2 Regular and lump-sum finance of Xiamen Municipal Government

Source: Adapted from *Yearbook of Xiamen Special Economic Zone*

Note: This group of data evidences the proposition that the investment scale of fixed assets (significant projects) of local government is determined by the amount of land leasing revenue. The lump-sum land leasing revenue generally equals the lump-sum fixed cost.

This classification shows that from 2000 to 2004 Xiamen's budgetary revenue only roughly covered regular expenditure for department operation and construction (variable cost), while the expenditure of significant construction (fixed cost) must be balanced with land leasing revenue. The significant construction expenditure includes expenditure for capital construction and additional rural land appropriation for enterprises. The former includes roads, parks, cultural and sports centers and so on, and the latter includes land expropriation for construction of industrial parks. Land leasing revenue is mainly used for the construction and renewal of the fixed assets of urbanization and industrialization. This amounts to turning land leasing revenue into subsidies for industrialization and thereby converting lump-sum land leasing revenue into regular budgetary revenue from business tax. With subsidised industrialization the tax base broadened. Thus from 2005 to 2006, Xiamen's tax revenue increased to cover part of capital investment (Figure 5.2)

The data reveal additional information about how the Xiamen government

subsidizes industrialization using land leasing revenue.

Table 5.3 Land use composition of Xiamen's leased land by area

	Area (square meter)				Composition			
	2003	2004	2005	2006	2003	2004	2005	2006
Total	7,365,279	8,652,614	7,042,737	9,185,908	100.0%	100.0%	100.0%	100.0%
Industrial use	5,804,111	6,818,740	5,744,207	6,272,092	78.8%	78.8%	81.6%	68.3%
Infrastructures and public buildings	298,891	282,666	419,199	558,720	4.1%	3.3%	6.0%	6.1%
Residential and commercial use	1,262,277	1,524,021	879,331	2,350,086	17.1%	17.6%	12.5%	25.6%
Others	-	27,187	-	5,010	0.0%	0.3%	0.0%	0.1%

Source: data issued on the website of Xiamen Municipal Land, Resources & Housing Administrative Bureau

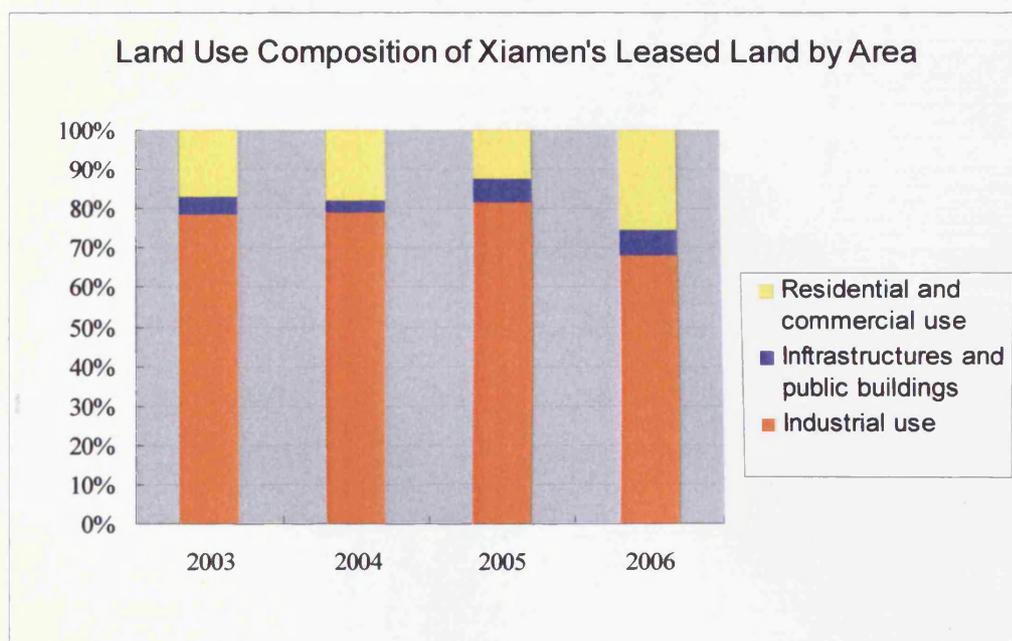


Figure 5.3 Land use composition of Xiamen's leased land by area

Source: data issued on the website of Xiamen Municipal Land, Resources & Housing Administrative Bureau

Firstly, data on land use and price reveals the subsidization. Of the lots of land leased in recent years, 70-80% are used for manufacturing, mining and warehouses. By contrast, residential and commercial uses only take up 15% to 25% (Table 5.3,

Figure 5.3). But with regard to land value, the situation is quite the opposite. The value of industrial land accounts for only 20% of the total value while residential and commercial land uses take account for about 80% (Table 5.4, Figure 5.4). During the period 2003 to 2006, the price of residential and commercial land averaged at 5,331 yuan per square meter, yet the price of industrial land was as cheap as 198 yuan per square meter. This was even lower than the developmental cost including land expropriation and infrastructure. In the case of Tong'an Industrial Park - a new industrial area launched in 2005 in a Xiamen suburb – expropriation costs were 108 yuan per square meter on average and infrastructure investment about 443 yuan per square meter (Figure 5.5). The difference between the development cost and price of industrial land is the subsidy of the government aimed at attracting the investment. Normally, local governments would not use their regular tax income to cover the subsidy. They would divide the land into two parts: the residential-business land, which can make profit from the open market, and the industrial land, which would be sold to the enterprises at subsidized price. To make ends meet, local government would take the income from open market to cover the ullage of the development cost of industrial land.

Table 5.4 Land use composition of Xiamen's leased land by Price

	Transaction value (million yuan)				Composition			
	2003	2004	2005	2006	2003	2004	2005	2006
Total	2,947.56	4,424.38	5,466.99	13,974.50	100.0%	100.0%	100.0%	100.0%
Industrial use	629.10	936.97	1,032.42	1,735.64	21.3%	21.2%	18.9%	12.4%
Land use for infrastructures and public building	66.77	61.32	80.08	134.67	2.3%	1.4%	1.5%	1.0%
Residential and commercial use	2,251.69	3,425.72	4,354.49	12,043.69	76.4%	77.4%	79.7%	86.2%
Others	-	0.38	-	60.50	0.0%	0.0%	0.0%	0.4%

Source: data issued on the website of Xiamen Municipal Land, Resources & Housing Administrative Bureau

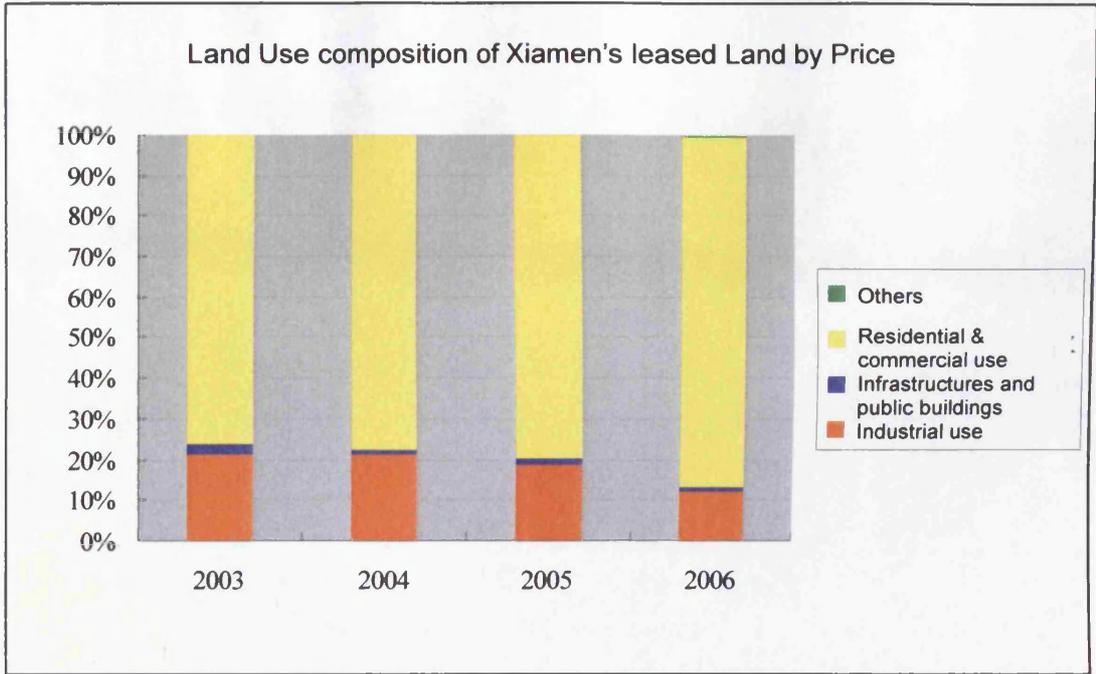


Figure 5. 4 Land use composition of Xiamen's leased land by price

Source: data issued on the website of Xiamen Municipal Land, Resources & Housing Administrative Bureau

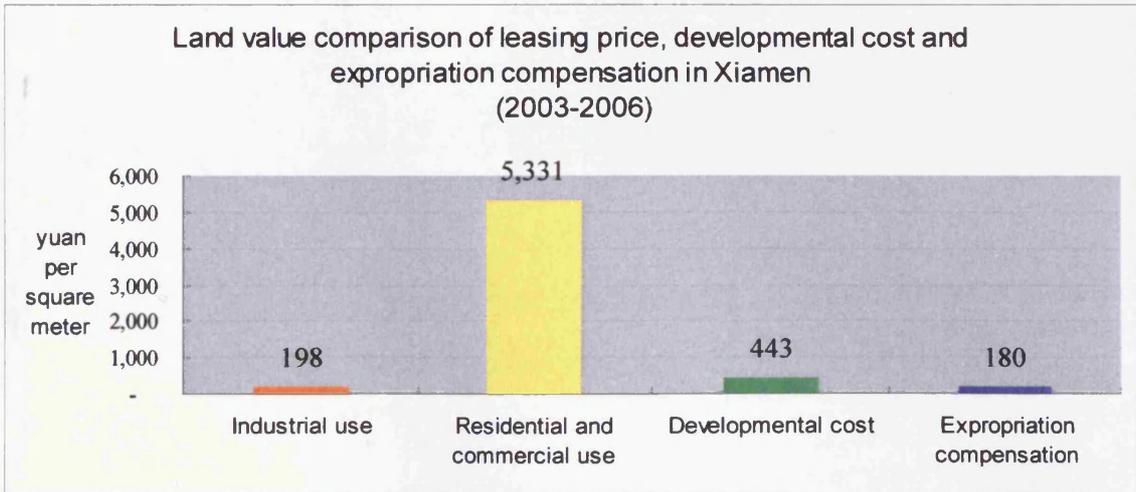


Figure 5. 5 Land value comparison of leasing price, developmental cost and expropriation compensation in Xiamen (2003-2006)

Source: data issued on the website of Xiamen Municipal Land, Resources & Housing Administrative Bureau

Why does the government have to subsidize industrialization? The answer is in the financial switch from lump-sum land leasing revenue to regular tax revenue. The financial structure of Xiamen clearly reveals the financial switch. Before 2005, although there was land leasing revenue, Xiamen's finance relied mainly on budgetary revenue, which made up 60-70% of total revenue (Table 5.1). The structure of Xiamen's budgetary revenue can be classified in the following way: (1) business tax and corporate income tax; (2) agricultural taxes; (3) administrative fees, including administrative charges, penalty and confiscatory income, and special project income; (4) net income of state-owned enterprises; (5) fund income; and (6) others. In this classification, business tax and corporate income tax are one of the most important revenue sources, accounting for 80% of total budgetary revenues (Table 5.5, Figure 5.6), equaling half of overall local revenues.

Table 5.5 Classification of Xiamen's Local Revenue (unit: million yuan)

		1999	2000	2001	2002	2003	2004
Total local revenue		4,187.58	5,185.11	6,530.90	6,427.18	7,339.07	6,822.60
Business tax and corporate income tax	Subtotal	3,435.52	4,488.34	4,231.48	4,748.02	5,981.08	5,360.28
	# Business tax	2,901.55	3,620.93	4,231.48	4,748.37	5,067.46	4,177.54
	Corporate income tax	533.97	867.41		-0.35	913.62	1,182.74
Agricultural taxes		185.84	182.41	236.72	293.40	373.07	469.00
Administrative fees	Subtotal	397.75	311.83	347.22	318.37	623.54	496.67
	Administrative charges	272.02	181.34	102.02	71.10	265.48	204.93
	Penalty and confiscatory income			115.34	93.06	169.65	136.92
	Special project income	125.73	130.49	129.86	154.21	188.41	154.82
Net income of state-owned enterprise	Subtotal	3.11	17.15	15.59	22.09	17.99	116.99
	Profit	5.09	17.15	1559	22.09	1799	11,699
	Subsidies	-1.98					
Others		41.67	18.92	1,527.63	860.15	18.88	58.59
Fund income		123.69	166.46	172.26	185.15	324.51	321.07

Source: *Yearbook of Xiamen Special Economic Zone*

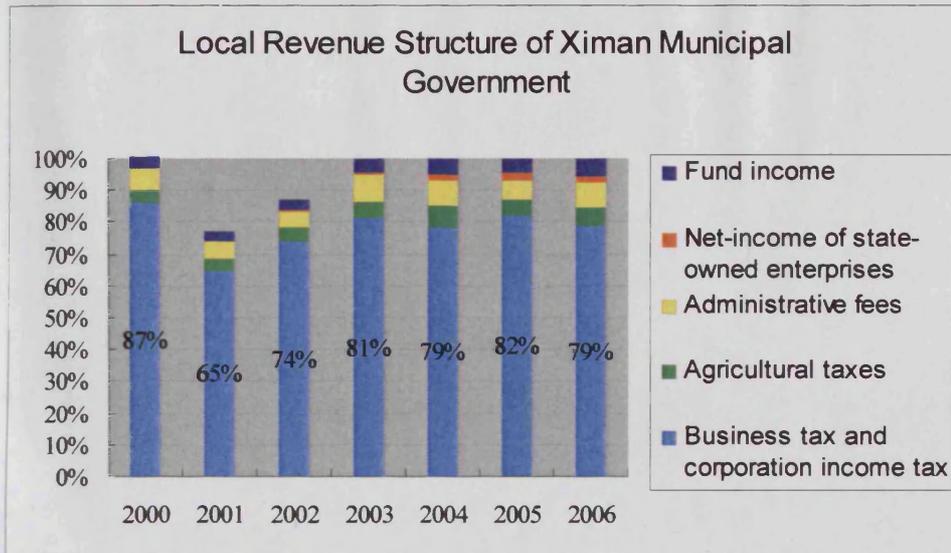


Figure 5.6 Local Revenue Structure of Xiamen Municipal Government

Source: *Yearbook of Xiamen Special Economic Zone*

If there were a lack of business and corporate income tax, there would be a huge gap in regular expenditure and from this we can infer that direct land leasing income is not the ultimate purpose of the government. The government aims at transforming this income into long-term sustainable income.

Next let us shift our attention of finance from the city level to project level and look at how urban government manages the financing of particular projects. These examples further reveal the business nature of city government. Case studies are Tong'an Industrial Park, Xiamen Software Park, Xiang'an New Town and Xiamen Culture & Art Center.

5.3 Project financing of Xiamen Municipal Government

5.3.1 Project financing

First a world of explanation about the development process in Xiamen. State-owned enterprises often play a role of developmental agents for governments. The personnel and finance of these enterprises are under government's control, but in

the market they run like common enterprises. The Xiamen Land Development Company is subordinate to the governmental land department: Xiamen Municipal Land, Resources and Housing Administrative Bureau. The company expropriates and reserves land on behalf of the municipal government. It also acts like a project manager to carry out government's construction projects of infrastructures and public service. In addition, some other state-owned enterprises serve as construction agents. Through open bidding in the market, the construction agents further subcontract individual projects. Construction investment must be audited by governmental financial departments. Land development companies will auction the urbanized land in open market. All incomes will be managed by governmental financial departments.

Through this process, the government sets up its input-output system based on primary land market. This system primarily operates for new construction of urban infrastructure. Once the construction is completed, the government will take over the maintenance. Payment of the maintenance will come from tax revenue. In Xiamen, each significant construction project (such as those discussed later in this section) has its own headquarters to organize finance from land value extraction. After the project is completed, the accounts will be closed and the project will be handed over to newly established management committee for routine maintenance and management.

In implementing development projects in this way, the Xiamen Municipal Government has sought "Four Balances" of urban management in recent years. The so-called *Four Balances* refer to 'on-the-spot balance, tense balance, proactive balance and comprehensive balance'. 'On-the-spot balance' means to carefully calculate the input and return of each construction project in advance, to make sure that the project is financially sustainable and that the investment will not eventually become a drain on the government's variable budgetary expenditure nor cause debt pressure. 'Proactive balance' asks project managers to actively manage the financing process. For instance, usually a significant construction project needs loans from China Development Bank. However, sometimes the project has been launched but the loans are not ready yet. To keep the project on schedule, the municipal government

has then to find short term finance from commercial banks or from its budgetary expenditure and get reimbursed later. 'Tense balance' means to complete the project and pay back the loans as early as possible since interest causes project costs to increase. Finally, 'comprehensive balance' seeks a balance in the overall portfolio and allows profits from one project to help with the start-up of another project.

The concept of *Four Balances* was first proposed by Mr. He Lifeng, the party chief of Xiamen. After He Lifeng became the top leader of Xiamen in 2005, he initiated a series of industrial park developments and built up three steps: designating a developmental areas, setting up an independent headquarters, and opening up an independent account within the general municipal finance system. The headquarters is similar to the development corporation of a new town in the UK, but it is a temporary organization whose power comes from a collection of official departments rather than a separate legal authority. All designated project areas must create their own financing mechanism and must demonstrate that once built and occupied, they make no draw at all on the governmental budgetary expenditure. Extraction of land values thus becomes a necessary financing mechanism.

The standard steps are as follows. 1) To divide the land into three parts: residential and commercial land, which government can make money from; industrial land, to be leased to the enterprises at discount price; and land for infrastructure such as roads, pipelines, power stations, schools and so on. 2) To build the standard workshops and sell them to enterprises, which can create demand of residential and commercial land and create a local property boom in surrounding areas. 3) Residential and commercial land is preserved in advance and leased later when the industrial park is completed and land values have risen. Thus the income from residential and commercial land leasing can make up the loss from low valued industrial land and infrastructure. 4) If the investment and return can be financially balanced, tax income in the future will be a 'free lunch'.

This practice is actually a combination of the two economic circulations mentioned in the previous chapters. The following examples show typical practices of

on-the-spot balance and comprehensive balance.

5.3.2 Tong'an Industrial Park

The area of Tong'an Industrial Park is 1,199.81 hectares, of which industrial land occupies 691.51 hectares. The expected population is about 120 to 140 thousand persons. On-the-spot financial balance was created by three mechanisms: (1) leasing the industrial land at the price of 225 yuan per square meter; (2) leasing the developable land reserve to the expropriated village at the price of its preparation cost, 600 yuan per square meter; (3) leasing the commercial land via inviting tenders, auction and listing with base price from 900 to 1200 yuan per square meter. Finally, the total cost of the project was estimated at 2,594 million yuan and the total income from land leasing was 2,675 million yuan, giving a surplus of 81 million yuan (Table 5.6, Figure 5.7-5.10)

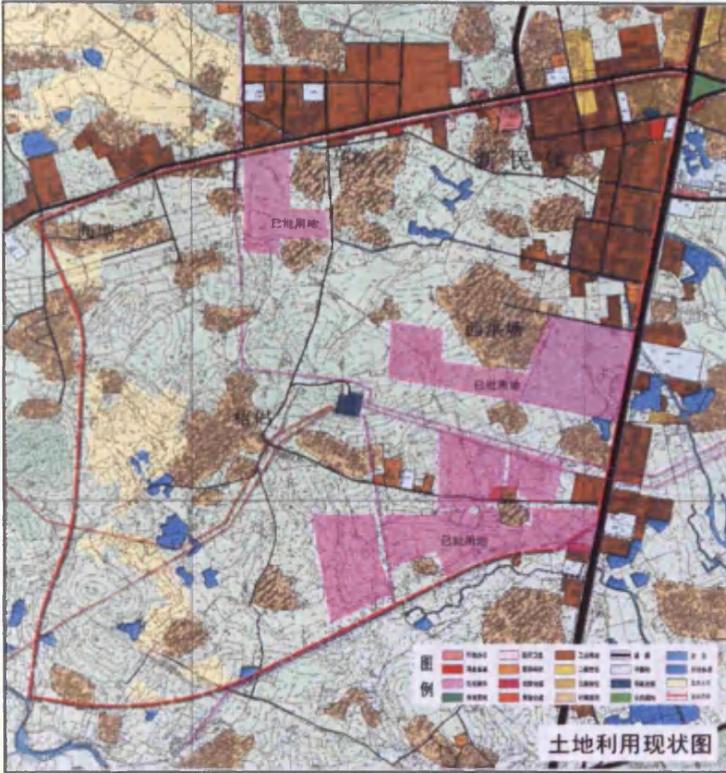


Figure 5.8 Map of status quo of land use

Source: Xiamen Urban Planning Bureau



Figure 5.9 Map of land use planning

Source: Xiamen Urban Planning Bureau

Table 5.6 financing plan of Tong'an Industrial Park

		Area of leased land (hectare)	Unit price (yuan/square meter)	Amount (million yuan)
Developmental cost	Total cost			2,594.13
	# Land expropriation			1,352.61
	Infrastructures and facilities			905.91
	Other cost related to construction			85.97
Land leasing income	Total income			2,675.39
	# Inner industrial land	421.29	225	947.90
	Base price for leasing inner commercial land	124.36	900	1,119.24
	Developmental land reserve for the expropriated village	31.25	600	187.50
	Outer commercial land leasing A1	8.31	1219	101.31
	Outer commercial land leasing A2	13.52	1219	164.78
	Outer commercial land leasing A3	18.03	858	154.66
Project budget balance				81.26

* The financing plan changes according to development conditions. The data quoted here is an estimated value at a certain phase of the project but not the final result.

Source: Xiamen Municipal Government.



Figure 5. 10 Standard Factories of Tong'an Industrial Park

Source: author's own photograph

The municipal government's role in this project is to 'produce' and 'sell' the primary land 'product', leaving further development, operation and marketing to the executive committee of the industrial park. An input-output chain is formed between the government and the committee. The output of the government is the input of the committee. The government makes a finance plan to return its own investment. As for the industrial park, its finance plan generates capital from investors, sales of factory and office buildings, management fees and so on.

Tong'an Industrial Park is a 'primary land product' of the municipal government. By contrast, Xiamen Software Park can be seen a 'secondary land product', as explained in the following.

5.3.3 Xiamen Software Park and Xiangan New Town

Xiamen Software Park is located in the east of Xiamen Island. Its area is 106.3 hectares. The total floor area is 1,636.4 thousand square meters. The project was launched on the sixth of September 2005 and completed in September 2007. While industrial parks occupy large areas of land for mass production, what software parks aggregate is brain power, such as producer services, consumer services, banks, R&D and venture capital. This requires a mixed of activities of work, living, consumption,

entertainment and innovation. Xiamen Software Park's land use is therefore denser and more diversified than the industrial park. Its main spatial products are complexes of R&D buildings, apartments, hotels, clubs, shopping centers, restaurants and cafes and quality open space. On this basis, the finance plan of Xiamen Software Park rests on the one hand on the sale of R&D buildings, hotel apartments, residential apartments, ground-floor shops and underground garages; and on the other, the leasing of hotels, cultural and sports centers, clubs, public buildings, supermarkets and cafeterias. Sales income is estimated 4,779 million yuan. After deducting total investment cost 3,809 million yuan and sales tax 465 million yuan, the net profit is 505 million yuan.

The development of Xiang'an New Town includes infrastructure, culture and sports centers, commercial plazas, relocation communities for land expropriated farmers, affordable housing, an administration centre and so on. Commercial land leasing is the main source of financing in this project. The base prices of residential land and commercial land are 700 and 2,500 yuan per square meter respectively. Floor areas of residential land and commercial land are planned at 1,760 and 610 thousand square meters respectively. Land leasing income is estimated 2,756 million yuan. After deducting the total developmental cost 1,413 million yuan, the net profit is 1,343 million yuan.

The common features of the three projects described are: (1) the land for development is obtained from rural land expropriation; (2) the finance plans rely on residential and commercial land leasing; (3) the returns cover the investments.



Figure 5. 11 Planning Map of Xiamen Software Park

Source: Xiamen Urban Planning Bureau

5.3.4 Xiamen Culture & Art Center

Differing from the ‘on-the-spot balance’ of the above projects, Xiamen Culture & Art Center was completed on an old industrial location and was an investment requiring municipal budgetary expenditure. The characteristics of this project are: (1) project land was not obtained from rural land expropriation but from the relocation of the state-owned Xiagong Group. The municipal government negotiated a compensation paid to the Xiagong Group, which paid for use rights of this lot of state-owned land; (2) on-the-spot balance is not applicable to this project because most of the land is used for large-scale public buildings such as Cultural & Art Center, Worker’s Gymnasium, and a Planning Exhibition Hall. The small proportion of land reserved for commercial leasing cannot balance the investment (Table 5.7).

The project is not directly self funding and needs to be supported by budgetary transfer from the earnings of other projects. That is not to say that it is not cost-recovering in a broader sense. Actually it will help appreciate the value of nearby land as well as in Xiamen Island as a whole. Logically, investment returns of government’s non-profit projects can be realized through the increase of property

values influenced by the spill-over effect of the project. This could, in principle, be recovered via property tax but that is not currently an option in Xiamen. Therefore, finance plan for such projects usually rely on the proceeds from the city's monopoly over the primary land market: the value gap between rural land expropriation and urbanized land leasing.

If the Xiamen Culture & Art Center project had been developed on rural land, there would have been adjacent rural land from which considerable value could be captured. However, being developed on re-used industrial land, the location was surrounded by developed communities and the increase of land value caused by the project is shared by surrounding property owners for free. Compared to the customary manner of project financing, this reflects a huge financial gap for the government and the gap had to be filled from the city's recurrent budget. Regular revenue from the Centre is limited and just enough to sustain routine administrative expenditure. The project shows that as urban development gradually shifts from primary to secondary land markets, the financial model that has sustained such rapid urban growth in recent years will come under stress and the requirement for a property tax system will become more and more urgent.

Table 5.7 Financing plans of the example projects

	Cost (100 million yuan)		Income (100 million yuan)		surplus (100 million yuan)
	items	Amount	Items	Amount	
Tong'an Industrial Park	Total cost	25.94	Total	26.77	0.81
			Industrial land leasing	9.48	
			Inner commercial land leasing	11.19	
			development land reserve leasing	1.88	
			Outer residential and commercial land leasing	4.21	
Xiamen Software	Total cost	42.74	Total income	47.79 + X	5.05 + X
	Development cost	38.09	Sales income	47.79	

Park	Sales taxes	4.65	Entrusted lease	X	
Xiang'an New Town	Total cost	14.13	land leasing	27.56	13.43
Xiamen Culture & Art Center	Total cost	14.85	land leasing	4	-10.85
	Compensation to removal of Xiagong Group	6.68			
	Culture & Art Center	4.5			
	Workers Gymnasium	2.02			
	Sports center	1.20			
	Planning Exhibition Hall	0.45			

Source: Xiamen Municipal Government

5.3.5 Relations of input and output

Apart from illustrating the process of land finance, these examples also show how financing methods influence government's economic behavior. They illustrate how China's local governments can erect large-scale infrastructure rapidly and acquire global competitiveness through subsidizing manufacturing industries. It also explains why China's local development prefers to start from peripheral locations where land value is easier to extract using government's monopoly in the primary land market. The alternative – redeveloping the inner cities - is less attractive because land expropriation is much more expensive and there is less chance of recovering land uplift from neighbouring sites. Without the margin of land appreciation, as an enterprise, Chinese local governments have no significant source of income.

Without the ability to recover costs from land appreciation, and in the absence of property tax, investment in non-profit public facilities become 'charity deeds' that can only be performed once in a while. Apart from charitable agencies with regular streams of income from altruistic givers, no enterprise can stand on the foundation of charity deeds that incur costs but no financial yield. Even from the viewpoint of morality, it seems unfair to benefit a small group of residents using the revenue contributed by all tax payers.

5.4 Changes of land use

Now let us probe further into the mechanism for exacting incremental value through the primary land market.

5.4.1 Land expropriation

Under Chinese law, only government is authorized to assign land use rights. Land use conversion is either directly designated by government or done through a process of application and approval. This enables the government to monopolize the supply of converted urban land and extract land value. For cities that have gone through rapid urbanization, the conversion of agricultural land into non-agricultural land is the major source of municipal revenue, which comes from the huge margin between the commercial land leasing price and the compensation 'price' for land expropriation. Indeed, what is termed compensation in Chinese urban development is equivalent to price in a free land market, only it is set by the government and set at agricultural levels. Price in a free market is, in fact, also compensation: it is the value that an owner of a resource is willing to be compensated (by a buyer) in order to give up his or her rights over that resource. The land expropriation compensation in China is, however, is set by the buyer not the seller.

As I have already argued, the justification for government setting the price is that government creates the value. In this respect it is worth noting that conversion of land use is not simply a matter of assignment. The leased lot of commercial land is never the full extent of rural land expropriated. In fact, the commercial land for lease is generally just a small part of the development. In the case of Tong'an Industrial Park, the area of the leased commercial land is 3.69 hectares, accounting for 13.2% of the total area, 27.89 hectares. In the case of Xiang'an New Town, the area of the leased commercial land is 98.5 hectares, 38.7% of the total area, 18,595 hectares. Where then is the rest of the land? The rest is used for the infrastructure and public services required to serve the smaller piece of commercial land. In other words, without investment in the rest, there will not be such high price attached to the commercial

land lease. That is to say, land use conversion alone cannot create high value. It requires related investment. The appreciation of land value is obtained at cost.

Take the projects already described as an example. After deducting investment costs, the municipal government earned respectively 81 million and 1,343 million yuan from the projects of Tong'an Industrial Park and Xiang'an New Town. Who deserves this income, the government or the expropriated villagers? Here is a similar question: after an oil company processes crude oil into chemical products, gasoline or plastics, there will be surplus. Then who should possess the surplus, the oil company or the herdsmen that used to feed camels in this very piece of desert? It depends on whether the former land owners (villagers) are fairly compensated in the first round of land transaction (before investment). If the compensation is fair, the surplus after development should belong to the developmental corporations as their operational profits (here it's the government). If, for some reason, it is decided that it is not fair, the former land owners should have a right of residual sharing (shareholding) of the development.

What the city of Xiamen has done is to provide complete compensation for villagers in the first round of land transaction, rather than residual profit sharing. This is because residual sharing poses a risk in the case that the development fails. Besides, the transaction cost of residual sharing will be high in the case where the former owners are many and dispersed. As I have already mentioned, the aims of government and villagers are different. Villagers expect maximum income from their land, while the government has to take a long-term income into consideration. As a result, the government will use lump-sum land income to subsidize industrialization to yield long-term income, taxes, which will be used to support the long-term operating expenses of the city. The long-term tax income does not accrue to the villagers and there is thus a fundamental divergence of motivation. Therefore, the best way is not residual sharing, but to buy out land rights with complete compensation in land expropriation. The choice of model – sharing or buy-out – is an economic question of assigning property rights to the party most capable of maximizing land surplus.

According to the *Coase Theorem*, market transactions will automatically result in ‘maximum value of production factors in substitute uses’. Generalizing this principle to the concept of ‘maximizing the total surplus of the whole society’, a new pricing basis is defined, which I choose to call the *Coase Optimum*.

When the transaction cost is zero, the result of Coase equilibrium is that the highest bidder who can create the maximum social surplus acquires the property rights. Under this mechanism, profit is the sole criterion which judges who can maximize social surplus and obtain the property rights of factors.

Further discussion of this problem is elaborated in Chapter IV.

5.4.2 De facto effect

The allocation to the state of residual rights over land is variously practiced around the world. These practices achieve different macro economic effects. Transaction costs of private development seems low in fast developing economies in East Asia such as in the development of the township enterprises of Dongguan and Nanhai in the Pearl River Delta as well as South Jiangsu and South Fujian. Taiwan typically experienced this mode of privately dominant development too. On the contrary, a government-dominant model has to have a very powerful government at the expense of legitimacy as being criticized on the ground of morality. But it has permitted a late economic take-off based on a high-level of infrastructure and public services. Shenzhen Special Economic Zone in Pearl River Delta and Singapore in Southeast Asia represent this mode par excellence, in which the government buys out land ownership, forbids unauthorized private sector land use conversion and does not share land development surplus with the former owners.

As for the macro effect, the private-led mode has a lower threshold of capital accumulation for the local private sector, and therefore medium and small sized private enterprises are well developed but at an expense of bad public services and infrastructure as well as low efficiency and high cost in the long run due to a less coordinated spatial arrangement of enterprises, homes and infrastructure. The

government-led mode relies mainly on foreign investment and state-owned enterprises with less developed local private enterprises, but it is able to provide advanced public services and infrastructure based on rational planning leading to low operation cost and high spatial-economic efficiency in the long run. The former model has a lower threshold and develops faster at the start-up phase. But when the local enterprises develop into a certain scale and demand better infrastructures, it is not capable of meeting the demand. At that stage enterprises will start moving to other areas, usually those that have developed under a government-led mode, to satisfy their demand. This partly accounts for the shift of enterprises from Taiwan to Coastal mainland Chinese cities. The government mode therefore shows its advantages in industrial restructuring. Within mainland China, a comparison of the inner districts of Shenzhen such as Futian, Shangbu and Nanshan and outer districts such as Baoan and Longgang illustrates the differences of the two developmental modes clearly.

With regard to fairness, areas of Chinese cities developing with a private-dominant mode are mostly located in the urban fringes, benefiting from spill-over effects of nearby urban infrastructure, as already argued in the case of Baoan and Hong Kong. A large part of the land value does not come from land owners' own efforts but from the external effect of urban development contributed by all tax payers. Therefore, for the land owners, the increase of land value is mostly reaping without sowing. However, the government-dominant mode is able to completely compensate expropriated villagers and allocate the land value across a broader area to incorporate distant villages. This inevitably involves depriving former land owners of potential profit, which is originally generalized from public investment. Of course, in a government-led model, governments may misuse their power and accumulate land and value in a way that is not wholly oriented to growing social wealth and welfare – i.e. governments (decision makers and public officers) are susceptible to rent seeking behavior. A really impartial model would be to neither assign use right of land to the government nor to collective landlords, but to authorize the government to take all the land value and then to make a second allocation to all

villagers whether they live close to or far away from the urbanized area. Expressing a solution in these terms highlights that the issue is really one of land reform.

I do not mean to argue further whether government's monopoly over the primary land market is morally right or not. My interest is to take Xiamen as an example to explain why China's urban governments can provide better infrastructure and promote more rapid economic growth than non-government-dominant local economies. According to the Coase Theorem, the lump-sum compensation 'price' set by governments, which is similar to a Kaldor Improvement, is reasonable because surplus of the former owners does not decrease while the total surplus of the whole society increases.

5.4.3 Compensation for sunk capital

But it should be noted that the monetary level of compensation has brought some problems. Due to lack of non-agricultural skills and alternative investment channels, villagers have been known to use the monetary compensation for consumption expenditure (and even gambling). When the money is used up, they find themselves in extreme poverty. The problem is caused by ignoring the land nature – a means of production rather than a means of financing one-off consumer goods. Villagers are compensated for land expropriation once and for all, but their consumption demand will be regular in the long run. It is rather like compensating a hunter with equivalent rabbits for expropriating his gun. The rabbits and gun might seem equal in market value, but are totally differ in nature. For villagers, what they lose along with their land is the knowledge they have learnt from farming, which corresponds to the fixed cost of labour. Once they change their jobs, this fixed investment is lost, whereas new skill learning requires another huge investment. This is especially so for elder villagers, since they have a limited number of working years top go and investing in new skill learning and getting a slow return may well not seem practical. Therefore, loss of land for them inevitably means loss of productivity and income.

To resolve this problem, beginning in 2005, Xiamen Municipality put forward the

so-called *Three Ones* as a compensation model. Any villager involved in land expropriation shall be compensated with one apartment for the family to live in as well as one apartment and one shop for leasing. The one for the villager's own residence is equivalent to their expropriated houses (if the land expropriation does not include villager's houses, this part of compensation will not be included). The other apartments are purchased by the village collectives at the price of construction cost, using part of the monetary compensation, with the floor area limited to 30 square meters per person. In order to prevent realizing by individual villagers, the for-lease apartments and shops can only be owned by the village collectives and the individual villagers are only shareholders of the rental income, not the capital value of the apartments, which remains in the ownership of the collective and is inalienable. In this way, the income source of the villagers now shifts from farming to real estate. The discounted future income of old assets is turned into real estate that produces long-term income. Since the villagers do not need to learn new skills in real estate, they can make the transformation from agricultural peasant to citizens smoothly.

In this way, the expropriated villagers' one-off future income is turned into long-term assets. The market value of these assets is roughly equal to the ultimate surplus of the government. For a villager, the loss of land means loss of two things: the one is the means of livelihood—the old house, and the other is the means of production—the farmland. The compensation normally consists two parts: one house for the loss of means of livelihood and the money, which equals to the sum of income for thirty years from the farmland. The problem is that the money does not equal the value of farmland. Money compensation is lump-sum income but farmland can generalize long-term income. The capital of labor is the skill of planting. Once he loses his land, he has lost the capital of his labor - he becomes useless, with little other useable skills. In other words, the villager has lost a hunting gun but the compensation is a rabbit. The idea of the “three ones” approach to compensation is to substitute the lost hunting gun for another hunting gun. Note that the villagers do not get the all “three ones” free. They have to pay the last two “ones” at cost price. The economic

logic of the “three ones” is to help the villagers transfer their capital of labor from one form into another form - they don’t plant crops but “plant” buildings. This is different from a logic that demands that they have a share of the uplift value of land directly (which I have argued against so far in the thesis).

To clarify: I have up to this point argued that villagers have no automatic or moral right to benefit from land value uplift. The Xiamen ‘three ones’ compensation model gives villagers a share in that uplift, however. This may be justified in a number of ways. For example, on either fairness or efficiency grounds, it could be reasoned that where the state generates land value returns on a land conversion project, it is the dispossessed villagers, who have had not just their land but the productivity of their knowledge and skill capital removed, who should have first call on the social expenditure of those land value profits. This is another way of saying that the conventional compensation package is insufficient where dispossessed villagers cannot find alternative jobs.

Consider again the example of Tong’an Industrial Park. The ‘Three Ones’ component of this project includes development land assigned to the village collectives at a price of 600 yuan per square meter. As the base price (the cost price) of the piece of land in the land market is 900 yuan per square meter, the village collectives could acquire a potential net land income of 94 million yuan, higher than the surplus, 81 million yuan that Xiamen municipal government gains in this project (Table 5.7). This can be viewed as the compensation of risk of transformation since the shops and apartments cannot find enough consumers before the plants are fully occupied. This may take three or four years. What is more important, the value of these assets will not stagnate at the level of 900 yuan per square meter but will increase in accordance with improvements in urban facilities and surrounding land productivity. I show how land value is distributed between the government and village collectives in detail in the next chapter.

5.4.4 Secret of rapid growth

If we regard the government as a developer, this would be more like a joint development project between the developer (government) and village collectives. The land was not offered by the villagers for free; rather, the developer made an ‘advance payment’ (monetary compensation for land expropriation) to the villagers, which took up 31.3% of the total investment (Table 5.8). On the other hand, the developer’s ‘advance payment’ is a one-off transaction of property rights to gain the residual claim.

Table 5. 8 Cost structure of two projects of Xiamen Municipal Government

	Expenses for land expropriation		Construction expenses for buildings and infrastructure
	Compensation for land expropriation	Administrative fees and fees of basic farmland protection	
Xiang’an New Towan	28.8%	7.8%	63.4%
Tong’an Industrial Park	31.3%	20.9%	47.9%

Source: Xiamen Municipal Government.

Monopolization of primary land market is the secret to the fast growth of China’s economy. Xiamen’s examples have evidenced this argument, developed in previous chapters. The shape of the institutions that govern development, especially the land value surplus sharing system, determines the efficiency of economic growth. One of the challenges for designers of systems of urban governance and planning is designing mechanisms that can minimize government’s income leakage. The level of urban infrastructure is decided by how much of the profit from investment can be retained how much is leaked to free riding landlords. The problem is similar to the question of whether inventions can be protected and inventors can obtain most of the profit – a necessary requirement for technological progress. The monopolization of the primary land market is a protection of governmental investment.

Even more importantly, monopolization of the primary land market bestows the government with exclusive power to assign land uses, thus avoiding the difficulties of

collective action. The projects mentioned above were all finished within two years or so from the date at which they were planned. This is fast even for Chinese cities. Were there no monopoly of the primary land market, it would be impossible even to accomplish land expropriation within such a short period, never mind project completion. Objectively speaking, governmental control over land use may be the greatest political heritage passed down from China's unsuccessful command economy of the last century.

5.5 Conclusion

Like common enterprises, the business model of a government helps determines its successes and failures. The core issue in institution design for local government's business is how to overcome the contradiction between lump-sum input (infrastructures investment) and long-term output (tax income) and the contradiction between lump-sum income (land leasing income) and long-term expenditures (daily public services).

The chapter has taken Xiamen Municipal Government as an example to analyze how the municipal government has overcome the two pairs of contradictions in the absence of property taxation institutions. In Xiamen's case, the municipal government switched the lump-sum revenue from the primary land market to subsidize industrial investment and gained a continuous cash flow from business taxes. Following the argument in previous chapters, this process contains two independent competitions: (1) producer competition among urban governments for industrial investors; and (2) consumer competition among real estate developers for urbanized land developed by the government in the secondary land market. This framework explains many phenomena which were once puzzling.

The chapter has also evidenced other hypotheses developed in the previous chapters: (1) government is not a counter party to the market but an integral part of the market; (2) municipal governments in China are enterprises that seek to maximize profit through organizing productive factors; (3) like an enterprise, the behavior and

performance of a government is constrained by its *input-output mode (business model)*; (4) like an enterprise, the production function of a government consists of 'fixed cost' and 'variable cost'. The fundamental issue tackled by a local government's 'business model' is how to handle the relationship between lump-sum input-output (infrastructure investment and land leasing revenue) and regular long-term input-output (tax revenue and expenditures of public services).

It needs to be pointed out that the example of Xiamen Municipal Government used in this chapter is just one of various governmental business models operative in China. Forms and modes of enterprises may differ greatly, so do the scope and ways of interpreting government's mandatory power. In the market for public services, there coexist unitary-owned companies with unlimited liabilities (feudal kingdoms); listed companies whose property rights are shared by the masses (modern democratic countries); companies whose property rights are possessed by special groups of people (republicanism like Ancient Greece and Roman); and companies controlled by professional groups (political parties, the groups shifting in turns if only one party, or competing with one another if more than one party). According to these different analogical models, residents of a city 'enterprise' play different roles – as customers or as shareholders or perhaps as passive recipients of altruism.

The behavioral modes of local governments will evolve according to their own development paths and external conditions. Competition among different regimes leads to new and more competitive systems and business models. In the market for governance ideas, new and better models – those yielding higher social net worth and able to distribute this more efficiently and fairly, will gradually replace less successful systems. There is no perfect regime (though when politicians promote their regimes, they always attempt to make their customers believe theirs is the best). A specific governmental mode fits its specific cultural tradition and development stage. And market competition – in this case, competition between governments in search of footloose people, firms and investment capital - is the final judgment of the merits and demerits of the different modes of operation.

CHAPTER 6

CHANGES IN PROPERTY RIGHTS TO RURAL LAND

6.1 Introduction

In this chapter I develop the arguments already made by examining evidence at a different scale and level of detail. I take a piece of land reserve in the Huli District, Xiamen City, to illustrate the nature of *de facto* land uses in peripheral villages and the transaction cost involved in changing land use and property rights. The empirical study reveals that improvements in urban infrastructure and services leads to land value increase and consequently generate strong claims for land use rezoning.

I have outlined the general institutional structure and dynamics governing land requisition in previous chapters but many details have been omitted or abstracted in order to portray the rather chaotic situation currently pertaining. The behavior of different actors is caricatured in order to establish a theoretical position broadly representing reality. As a result, the stories depicted in those chapters are more like an exaggerated animation rather than photographing. Even though too many details may affect the clarity of the story line, in this chapter I will lay out more of the details to illustrate aspects of the reality that may have been distorted in the previously arguments.

I therefore do not rehearse the theoretical arguments in this chapter but just describe the story. I adopt first-hand data from Xiamen, where I currently work, instead of citing other's opinions and field work. Of course my opinions are inevitably influence data collection and analysis - all observations are what we intend to observe – but I attempt to distinguish deductive conclusions from reflection on factual matters.

6.2 Collective landlords

The collectively owned rural land system is a distinctive feature of the Chinese land economy. The system of collectives is a very important part of the study of urbanization of rural land. Collectives, the very basic unit in Chinese villages, are a heritage of collectivization in the era of command economy and are still very well organized. Although the power of today's collectives in resource control has weakened compared to the communes in past periods, they still hold the right to allocate the biggest input to wealth: village land. This is a micro governance institutional that has set up a path-dependent process of urbanization affecting all cities in China. In order to clearly describe this process of rural land, the following discussion starts from a piece of land reserve in Huli District, Xiamen.

The reserved land has a total area of 80 hectares⁹⁸. It is located in Wuyuan Bay Area, a new CBD of Xiamen, where land once reached a floor price of over ten thousand yuan per square meter when the land price was sky-high in 2007. Wuyuan Bay Area used to be an agricultural area with a location close to industrial parks. Therefore, its land value had exceeded agricultural use by sharing the spillover from industrialization even before the CBD plan was launched. By law, rural collective land cannot enter urban land market. The only legal way for rural land to turn into non-agricultural use is to turn it into sites for dwellings or township enterprises. But these two types of land use are limited to collective needs only with certain restriction in transaction. However, due to the huge potential benefits to be made, the conversion of rural collective land far exceeds the collective's own needs. (See Figure 6.1)

⁹⁸ 799,402 square meters

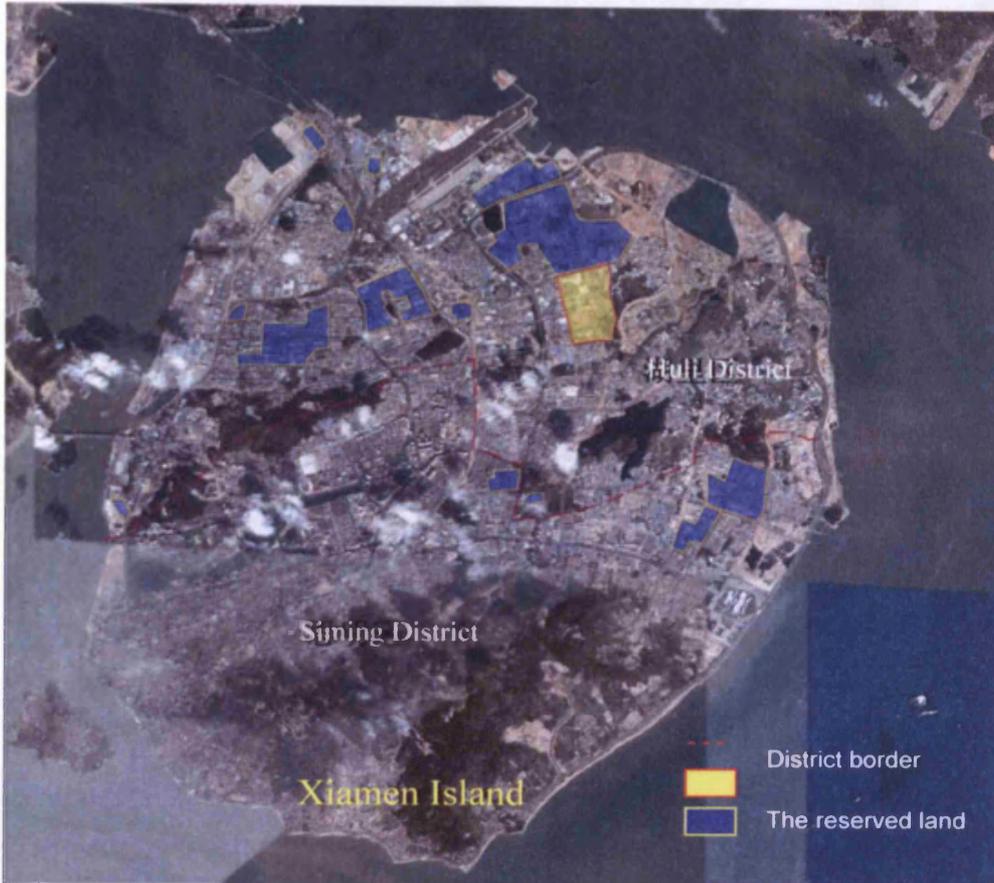


Figure 6. 1 Location of the land reserve of Huli District, Xiamen

Source: Huahui Environment Planning and Design Consulting Co. Ltd. (2007)

The will to share the surplus value that leaked from urban public goods was the driving force for the rapid development of China's rural township enterprises in the 1980s. Obviously the areas where township enterprises boomed were in the outer sphere of cities. At that time, there was no land transaction system. The only way to acquire land for grass-roots village projects was to go through the township enterprises system. When it came to the 1990s, the great amount of foreign direct investment further stimulated the land use change of rural land nearby Xiamen.

The reserved land is located in the fast developing Xiamen Special Economic Zone. It is characterized by illegal land uses. Land use is classified into agricultural land, dwelling land and industrial land for township enterprises. From an air-photo

and a field survey, legal industrial land is marked blue in Figure 6.2, but it is obvious that the illegal industrial uses recognized by the factory buildings is scatters everywhere on the agricultural land.

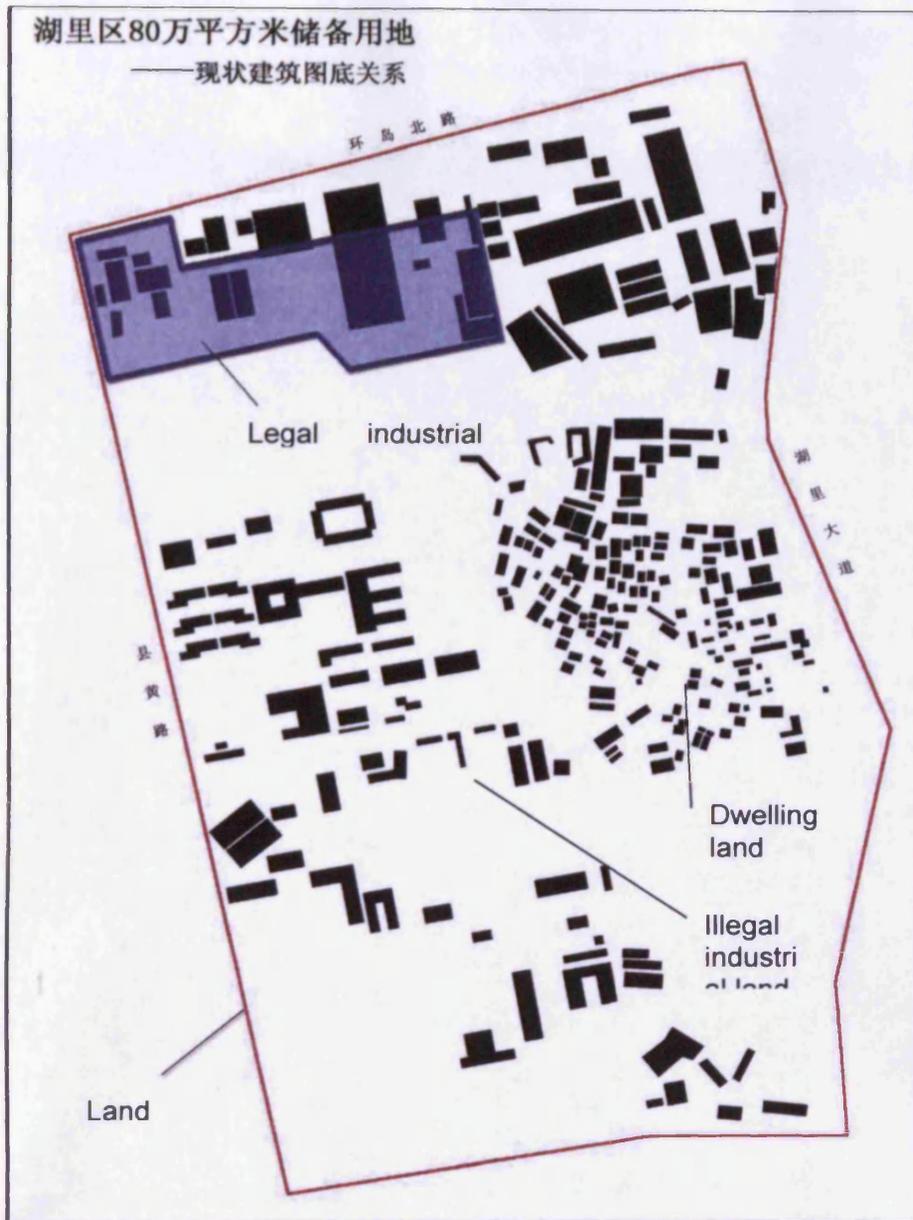


Figure 6. 2 Building distribution on the Land reserve
 Source: Huahui Environment Planning and Design Consulting Co. Ltd. (2007)

The buildings in the land reserve included factories with a total floor area of 300 thousand square meters and dwellings with a total floor area of 174.5 thousand square meters. There were 268 households in the village, giving an average floor area per household of 650 square meters. According to Xiamen's rural dwelling ordinance,

each dwelling site should not be bigger than 80 square meters. This means that the village dwellings are, on average, an estimated eight stories high. There has quite obviously been a large amount of illegal construction of both factories and dwellings.

By further examining the actual users of those illegal buildings, I have established that those buildings, whether factories or dwellings, are not for private use but for lease. Rent of factories and dwellings has replaced development of enterprises and farming to become the main income source for the village collective and households. The lease economy of the village is estimated as follows.

Table 6. 1 The Lease Economy of the Huli Land Reserve

	Houses for lease	Factories for lease	Average rural household income in Xiamen	Per capita disposable income of urban residents in Xiamen
Number of households (household)	268	33.5		
Total floor area (ten thousand square meters)	17.45	30		
Rent (yuan per square meter per month)	10	10 - 15		
Per household rental income (ten thousand yuan per month)	0.35 - 0.62	8.96 - 13.4		
Per capita rental income (ten thousand yuan per year)	1 - 2	27 - 40	0.56	1.44

Source: Huahui Environment Planning and Design Consulting Co. Ltd. (2007)

1. *Rental income from dwellings.* considering the privately used floor area of a household was about 185 square meters⁹⁹, the remaining floor area must be for lease. Since the rent of a room with 15-20 square meters is 150-200 yuan per month¹⁰⁰, then the rental income from the residential lease is estimated at 42-74 thousand yuan a year per household. This is approximately 10-20

⁹⁹ Xiamen Statistics Net (<http://www.stats-xm.gov.cn/>): the housing floor space of Xiamen's farmers was 46.36 square meters in 2005. According to the 2005 Yearbook of Xiamen Special Economic Zone, there were on average 3.98 people in each farmer household. 46.36 multiplied by 3.98 equals to 184.5 square meters, which was the average housing floor space per farmer household in Xiamen.

¹⁰⁰ Based on the quotations on the leasing market of rural residences nearby Torch Park in 2006.

thousand yuan per capita¹⁰¹. This per capita income level was much higher than the average rural household income of 5,647 yuan¹⁰², in Xiamen's villages, and close to the per capita disposable income, 14,443 yuan, of Xiamen's urban residents.

2. *Rental income from factories.* The factory buildings were estimated to be owned by 10-15% of the households in the village¹⁰³. Taking the mid point, 12.5%, to calculate, each factory owner had a floor area of 9,000 square meters, with rent of 10-15 yuan per square meter per month¹⁰⁴. The rental income from factories was thus estimated to be 1,070-1,610 thousand yuan per year per owner (Table 6.1)

The high income from the illegal *lease economy* of Huli land reserve is not an exception to the rural development in Xiamen. According to surveys conducted by Wu et al. (2006), the monthly rental income of Caitang Village in Huli also reached over ten thousand yuan per household. Strictly speaking, the farmers in Xiamen Island are no longer genuine farmers; rather, they have turned into *collective landlords* who live mainly on real estate.

6.3 Private land leasing

The lease of illegal factories and dwellings is not totally forbidden by the law. Most of the leasehold relations were established with incomplete private contracts that are protected to a degree by civil law, thus reducing the risks of the transaction. Although the villagers did in fact invest in and manage township enterprises at the beginning of the township enterprise period, they soon realized that they were short of everything important to make an enterprise successful: namely technology, capital, managerial skills and market network. At that point, the villagers established a cooperation with entrepreneurs who owned the professionally productive factors that

¹⁰¹ Supposing on average there are 3.98 people in each rural household of Xiamen. (*2005 Yearbook of Xiamen Special Economic Zone*)

¹⁰² Statistics of 2004. (*2005 Yearbook of Xiamen Special Economic Zone*)

¹⁰³ Empirical value given by interviewees.

¹⁰⁴ Based on a study by the research group of Huahui Corporation.

the villagers lacked. The villagers were only responsible for land supply and had nothing to do with the operation and management of the enterprises. The entrepreneurs included outside investors as well as capable persons inside the village¹⁰⁵. Land was the only and biggest resource of the collective, with which it could bring to a joint venture with the outside investors. In most cases, the so-called joint development arrangement was more like a land/property lease. The collectives did not share in the profit of the enterprises, receiving a certain fraction, but extracted land rent. In other words, the collectives neither owned residual rights nor bore any share of the risks of the enterprise operation. What they did was just to transfer property rights of their land to those who could maximize the utility of the land.

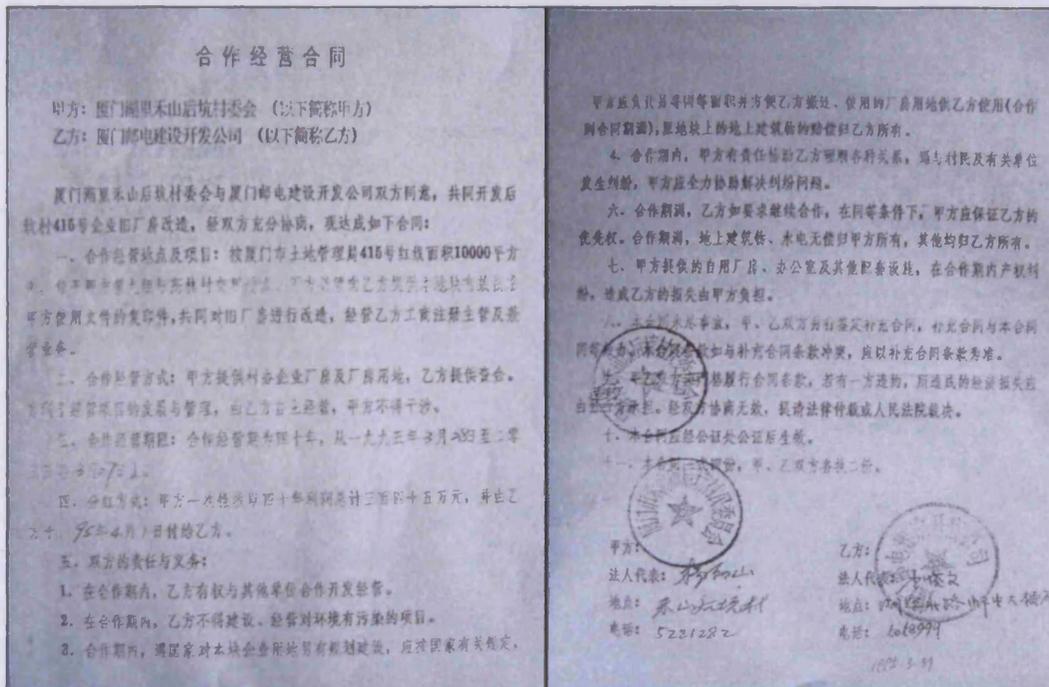


Figure 6.3 Case I of private land lease in the name of joint development

¹⁰⁵ Since land is owned collectively, the rent and use of land by residents in the village doesn't count as "private use". Such rent and use may only occur after a contract is entered into between the renter and the village collective.

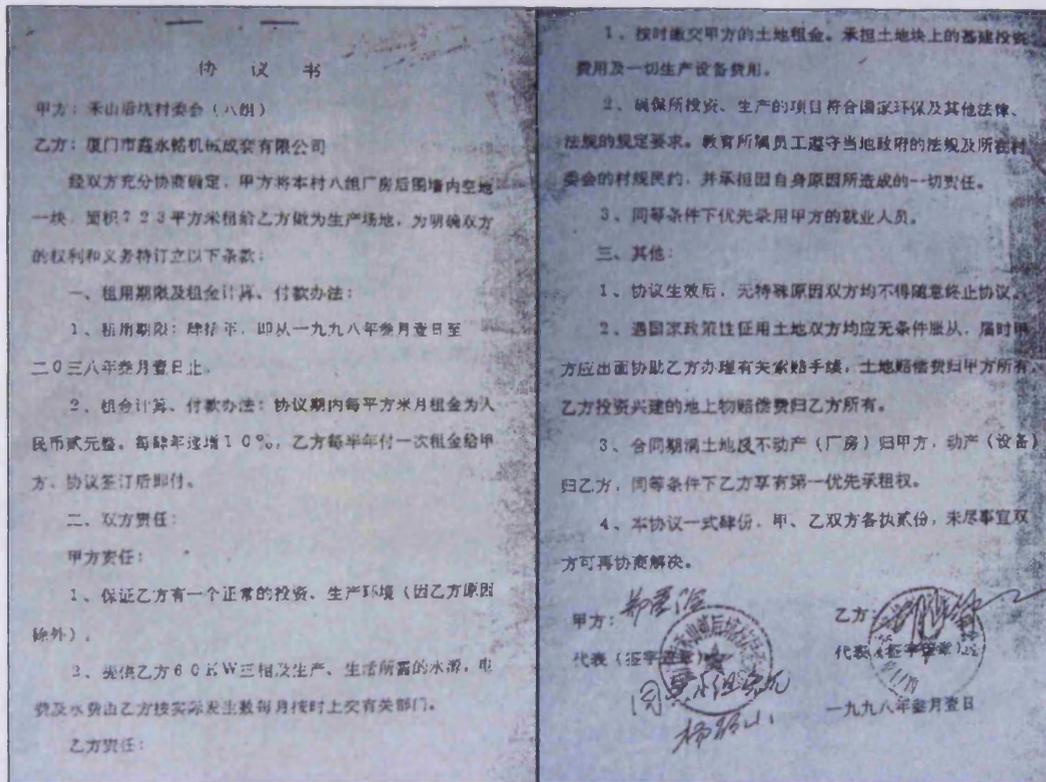


Figure 6.4 Case II of private land lease in the name of joint development

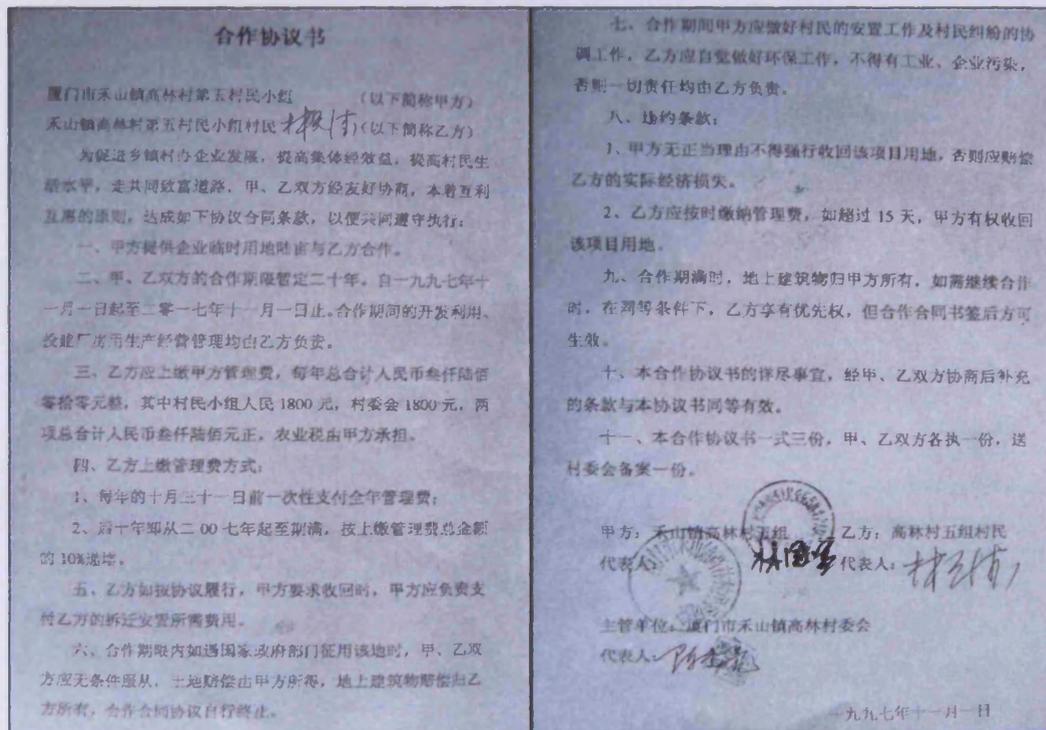


Figure 6.5 Case III of private land lease in the name of joint development

The contents of the private contracts were more like a typical lease document. Generally in the articles, the document agrees that the collective landlord is

responsible for provision of land or factories and the tenants are responsible for and have complete rights in respect of financing, construction of infrastructures, factories and equipments and business operation. These are matters deemed in the document to be irrelevant to the collective landlords. Second, the period of joint development usually lasts for 20 to 40 years. Land rent, split into an *administrative fee* and *dividend* or *rent* is paid once upfront, annually or half-yearly. In the case of at-once-payment, the joint development is more like an outright transaction of the villagers' land use right. In the case of annual payment, it is actually a lease relation rather than a joint development and the two parties typically make a deal in respect to a schedule of rent increases – leasehold contract renegotiation. Finally, upon the expiration of the joint development, the real estate invested by the tenants shall be unconditionally transferred back to the collective landlords, while moveable properties such as equipment belonging to the investors remains with the investors. Also, in a new round of land leasing, existing or former tenants have a priority right. (See Figure 6.3-6.5)

The joint development has turned the collectives into *de facto* landlords. Yet, this is just the first step. Ways of extracting land rent are much more complicated as the following shows.

1. The tenants were not necessary the owners of the enterprises. It happened quite often that the tenants built factories and leased them to others. I.e., the tenants extracted land rent by being a 'secondary landlord'.
2. The secondary landlord phenomenon may be more complicated by multilayering. By law, all of village's land is owned by the collective. Village households do not own land but only the use-right by contract with the collectives. From the point of view of ownership, village households are secondary landlords therefore. As industrialization demands larger plots of land, the collectives may legally take back some pieces of land originally allocated to villagers to create a bigger parcel for a township enterprise. But most village industrialization in Xiamen was not realized through genuine

township enterprises but through land leasing to foreign investors. When demand for industrial land is high but the quota of industrial land is limited, pieces of contract land may be collected by individuals through contract transfer or through lease. In the case where contract land has been gathered by an individual through lease, the tenant becomes a tertiary landlord who (strictly speaking) illegally builds factories for lease.

3. Except for the lease market of factories fostered by foreign investments, rural industrialization also induces a big lease market of dwellings for large numbers of migrant workers and results in the illegal excess construction of dwellings. For instance, Caitang Village had a residential population of 1,391 persons but its number of migrant workers reached over 1.2 thousand persons in 1993 and 50 thousand persons in 2006, with an average annual growth rate of 33.2%. Zhongzhai Village has 27 thousand migrant workers, 7 times the local population of 3,800 persons. The huge demand for dwellings for migrant workers has led to a wave of what in Chinese is called 'house planting heat'. Villagers build houses on the remainder of their previously undeveloped dwelling site allocation and redevelop or simply heightened their own houses to maximize space for lease. In this way, villages become very dense.
4. The large number of migrant workers creates a demand for consumer services and this gives rise to a lease market for commercial buildings. The collectives then also build mix-used buildings for lease.

The *multilayered lease economy* has changed peasants' identity in Xiamen – as in many coastal Chinese cities. Peasants are no longer, as the Chinese say, *back-to-the-sky-and-face-to-the-mud*. They have been transformed into calculative investors in the real estate market. Those who own factories have developed the skills of gathering money for land lease, construction, calculating turnover rate, taking risks and legal responsibilities as well as utilizing their social networks and organizing resource allocation to ensure adequate profit. They have become urban entrepreneurs but remain peasants in name.

Compared to industrial leasing, residential leasing is easier for villagers and therefore more popular. The construction cost of a rural apartment in Xiamen in 2007 is estimated at 500 thousand yuan with payback period of 4 years. This means dwelling leasing is an investment with small input, low risk and high return. Thus, with buoyant housing demand from migrant workers, dwelling leasing has spread to almost every household and has become the main income source for villagers in peri-urban villages in Xiamen. Rural industrialization leads to a land lease economy in which industrial real estate and residential real estate have established a symbiotic relation. One of the productive factors for industrialization – land – was cheaply supplied via factory leasing; and housing needs of another productive factor, migrant workers, was satisfied by dwelling leasing.

6.4 Games of grabbing property rights of rural land

The most significant distinctiveness of China's land system is the separation between collective-owned rural land and state-owned urban land. Both in the past command economy and today's market economy, almost all urban infrastructures and public services are supplied by government. Thus, the increased value from rural land to urban land is supposedly generated by government. Because the land value increase can only be achieved through land use change, this implies that the benefit leakage of public goods can be managed through the control of land use change. This statement is similar to Sun Yat-Sen's proposal for withdrawing the appreciation of land value to the public.¹⁰⁶ The land system constitutes the legal ground for the government's monopoly of primary land market. However, as I have shown, this monopoly power is curtailed in practice due to the huge incentives for rural collectives and individuals within and outside them to find ways of taking a cut in the rural-urban land value difference. The scope for playing or avoiding the system can be appreciated by considering the detailed provisions of the law that seeks to curtail the land rights of

¹⁰⁶ If the urban government is not regarded as an enterprise, it will be hard to understand "profit from increase in price belongs to the public". The deceased famous economist Yang Xiaokai once criticized this view. Such criticism largely represents the opinion of mainstream economics.

rural collectives.

The reduced bundle of property rights attached to rural land is based on the *Land Administration Law of the People's Republic of China* and *Law of the People's Republic of China on Land Contract in Rural Areas*. These state that:

1. "Land in the rural areas and suburban areas, except otherwise provided for by the State, shall be collectively owned by peasants including land for building houses, land and hills allowed to be retained by peasants."¹⁰⁷. "Land contract in rural areas shall take the form of household contract within the collective economic organizations in the countryside", "After the land in rural areas is contracted, the nature of ownership of the land shall remain unchanged. The contracted land may not be purchased or sold."¹⁰⁸ or mortgaged¹⁰⁹. "Land collectively owned by peasant shall be contracted out to members of the collective economic organizations."¹¹⁰. "Land collectively owned by peasants may be contracted out to units or individuals who are not belonging to the corresponding collectives for farming, forestry, animal husbandry and fisheries operations."¹¹¹. Only the use right of barren land in rural areas can be mortgaged¹¹². All the above rights are restricted by land use. "A strict control is to place on the turning of land for farm use to that for construction use", Land in rural areas may only be used for agriculture and its use right shall not be leased, transferred or rented for non-agricultural use¹¹³.
2. Ownership of house sites belongs to the collectives. Use right of house sites belongs to rural villagers and may not be mortgaged¹¹⁴. Houses on house sites

¹⁰⁷ Article 8 of the Land Administration Law.

¹⁰⁸ Article 4 of the Law on Land Contract in Rural Areas.

¹⁰⁹ Article 184 of the Real Right Law of People's Republic of China.

¹¹⁰ Article 14 of the Land Administration Law.

¹¹¹ Article 15, Chapter II of the Law on Land Contract in Rural Areas.

¹¹² The State Land Administration Bureau, No. 134 [1995] of the State Land Administration Bureau Cadastre Division (Notice of the State Land Administration Bureau on Issuing the Provisions on Use Right Mortgage and Registration of Collective Land in Rural Areas)

¹¹³ Article 14, 15, 63 of the Land Administration Law; Article 2, 8 of the Law on Land Contract in Rural Areas.

¹¹⁴ Among use rights of collective land in rural areas, only the use right of barren land and the collective land of township enterprises can be put under mortgage (The State Land Administration Bureau, No. 134 [1995] of the State Land Administration Bureau Cadastre Division (Notice of the State Land Administration Bureau on Issuing the Provisions on Use Right Mortgage and Registration of

can be sold or leased, but application for another house site by a rural villager who has sold or leased his/her house shall not be approved¹¹⁵. The local government shall set up regulatory criteria for house sites. New construction and reconstruction of houses on house sites should go through certain approval procedures¹¹⁶.

3. To develop industries, enterprises have to obtain state-owned industrial land from the state. Only township enterprises can be permitted to use collective-owned land - through a special approval process¹¹⁷. Township enterprises are collectively-owned and may absorb investments via shares if the enterprise remains under collective ownership, or may jointly operate with other enterprises through contract or lease¹¹⁸. The collective may use land use right as shares when setting up a joint venture with other individuals or organizations¹¹⁹. "The land use rights of peasant collectives shall not be leased, transferred or rented for non-agricultural construction, except in the case of legal transfer of the land that conforms to the general plan for the utilization of land and legally obtained by enterprises due to bankruptcy or acquisition."¹²⁰. The use right of collective-owned industrial land and ownership of township factories may be mortgaged¹²¹.

To sum up, the legal property rights of collective-owned land and buildings are as follows. First of all, the ownership of rural land belongs to the collectives while the

Collective Land in Rural Areas))

¹¹⁵ Article 62 of the Land Administration Law hasn't specified the subjects to which farmers' residences are transferred. Article 162 of the Draft of Real Right Law: a farmer's residence may be transferred to farmer households that meet the conditions of the allocation of right to use house sites within the same collective; the right to use a house site is transferred along with the transfer of right to use land. Township residents are prohibited from purchasing house sites in the countryside.

¹¹⁶ Article 62 of the Land Administration Law, Article 11 of the Measures of Fujian Province for Land for Construction of Villagers' Residences in Rural Areas

¹¹⁷ Article 43, 60 of the Land Administration Law.

¹¹⁸ Article 2, 6, 18 of the Regulations of the People's Republic of China on Enterprises under Collective Ownership in Rural Areas

¹¹⁹ Article 60 of the Land Administration Law.

¹²⁰ Article 63 of the Land Administration Law.

¹²¹ The State Land Administration Bureau, No. 134 [1995] of the State Land Administration Bureau Cadastre Division (Notice of the State Land Administration Bureau on Issuing the Provisions on Use Right Mortgage and Registration of Collective Land in Rural Areas)

use right belongs to individuals or the collectives. Second, The use right of rural land is strictly restricted by land use control. Permits are needed for change of land use. Third, under the system of land use control, a holder of the right to the contracted management of rural land, use rights of house sites and township industrial land and ownership of rural houses and township factories have rights of usufruct and transfer. Accordingly, the unauthorized use of land and excessive construction are “illegal” practices and not protected by law.

Illegal, in this sense, does not mean to seize benefits through means against the Criminal Law such as dupery and theft. It is simply *land abuse* - against the law of the state’s land-use control. Looking back on the course of development of use right governing rural land, there has always been a game between the rural collectives and the state.

The ownership of and right to use land in rural areas were first defined by the *Law of Land Administration* in 1986, but the hidden rules that existed before the law were not abandoned at once. They still affect the attitude of land use in rural areas. The earliest document that touched on rural land rights was the *Draft Revisions for the Working Regulations Regarding Rural People’s Communes* issued in 1962 (referred to as *Sixty Articles*). It ruled that rural land belonged to the production brigade and should be used by the production teams¹²² and granted the production teams autonomy in using land¹²³. The production brigade and production team later on transformed to village and villagers’ groups after reforms and opening. Therefore, the *Sixty Articles* left an institutional base for villages as the basic unit of rural land ownership and helped develop a cultural expectation that villagers’ groups govern land use.

The reforms starting from the late 1970s stimulated economic development and a

¹²² Article 17 of the Draft Revisions for the Working Regulations Regarding Rural People’s Communes

¹²³ Article 29 of the Draft Revisions for the Working Regulations Regarding Rural People’s Communes: “The production teams have certain independency in team management...under conditions that don’t hinder water and soil conservation or damage forests, grassland and pastures, the production teams have the right to reclaim barren land, manage barren mountains and make full use of all land that can be utilized...”

large demand for industrial land. Based on the habitual practice of self-ruled land use by villages, phenomena like disorderly acquisition of farmland for non-agricultural use, abusing land, incomplete approval process for land use change, excess expansion of house sites as well as unproved trade and leasing of land sprung up like mushrooms¹²⁴. In order to protect farmland and regulate land use, the state began to formulate regulations on land use successively such as *Regulations on Land for Housing Construction in Towns and Villages* and *Principles for the Planning of Towns and Villages (Trial)* in 1982, *Notice of the CPC Central Committee and the State Council on Reinforcing Land Administration and Preventing Disorderly Acquisition of Farmland and the Land Administration Law and Law of Land Administration* in 1986 and established State Land Administration Bureau (later on reorganized into Ministry of Land and Resources). The new regulation system authorizes urban government to supply industrial and commercial land¹²⁵ and to reduce rural land acquisition in rural industrialization¹²⁶ but it did not work well. Subsequently, the state issued the *Notice of the State Council on Approving and Transmitting the Request of State Land Administration Bureau for Reinforcing the Management of Rural House Sites* in 1990 and established an approval system for house construction. As economic development raised tension between land supply and demand, the state issued *Opinions on Reinforcing the Management of Rural House Sites* (No. 234 [2004] of Ministry of Land and Resources) in 2004 commanding the local governments to exert strict control over developmental land and concentrate villagers' house building in towns so as to promote a more intensive land use.

The evolution of these policies reveals a game: the state has been trying to limit

¹²⁴ Notice of the CPC Central Committee and the State Council on Reinforcing Land Management and Preventing Disorderly Acquisition of Farmland (March, 1986): "Many leaders and masses in rural areas stick to the wrong concept that collective land can be used freely. Some developed township enterprises without land planning. Some didn't go through approval procedures and some occupied land as they wished; certain leaders disregarded law and discipline and replaced law with their own powers. They approved land uses at will and even used land approved by themselves; some violated the Constitution to purchase, sell, lease and transfer land without authorization."

¹²⁵ Article 43 of the Land Administration Law: Any unit or individual that need land for construction purposes shall apply for the use of land owned by the State in accordance with law.

¹²⁶ In the early 21st century, the urban government's monopolistic right to requisition rural land for non-agricultural construction was again blamed for disorderly acquisition of farmland.

the rights to use land in rural areas that can catch the spillover value of public goods¹²⁷; whereas the rural areas close to cities have been striving to change land use by various means to maximize their land value. When agriculture fails in yielding the maximum economic benefit, it is very hard to stop the grass-roots acquisition of farmland for non-agricultural purposes in the rural areas that offer so many developmental opportunities.

In these rounds of games over rural land use, the state has focused on the protection of farmland and employed relatively loose measures with regard to the floor areas of factories and houses, so the excess construction of floor areas in factories and houses has become a safer mean for property expansion. The higher the land value and the non-agricultural income a location affords, the more severe the land abuse. The reason is quite simple: these locations have more spillover benefit of public goods and services from neighbouring urban land.

6.5 Bargaining for compensation

I have discussed at length the question of whether the compensation for land expropriation should be set at agricultural or potential non-agricultural value. According to the argument I developed in Chapter IV, whichever - government or villagers - obtains the productive factor should be able to maximize social surplus. Or put the other way, the rights should be given to the party that can maximize social surplus (with allowances for fairness claims). However in this process, transaction costs are critical¹²⁸. The Xiamen practice shows that the compensation standard set by the municipal government has been rising fast as the villagers have become more capable of bargaining. Thanks to land prices soaring, the government's income has experienced no significant reduction due to the compensation inflation. Yet, the higher

¹²⁷ The direct aim is to protect limited farmland.

¹²⁸ Another important field not mentioned in this paper is the allocation process. How the government distributes its surplus is also an important factor in the argument over which property rights assignment complies more with social justice - the government acquiring land ownership or the collective landlords. The methods and channels of distribution of the government owned betterment premium is an even more complicated issue than compensation (Zhao Yanjing, Wu Weike (2007) Residences Supply Mode and Social Properties Distribution, *Urban Studies*, 2007.5).

compensation has far exceeded the opportunity costs of farming and we have clearly moved into a new regime – one in which the betterment premium is shared to a degree with the farmers in addition to a reasonable compensation payment. Even the land and buildings with illegal structures developed on them and which are not supposed to enter the consideration in a compensation claim end up being compensated in disguised and indirect ways.

The compensation for land expropriation in Xiamen is measured as follows.

1. The separation of ownerships of land and buildings leads to separated terms of *land compensation* and *compensation for attached buildings* respectively. Land compensation is assigned only between the state and the collectives when the state expropriates collectively-owned land. The right to use land is separately contracted to households by the collective as I have already noted, and thus the land compensation fee will afterwards be distributed between the collective and households according to their intra-collective land contracts. These contracts vary between being full legal documents and administrative agreements. According to the Law of the People's Republic of China on Land Contract in Rural Areas, all collective land should be allotted to the members of the collective. The term of the contract is 30 years. During this period, the contract is protected by the Law of Land Contract. The compensation from the government should be allotted by contract when land is expropriated by government (theoretically). But in practice, the rights of members may not equally protected. For example, a woman who married a man of another collective will lose the right to obtain compensation. But in her husband's village, she will not be treated as a formal member of the collective (according to local custom). Thus, her right in both collectives may disappear when she get married. The difference between laws and customs therefore causes lot of disputes.
2. The attached buildings on the farmland are owned by individuals. Compensation for them is meant to compensate for the loss of use value

caused by land expropriation. The compensation fee is measured by the estimated cost to reconstruct them with same structure and materials.

3. As the land value for the villages comes from *rent* rather than *use*, rent loss caused by land expropriation is not considered a justifiable compensation claim.

Compared to the standard compensation of the state, the evolution of Xiamen's compensation standards reflects a process in which collective landlords have captured some of the value created by the city's investment in urban public goods. After a series of negotiations, trial and error, and policy revision, the current compensation includes direct compensation for legal property rights and indirect compensation for illegal property rights as well. The following section further elaborates the details of the Xiamen case.

6.5.1 Land compensation

Land compensation can be practiced in two ways. On the one hand, it is basically a certain multiple of the production value of farmland. The compensation fees for other agricultural land such as woodland, aquafarms, fish ponds, vegetable plots, salt fields, etc. are made according to certain adjustments to the basic farmland compensation standard. On the other hand, a municipal government can formulate a *comprehensive compensation*¹²⁹ for a certain area by taking into consideration land use, production value, location, grade of agricultural land, per capita farmland quantity, local land supply and demand balance, local economic performance and local social security needs and provision. Within an area subject to a comprehensive compensation order, all plots of land will be compensated at the same standard. Xiamen takes this second approach to compensation.

With the rapid economic development of Xiamen, land values have become increasingly differentiated by location and with the negotiating power of collectives

¹²⁹ Ministry of Land and Resources [2004] No. 238, Circular of the Ministry of Land and Resources on Issuing the Directive Opinions on Improving Land Requisition Compensation and Resettlement Systems

increasing and the expectation shifting gradually in favour of giving some part of the betterment premium to villagers, location has naturally featured in compensation considerations. Since 1999, comprehensive compensation in Xiamen has been ranked into four groups based on district location. In 1999, the gap between the first and second groups was only 10% of the compensation standard of the first group. But in 2005, the gaps between the first group and the second, third and fourth groups enlarged to 27%, 50% and 55% respectively. The enlarging gap reveals the importance of location in land evaluation and also evidences the shift towards a compensation-plus-betterment package and a *de facto* reallocation of land property rights towards collectives.

Land use classified by sectors is the second factor to be considered in the compensation formula. The ranking decreases from industrial land, house site to agricultural land. In Xiamen Island, for example, compensations for the above three use-types of land are respectively 300, 200 and 180 yuan per square meter¹³⁰.

In the category of agricultural land-use, Xiamen got rid of setting different compensation standards for different types of agricultural uses in 2005. Agricultural land is basically classified into farmland, woodland, orchards, fish ponds and unused land. In 1999, the municipal state of Xiamen ranked farmland (arable land) as being eligible for the highest agricultural compensation followed by fish ponds, orchards, wooden land and unused land respectively, even though fish ponds and orchards may create higher production value. This rather odd weighting may reflect the general 1990s national policy of protecting arable land via discouraging non-farmland with lower compensation. The ranking was not so much driven by an opportunity-cost compensation logic as by national agricultural and land use policy priorities. However, since 2005, this method of compensation based on agricultural output has been replaced by the comprehensive compensation in which different types of agricultural land use do not matter. This step in the evolution of compensation

¹³⁰ 120,000 yuan per mu: compensation fee 110,000 yuan per mu plus reward for timely handover 10,000 yuan per mu.

institutions in the local state was a benchmark, establishing the principle that the local state has recognized the market price of land as a relevant compensation consideration. It also reveals that the local state partially acknowledges the claim of the collective landlords for sharing the spillover benefit from public goods.

More profoundly, it is also an admission that the local state as a firm, can no longer, in a buoyant market land economy, apply the pure model of land-revenue based municipal finance that I have elaborated in earlier chapters. The price of retaining its monopoly over the primary land market and using this as a business strategy, is sharing some of the revenue thus generated with the rural collectives who supply the land. This will be seen as natural justice by some. From the point of view of the logic of free-riding and land value creation, it is perhaps, not so much natural justice as pragmatic necessity and a reflection of rising transaction costs. As the value of the contested land subject to expropriation gets larger, so will the demand for a share of the value increment rise and with it the strength of the claims and sophistication of the negotiating games. At some point the political and organizational costs of resisting such claims might make it more cost effective for the municipal 'firm' to share some of its profits from land development from the suppliers of land.

6.5.2 Compensation for house removal

Xiamen's approach to compensating for house removal has shifted from cash compensation to apartment relocation via the exchange of property rights. One of the reasons of the shift is that the market price of real estate has been rising too fast for the expropriated villagers to buy apartments using the monetary compensation. Besides, from past experience, farmers were generally not capable of investment and financing. Evidence suggests that for some, if not many farmers, much of their cash compensation (estimated in 2007 to be 280 thousand yuan per household, measured by 1,500 yuan per square meter for an average floor area of 185 square meters per household) was spent up on gambling. When a farmer had lost everything, he would again turn to the government for relief and become a social problem. This issue was

an important influence in changing to apartment relocation by the exchange of property rights. The bundle of property rights over the compensation apartments is more complete than the rural houses, so the compensation apartments have higher market value and this, in a sense is an additional windfall compensation for the relocated farmers.

Either by cash compensation or apartment relocation, compensation involves evaluation and property rights identification. Since illegal abuse is so common, the local state has had to set a standard for legal houses recognition – the assignment of *de facto* property rights over illegally built houses. Yet, this has been achieved by a bargaining process. The villagers blamed the local state for suspending the approval process of house building since 1994¹³¹ and thus defended their excess house building. In fact, the suspension only affected the building of new houses¹³². Local need for new houses usually comes from an increase in households; however the amount of house rebuilding has far surpassed this type of need because there was a much bigger market demand for migrant workers' housing. The local state's suspension of the approval process could not suppress the amount and speed of the excess rebuilding geared at migrant workers – much of it being the illegal development in the city's peripheral villages¹³³. Although the property rights of the excess rebuilding is not protected by law, the huge amount has still created bargaining power in the negotiation of compensation for land expropriation and house removal. Finally, partly in order to reduce resistance to land expropriation, the area of legal

¹³¹ Xiamen Academy of Urban Planning and Design (2005), *Research on Measures for Boosting the Urbanization of Rural Areas on Xiamen Island*, consigned by Xiamen Planning Bureau

¹³² In the island, which has been planned as city area, the approval of new private housing has been suspended. But the land and houses have not been expropriated immediately. During this period, which is about 10 years, construction has not stopped but has occurred by lots of illegal construction, which can only obtain a little compensation when the illegal structures are expropriated. This becomes an obstacle to expropriation.

¹³³ Since there is nearly no formal accommodation for migrate labors, the demand for illegal housing is huge and it causes more non-approved apartments. Since most of them are located in the villages near to the city and the local government tends to avoid trying to remove these villages to reduce the cost of expropriation, it results in many “inner-city-villages”.

housing eligible for compensation has been raised from 30 to 50 square meters per capita. Even so, the resistance to expropriation is still high.

Thus, not only has the compensation allowable for standard of legal houses been raised, but so has that for the houses with incomplete approval documents. Since the incompletely approved houses have to be recognized case by case and it is hard to apply a general standard, the local state sets a ceiling for the total area of the legal houses plus incompletely approved ones. In 2003, the ceiling was set at 60 square meters per capita including the legal of 30 square meters per capita. In 2005, the ceiling was raised to 130 while the standard of the legal rose to 50 as well in Xiamen Island. The legal houses are compensated by equally evaluated cash or apartments, while the incompletely approved houses are redeemed by removal subsidies, which is an indirect method of compensation.

The methods of valuing removed houses have evolved according to compensation policies. In 2003, when cash compensation was advocated, the evaluation of houses was based on the residual value of the houses considering location, construction cost and residual years. In 2005, when the combination of cash compensation and apartment relocation was launched, the valuation became based on referencing the average value of nearby houses, no longer considering the residual value and original construction cost. In other words, a shift from residual valuation to comparator case valuation. Later, in 2006, when apartment relocation was emphasized more strongly, the value of the removed houses was no longer important. Instead, the area of legal and incompletely approved housing became the key important metric in determining the value of the property rights exchange.

Overall, in the current compensation regime in Xiamen, negotiated compensation of rural land exchange is more common than coercive removal. The history of policy revision reveals that the villagers' bargaining power has been getting higher. Yet, the indirect acknowledgement of villagers' rights over incompletely approved houses may well lead to more illegal building. Anticipating this, in 2001 the local state set a deadline for the acknowledgement of illegal housing. Houses built after the deadline

will not get any recognition in compensation deals. Again, because of the villager's bargaining power, the deadline was put off from March 23rd, 2001 to December 1st, 2002.



Figure 6.6 excessively built houses in *inside-city villages*

Note: The site and lower stories of the building have legal property rights. Yet the upper stories are illegally and excessively built.

Source: author's photo

6.5.3 Compensation for factory removal

Compensation for factory removal has created another lesson for the local state. In 1999, the state decided to consider factories as one kind of 'attached buildings' on the piece of expropriated land. A factory 'structure' was compensated according to its residual depreciated value. In the case where a factory's approval documents were not complete, the compensation would be reduced according to the degree of incompleteness. But again, the local state faced a dilemma: compensation for incompletely approved buildings might encourage more illegal construction. The

amount of such structures was already so huge to give collectives a strong bargaining position. The local state announced in 2005 a set of rules to deal with the confusion and ambiguities such as excess floor area of legal factories, illegal factories, and incompletely approved factories. Also, a deadline was defined to recognize incompletely approved factories. Those built before the date would be recognized and subsidized on removal.

Except for compensation for residual value and removal subsidy, factory removal will certainly affect the production of an enterprise. The local state therefore offered compensation for the economic loss of an enterprise to encourage the enterprises to remove.

The compensation refers to a selective recognition of opportunity cost. Calculation of the details determines the range of property rights. Therefore, what, whether and how to compensate have become the points of negotiation. The opportunity cost of land use in the rural area of Xiamen Island includes agricultural production, manufacturing production, rental income, and potential benefit of real estate development if rural land was allowed to be transferred and developed into urban land by the private sector. Among these, rental income is the most important opportunity cost. But the compensation by current laws selectively excludes rental cost and only recognizes the opportunity cost of the original uses.

The evolution of compensation revolves around the gap of land value between non-agricultural use and agricultural use in rural area. The closer to cities is the location and the better the local economy develops, the greater the gap obviously is. As the economy grows, the land value determined by agricultural use will remain much more stable than non-agricultural value, although the former might rise in line with rising food demand and farm land scarcity. As the land value of non-agricultural development rises rapidly, the gap rises and compensation for agricultural land will gradually shift from being based on agricultural output to being partially based on non-agricultural opportunity cost. The shift is aimed at clarifying ambiguities in property rights over illegal or incompletely approved buildings (often the lower floors

are approved but upper ones not – see Figure 6.6). In accommodating this shift, the local state has had to set up new forms of property rights ambiguity, however, as implied in the gross compensation allowances that cover the combined legal and legal housing areas. The deadlines for registering illegal housing and factories attempted to clarify property rights but due to the bargaining power of villagers, even this did not fully resolve the issue due to slippage of the deadline.

6.5.4 Gap between compensation and opportunity cost

How far exactly the gap between the compensation and the current market opportunity cost is reflects how great the bargaining power the villagers is. The issue is the distribution of local gains from general urban development. To consider this further, I examine the details of the land reserve case in Huli District. I divide the data into the lump-sum and the long-term regular income and value. The calculation assumptions are as follows.

1. Basic information: (1) the number of households is 268 and the population is estimated at 878 persons; (2) the total area of the land reserve is 799,402 square meters including farmland and house sites of 770,667 square meters and industrial land of 28,735 square meters; (3) the total floor area of houses is 174,500 square meters, including a legal part of 43,906 square meters, an incompletely approved part of 70,250 square meters and an illegal part of 130,594 square meters ¹³⁴ that will not be compensated; (4) the total area of the factories is 300,000 square meters, including a legal part of 28,735 square meters and an incompletely approved part of 271,265 square meters; (5) the total area of the relocation apartments is estimated of 26,344 square meters¹³⁵;

¹³⁴ Since 1994, there has been no planning permissions issued for private housing construction. To reduce the resistance of expropriation, in 2003, according to the No. 101 document of Xiamen government, the government admitted that every villager could have up to 30 square meters of legal housing, for which s/he could enjoy completed compensation, and up to 60 square meters of incompletely approved housing, which is illegal but eligible for partial compensation. But the illegal part of most houses is much higher than this level. In 2005, the No.176 document of Xiamen government uplifted the standard of legal floor area to 50 square meters per villager and the incompletely approved floor area to 130 square meters in the Xiamen Island (Siming and Huli district); to 100 square meters in Jimei and Haicang district, and 80 square meters in Tong'an and Xiangan district. The part that is larger than this standard would not get any compensation.

¹³⁵ In this case, which is in Huli District, the families whose legal floor area is less than 50 square meters per capita would be compensated with a 50 square meters relocation apartment. The families whose legal floor area is

(6) urban commercial real estate (land allocated in the compensation deal for the village to ensure a future long-term income for the collective and villagers) based on per capita floor area of 30 square meters, has a total floor area of 26,344 square meters, 90% of this being for apartment leasing and 10% for shop leasing (Table 6.2).

Table 6.2 Basic information of Huli land reserve

	Item	Quantity	Note
Household	A. Number of households (household)	268	
	B. Population (person)	878	3.28 persons per household of Xiazhong village
Land area (m ²)	C. Total area	799,402	
	D. Farmland (including house sites)	770,667	
	E. Industrial land	28,735	C - D
Floor area of houses (m ²)	F. Total area	174,500	
	G. Legal area recognized by 50 m ² per villager	43,906	B×50
	H. Incompletely approved area recognized by 80 m ² per villager	70,250	B×80
	I. Illegal area with no compensation	130,594	F - G - H
Floor area of factories (m ²)	J. Total area	300,000	
	K. Legal area	28,735	E×floor area ratio of 100%
	L. Incompletely approved area	271,265	J - K
Floor area of relocation apartments (m ²)	M. Total area	30,000	
Urban commercial real estate (m ²)	N. Total floor area	26,344	B×30 m ² per villager
	O. Apartment for lease	23,709	Supposedly 90% of total area
	P. Shop for lease	2,634	10% of total area

Source: Huli District Government 2007

2. Lump-sum compensation the local state has to pay: (1) land compensation for

less than 50 square meters but real area larger than 50 square meters can obtain a 50 square meters relocation apartment. The legal floor area larger than 50 square meters would get equal areas of relocation apartment. Once the floor area of an apartment does not equal the floor area of the old house, the owner may choose cash for compensation. This compensation does not include a series conditions or compensation for decoration. The compensation for an incompletely approved house, which accounts for depreciation, is normally in cash.

farmland and industrial land; (2) construction cost of relocation apartments; (3) compensation for removal of legal houses; (4) subsidization for removal of incompletely approved houses; (5) compensation for removal of legal factories; (6) subsidization for removal of incompletely approved factories; and (7) compensation for economic loss of enterprises caused by factory removal (Table 6.3).

Table 6.3 lump-sum expenditure of the local state for land expropriation

Item		Unit price (yuan/m ²)	Total (10,000 yuan)	Note
Land compensation	Farmland	a. 180	13,872	$Q = D \times a$
	Industrial Land	b. 300	862	$R = E \times b$
Compensation & subsidization for house removal	Compensation for legal houses	c. 280	1,229	$S = G \times c$
	subsidies for incompletely approved houses	d. 560	3,934	$T = H \times d$
compensation & subsidization for factory removal	Compensation for legal factories	e. 420	1,207	$U = K \times e$
	Subsidies for incompletely approved factories	f. 90	2,441	$V = L \times f$
relocation apartment	Cost of construction	g. 2,800	8,400	$W = M \times g$

3. Lump-sum expenditure the collective has to pay: (1) Payment of social insurance for villagers over 45 years old; (2) construction cost of the urban commercial real estate (summarized in Table 6.4).
4. Lump-sum income of the village: (1) land compensation, supposedly 30% of which is kept by the collective and 70% is distributed to households according to their land contracts; (2) compensation for house removal; (3) compensation and subsidies for factory removal to the 10% of households (the standard workshops are owned by about 10% households of the village); (4) implicit subsidy, reflecting the value gap between market value and construction cost of relocation apartments. Since the old house of a villager cannot be sold on market, its value is merely its cost of construction. Whereas the relocation apartment can be sold in the market. The market value of a house is much higher than the villager's house. The gap between market value and cost of

construction could be seen as a kind of compensation. Suppose that the value of a relocation apartment increases at the rate of a commercial housing loan and the value of an old village housing increases at the rate of a deposit, then the subsidy would be equal to lump-sum income once it is discounted (summarized in Table 6.4)

Table 6.4 lump-sum income and expense for the village

		Total	Collective	Household	Note
Income (10,000 yuan)	Land compensation	14,734	4,420	38.5	<ul style="list-style-type: none"> • Total: Q+R • 30% for the collective; 70% distributed evenly to the households
	Compensation for house removal	5,163		19.3	<ul style="list-style-type: none"> • Total: S+T, distributed evenly to the households
	Subsidy for factory removal	3,648		136.1	<ul style="list-style-type: none"> • Total: U+V, distributed evenly to the 10% of total households.
	Implicit subsidies for relocation apartments (beginning from 2007)	9,600		35.8	<ul style="list-style-type: none"> • Difference of market value (6,000 yuan/ m²) and construction cost (2,800 yuan/ m²) • Increasing rate (3.8%) = Xiamen's interest rate of commercial housing loan (6.32%) in 2006 - RMB deposit rate (2.52%) • Distributed evenly among the households.
Expense (10,000 yuan)	Payment of social insurance for villagers over 45 years old	308	308		<ul style="list-style-type: none"> • Paid by the collective for individuals
	Construction cost of the urban commercial real estate	3,359	3,359		<ul style="list-style-type: none"> • N×1275 yuan/m². • Use right of the piece of land is allocated from the local state. • The collective is responsible for the construction.

5. Future long-term regular income for the village: (1) old-age pension from a social insurance program for villagers as part of the compensation package for villagers aged over 45 when their lands are expropriated; and all villagers whose land are expropriated receiving the Hukou of Xiamen (and enjoying the various welfare safety nets enjoyed by other citizens); (2) the “three ones” policy allowing the village to buy commercial real estate and apartments at subsidised price (30 square meters per capita). The rental income from the

commercial real estate including apartment leasing and shop leasing generates long-term income for the collective. Normally the rental income will increase with the development of the city. According to 2003-2004 Xiamen Consumer Price Index (CPI), the rental income from the commercial real estate including apartment leasing and shop leasing grew at a rate of 2% and 4% respectively. To govern the collective income, a shareholding system is supposed to be built, with shares distributed according to the original rental income structure from house leasing and factory leasing. Since the situation is different from village to village, to simplify the calculation, I presume that 20% of the income is to be kept in the collective and 80% is shared by the villagers, and the share income is supposed to be distributed according to the existing rental wealth of which 25% is shared by all households and 75% by former factory landlords (summarized in Table 6.5).

6. Opportunity cost of the village: (1) agricultural production value; (2) rental income of house leasing by all households; (3) rental income of factory leasing by 10% of households (summarized in Table 6.5).

Table 6. 5 future long-term income and Opportunity Cost of the village

		Income in the beginning year 2007 (10,000 yuan)			Note
		Total	Common household	Household of former factory landlords	
Opportunity cost	Agricultural production value	266.6	0.99		<ul style="list-style-type: none"> • Calculated by 3,311 yuan/mu, Xiamen's average production value in 2004, at increasing rate of 4.48%, Xiamen's average annual growth rate from 2000-2004 • Distributed evenly among common tenant farmer households.
	Rent of houses	1,529	5.59	5.59	<ul style="list-style-type: none"> • 10 yuan/m² at annual growth rate of 2% according to 2003-2004 Xiamen CPI (Consumer Price Index) • Distributed evenly among all the households
	Rent of	4,590		167.91	<ul style="list-style-type: none"> • 12.5 yuan/m² at annual

	factories				<ul style="list-style-type: none"> growth rate of 2% Owned by 10% of the households
Compensation	Old age pensions	46.42	0.17	0.17	<ul style="list-style-type: none"> Based on the estimated population over 45 years old Distributed evenly among the households.
	Apartment rent from the urban commercial real estate	455.22	0.38	10.19	<ul style="list-style-type: none"> Calculated by 16 yuan/m² at annual growth rate of 2% Supposedly 20% of the income is kept in the collective and 80% is shared to the villagers according to the existing rental wealth of which 25% is shared by all households and 75% by the former factory landlords.
	Shop rent	635.25	0.52	14.15	<ul style="list-style-type: none"> Calculated by 200 yuan/m² at annual growth rate of 4% according to 2003-2004 Xiamen CPI

I have measured the gap between compensation and the opportunity cost for 30 years as follows.

1. For the entire village as a whole, the relation between the lump-sum compensation and the opportunity cost is as follows (summarized in Figure 6.7)

- (1) The land compensation equals 30 years of agricultural output.
- (2) The compensation and subsidies for house removal equals 3 and a half years of the original rental income of house leasing.
- (3) The compensation and subsidies for factory removal equals only 10 months of the original rental income of factory leasing¹³⁶.

¹³⁶ It is 10 months because the government does not encourage the conversion of cultivated land into non-agriculture use and thinks that the workshop owners have earned enough tax-free income during this time. The compensation is based on agriculture opportunity cost rather than non-agriculture income. That explains why the main resistance to expropriation comes from the 10% of villagers who are workshop owners, why the resistance from apartment landlords is less than workshop owners and why the expropriation of fields is relatively easy.

2. For the entire village as a whole, the relation between long-term regular compensation and the opportunity cost is as follows (summarized in Figure 6.7).

(1) The old age pension organized by the state as part of the compensation package is a social security provision, but the allowance is just too small compared to the original rental income achieved by the landlords.

(2) Initially, the future rental income from the urban commercial real estate granted to villagers as part of the compensation package was set at about 70% of the original rental income from house leasing. Because the growth rate of shop rents is higher than apartments, however, this rental income is expected to grow to equal the original rental income from house leasing in the long run. Besides, the improvement of the liquidity may uplift the market value of urban estate.

(3) Since the former factory landlords can make much more income from renting estate than from compensation, the opportunity cost of rental income from workshop leasing can only be compensated by a small amount. The reason why those owners can make such a lot of money is the overspill value of the urban infrastructure. Moreover, the owners pay no tax for any public services, and this encourages them to take extra advantages of the formal industrial estate market.

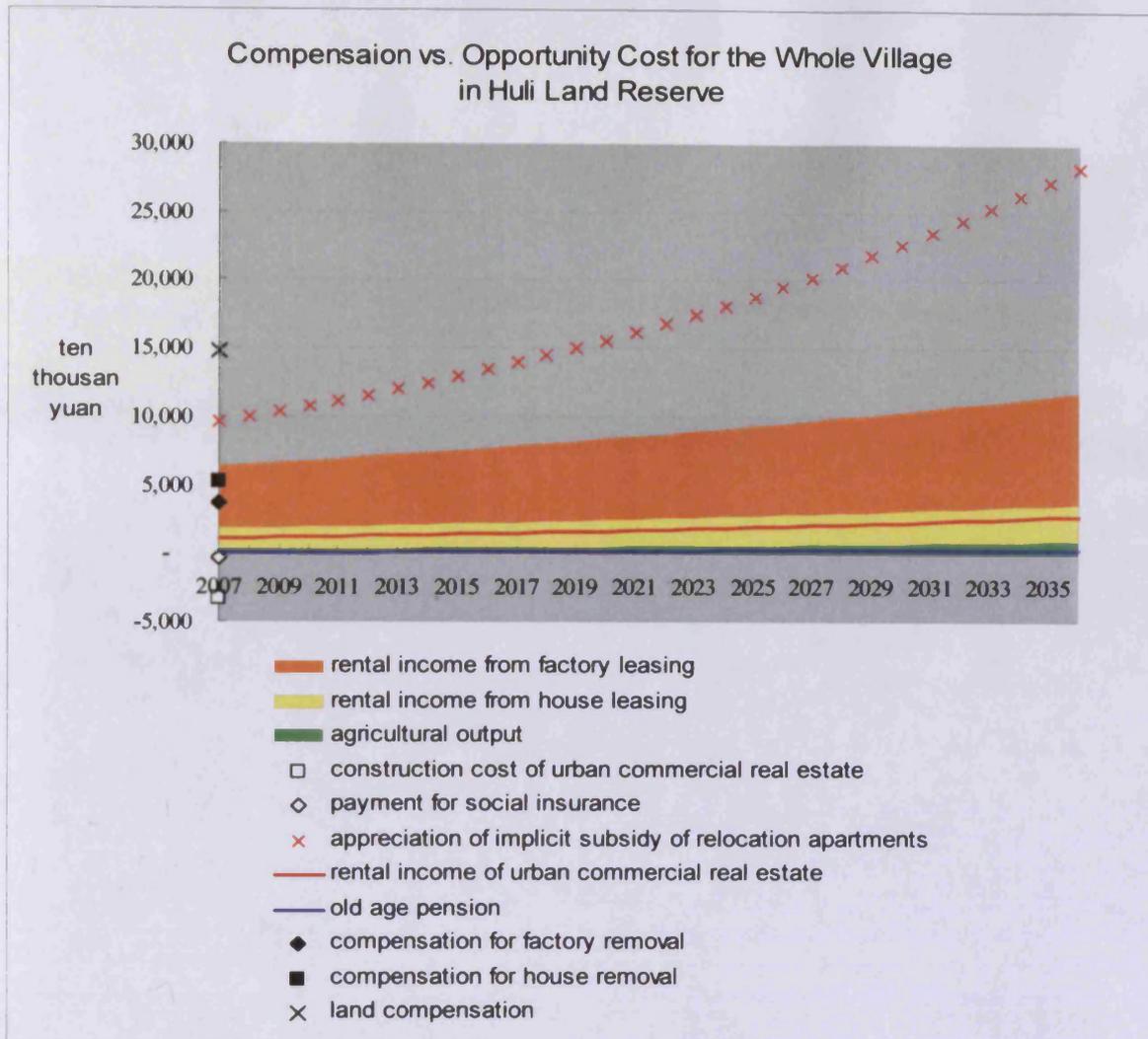


Figure 6.7 Compensation vs. opportunity cost for the whole village in Huli land Reserve

3. For the common landlord households (summarized in Figure 6.8)

- (1) The lump-sum compensation equals the sum of agricultural production value and rental income from house leasing for eight years.
- (2) For villagers who rely on rental income from apartments, the share of collective urban commercial real estate only makes up about 20% of their original rental income. Again, the reason that those landlords can earn big money is due to the windfall of free-riding on urban infrastructure and public service investment. That is why only peasants who happen to live nearby urban areas can become workshop landlords.

After expropriation, most part of the windfall is taken away.

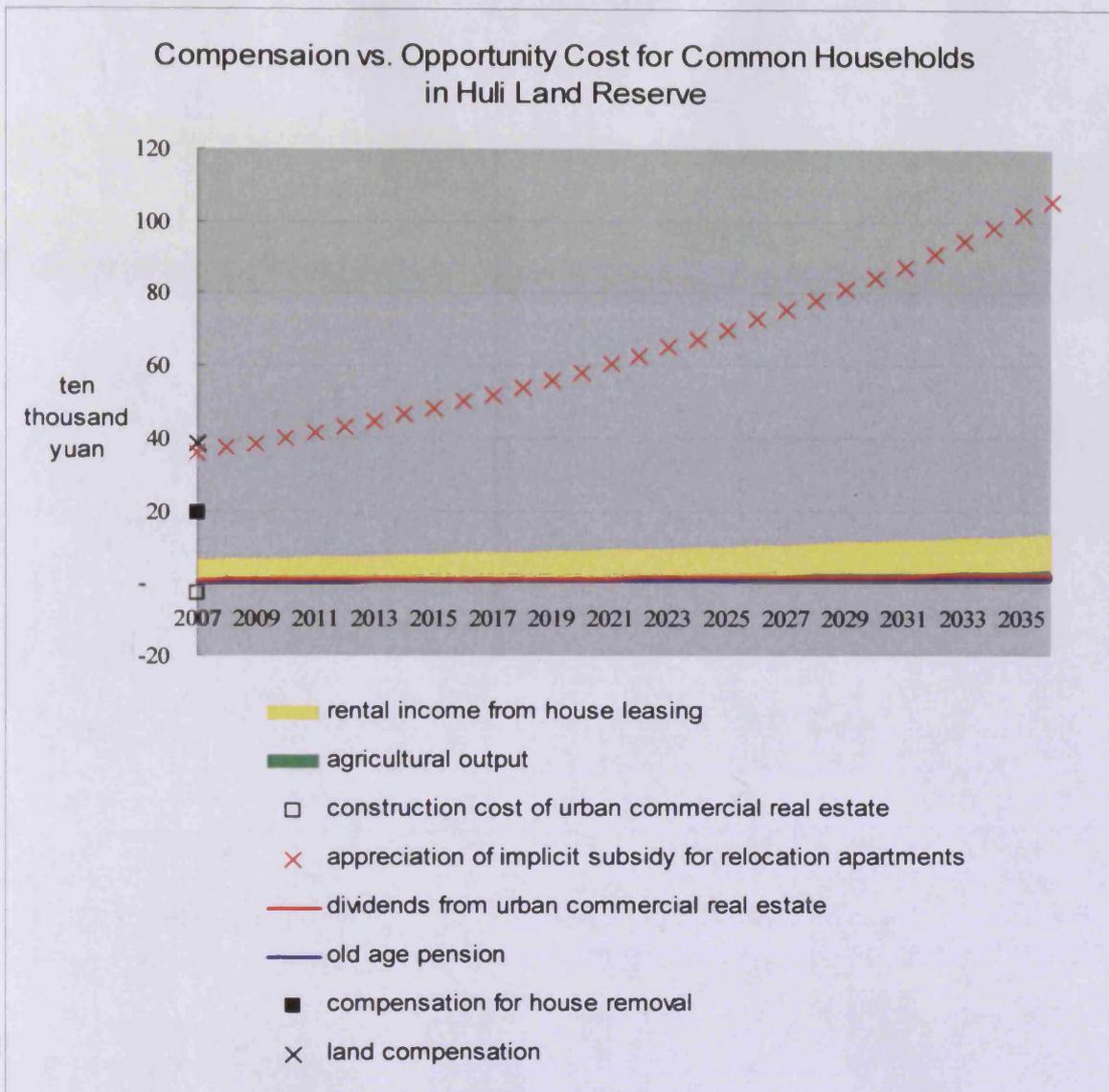


Figure 6.8 Compensation vs. opportunity cost for the common households in Huli land reserve

4. For the former factory landlords (summarized in Figure 6.9):

(1) Since the factory landlords normal rent apartments as well as workshop, they have income from both house leasing and factory leasing. The lump-sum compensation only equals one-year total rental income from house leasing and factory leasing. That means if they can extend their

estate for only one year, the income will exceed the sum of compensation. That is why the factory landlords try their best to resist the expropriation.

(2) Dividends from the urban commercial real estate they share equal 15-20% of their original rental income.

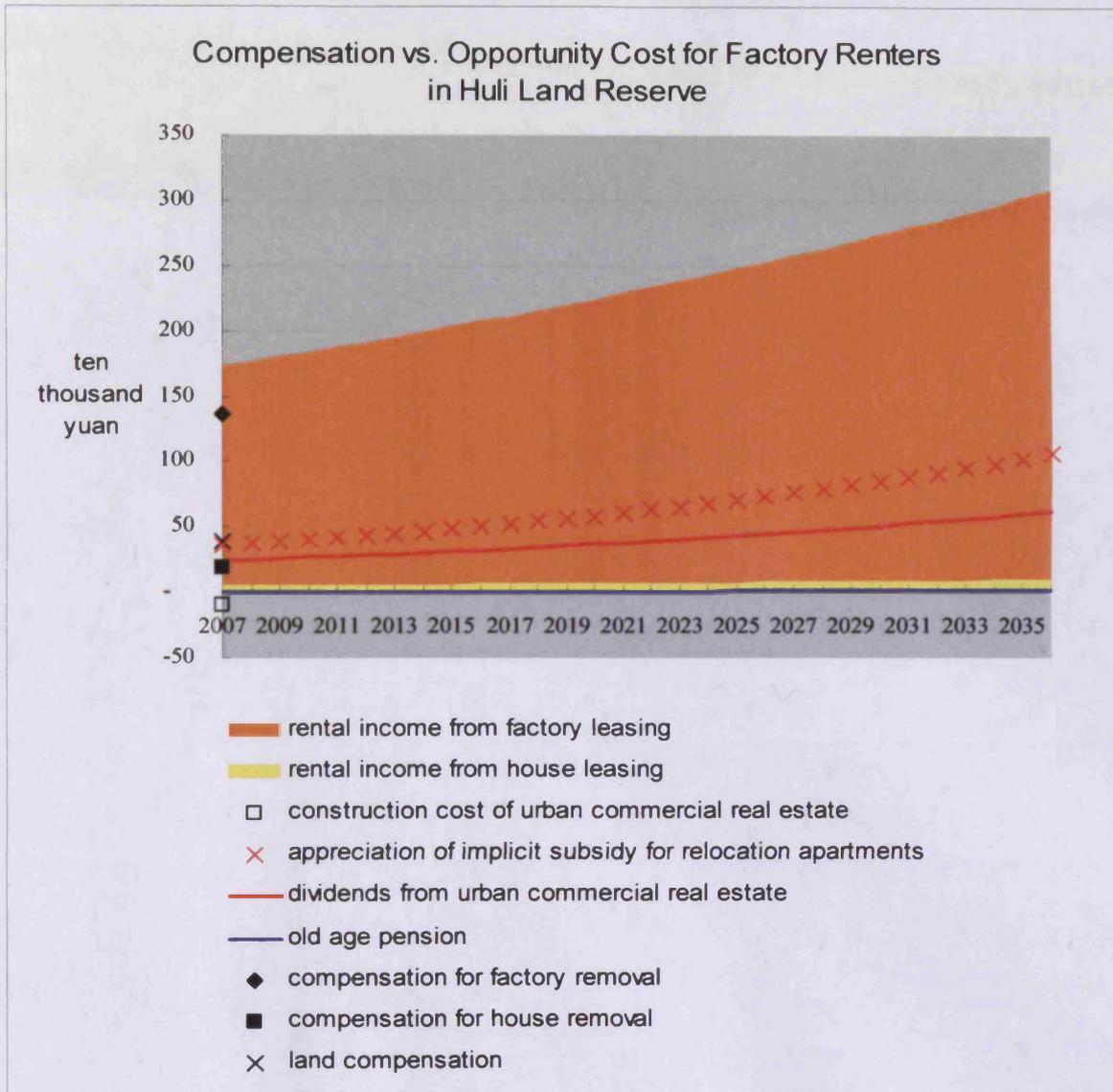


Figure 6.9 Comparison vs. opportunity cost for former factory landlords in Huli land reserve

The reckoning above shows that the gap between compensation and existing benefits means a decrease in regular income. For the common households whose

income is mainly from house leasing, the lump-sum compensation equals the sum of eight years of agricultural output and rental income. Besides, they get relocation apartments with complete property rights in the urban area and will benefit from value increase of their new real estate rights. However, for the factory landlords, the sum of the compensation and subsidies for land expropriation and factory removal and dividends from the urban commercial real estate is much less than existing rental income. This is why land expropriation continues to meet strong resistance.

6.6 Urban developmental land reserved for villages

6.6.1 Initial of urban developmental land reserved for villages

The case of Huli land reserve shows how Xiamen has improved upon China's general mechanism of compensation for land expropriation, which is to make up regular land income with lump-sum compensation. The general approach has been for villagers to have their means of production requisitioned and receive compensation by living materials. As I have already noted, this is like compensating rabbits for hunting rifles. Xiamen, like many other coastal cities, now compensates villagers with urban land as a future income source. Xiamen's model is called *urban developmental land reserved for villages, three ones* or *golden brim and silver fillings*. The 'developmental land reserved for villages' refers to the assignment of the piece of urban commercial land to the villages that will be expropriated. These village-owned commercial areas become incorporated into urban area sooner or later. In the outer sphere of Xiamen, the procedure follows the 'three ones', already described, i.e. one relocation apartment for private use in case of house removal, one apartment for lease and one shop for lease. Among these, the apartments and shops represent developmental land and is the 'golden brim, silver filling' and this takes a spatial form. In order to accelerate development of industrial parks, the local state expropriates farmland, bypassing village centers, and locates the 'three ones' (the 'golden brim') around the edge of village centers to provide apartment leasing for migrant workers, and improves the built environment of village centers, which are know as the 'silver

fillings’.

The commercial development land in the compensation package may be developed in various ways. The per capita quota of developmental land is designated with a rule of 15 square meters of land or 30 square meters of floor area. Usually, the local state will assign use rights over this urban land to district governments and constructs mix-used buildings of apartments, office buildings and stores. Then the collectives purchase the real estate at a price equal to direct construction costs (the land price is free), using money from the compensation of collective land (the compensation of removed houses and factories goes to households and landlords). The property rights of the real estate is urbanized and the development is not limited to private or communal use and can be leased out on the market for profit. Sale of these assets is not allowed, however. In order to manage the real estate as a whole and ensure a long-term stable income for villagers, the shareholding system is set up to allocate shares and dividends to the villagers. What the local state implicitly gives the villagers is the market value of the land lease. They can realize this value by letting but they cannot sell their rights as landlords. In practice, this might be another introduction of ambiguous property rights since the village could rent to an operator who then sub-lets. So long as the terms of the 1st and 2nd tier let are sufficiently flexible and secure, this may amount to an open market system. The villagers remain landlords and owner of the initial ‘lease’ from the state (or land grant might be more accurate). Thereafter, there is nothing in principle, stopping a relatively free market emerging in sub leases.

Unlike cash compensation, the rental value of a village’s new urban real estate will increase along with economic growth. Therefore, this method of compensation turns the lump-sum cash compensation (rabbits) into long-term regular income (hunting rifles) and helps the villagers better integrate in the urban economy.

To illustrate this further, consider some ongoing examples. Tong’an Industrial park that involves six administrative villages (including 31 natural villages) had constructed 97 mix-used buildings with a total floor area of 338.5 thousand square

meters before April, 2008. Among them, 69 buildings of 235 thousand square meters have been assigned to the villages. Up to now, four natural villages and one administrative village have completed share distribution of 128.5 thousand square meters by 4,672 shares. For villages whose per capita floor area of buildings exceeds 30 square meters, their shares are made up of dividing the floor area by 30 square meters. Each villager will be distributed one share and the residual shares are purchased by the collectives. On the other hand, for villages whose per capita floor area is less than 30 square meters, their shares will be established by dividing the floor area evenly. Overall, there are 1,487 households with a population of 4,509 persons participating in the shareholding system. The highest value of all the villages is 38.7 thousand yuan per share and lowest is 29.8 thousand yuan, which varies from village to village.

Among them, Houzhaqianpu Village obtains per capita annual income of 5 thousand yuan, equaling the per capita income in rural areas in Tong'an District in 2006. Wulv Village, locating in the center of the industrial park, contains four natural villages, 960 households, 3,100 villagers and ten thousand migrant workers. As most villages distributed all the land compensation to the villagers and raised a mortgage to finance construction, Wulv Village distributed 30% of land compensation to the villagers and kept 70% for construction of developmental land. The village also unified the rent at 40 yuan per square meter per month for shops and 11 yuan per square meter per month for apartments¹³⁷. It is estimated that the rent ratio could

¹³⁷ Why did they not set a "market rent"? We can know what is the market rent? How it is made? According to the pricing mechanism in the appendix of this thesis, the market price is determined by consumer competition when the demand exceeds supply; and is determined by producer competition when supply exceeds demand. At the beginning, a new industrial park does not have enough workers. The new plants need at least 2-3 years to build, decorate, fix machines and train the workers. During this stage, the demand for shops and apartments, which need only 1 year to build, is less than the supply. The market price should be determined by producer competition - many shops and apartment pursued by few consumers. Even if the consumers are able to afford higher prices, the market rent would drop to a very low level. Since the "three ones" can be built within the original territory of the village, the surrounding area of a group of workshops normally coalesces into one single village. It allows the collective to monopolize the market of shops and apartments. Therefore the collective simply gives a price and forces the enterprises to accept it.

There is also an interesting twist here in respect of the inter-government competition. In Xiamen, there is a special institutional arrangement called *Exclave Economy*. This institution allows the district governments (Siming and Huli) in downtown areas to build industrial parks in remote districts such as Tong'an or Xiang'an and to levy a tax on these. The remote district governments, which are usually poorer than downtown district governments and therefore lack budget to grant subsidy to attract investment, give the tax levy to the downtown districts but make money from the surrounding shops and businesses. When the enterprises complain the price of apartments is too high, the downtown district governments propose to build their own apartment and supply to the enterprises in the

reach 70% before the end of April, 2008. This increases villagers' annual income by 5 thousand yuan, much more than the former agricultural output. Also, it will increase furthermore when enterprises enter the industrial park.

Land expropriation in this way turns villagers' regular income from agricultural output to a lump-sum income of cash compensation, which further turns to regular income from urban commercial real estate for lease to migrant workers through the policy of urban developmental land reserved for villages. The latter process used to be practiced informally in 'inside-city villages' where individuals constructed illegal buildings on collective-owned land. Those illegal buildings are not protected by law and face punishment like coercive removal, penalty and seizing. The policy of urban developmental land reserved for villages legitimises this process by urbanizing rural land through expropriation and sharing developmental benefit through collective-owned urban real estate. This process has built up a symbiotic relationship between the expropriated villages and industrialization - the faster developing the industrialization is and the more migrant workers arrive, the more the rental income and the higher the value of the real estate will be. It has had some affect in incentivising villages to negotiate land-expropriation deals with the government. The resistance that remains is generally a result of attempts by villagers to hold out for even more favourable deals. Once the principle of allocating villagers a degree of rights over unearned land value is established, then hold-outs and negotiation costs are likely to get more problematic, since there can always be argument and counter argument about the level of land profit sharing. In some ways, the more absolutist argument developed in previous chapters – villagers have no logical right to land value they did not create – might be thought to be an easier position for a government to hold. However, as I have shown, it was not, in fact, easy to hold. The accelerating land value gap eventually led to institutional evolution that broke this absolutist

park. This proposal provokes outcry immediately from both villagers and local district governments. The disputes have been presented to the municipal government of Xiamen. The final result is that downtown districts have stopped building their own apartments and meanwhile the collectives have limited the price of apartments. This story demonstrates that: 1) government is a profit-seeker like any enterprise in the market; 2) the market rent is an equilibrium result between consumer competition and producer competition. It is decided by either producer or consumer not by the so-called (fictional and invisible) Walasian Auctioneer; and 3) the nature of price control is to allot surplus among villagers, producers and governments.

position.

Location matters to pricing. The six villages that have started the policy have leased out 16.7 thousand square meters of floor area for stores and 76.6 for apartments at average rents of 41 and 11 yuan per square meter per month respectively. Wulv Village, located closest to the industrial park, has developed very well since 2007, when the development was completed. On the other hand, in the villages farther away, tenants rescinded the lease. The rescinded leases have reached total floor area of 12.6 thousand square meters. This makes the point that the villages' developmental land must be developed in a way that keeps pace with urbanization. There is a vacuum period in which the villages have lost farmland but in which demand has not yet grown to maturity. This is a difficult stage of urbanization for this model of compensation and land readjustment. The length of time within the vacuum period determines how smoothly the rural economy turns to urban economy (Figures 6.10-6.13 illustrate various stages in the process). This is similar to the quandary faced by planners in advanced market economy cities, who have to make a decision about phasing-in services such as schools and shops. There is often a period in which residents move in to an area not yet serviced with a high school or a major supermarket. Successful planning can secure early commitments by educational authorities and supermarket firms but generally service providers like to see the demand in place first. The quandary faced by Chinese planners and village authorities organizing commercial land in villages is one of balancing books. In keeping with my general thesis of the city as a firm, the commercial land needs to be designed, serviced, scheduled and marketed in a realistic way to generate income streams for the relocated villagers. This is a bit like the parent company setting up subsidiary firms with viable businesses to be self sustaining and thus releasing some of the latter's assets to be used by the parent firm to grow the wider business.



Figure 6. 10 Wulv Village before development

Source: author's photo



Figure 6. 11 The urban developmental land (golden brim)—collective owned shops and apartments—in Wulv Village

Source: author's photo



Figure 6. 12 *Golden brim and silver filling* in Wulv Village
Source: Xiamen Urban Planning Bureau



Figure 6. 13 Wutu street in Wulv Village

The main street is 800 meters long. Buildings on both sides have a total floor area of 120 thousand square meters, including stores of 20 thousand square meters. Rents from stores and apartments are respectively 60 and 11 yuan per square meter per month. This will bring the village an annual income of more than 10 million yuan. But because the enterprises have not started producing yet, the stores complain about the lack of demand.

Source: author's photo

6.6.2 Path dependence

The process of 'urban developmental land reserved for villages' shows path dependence in its evolution from so called Township enterprises - the prototype of village industrial land. 'Township enterprise land' was generated at a time when there was a lack of land market in the 1980s and the early 1990s. Because township enterprises were usually located randomly by investors or collectives, rural industrialization by the township enterprise system lead to a very disorderly development, quite unrelated to the spatial economics of the industrial market, labour market or land market. Xiamen Municipal government thus initiated the policy of 'reserving village industrial land' in 1991 to regulate the township enterprise land by planning in advance and concentrating management. The policy was stated as follows.

1. Objects: village industrial land needed to be comprehensively planned, reserved in advance and developed aggregately in order to accelerate rural industrialization.
2. Quota: each village was assigned a certain area of industrial land based on 15 square meters per villager
3. Planning procedures: location and scale were invested and recommended by planning department of the local state, applied by township governments, reviewed by district government and approved by urban government.
4. Property rights: the industrial land was reserved only at the planning level. Its agricultural land use was not reassigned until there was an industrial project approved to locate on it.
5. Land use control: the industrial land was mainly for township enterprises and foreign enterprises. It could not change to residential use. Collectives could build factories for lease but were not allowed to sell the land.

The policy focused on industrial land-use regulation and forbade residential use. Thus, villages near cities shared urbanization through the township enterprise system

and house leasing. They attracted foreign enterprises in the name of township enterprises by cheap land leasing and provided housing and local consumer services for mass migrant workers by houses leasing. This gave collectives and villagers early experience in being de facto landlords.

Fourteen years later in 2005, the local state in Xiamen declared that it would continue the original policy of ‘reserving village industrial land’ and transformed it into ‘reserving urban developmental land for villages’ (called ‘village developmental land’) as a way of compensating expropriated villages. Since the land market in China has now been established, the village developmental land can, in principle, be incorporated into the urban real estate rental market and the market can help determine appropriate spatial pattern of industrialization and commercialisation. This is one big difference to the previous incarnation of the policy, in which the village industrial investment decisions were not subject to market discipline. The other difference is in the allocation of rights and responsibilities to competent parties. In the new system, the industrialization part - development of industrial parks, construction of factories, attraction of investors and factory leasing management - is handled by the local state, while the urbanization part is shared by the expropriated villages by assigning the village developmental land for residential and commercial uses to provide housing and local consumer services for migrant workers.

Comparison of township enterprise land, village industrial land and village developmental land reveals different definitions of property rights. First of all, both township enterprise land and village industrial land are owned by collectives and are prohibited from trading in the land market, while village developmental land is state-owned urban land with a more complete bundle of property rights in leasing, transferring, mortgaging and inheriting and a higher market value as well. Both township enterprise land and village industrial land are limited to industrial use serving industrialization, while village developmental land is for residential and commercial uses serving urbanization. Township enterprise land and village industrial land are not specifically related to land expropriation, while village developmental

land only applies to expropriated villages. Finally, township enterprise land is not limited by quotas, while both village industrial land and developmental land is. At the very beginning, the township enterprises were few and small. There was not a special limit to the size of industry land. When township enterprises began to boom, to preserve the cultivated land, in 1991 Xiamen government required that all township enterprises must be located in planned areas, (usually they were nearby their villages) and that the total area of planned industry areas should not be larger than 15 square meters *per capita*. In 2005, Xiamen government launched several state-run industrial parks. Since then the government stopped approving township enterprises altogether. All factories must be in industrial parks. Instead, villages were allowed to buy apartments and shops on the development land (golden brim) nearby the industrial parks and at discounted price. The nature of development land is not collective but state-owned, which means the land can be sold or mortgaged on the market.

Yet, the quota has been transformed to a concept of 'developmental right'. At the beginning, in order to allocate industrial land to villages evenly, the local state set a per capita quota of 15 square meters. But this is very hard to operate because locational conditions determine a varied floor area ratio. Therefore the quota was transformed into that total floor area on the development land, limited to 30 square meters per capita. This criterion has extended to the system of village developmental land but in that context has been claimed as a permanent 'developmental right' in compensation bargaining. Originally, in land expropriation, the village industrial land was supposed to be expropriated too by law. However, villagers in Xiamen Island took the quota from the earlier village industrial land grant system and claimed to keep it for new land-use at higher market value as a compromise in the compensation bargaining game. Finally, considering the accelerating pace of industrialization and urbanization, the local government agreed to return this 'developmental right' back to the expropriated villages and to formalize it as urban land. This proved an enlightened extension of the business model of the Chinese city 'firm' and has avoided the need to extensively apply more coercive approach to securing rural land for urbanization and

industrialization.

6.7 Conclusion

I have shown in this chapter how local government's monopoly of primary land market actually works. In the real world, increase of land value caused by urbanization would neither totally belong to the public as Sun Yat-Sen advocated one hundred years ago, nor to collective landlords as suggested by today's mainstream economists in China. It is an in-between changing practice - the society will follow an institutional path with the least transaction costs (following the general thesis of Douglass North), to constantly adjust the distribution between the state and the villages.

The market role of the state has been revealed in many different ways in the course of my discussion in this chapter. It is an enterprise characterized by territorial management. The bargaining for land value between the local state and villagers is no different in principle from any cost-reducing strategy of a common enterprise for profit maximization. Like any successful business, the economic success of the Chinese local state is based on its business model, which is distinguished by state monopoly of the primary land market in the context of a lack of property tax. Whether the business model based on property tax or the one based on monopoly of primary land market is better is determined by transaction costs in specific institutional conditions.

The execution of monopoly is obviously not that thorough in practice and there is considerable income leakage from public goods. Yet, compared to other economies, the leakage in China is low and the returns efficiency is high. As the institutional environment changes, the profit model of urban government may turn to a property-tax-based model. Nonetheless, at least at present, the practices show that the monopoly of primary land market is still a successful profit model that fits the current institutional environment. This chapter has shown that the monopoly model is not a monolithic one. It is susceptible to pressure to change. I have shown how the Xiamen

government has shifted its position and pragmatically now shares a portion of development profit with the rural collective suppliers of urbanization land. This has lowered the transaction costs of development as the redistribution from general local state to 'micro local state' (village) has 'bought off' those who would otherwise resist. But it is not really about 'buying off'. It is about finding an efficient model of business to keep urban growth going and to address concerns about the distribution of proceeds from that growth. In the course of this institutional evolution, several governance boundaries have been crossed. There is a new sense of partnership between village collective and urban government with a more efficient allocation of rights and responsibilities than there was under the earlier township enterprise policy. There is also a new tier of collective governance – share-holding structures creating privately-governed territorial enterprises. Villages are now organized not only into collectives but also as share-holding firms. This is a truly remarkable phase of urban institutional evolution. Not just for China but for the world, since many of the models of urban governance and property rights that I have described in this and previous chapters have not been experimented with at such a scale (or indeed at all) elsewhere.

Transaction costs and institutional design are clearly extremely important to urban management. Thanks to the spontaneous and diverse experiments of the local states in China, good institutions are being continuously created and then spread, through competition, among cities. This therefore generates endless power for the rapid growth of Chinese cities. This would be impossible in the age of the command economy in which there was no appetite for or enabling structures for institutional experiment and design. Neither, it should be noted with some irony, would such institutional diversification be likely in many advanced democratic countries. Decentralization and competition are the institutional preconditions of these innovative stories and one of the unlikely legacies of the command economy era in China has been an intense degree of inter-territory competition and a high degree of local autonomy. That autonomy is inextricably linked with the land-expropriation and leasing business model that I have documented in such detail.

CHAPTER 7

CONCLUSION, DISCUSSION AND EXTENSION

7.1 Introduction

Urban planning has long been troubled by its failure in comprehending the various parties to the planning process and their behavior. A planner is like a designer contracted by a proprietor — he tries to discover the demand of consumers but sometimes, if not often, ignores the demand of his client. He has no idea of the proprietor's motive or blurs the contractual relation with the proprietor, deeming that the proprietor should be obliged to produce according to his design. Furthermore, when he proclaims himself judge between proprietor and the public (i.e. consumers) or even as the representative of the public interest to superintend and restrict the proprietor, his career and profession is at risk. This is not a sustainable or tenable position – unless of course the proprietor for one reason or another eventually accepts the contractor's self-appointed role (but that is another story).

Municipal planners are not self-employed. Their chief client is the government¹³⁸. A basic assumption underlying mainstream western planning theories is that the ultimate client of urban planning is the public. Because of this assumption, urban planning is transformed from a practical subject into an academic and theoretic game. Perhaps this game will not last – more and more western universities are canceling courses in urban planning because of a lack of social demand for their graduates. At the same time, there are other subjects coming up in the wings to supply the skills that clients really want – in the UK, for example, landscape architects developing an

¹³⁸ We adopt the broad definition of government: “organizer of collective actions” to include large-scale developers. However, due to the absence of taxation power, the government acted by developers can only be momentary (before the transfer of developed land) and incomplete (impose property management fee). Only enterprises that possess complete residual rights of territories can be counted as genuine governments.

reputation for being good master planners and surveyors having the property, financial and management skills to dominate the newly emergent regeneration profession. The reason is quite simple: planners can neither devise products that cater to all preferences of the public (because such products don't exist at all) nor locate actual demand for such products. This is similar to an engineer who insists that he is working for consumers rather than entrepreneurs - he will not be able to sell his ideas, no matter how much he knows about public interests. Of course, it may be said that in a democracy, the public is the client. But this is to miss the point of government as a collective action mechanism. Government is the client when it comes to decisions that have been deemed over time to be best handled collectively by a political system. Or in other words, and following the arguments developed earlier in the thesis, a democratic government is like the executive part of a people-owned firm¹³⁹.

In China, since urban planning still focuses on engineering and aesthetics. The academic virus that sets up this antipathy towards the urban proprietor has not been spread widely. Urban planning is still a hot subject that universities seek to offer. Nonetheless, although Chinese planners provide more of a direct technical service to their governments than western planners arguably do¹⁴⁰, they face another theoretical dilemma that faced western urban planning in the 1970s. This dilemma derives from the architectural tradition and, in China, the practices of the planned economy. It is the presumption that a city is like a building and has a sole owner, urban government.

With this mindset, there is need neither to consider the political economy of a

¹³⁹ Government is simply a company that supply public goods. A so-called democracy is a client-owned company. Democracy or autocracy is only a matter of ownership of the company. Different types of government are like the different kinds of company. People test different political system through competition in the market for public services. The market chooses the winner. As I argue further in the appendix, the variety of demand will lead to variety of political system.

¹⁴⁰ Nowadays, the virus of certain strands of western theory is penetrating China's planning circles via Chinese "theorists'" blind imitation. They tend to encourage a disbelief in government and set up planners to supervise or even reform government behavior. Although most of these theorists work in universities and research units rather than practical fields, their influence has the danger of turning young planners into dreamers. They no longer concentrate on their professional skills to serve property owners; rather, they are indulged in introspection about their own moral stands. Those who are bright enough attempt to gain academic vanity by occupying the moral high ground.

mixed market environment nor to consider the *transaction costs* of urban planning and management. The optimal city is artistically and technically defined. In practice, however, the ownership of a city is distributed among numerous interested parties and a city government cannot freely organize a city's functions and facilities merely based on technical rationality. The existence of transaction cost hinders the accomplishment of the 'optimal' planning outcome.

A world of people with various interests is the major watershed between the profession of urban planning and the profession of architecture design and engineering design. A key concept in Chinese urban planning that is derived from architecture is to regard a city as a building. Yet, a city is always owned jointly by numerous proprietors, except during its early stages. Urban planners differ from architects in their aim of organizing *collective action* and realizing *public interests*. In other words, urban planning should be able to devise new professional skills to guide the city towards "technical optimization" in a world with transaction costs. This contrasts with traditional planning skills – engineering and aesthetic technologies – that merely seek to actualize the maximization of urban interests defined in terms of a 2 and 3D representation of what is really a far more complex and dynamic puzzle. It is clear that traditional urban planning can't offer the professional as set of analytical tools for *institutional design*. And this is what really useful urban planning requires: physical design + institutional design. Urban planning therefore has to draw support from the mainstream social sciences – such as institutionalist theories from economic - to extend the field of urban planning knowledge and professional competence.

The purpose of this thesis has been to reveal the actual process of the provision of a city, using the case of China as an example. The city is the biggest of all *public goods* demanded by society. In searching for knowledge that is strong enough to guide my own role in overseeing the supply of cities in China over two decades, I have found myself looking for the theoretical tools of institutional design in contemporary economic theory. And with this I have discovered a redefinition of the government's market role that gives both explanatory power in urban analysis and a basis for

practical institutional design. A focus on institutional design broadens the domain of urban planning and can help planners achieve their goal of 'ideal cities'.

Within the framework I have elaborated in the thesis, planners do not serve the consumers (the public) directly; rather, they serve the public indirectly via the government. And the government that they serve is best viewed as a territorial enterprise. Planners therefore have to comprehend the business model of government (and, where needed, as in the case of rural-urban land conversion discussed in Chapters 5 and 6, even help the government design new business models). Their professional skills can be and should be an indispensable part of a government's business model. This is particularly true in China, where land is such a fundamental part of that model.

It is not novel to apply economic theories to the study of urban problems. But most existing studies merely either seek to verify economic propositions with urban planning practices or interpret urban phenomena with economic tools. Few studies are dedicated to reforming economic theories so that they can be adapted to the practical demand of urban planning. Subsequently, urban planning is a passive consumer of economics and has hardly made any contribution to economic theories. The seminal contributions to land matters were made by the classical economists (Ricardo, von Thunen) and then by the neo-classical economists who developed those classical ideas (Alonso, Isard). There is a small body of writers working in the New Institutional Economic domain who are arguably developing sufficiently robust applied theories to feed back into main stream institutional economic and more general political economic theory [William Fischell on property rights and zoning, Anthony Downs(1957) on zoning and voting, Webster and Lai (2003) on property rights, transaction costs and spontaneous urban order]. In this thesis, I have not simply copied existing economic formulae; but rather tried to figure out why standard economics has failed to explain urban phenomena and tried to creatively apply economic ideas to make sense of urban planning – of its general agenda and selected specific challenges. In the appendix I have gone further. I have set out a refinement of

economic theory – a revision of price theory – that better explains price formation and therefore better guides policy in the urban domain (and also overcomes what I view to be a major problem with conventional main stream economic models).

It is crucial for planners to understand the essence of their professional role by acknowledging the market role of government and understanding the actual processes by which the biggest public goods, the city and all its interconnected patterns of consumption, is provided. Contemporary economic theories suggest that to regard the government as a self-interested operator rather than a non-profit commonwealth organization whose purpose is to resolve ‘market failure’¹⁴¹, is a better basis for interpreting motive and behavior of governments. This analytical framework also helps transform urban planning from an engineering and technical oriented profession into an interest-coordinating one. It does this by assuming the city to be a territorial organization with multiple property rights rather than single property rights.

The position that I have taken and developed in the thesis is that the government is a firm that manages territory. It is a self-interested organization rather than an altruistic one. The thesis has been developed in the context of China, in which local authorities quite clearly have operated with cut throat competitiveness for the last 15 to 20 years. The thesis would also repay consideration in the context of the less or more orderly competition that takes place between cities in all countries.

The thesis challenges the view of urban planning as a tool of government in its mission to regulate ‘market failure’. In places, it goes further and challenges the very idea of market failure. The government is neither a looker-on (referee) nor an alternative to the market but a market participant.

The institutional environment within which a collective endeavour operates defines the possible business models of a firm. The choice of business model in turn determines the behavior of a firm. Only with the understanding of the government’s business model can planners make their professional skills an indispensable element

¹⁴¹ This is entirely different from the assumption of traditional economics that took the government as the “referee” of, rather than participant in, market competition.

of this model. Within this new framework, 'institutional design' in urban planning is invested with the same significance as engineering design and aesthetic design. Planning theorists have to search for appropriate theoretical tools for institutional design and thence to search for creative institutional solutions to ensure the appropriate implementation (and evolution) of their physical designs and visions. If planners fail in the search, urban planning will be driven out of the competition for serving government and become completely marginalized.

This chapter summarizes the main conclusions of this thesis and then puts forward possible applications of the theories and methods introduced and elaborated in the thesis. I endeavour to show that the improved analytical tools can not only back up the basic discussions and assertions made in this thesis, but also apply more widely to other economic problems after being generalized in the Appendix.

7.2 Explanation of the behaviors of local governments

7.2.1 Rethinking market role of government

The answer to the question of what is the role of local government in relation to the market actually involves several essential issues concerning various aspects of urban studies. The most important one is the emergence of cities and the provision of public goods. The different answers to the question of how local public goods are produced determine to a great extent the understanding of the market role of urban planning.

Firstly, starting with the question of how to provide public goods efficiently, this thesis examines the dilemma of traditional theories. From the point of view of traditional economic theories, government is a redundant part in the perfect market system. The highest state is for the market to run freely without the intervention of government. But the reason for the existence of government in reality is that there is a type of product, namely collective consumption goods, that the market cannot provide and price. The reason is that they are non-excludable and have infinite economies of

scale. Only government can provide such goods it is alleged. Therefore, the market role of government is quite obvious under this framework: except for public goods, the less the government intervenes with economy, the better. The market is able to handle all market problems on its own except public goods (which would include certain regulations). According to this viewpoint, in most economic and urban planning theory, government is assumed to be an impersonal and altruistic organization which stays neutral in market competition and various institutions, including the various institutions of democracy, are designed to hinder the government departing from this role.

Following certain themes in institutional economics, I have suggested that urban government in China (and urban government more generally, though I have not developed or evidenced the argument beyond China) should be seen as a self-interested organizer of collective action¹⁴². Just like a common enterprise, the government can develop either spontaneously or forcibly; it can be both private-owned (autocracy) and public-owned (democracy). But in contrast to other organizers of collective action, the government is backed by complete or partial territory ownership while organizing collective action. Among other qualities, this gives it certain intrinsic monopoly powers that it can use in its operations. But those monopoly powers are constrained by competition from other local governments. I return to this later in this conclusion.

This hypothesis unambiguously identifies the main actors of urban activities. The government is the supplier of public goods while the residents and enterprises are the consumers. Having established this, it becomes possible to introduce an analytical model of supply-demand, the most fundamental model in economics. Meanwhile, the

¹⁴² Many spatial economic models are grounded on Thunen-Alonso. This type of model is often criticized for their arbitrarily assumption of a central market and lack of explanation of its emergence. Other spatial models focus on suitable location of market centers but do not explain who should build them or how. Even the classical models of Christaller and Loche do not unambiguously identify themselves as either descriptions of what is or what should be. They lie ambiguously between being positive models and normative planning models. The idea developed in this thesis that urban governments are territorial enterprises who build cities to maximize profit complies with the empirical studies of the origin of cities (e.g. Munford, Lewis, 1961).

government is brought within the nexus of rationally behaving agencies – it is a profit maximizer – and the government, like other urban agencies becomes an economic object that can be analyzed normatively.

The explanation of the role of government also gives us clues in better understanding the differences between settlements at different scales: between villages and cities. It helps explain the birth of a city; a goal that many economic and geographic theories fail to achieve. In traditional theories, the urban is mostly defined by its population size and its type of industry. From the view of my thesis, the essential character of a city is its institutional composition. If a firm supplies public services in a certain territory, this territory can be defined as a city. The firm is the government and the government the firm. Otherwise, the territory is defined as rural area or village, no matter how great the populations is. The level of urbanization not only depends on the percentage of urban population but also the level of public services. This institutional composition of a city could be viewed as the prototype of a city, which sets a benchmark in urban analysis like DNA in biology.

7.2.2 Rethinking the business model of government

Another academic contribution of this thesis has been to analyse the business model of China's "city enterprise" and to try an understand motivation, knowledge and operating behaviour that has stimulated such high speed development in Chinese cities. The proposition that government is a self-interested subject, or more strictly, an institution manipulated by self-interested subjects, leads to some fundamental changes in the way urban planning is viewed. According to this paradigm, urban economic growth is no longer determined by allocating spatial factors optimally, but by devising a business model that can realize potential profit through market means. The core technology of urban planning is the designing of optimal business models applied to the management of land in pursuit of a government's objective. In China, I have shown that this consists of two aspects: input and output. Let's first summarise the profit mechanism design.

Public goods are, by definition, non-excludable. Free-rides therefore render the provision of some if not many public goods by private entrepreneurs difficult. This is similar to inventions prior to the creation of a patent system. In such a circumstance, technical inventions rely totally on private secrecy, a highly costly approach, to ensure the interests of inventors. Research and invention in a modern sense was not an important industry of the modern economy until the advent of patent systems that eliminated the possibility of patent infringement. This meant that the costs of research and development could be recovered through specific business channels. The provision of public goods likewise rests with the invention of an institution that keeps the benefits from spilling over and leaking due to free-riders. The quality and quantity of the provision of public goods lies to a large extent with the efficiency of the institutions that recover the costs of their supply.

The fast economic growth of China's cities can be attributed to a set of profit modes developed by China's urban governments that suit their own business objectives. With the aid of a series of taxation reforms, urban government transformed from a government under a planned economy into a self-interested market subject.

During this process, urban governments never lost their monopolization of the primary urban land supply system. All changes in land use must be approved by urban governments. Particularly, when farm land is changed into non-farm land under an urban development plan. In this case, the government will firstly expropriate the farm land and then transfer it into the open urban leasehold land market. This institution enables the government to obtain huge returns from its investment in urban infrastructures and related management services and incentivizes urban governments to construct abundant high-quality services and facilities. This they have done at an unprecedented speed. Although there are unsuccessful and inefficient investments, the highly efficient recovery of costs has greatly lowered the risk of long-term and large-scale investments in infrastructure and largely accounts for the scale and pace of urban and industrial growth.

The impact of the evolution of taxation systems on China's local government has

been widely and thoroughly examined by Chinese scholars. However, there has been little acknowledgement or systematic study of the obverse: the contribution to local government performance of residual institutions of the planned economy. I have set out to show at some length in the thesis, therefore, how the monopolization of the primary urban land market has contributed to economic growth. In fact, almost all significant academic commentary on this issue is negative concerning this issue. Chinese academics seem almost unanimously to believe that restricting farm land from converting into urban land market freely has the effect of depriving farmers of their chances to progress. Governmental expropriation is seen as an institution that loots the wealth of farmers (Liu 2000, 2003; Zhou 2005; Zhou 2006, etc.). Accordingly it is argued that it should be the target of land reform. With this preoccupation, few people have realized the significance of the monopoly for reducing the free-riding and infrastructure investment leakage problem. Small and fast developing economies in Asia such as Singapore and Hong Kong have adopted this institution for some time to great effect with respect to both the efficiency of urban development and fairness. This thesis has attempted to show that without this legacy institution from the planned economy, the development of Chinese cities would have been little different from those in other developing countries.

Next, let's summarise the thesis' ideas about input mechanism design. Rather than the Cobb-Douglas production function of new classical economics, I adopt the tradition of Smith-Marx and define fixed cost, variable cost and surplus (profit) as the production function of the (city) firm. This is used intuitively in the main body of the thesis and developed into a formal model in the appendix. I have suggested that the business model design should first pay attention to the asynchrony of lump-sum infrastructure input and long-term output. I examine the behavior of an urban government that lacks property tax but monopolizes the primary land market. From what is observed, I develop the argument that the primary source of China's export competitiveness is the large-scale subsidies granted to industries by turning lump-sum land income into long-term tax revenue. This explains the true power of China's fast

economic growth in recent years. Investments in fixed assets and export-led growth are the two macroscopic outcomes of this institution.

In a conventional market economy, the fixed costs and variable costs of urban construction may come from two different mechanisms. First, development projects can be undertaken by non-government corporations and then sold to residents for a lump. Second, the government collects real estate taxes (supplemented by transfers from taxation collected at higher levels of government) and provides public services. In China, however, due to the absence of property tax, the government has to regain its fixed cost and variable cost as a lump sum. Afterwards, it has to provide long-term and durable services with the lump-sum income. One of the solutions to solving this mismatch problem is to transform part of the lump-sum income from land lease into a continuous cash flow of tax revenue.

Following its profit-seeking instincts, urban governments in China have joined two independent sectors into a complete financing cycle. Thus they obtain lump-sum capital for infrastructure through land leasing in the primary land market and transfer part of the leased land to industrial enterprises which will yield regular taxes. The industrial land is leased at a competitive price that is below the cost of converting it from agricultural uses. The clustering of industries results in increasing and self-sustaining demand for commercial real estate and the urban government has thus set up an independent industrial-urban growth machine in which two different markets interact and perform different functions. Analysis of this business model clarifies why China's local governments pay so much attention to land development and give somewhat lesser priority to urban services. Without property tax, local governments will not operate principally as service providers. Property tax closes a circle that doesn't exist in the political economy of Chinese cities. It makes the government a direct servant of the people who pay the tax. This is a story in the evolution of the Chinese city business model that is yet to be told.

7.3 Extension to planning theory

7.3.1 Functions of urban planning

The theory presented in this thesis can help planners locate their professional coordinates. In a paper of mine published six years ago (Zhao 2002), I pointed out that planners should rethink their market roles from the perspective of city management.

In the structural framework of an “urban enterprise”, urban planning and planners take on brand-new roles and functions. Planning is no longer the representative of unclear “public interests” or the embodiment of abstract national interests. Planning itself will inevitably be marketized (no matter how unwillingly planners abandon their traditional roles or how disgusted they are at the stink of money). It should be the primary task of planners to maximize the interests of their clients to the extent permitted by law (complying with national and public interests). A planner acts more like a political strategist during the Warring States Period of China — through canvassing, he “sells” his expertise to the cities that acknowledge its value. He is not the coordinator or interceder of different cities’ interest. His aim is to assist the city that “employs” him to defeat the rivals. This is the new professional ethics that planners must abide by. Planners should equip themselves in terms of both theory and methodology for the unfolding urban competition. The existing planning tools should also be improved or upgraded.

This statement was widely reprehended by Chinese planners (Chen 2004, Lin, Yan, Chen, and Liu 2003). Zhang TingWei (Zhang 2003), a professor of Illinois University directed his criticism at my statement in an article (pp 6-14):

Flying the flag of modern western economics, some scholars boost the improvement of urban competitiveness and operation ability to a height that surmounts everything and even indicate that planning shouldn't represent “unclear public interests” and is no longer “the embodiment of abstract national interests”. They believe it should be the “new professional ethics” of

“marketized” planners to help their “employers” pursue interest maximization without paying attention to others’ interests (like a football match)

These attacks indicate that this issue has not gone away and is likely to do so. It is noticeable from the history of modern planning theory that planners have a tendency to substitute self-fabricated roles for their real roles. It is, perhaps an inevitable consequence of the intellectualization of the profession once it became a university subject. Contemporary urban planning theory seems far from ready to change its paradigm even though it is under pressure from the huge gap that exists between theory and practice.

The misunderstanding of the government’s role has helped trap planners in their misunderstanding of their own role. Facing a discrepancy between the role that government plays in reality and the role that planning theory assumes government should play, the theoretic circles of urban planning become like “collective angry youth”. They wish to correct the deviations of government but they are not, in fact strong enough – their intellectual foundation is not robust enough. Unless this changes, as I have said, planning as it currently stands will become progressively marginalized by competition from other subjects and lose its voice in its traditional domain.

Mr. Zhang Tingwei also took note of this point. When talking about urban competitiveness. He suggests that:

Urban planning has done far less studies in this aspect than of the aforementioned process of globalization. Porter from Harvard Business School is one of the key researchers on the issue of urban competitiveness. His basic idea is to enhance the vigor of the market and accordingly urban competitiveness through lessening governmental intervention and strengthening the cooperation between the government and market. He argued that with regard to economic development, private capital should be in the center of the stage while the government should act more like a “marketer”, whose main function is to create favorable investment environment for the market (Porter, 1997). Porter’s opinion

represents to a large extent the mainstream opinion in economic circles, and particularly wins the recognition of the World Bank (the International Urban Competitiveness Workshop held by the World Bank in 2002 has invited Porter to give a keynote speech). It is fairly interesting that in America the main force of studying urban competitiveness is not planning professors but economic professors; Porter himself is a professor of business management. Economists have always been interested in economic activities, especially the issues concerning production efficiency rather than the issues involving the spatial carriers of economic activities such as urban land uses and urban resources allocation. On the other hand, for planners, urban spatial layout, land use and fair allocation of urban resources are unquestionably the focus of attention. Therefore, the planning circles usually carry out the studies of urban economy under a broader topic "urban economic development planning" and haven't specifically emphasized the issues related to urban competitiveness.

Mr. Zhang Tingwei pointed out accurately the reason why planning is marginalized. It is due to the fact that *"the planning circle and economic circle have different concerns, which actually reflects the subtle difference between the basic belief of planners and that of economists"*.¹⁴³

His diagnosis is right but not his prescription. Actually, the urban planning profession only has a chance of moving back to the center of academic stage by correctly understanding planning's real role in a competitive world. The intellectual basis of studying planning should be redirected to the fields that can serve this role

¹⁴³ Nevertheless, Zhang's comments on the disputes and arguments in economic theoretic circles are not so correct. Zhang deemed that: *"As for basic views, there are sharp contests between "neo liberalism" which worships economic efficiency and constitution and "anti-neo liberalism" which advocates social equity. This contest exists in both economic and political fields. With regard to economic issues, "neo liberalism" thinks that the market should be completely released from the confinement of the government and run freely and cities should operate as enterprises to improve their competitiveness. The opposite opinion is that the government should not adhere to the market at all, not to mention converge with it."* (Zhang Tingwei, 2003)

This shows that the mainstream of the theoretic circles of planning is still deeply stuck in the mental morass that follows from the idea that the government is the contradiction of the market. This too simple dichotomy is couched moral judgments. And it is this strongly ideological/normative position that is the reason why many planning theories cannot ponder real questions rationally but are absorbed in morally labeling their opponents.

better. By cultivating more pertinent expertise, planners can gain more discourse rights during academic competition.

To regard urban government as an enterprise that operates territory helps us understand governmental behavior. Typical of mainstream academic planning commentary, Zhang Tingwei criticizes the many mistakes committed by local governments in his paper:

To “attracting foreign capital”, some cities invested blindly in infrastructures without considering the necessity. They built big docks, big airports and roads 80-100 meters wide, which have resulted in the increase in public debts and idle investments, but some projects bearing on the lives of ordinary residents like public toilets, water and waste utilities are left unattended for a long period of time. Some cities are extremely enthusiastic about “decorating their images”, endowing western classical architecture with power and elegance and assume that this has to be done to “be in line with international practices” and to show the success of a city.(Zhang 2003)

His criticism of mistakes made is undoubtedly justified in part. But as with enterprises, these mistakes are like the inevitable consequences of entrepreneurs attempting new products and new profit models. As an enterprise cannot avoid errors of this or that kind, urban government should also be permitted to make mistakes. Indeed, as Hayek, Schumpeter and Popper all tell us, mistakes are necessary for innovation and progress. Criticizing the mistakes of urban government is not going to get us anywhere.

What is more important is that planners have the knowledge and intellectual creativity to recommend better business models, safer risk aversion mechanisms and less costly ‘stop-loss’ plans. They should be the source of innovative urban solutions for their urban government clients. Economists do not expect entrepreneurs to operate without making an error of judgment about the demand their products are designed to fulfill. From one point of view, it is because of the risk of possible mistakes in operating the urban enterprise that urban planners have a justification for their

professional status. Their business should be to propose sophisticated workable solutions that yield win-win outcomes and raise the social product of the urban economy. Their focus on land and infrastructure gives them a powerful lever to be proactive and to lead in the invention of new solutions for the spatial economy. All too often, however, planners' anti-market stance prevents them from seeing those solutions never mind leading in bringing them about.¹⁴⁴

A more accurate orientation of planning can also help with our understanding of key concepts of urban dynamics. It has always been a key issue of urban planning to decide on the optimal ratio of different kinds of land and land development intensity. From the perspective of operating an urban enterprise we will have a more profound understanding of the essence and ramifications of such urban performance parameters. All urban land can be divided into profitable land and non-profitable land: non-profit areas are land from which a government cannot easily obtain direct income, such as untolled roads and bridges, pipelines, public schools open parks and so on. Profitable area is the land from which the urban government can earn profit from property rights transfer to users who develop or operate housing, commerce, hotels and so on. According to the principle of income maximization, it is obvious that the greater the quantity of profitable land in an urban plan, the better it will be for urban government. But a low ratio of non-profit area will affect land value and deflate the value of

¹⁴⁴ Much of my work in recent years is aimed at demonstrating the feasibility of this idea. In 2000, I took part in the concept planning of Guangzhou's strategic development and proposed an urban development strategy from the perspective of urban and regional competition. This not only exerted influence on governmental decision-making but is still being quoted by similar studies and more widely in planning. (Wu Fulong, Ma Runchao, Zhang Jingxiang, 2007) From the perspective of urban competition, I advanced suggestions about the structural adjustment of Beijing by using the Olympics site selection and relocating the national administrative center. This is one of the few planning topics still being heatedly discussed in non-planning magazines. In order to meet the government's demand for economic cities, I called for making customized "action planning" for the government of Xiamen - to analyze the input and output of the strategy proposed by the government according to the requirements of "four great balances" and to achieve self-balance of urban development through land operation without financial budgeting. This approach has reversed the passive situation in which the government only approves but doesn't plan and turned urban planning from the "driven wheel" into the "driving wheel" of the basic functions of the government. During the past three years, the planning bureau in Xiamen has devised and implemented many projects. These projects are playing an increasingly important role in the economic growth of the city. Practice shows that if planners are able to match what they feel like doing with what society expects, they can add much more significance to their jobs. As for those who seek through their professional position to impose their own value orientation on society, they end up dissatisfied, underused, and professionally marginalized.

profitable land to the city. Therefore, the optimal ratio of profitable to non-profitable is set in terms of cost effectiveness: we should look for the lowest expenditure on non-profit land yielding the highest land income¹⁴⁵. Put another way, land use planning becomes a constrained maximization problem: we seek to maximize urban revenue (land value) subject to the rising hidden cost of non-profit land. An optimal land use balance is at the point when the (opportunity) cost of non profit land starts rising faster than the profit made from profit land- ie when the net profit is greatest.

A similar thing may be said of the Floor-area Ratio (FAR) performance parameter. Current planning theories cannot explain at all what the optimal land usage and Floor-area Ratio is. Values are simply plucked from the air, borrowed from other cities or derived from the imaginations of urban designers. Almost all director generals of urban planning bureaus are clear that these two indices are the key to urban planning management. If they are placed in the framework of urban management, their economic significance will become quite explicit: the optimal FAR and land usage is determined by the maximization of urban investment input-output (or the net value of urban land). Infrastructure can usually only support limited demand. If the demand defined by FAR and land usage overruns this limit, the service quality and running efficiency of cities will degrade, which will subsequently weaken the city's overall competitiveness. It will also have a negative impact on land value. The overcrowded roads and primary schools, for example, will devalue the land in surrounding areas. Whereas, if the demand is lower than the load limit of infrastructures, urban facilities will not operate under full load, which is a waste of investment and a loss of potential income.

Sustainable land use intensity is a function of the sustaining infrastructures (like primary and middle schools, transportation etc). If it is too low, the urban government will lose part of its land income; if it is too high, public services cannot reach the expected standard. Land development intensity is determined by the weakest

¹⁴⁵It is surely far more complicated in reality than as analyzed. For instance, non-profit areas such as wastewater treatment plants may charge in indirect ways and industries in many Chinese cities receive subsidies and yield long-term taxation.

provision of various items of infrastructure. Consequently, task is one of optimal matching. The optimal FAR should be consistent with the land development intensity at which all infrastructure is efficiently utilized. In terms of city management, the optimal FAR is not immutable: 1) FAR can be adjusted on neighbouring plots – the decrease in development intensity of one plot can be complemented by increase in development intensity of neighboring plots within the same radius of infrastructure services; 2) improvement of bottleneck facilities, such as the upgrading of transportation infrastructures can allow for more intensive land development; 3) increase in per capita floor area can accordingly raise the intensity of FAR. Because population is the direct function and FAR is only a second-order correlate of infrastructure demand, it is impossible to give a fixed optimal FAR for a certain plot. If this inference is correct, it may overthrow the theoretical foundation of zoning. In other words, the optimal FAR should be acquired through an analytical process rather than a fixed figure. This requires an explicit economic objective to planning.

In the institutional context of a government monopoly over the supply of primary land, regulations on land usage and FAR are primary policies to cut down on free-riders and prevent government's income from leaking or transferring. Any change in land usage or increase in FAR should be approved by the government and charged the corresponding difference in land price. In other words, FAR variations should be and can be priced by their marginal impact on the value of land to the urban enterprise¹⁴⁶. FAR and difference in land prices induced by different land usages contain huge economic benefits and thereby are major tools by which planners' capture rent. China's urban planning authorities are entitled to excessive discretionary rights in setting FARs and land prices and have naturally become seriously corrupted during the country's high-speed economic development. Learning from this, the auction and list mechanism of commercial land transaction in the primary land market has been one of the most successful institutional designs in the planning field in recent

¹⁴⁶ Imaging that the city is a walled community and all public space and facilities are allotted by floor area. If a dweller enlarges her floor area, then this is equivalent to taking more share of the public goods. A private firm organizing this community will balance the marginal gains from selling an extra square meter of private space with the marginal loss to all other private spaces from reducing the public domain by one square meter.

years. It has not only maximized the surplus of land market under a Coase-Vickrey style competition but also reduced rent-seeking during the planning process. This is also why the land income of urban government has risen so dramatically in recent years¹⁴⁷.

7.3.2 Governmental competition

Another application of the theoretical ideas developed in this thesis concerns the relation between competition among governments and governmental democracy.

In traditional theoretical analysis, governmental competitiveness is by no means institutionally related to governmental democracy. In the opinion of institutional economists (Olson, 1993, Barzel, 2002), only democracy – where government surrenders partial ownership – can rein-in the opportunistic behavior of governments. But the incompleteness of the bundle of property rights assigned in the democratic process has led to the decline in the capacity of collective action, which has become a chronic disease for most democratic governments.

Various forms of public participation and democratic decision-making have the effect of intensifying the democratic malaise, raising governmental transaction costs to impossible levels and hindering government from making timely and effective decisions. The intrinsic economic handicap that democracy brings might even explain why democratic countries stand in such deep-rooted dread of centralized market economies (if democracy were really the key to these countries' economic success, given the self-interested nature of national governments, they would never have the motive to hand over their secret to their opponents, let alone compel their opponents to adopt their secret weapon). Democratic governments are deeply concerned about the high efficiency of centralized, autocratic governments that have broken the rules of the game. If a government can be a successful centralized one, it

¹⁴⁷ In 2000, Xiamen's actual income from land transfer was less than 200 million yuan. However, its land income from January 2007 to October 2007 reached over 25 billion yuan while its total financial tax income was just 30 billion yuan during the same period. This policy has also generated marked effects across the country. Since its implementation, national land revenue kept soaring up in successive years, reaching 580 billion yuan in 2005. Income from land transfer mounted up to 767.689 billion yuan in 2006 and is expected to exceed 1000 billion yuan in 2007.

will have an asymmetrical competitive advantage over other governments.

According to the framework suggested in this thesis, when there is only consumer competition and producers are monopolistic in the market, producers may acquire maximal benefit through manipulating market rules (such as mechanism design and conditions of auction) whereas such opportunistic behavior will vanish once there is producer competition. This suggests the idea of transforming consumer competition into producer competition through institutional design. Once the competition turns to producer competition, governments will improve the supply of public goods automatically but via democratic systems. Since there is no need to pay for the cost of democracy, the opportunistic behavior of centralized governments will be eliminated without loss of efficiency. To put it in another way, we can safely maintain the centralization of government through introducing producer competition.

The following ideas flow from this notion. Firstly, by opening markets and breaking protectionist policies, factors should be able to flow among different governments (voting by foot). Secondly, the transfer budget of local governments should be limited to encourage them to seek innovative ways of financing their own 'businesses'. Thirdly, through proper allocation of rights and obligations, governments should be able to devise their own profit model. Fourthly, there should be laws and regulations constraining all parties which force losers in competition to accept the results.

To realize these points, the dimensions of the government should be small enough (which does not mean the smaller the better) to provide diversified options to factors (people, capital). This allows consumers have more choices within their trade radius (the shorter the trade radius is, the smaller the territory should be). More options mean lower costs of flows and fiercer competitions among governments (in China the competition take place among counties and cities; in Europe the competition may occur among countries). Then it becomes less possible for the government to alter the rules afterwards to exploit consumers – reducing consumer utility losses. In an ideal Tiebout's world, democracy is totally redundant since competition will automatically

maximize consumer surplus. However, because such an ideal world does not exist and government monopoly is possible, in the fields where it is difficult for factors to flow freely, democracy is still a (bitter) necessity.

Singapore and China are vivid examples of states that have maintained a high capacity for collective action and accomplishing economic success through Tiebout competition¹⁴⁸. A society that can monitor its citizens' consumption of gum and carry out family planning is unquestionably a highly centralized society. As judged by traditional economics, highly centralized society is incapable of protecting private property rights and such a society is doomed to fail in its economic development. However, both countries are making rapid progress. One reason is that in the context of centralization, competition enables private property rights to receive sufficient protection. This is, in fact, the story of the original decentralization of property rights from the state to the people in the emergence of Europe's nation states in the middle ages. According to the analysis of economic historians following the tradition of Douglass North, strong centralized states (monarchies) gradually gave away feudal property rights to merchants as a result of competition from other reforming states to which the merchants could easily move.

The cramped area and non-autarkic economy forced the early Singapore government to opt for opening up, which inevitably exposed its own economy to competitions from its neighbors or other economies around the world. Labor force and capital can move in and out of the country freely at any time. To bring in capital, the government of Singapore has to rack its brains to create the best investment environment while the powerful capacity of collective action bestowed by centralization has enabled the government to do almost everything that it deems necessary to enhance its competitiveness. This is unimaginable in truly democratic countries. Once the single party and the monopoly regime lead by a few elites have achieved primary success and won the trust of the public, they can use much more

¹⁴⁸ In the case of Singapore, a single state city, the competition comes from neighbouring states and competitor locations for footloose industry and commerce (such as Hong Kong, Shanghai, Taiwan, Penang, Kuala Lumpur and so on).

far-sighted vision than is typically possible with the temporarily elected governments of democratic countries.¹⁴⁹

China's economy has gone through identical experiences to Singapore. Its economic growth owes to the policy of reform and opening up in 1979. Current studies on China mostly concentrate on 'reform' with little acknowledgement of the impact of the 'opening up' on China's economic growth. Actually it was the 'opening up' that led China to participate in international economic competition. From then on, the success or failure of the policies of the Chinese government has not been in its own hands but will be judged by the market and will be based on the outcome of competition.

After opening up economically, China implemented financial taxation decentralization. Subsequently its local governments became economic agents with their own self interests and violent competition arose among local governments. Since local governments just formally report to the residents but actually obtain their power from higher levels of government, they are able to avoid regional political separation caused by decentralization. Through a series of institutional innovations and government monopolization of the primary land market supply, numerous 'competitive machines' exhibiting unusual capacity of collective action – urban governments - were created. This has led to China's rapid economic growth over the last twenty years.

Centralization and democracy are a pair in contradiction. Based on the proposition that the government is the operator of the city, whether an urban government adopts the mode of 'monopoly and democracy' or the mode of 'competition and centralization' is just a matter which can be better relied upon to maximize profit. From this point of view, we can clearly define four quadrants of institutional choice. Two quadrants are efficient and the other two not so: 'monopolization and centralization' and 'competition and democracy' are

¹⁴⁹ This forms a sharp contrast with the democracy of Taiwan

theoretically insufficient¹⁵⁰.

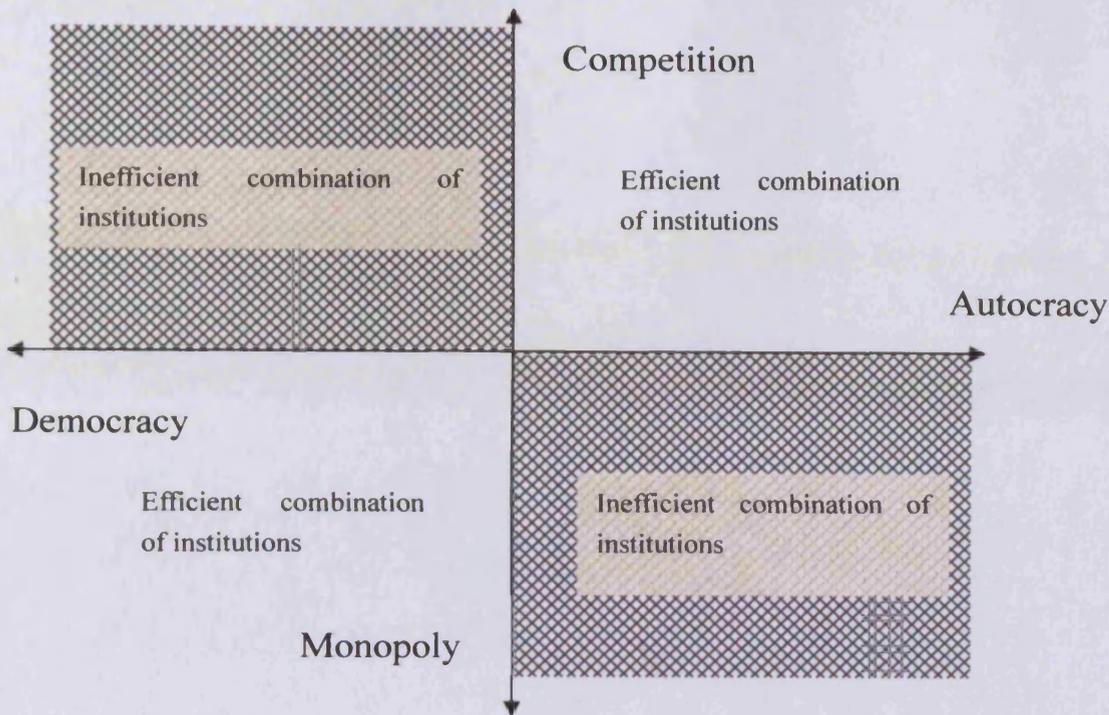


Figure 7. 1 Quadrants of institutional choice

It has been theoretically demonstrated (by Arrow) that if each member in a group has a special preference then it is impossible to meet the collective preferences of all the members. It is hard impossible for democracy to produce optimal decisions automatically – by some clever voting rule or other - and it finds it difficult to organize collective action (according to Olson’s theory, the bigger the group is, the harder it will be to organize collective action). So Arrow and Olson deal tough blows to democracy. The incompleteness of the bundle of property rights conferred onto elected governments will inevitably limit the ability of a government to organize collective action. On the other hand, excessively powerful centralization will pose a threat to private property rights (and any collective action will bring different levels of profits or losses to individuals). Tiebout competition confines governmental power by giving individuals the right and possibility of exiting form the collective, which seems to be more efficient than deleting part of the bundle of property rights of the

¹⁵⁰ Thirty years ago, China and India may have be seen as the practical representatives of these two modes.

government under certain circumstances.

Needless to say, however, governments compete with one another at a cost. The 'loss of interests' caused by mutually forcing down prices under competition becomes the major argument against this mechanism. In fact, the advantages and disadvantages of local governmental competition are issues of great controversy in the academic circles of China. The price mechanism suggested in this thesis is able to reveal the economic significance of these types of competition at a more general level. Such a theory also tells us that if we opt for the benefits of a mechanism, we have to accept its drawbacks. There is no perfect market mechanism that can realize the maximization of both producer surplus and consumer surplus at the same time. If we have government monopolization, the costs of firms will increase and consumer surplus of the residents will decrease; if we have governmental competition, income of the government will reduce and the surplus of firms and residents will be maximized. What we can do is to choose one mechanism that is suitable for the current system of property rights and devise an optimal business model within its framework.

7.3.3 Public participation

Public participation has always been a hot issue in planning. This is due to a tradition in the history of Western urban planning in which solutions have been sought to various social problems. In the early stages of the development of planning theory, the sense of mission to save society imbued by utopianism ranging from Howard (1898) to Le Corbusier (1924), has profoundly influenced the academic genes of planning theory. Over nearly half a century, several ideological trends have responded ardently to planning's ambition to be a kind of general urban problem solving profession. Among them are Arnstein's 'ladder of citizen participation' (Arnstein 1969), the new Marxism of David Harvey (1973), the "advocacy planning" of Davidoff (1965), the ideas about *Planning in the Face of Power* from Forester (1989) and the "collaborative planning" of Patsey Healey (2006). These all reflect the sense of mission that the planning community continues to hold on to. This also makes

public participation much more popular in planning circles than in other related subjects like economic management, health management, education and so on. Almost all planners instinctively look upon public participation as a non-negotiable academic totem.

This derives partially from the deep-rooted doubt in the planning tradition about capital. Zhang Tingwei's opinion (2003) represents well, the mainstream of the planning industry:

Most of the process of globalization is deliberately covered up: trade agreements are negotiated secretly; the mergence of enterprises is the outcome of backdoor transaction; there is a confidential account book inside the enterprise and completely different from the one open to the government. None of these is to be exposed to the public. Therefore, as has been indicated by Brecher, multinational corporations wish to marginalize public participation so that they can monopolize economic decision-making. They desire for the elimination of all forms of public control and supervision so that their decision-making and transaction could develop out of the sight of the public (Brecher, 1994). Multinational corporations often ally themselves with political, economic and academic elites of local cities to reach their goal of monopolizing decision-making. They can take advantage of their allies to restrict or oppose public participation – political elites can utilize their power, economic elites can make use of their resources and academic elites can mould public opinion to deny the significance of public participation. In America, it is a group of elites from various fields and closely related to multinational corporations (such as the base camp of the right wing 'corporation fund') that argue against the substantive participation of the public with their common excuse that 'public participation will affect efficiency'. (Zhang Tingwei, 2003)

I could have used any number of similar quotes from western planners but choose to continue to mine the paper from a Chinese academic based in the USA, since it is a rich source of illustrative material and is broadly representative. Zhang has accurately defined the purpose of public participation – to oversee the unrestrained opportunistic

behaviors of the government. His suspicions about multinational firms are right in most cases. However, he has not really comprehended the economic essence of public participation and thereby cannot point out the proper counter argument or solution to the problem that ‘public participation undermines efficiency’.

Zhang places the hope of public participation in the ‘education’ of the public:

We as planners should guard against consciously or unconsciously taking the opposite side with the public. We understand that public participation is crucial in terms of urban control while the ability of public participation is the key to the success or failure of it. Work of planning concerns not only the construction of “places” but also that of “people”. With regard to people, the central job is to train the ability of public participation. The public need education and to be informed of all the information so as to participate in planning. (Zhang 2003 pp6-14)

Others (following Healey and the communicative planners) focus not so much on educating the public to participate more effectively but on methods of facilitation – better mechanisms of participation. However, the development of economics has already refuted this approach in theory¹⁵¹. We know from Arrow's theorem that even though the public is informed of all information and thereafter conducts itself rationally under the rule of democratic law, voting will not present us with a definitive conclusion. Neither need it provide us with a rational outcome, (where ‘rational’ means best by and reasonable set of criteria).

In a widely cited article, I quoted such an example of public participation:

The selection of the planning scheme of Zhangzhou central district is a typical failure of public participation. Before official appraisal, the government had openly exhibited a range of schemes. The scheme chosen by the public was the same as that chosen by the experts. However, this scheme was the most infeasible

¹⁵¹ For the best theoretical exploration of the limits of public participation in the face of Arrow's impossibility theorem, see the work of Norwegian planning academic Tore Segal ‘Communicative Planners as Naïve Mandarins of the Neoliberal State?’, *European Journal of Spatial Development*, Dec 2005, pp.1-9.)

one. How did it come out so? Because none of these people (the public and experts) will directly pay the bill for the construction of this new district, they both chose the most “luxurious” scheme without prior consultation. (Zhao 2002)

With the same case, Zhang Tingwei arrived at a totally contrary conclusion:

The public need education and to be informed of all the information so as to participate in planning. I once read a domestic article that presented an opposing view on public participation, arguing that the public had chosen the most luxurious scheme during the collection of the planning scheme of Zhangzhou central district, which was the most infeasible one. (Note: refer to Zhao Yanjing: “From Urban Administration towards Urban Management”, City Planning Review, Vol.26 No.11, 2002. Mr. Zhao suggested that Zhangzhou’s case “was a typical failure of public participation”, while I think this judgment is unfair.) In my opinion, this example just bears out that at present public participation at home is not sufficient but not useless. To invite genuine public participation, all the information should be opened up to the public rather than just show them the drawings (“planning exhibition”) and ask them to pick a “most eye-catching” scheme. Only with the information of the total cost, total housing removal and total engineering quantities of each scheme in detail and with some basic economic knowledge will the public be able to make correct decisions and help or even rectify possible errors of the government during decision-making. This is genuine public participation. If there is only “planning exhibition”, public participation will just be a formality and what has happened with. (zhang Tingwei, 2003, pp6-14)

This reflects a typical misunderstanding of the government’s role among planners. China’s urban government is the developer of a city, and this distinguishes it from the urban governments in western countries that are more like a ‘property management company’ employed by the citizens. The public of China neither contribute taxes directly to urban government nor have a say in the uses of governmental income. In other words, the government in China is not the ‘employee’ of the public. As a result,

it aims at excelling other urban governments in competition for footloose capital and labour rather than maximizing public welfare directly through service provision. Its performance is measured by bringing in more factors (including residents). An urban government in China improves its services under the pressure of urban competition. It is similar to a TV station that tries to improve the quality of its program and attracts more audience so as to raise its ads revenue. If the audiences are asked to vote, they will undoubtedly vote for the 'most entertaining program' rather than the 'most economical program'.

Since the cost of public services delivered by China's urban governments are not from the public directly, the people will naturally demand the services with the best quality. The reason is quite simple: the public have no motivation to save money for the government. They have no ownership stake in the financial business of local governments. In Zhangzhou's case, the difference in the cost among various planning schemes was so obvious that the people could easily appreciate it from a glimpse at the scheme's various scales without checking the precise cost figures. And indeed, the planning bureau announced the total investment amounts of each schemes and sent staff to explain the projects. However, the people did not care at all. No matter how much information is in the open, the public just choose the 'best' but not the 'most economic'.

The reason why an urban government in China is willing to spend more money on a scheme is to win in the urban competition against other urban governments, rather than to meet the needs of the public. For 'competition and centralization' oriented governments, public participation is, in essence, a political show.

Taking an extreme but plausible position on all this, the primary purpose of public participation, and even urban democracy itself, is not to get a 'collective preference', but to compensate consumers for the loss of freedom to exit. Public participation is only necessary under certain conditions: when exit is not possible.

Planning academics like Zhang Tingwei may argue that this means we have to

transform our urban governments in China from 'developer' to 'property management company'. In fact, since the housing system reform in 1998, especially the implementation of the 2007 Real Right Law, the public are becoming more and more democratically conscious and the government has been quick to surrender rights that were taken for granted before. The urban government is, in fact, increasingly becoming like a property management company. Therefore, we can expect that as more and more residents possess properties in a city, particularly when property tax becomes the primary income of the local government, there will be more and more genuine public participation and electoral democracy. But it is still unclear whether this will mean that public interests are better accommodated.

Public participation can lessen uncertainty about private property rights at the cost of losing the ability to organize collective actions. It is similar to idea that deceleration may increase driving safety but will lower efficiency. Perhaps a better alternative is to devise a better braking system (competition). The market is the final judge of the advantages and disadvantages of an institution. For now it seems we can conclude that 'monopoly + centralization' and 'competition + democracy' are out; 'monopoly + democracy' and 'competition + centralization' are contending with each other, with no outcome so far.

According to the price theory proposed in this thesis, during consumer competition, consumers (such as residents) cannot back out of transaction as they wish (for instance, after they have purchased estate). When government's behavior is likely to harm their interests, public participation becomes necessary. If consumers can exit at any time (like tourists and visitors), public participation will be redundant. Therefore, there is a potential solution to the dilemma of restricting urban government's behavior and improving its efficiency, i.e. breaking monopoly and encouraging competition among urban government.

It is not the planners' duty to select political institutions. Yet, they have to be clear about the type of the government they are serving. Since different types of governments have different 'rational' behaviors, their optimal planning paths and

standards are different accordingly. For a 'democratic' government, the best site for a large-scale public service facility (such as park) is the location most preferred by residents – for example, in the old city with the densest population. For a 'competitive' government, the perfect site would be a location that can generate maximal appreciation income, for example, a new district with the most reserved land. The former will win the most votes, while the latter obtain the most profit. Apparently, both choices comply with public interests in a broad sense – either the interests of present residents or future residents, but the income approaches are entirely different.

7.4 Conclusion

One of Coases (1998) taunts was that the mainstream economics is just like studying the circulation of blood without a body. He noted that Adam Smith also pointed out that we should be concerned with the flow of real goods and services over time and with what determines their variety and magnitude. As it is, economists study how supply and demand determine prices, but not the factors that determine what goods and services are traded on markets and therefore are priced. It is a view disdainful of what happens in the real world, but it is one to which economists have become accustomed, and they live in their world without discomfort.

It is the same with urban planning. Theorists indulge themselves in defining behavior in the real world with a fabricated facsimile of government. Once we admit, however, the idea that government may have the nature of a self-interested firm, we can use institutional analysis to broaden the scope of explanation of urban planning theories and view the many urban phenomena that can't be interpreted by traditional theories in a brand new light.

Planning is a series of choices.

To make choices, the most important thing is to decide on the benchmark: the fundamental criterion or the *objective function*. This will involve some fundamental questions about urban planning: including what is the essence of the city? What is the

value of cities? How did and do cities come into existence? Profit maximization arising from self-centred motivation provides a remarkably powerful model and analytical benchmark in the study of Chinese cities. On this basis, most behavior of the participants of urban activities (the government in particular) can be explained. Through structuring studies of urban planning by the use of axiomatic methods, we can build up a framework, in which all concepts are mutually supportive, and finally shape a set of academic languages that may be shared by all planners. This is possible, although perhaps not very likely.

A choice without a value orientation is a blind choice. The tasks of planners mainly fall into two categories: firstly to design a city – determine various functions of the city and the combination of facilities; secondly to maintain a city – grant administrative approvals to the change of land use and facilities in an established city. Both tasks are constrained by and enslaved to the business model adopted by a city. Different business models determine the roles of urban governments and, in turn, the roles of planners. Whatever the type of planning, planners have to assess the value of numerous possibilities and opt for the ‘optimal’ schemes.

As with athletic competitions, the sifting scheme is extremely crucial. Economics can provide the fundamental analytical tools for planning.¹⁵² From the perspective of economics, density, Floor-area Ratio and land use can be explained and justified by economic reasoning. Aesthetics and engineering technologies (choices) can also be regarded as a part of the business model and included into the input – output analysis.

Of course, it is perilous to try to explain all urban problems with economic tools. Urban problems are like Mount Everest and different subjects may arrive at different conclusions by observing from different angles. The scenery observed from one angle cannot represent that observed from other angles. Yet it has to be admitted that due to the different levels of sophistication of the analytical tools of different subjects, the theoretical *altitudes* mounted will vary. Of all the social sciences, economics far

¹⁵² Refer to Zhao Yanjing (2007): Revising the Price Theory on the Basis of Coase Theorem. In this article, I proposed an evaluation benchmark that replaced Pareto Optimum with maximization of aggregate social surplus.

exceeds others in structure and theoretical maturity, and this has enabled economics to transcend traditional academic limits and enter other fields. Rather than stick to traditional academic domains and exclude the intrusion of economics, we should reform unsatisfactory parts of economic tools and, by “navigating with a borrowed ship”, subject the concerns of urban planning further to the fields beyond its traditional domains.

This goal is not baseless. Economics has long neglected spatial aspects of the economy and has been justly criticized as being a subject that can only survive in the ‘wonderland of no spatial dimensions’ (Walter Isard, 1956). Actually, many problems that cannot be explained by traditional economics will be better comprehended if the spatial factor is taken into consideration.¹⁵³ For instance, traditional economics believed that public goods could not be priced in the market. But, as I have shown, if we regard territory as a manageable product, public goods will become a common product that can be priced in the market through intra-jurisdictional competition and the government will become ‘an enterprise that manages territory’ accordingly.

It needs to be stressed that even though the introduction of economics can greatly broaden the base of planning, a subject (in China) chiefly composed of architectural aesthetics and engineering, economics cannot replace these and other subjects. On the contrary, it should be integrated with other subjects (see for example Webster 2007), which will widen the language of planning and consolidate a more robust analytical framework for urban planning. If planners can effectively combine their core subjects together in unified analytical frameworks, they will possess unique professional advantages in resolving urban problems. This thesis is fully aware of the difficulty of this task – due to the faultiness of both planning theories and economic theories. It is still an unreachable dream now to transform urban planning from an empirical pre-science into a scientific system that can be analyzed, falsified, simulated and

¹⁵³ I myself once explained the problem of “high increase, low employment” in China by enlisting the factor of territory. Refer to: Zhao Yanjing: “Increase in Chance to Work and Policy of Space” (2006) *Urban Studies*, 2006.2, “How High Increase and Low Employment Comes into existence”, and “The Regret of High Threshold of Urban Planning”, *Liaowang News Weekly*, 2006.8.

which is able to predict new phenomena. Notwithstanding this, it is worth the adventure to try to build urban planning on sturdier logical foundations.

APPENDIX 1

PRICE THEORY OF PUBLIC GOODS

“current ‘economics crisis’ is the failure of basic assumptions, paradigms and ‘systems’, rather than the failure of this or that theory”.

In Towards the Next Economics, Drucker (1985: 17)

8.1 Introduction

There is a sense in which I could have omitted this appendix. To have constructed a systematic argument that Chinese urban governments act as profit maximizing territorial enterprises and to have elaborated the argument in several ways, illustrated it and explored how it works in practice, would probably be a sufficient contribution to the study of contemporary Chinese urban planning and development. But it would not have satisfied the author. Intellectually it would be incomplete. The reason lies in the starting point of this study, which was a dissatisfaction with the underling corpus of theory guiding urban planning discourses and interventions. There were two aspects of that dissatisfaction. One was the apparent impotence of many conventional planning theories and the shallowness and irrelevance of their prescriptions. The other was a more profound unhappiness with the nature of the intellectual tools applied to urban analysis, including the tools of neoclassical economics. For most part of the thesis I have addressed these challenges by eschewing neo-classical economics-based analyses and loosely adopting a property rights and transaction costs theoretic framework for the applied policy analysis that I have engaged in. However, it will be recalled from my earlier theoretical discussions that I do not view institutional economic analysis as wholly unproblematic – notably where it rests on neo-classical

assumptions about pricing.

In this appendix, I pick up a theoretical challenge posed in earlier chapters and develop an alternative price theory to that which underlies both neoclassical and some of the new institutional economics too. I first tried starting the thesis with this chapter. Then I moved it to just before the concluding chapter. But in both places it became too unwieldy to both illustrate a new and speculative theory and to have a focused discussion of the planning and property rights issues that I have addressed in the thesis. So I chose to free-up the bulk of the discussion in the thesis from the complication of a radical (and risky) new theoretical endeavour and rely on more conventional analytical categories and ideas and to open these up in detail in an appendix.

The justification for this appendix, therefore, is to explore an alternative theory of price that overcomes some shortcomings of established theory. I have published some of these ideas in Chinese, but the theory has not yet been published in English nor formally subjected to the scrutiny of independent international economists. However, I have discussed it widely with economist friends and colleagues and it has been read by economists at Cardiff University and by Professor Bin Yu, a former economics professor at University College Los Angeles. The latter commented (unpublished personal communication) that the chapter does what he had first attempted to do two decades ago but did not persist with because of the radical nature of the task. It is in this spirit that I offer this work as an appendix to my thesis. It is an intellectual work in progress and it is speculative. It no doubt has gaps and deficiencies but it is a venture worth taking. Where else can one develop new intellectual ideas if not in a PhD thesis?

The aim of this appendix is to explore new theoretical tools for the study of public goods and of government's role in the economy. I do this by establishing an alternative foundation for micro-economic analysis – an alternative price theory. The new theory illustrates that so-called 'market failure' need not be in our model of the real world – even as it is not, in fact, in the real world, but that it is an artifact of the

neoclassical economic modeling paradigm. What needs to be amended is not the role of government in the real world but the theory in our mind. I strive to prove that the behaviors of government and public goods could be analyzed as normal firms and private goods and need not to build a new branch of theory.

8.2 Tiebout's model of local expenditure

Public goods have long been viewed as a kind of special goods which can not be supplied through market system. As pointed out by Charles Tiebout (1956: 417)

“a good which should be produced, but for which there is no feasible method of charging the consumer” (417)”

Samuelson indicates that, due to selfish interest, the consumer will give false signals for public goods, pretending to have less interest in a given collective consumption activity than he really has, and to enjoy the goods while avoiding payment of a contribution to its cost. Since no decentralized pricing system can serve to determine optimally these levels of collective consumption, he suggests other kinds of ‘voting or signaling’ would have to take the place of price (Samuelson 1954: 388). A natural deduction is that public goods have to be provided in a special way (via a voting system), and the provider, government, of public goods is a special non-market role in the economy.

However, in his study of *Social Choice and Individual Values*, Arrow (1951) proved that no voting system can convert the ranked preferences of individuals into a community-wide ranking while also meeting a certain set of reasonable criteria with three or more discrete options to choose from.

Furthermore, Tiebout (1956, p 416-7) found that “many goods that appear to lack the attributes of public goods may probably be considered public if consumption is defined to include external economies”. Therefore, from the point of view of economics, a government provider of public goods is no different in principle from any other provider who finds a mechanism for supplying a collectively consumed

good or service to a group of consumers. There is no de facto reason, therefore, to preclude government suppliers from an analysis of the market system.

An important breakthrough in the studies of collective consumptions within the neo-classical framework was Tiebout's paper *A Pure Theory of Local Expenditure* (Tiebout 1956). In this paper, he indicates that there is a major difference between central and local provision of public goods. Whereas Samuelson's analysis might be valid for central expenditure, it does not necessary to apply to local expenditure. At central level, the preferences of consumer-voter are given, and the government tries to adjust to the pattern of these preferences. At local level, if consumers are fully mobile and there are a large number of communities in which they may choose to live, Tiebout shows that local governments will provide so-called 'public goods' in a market-like way, as with any other private goods.

"On the production side it is assumed that communities are forced to keep production cost at a minimum either through the efficiency of city manager or through competition from other communities. Given this, on the demand side, ... just as the consumer may be visualized as walking to a private marketplace to buy his goods, the prices of which are set, we place him in the position of walking to a community where the prices (taxes) of community services are set. Both trips take the consumer to market. There is no way in which the consumer can avoid revealing his preferences in a spatial economy. Spatial mobility provides the local public goods counterpart to the private market's shopping trip." (p. 416-424)

This is a remarkably profound statement, often lost in the derivative Tieboutian literature: as long as the spatial factor is included in economic analysis, there is no difference in nature between private goods and public goods. As providers of private goods, local governments, when allowed to by higher governing institutions, will find themselves following market rules to provide public goods. Against Samuelson's view that it is impossible to find 'market type' solutions for optimal public goods expenditures, even if the solution 'exists', Tiebout argues that

“The appropriate local governments, whose revenue-expenditure patterns are set, are adopted by the consumer-voters ... The solution, like a general equilibrium solution for a private spatial economy, is the best that can be obtained given preferences and resources endowments.

...local government represents a sector where the allocation of public goods (as a reflection of the preferences of population) need not take a back seat to the private sector.” (p. 424)

Half a century has passed since Tiebout published his study. Mainstream economics still treats government public goods supplying agencies as having a special role in the economy: one that lies outside of the market¹⁵⁴. This is because mainstream economics lacks a framework to generalise Tiebout’s idea.

Tiebout correctly points out that, if people can choose a community in which to live, local public services will be priced in a similar way to private goods, and a market solution should emerge. However, he does not provide a fully satisfactory account of this solution because he assumes diminishing returns to scale. It turns out that mainstream economics also does not give a fully satisfactory account of the market solution for private goods for the same reason, as I shall explain.

The analysis of the optimal community size by Tiebout is based on the assumption of diminishing return:

“For every pattern of community services ..., there is an optimal community size. This optimum is defined in terms of the number of residents for which this bundle of services can be produced at the lowest average cost. This, of course, is closely analogous to the low point of a firm’s average cost curve. Such a cost function implies that some factor or resource is fixed. If this is not so, there would be no logical reason to limit community size, given the preference

¹⁵⁴ I do not consider the regulatory role of government in my argument. But it is clear that government does have a special role in supplying regulatory frameworks to govern markets – as the recent melt-down of unregulated financial markets in the UK and the USA illustrate. However, it may be noted that the market also provides its own regulatory institutions and that it would be profitable to extend the arguments of this appendix into a study of regulations.

patterns.” (p. 419)

In other words, a community cannot reach equilibrium if there is not a minimum on the average cost curve. If there are increasing returns (i.e. diminishing average costs with unlimited increasing community size), the equilibrium will be that all people live in one (the best) community¹⁵⁵.

Obviously, this conflicts with Tiebout’s original assumption that each locality has a revenue and expenditure pattern that reflects the desires of its residents. That is, all communities are different in revenue and expenditure patterns not only in community size only. Residents express their preference for a bundle of public goods and allocate themselves to supplier by voting with their feet:

“Given these revenue and expenditure patterns, the consumer-voter moves to that community whose local government best satisfies his set of preferences. The greater the number of communities and the greater the variance among them, the closer the consumer will come to fully realizing his preference position.” (p. 418)

According to this assumption, how many optimal communities should there be? The answer is as many as preferences. If each resident’s preferences are unique, “there is no reason why the number of communities will not be equal to the population, since each voter can find the one that exactly fits his preferences.” Tiebout admits:

“Unless some sociological variable is introduced, this may reduce the solution to the problem of allocating public goods to the trite one of making each person his own municipal government. Hence this is not even a first approximation of reality.” (p. 421)

In the decades since his paper was published, there have been numerous studies based on Tiebout’s model. However, none of these studies really surpass Tiebout’s idea. What Tiebout strives to prove is as long as residents can make their choice

¹⁵⁵ In fact, club theory is established on the same basis.

among different communities freely, 1) there is no difference in nature between so-called 'public goods' and private goods; 2) local governments can provide their services like the providers of private goods. But like his followers, Tiebout did not explain how the optimal price-quantity-variety is determined¹⁵⁶. The insight of Tiebout that government can supply public goods in something that acts like a competitive market therefore cannot crystallise into a general theory and replace Samuelson's paradigm of public goods (in which Samuelson simply declares the failure of market and uses government arbitrarily to substitute the market mechanism).

8.3 Rethinking of Pricing System

In the perfect competition framework, there is no explicit pricing mechanism, since all economic agents respond to everything simultaneously and price is predetermined by the invisible Walras auctioneer. With a given price, consumers make decisions among different products, and producers make decision among different factors. The real pricing mechanism is replaced by the fictitious Walras auctioneer. Within this framework, there will always be optimal resource allocation for consumers and producers - for a given price. Neoclassical economics explains how the resource is allocated under the determined price. But it does not provide an explanation of how the price is achieved. Although the assumption and prerequisite of this paradigm are self-consistent, they are far from the real world¹⁵⁷. Establishing a new price theory has to start from understanding consumers' and producers' behaviour.

8.3.1 Consumer equilibrium—the pricing system when demand exceeds supply

In a situation of underproduction, competition happens among consumers and

¹⁵⁶ It cannot even answer the simple question of, when a resident has two alternatives, should he choose the one that meets his preferences but is at higher cost or should he choose the one that is at the lowest cost but does not meet his preference.

¹⁵⁷ For example, Isard comments that the modern economics is in wonderland of no spatial dimensions.

determines the equilibrium price. Based on this, I propose a realistic demand theory. To simplify the demand analysis, I introduce two new concepts. First, consider a consumer in terms of *economic person* rather than *natural person*. A natural person's preference at each consumption event is different even for the same product, since her utility is diminishing with more units consumed. Next, count each consumption event as an independent *economic person*. For example, when a natural person consumes the same type of product several times (say, five loaves of bread), he is regarded in the model as several economic person (say, five economic person). The budget of each economic person is the maximum amount that the natural person allocates to the consumption from his/her total income. Of course, this amount depends on the consumer's preference for that particular consumption. When we consider economic person, we do not have to be concerned with the intensity of preference, but only its sign (positive or negative)¹⁵⁸. The motivation of introducing this concept is to simplify the issue of utility comparison and summation among different agents in economics. With this concept, we do not need to know the preference of every natural person. As long as we know the number of economic person, we can estimate the size of the market for a given product.

For a given product, the consumers' preference (utility) density can be sorted from high to low. According to the utilities of different products, consumers can be categorized into two sets: a positive utility set of consumers who needs this product and a negative utility set of those who do not need this product. Then assume that consumers (remember we are talking about consumption events or *consumer persons*) have limited budgets, and their budgets can be sorted from high to low. For a given price, consumers can be categorized into two sets: a positive budget set of consumers who can afford this price and a negative budget set of those who cannot afford this price. Effective demand is the intersection of the positive utility set and the positive

¹⁵⁸ This is because of the concept of *equivalence*, which represents one consumption. If you like something very much and you also like a second one, they are equivalent in consumption terms. It is similar to the concept of person-time. I may not care about who he/she is but the time (input), which equals the quantity. In this way I can avoid comparing and aggregating the utility of different people.

budget set. Consumer surplus is the difference between the amount they would like to pay and the amount they actually pay.

This gives rise to a novel consumption function. This function consists of consumer preference, consumer budget and consumer surplus. According to this function, whether or not a consumer buys a product depends on preference and budget. The consumption will be realised only when they are both positive. Consumer behaviour follows the rule of maximising consumer surplus. In other words, consumers tend to get a preferable product at minimum cost.

In a consumer competition market (demand exceeds supply), the transfer price of every factor is equal to its auction price in the open market. In other words, a bidder in the open market is equivalent to a consumer in the consumer competition market.

There is an implicit assumption in the special sense of Coase-Vickrey pricing: the amount of an existing factor can only satisfy the needs of one bidder (a so called 'diamond good' – an extremely scarce factor). To relax this assumption and apply it to more general situations, we assume that the factor can satisfy the needs of more than one bidder. In line with the Coase equilibrium, the market price is taken to be the price given by the n th bidder: the final factor demander in the market. At the same time, this price exactly makes the surplus of the $(n+1)$ th bidder less than zero¹⁵⁹. If the amount of this factor is unlimited with constant quality (so called 'water goods'), i.e. n approaches infinity, then the market price approaches what is suggested by the perfect competition model. In other words, all competitors except the n th bidder are price takers.

Here subjective cost (preference) and objective cost (budget) independently affect the size of market in different ways. When the market for a product is constrained by budget, the producer can exert an influence on the budget of consumers through

¹⁵⁹ At this price, the surpluses of all bidders are different. Of those, the surplus of the best bidder is the highest. Because space is defined as a set of continuous but different locations, location can be seen as "diamond" rather than "water". Therefore, spatial analysis is mainly based on Coase-Vickrey pricing and not perfect competition. This is a reason why spatial analysis can never really be conducted under the neo-classical economic paradigm.

changing the price (which is negatively correlated with budget), and then affect the market size indirectly. The preference of consumers is independent of the change of price, and preference can only indirectly affect product price through constraining the size of certain types of products.

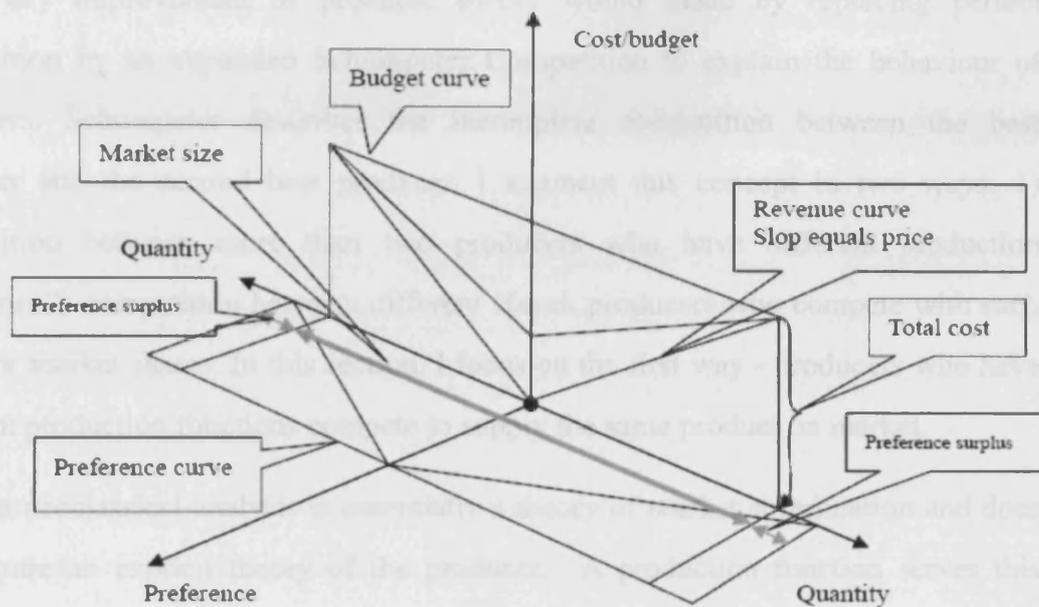


Figure 8-1. The effective demand and market size confined by budget bound

This figure illustrates how income and preference affect the quantity of demand as well as the price. The smaller definition area, budget or preference, would confine the market size. In this case, the definition area of budget is narrower than that for preference. The size of market is decided by the budget. The preference is unrelated. The economic meaning of surplus of preference is that there is not enough income to meet the want of this product. That is to say, the effective demand is the intersection of two definition areas. The economic meaning is that the effective demand must satisfy the positive preference and budget simultaneously.

Thus, we come to a brief conclusion about consumer competition: 1) when demand exceeds supply, the competition occurs among consumers; 2) a consumption function of a economic person consist of two factors - the budget (income) and the preference (utility); 3) the effective demand is the demand that has positive budget and positive preference; 4) the quantity of demand is the intersection of the set of positive preference and positive budget; 5) the price is determined by the marginal consumer - the last payer of a good who has positive preference and budget; 6) the price equals the highest price that the second marginal consumer would like to pay, or the price that the marginal consumer bids, letting the second marginal consumer's

budget equal zero even though his/her preference is positive; 7) producers affect the price through changing the quantity of supply and therefore the marginal economic person. The producers enjoy producer's surplus.

8.3.2 Producer equilibrium—the pricing system when supply exceeds demand

A key improvement of producer theory would be made by replacing perfect competition by an expanded Schumpeter Competition to explain the behaviour of producers. Schumpeter describes the incomplete competition between the best producer and the second best producer. I augment this concept in two ways: 1) competition between more than two producers who have different production functions; 2) competition between different Hayek producers who compete with each other for market shares. In this section, I focus on the first way - producers who have different production functions compete to supply the same product on market.

The neoclassical analysis is essentially a theory of market coordination and does not require an explicit theory of the producer. A production function serves this purpose by linking two sides of the equation (inputs and outputs) together, and producers are assumed identical and to have the same Cobb-Douglas style production function. However, as indicated by Foss (1996, p.1),

“By ‘competence’, we understand a typical idiosyncratic knowledge capital that allows its holder to perform activities – in particular, to solve problems – in certain ways, and typically do this more efficiently than others.” (1996, p.1)

In the real world, the producers are heterogeneous in nature and do things with varying degrees of efficiency. Unlike the so called Cobb-Douglas production function, I assume that total cost consists of fixed cost and variable cost. I also assume every producer has different production function—the way of production, the style of management, the location of transportation and even the individuality of entrepreneurs, is different from each other. All rational producers only work for positive profit and seek to maximize profit. Define the cost of production factors as the producer cost. Fixed cost means the cost of one-off input; and variable cost is a

function of output. The product of price and quantity defines the revenue of producers. If there is no price discrimination, the price of all each product is the same (this means that the slope of revenue curve is a constant). The balance between cost and revenue is defined as the producer profit. Producers face three possible production functions: diminishing return, constant return and increasing return¹⁶⁰.

When supply exceeds demand, the competition occurs only among producers. In the cases of constant and increasing returns, Schumpeter competition can only happen between the most efficient producer and the second most efficient producer, and the market price is set by the best producer. Due to scale economies, the market is at equilibrium when the best producer reaches maximum output, which will mean he/she has captured the whole market. To achieve this, the best producer has to exclude all other competitors from the market. According to the Schumpeter pricing criterion, the best price is when the profit of the second best producer is zero, and he (and other weaker producers) retreat from the market. As a consequence, the best producer has all market shares, and price-quantity is in equilibrium¹⁶¹.

Figure 8.2 shows the Schumpeter competition with constant returns. The slope of the revenue curve gives the market equilibrium price, and is determined by the best producer. It can also be seen that, in the cases of constant returns and increasing returns, the market equilibrium result must be a monopoly, i.e. there is only one producer¹⁶². But in this scenario, monopoly is not inefficient but the most efficient.

¹⁶⁰ The three possible functions are caused by three possible shapes of variable cost curves—convex, straight and concave. For example, we can express diminishing returns, constant returns and increasing returns with functions of $g(Q) = c + bQ$, $g(Q) = c + b \log Q$ and $g(Q) = c + \exp(bQ)$ respectively, where c is fixed cost and Q is quantity.

¹⁶¹ Because of technology or resource monopoly, it is possible that there is only one 'natural monopolist' in the market. Even in such circumstances, the producer cannot arbitrarily price. Higher prices would lead to two results: 1) to reduce the consumer's budget; 2) producer increasing profits. In the first case, the size of the market will reduce. Because of the existence of fixed costs, the average cost will increase, which erodes the producers' surplus and leads to further prices rises. Certainly there will be a price at which the sum of the effective consumers' budget equals the average costs - higher than this price, consumers will withdraw from the market. In the second case, when the producers increase profits, the market will be split off by the new Hayek products, and dilute the profits of the original products.

¹⁶² Monopoly here is different from the traditional sense of 'industry monopoly'. It is the monopolies of Hayek's products. As Hayek products have alternatives - close substitutes ('otherness' competition), a producer cannot price arbitrarily. He must compete with adjacent Hayek products for the market, so as to obtain the greatest degree of scale economies. This means that even a monopoly

Only when the best producer maximizes his output can society generate the biggest surplus at the lowest cost¹⁶³.

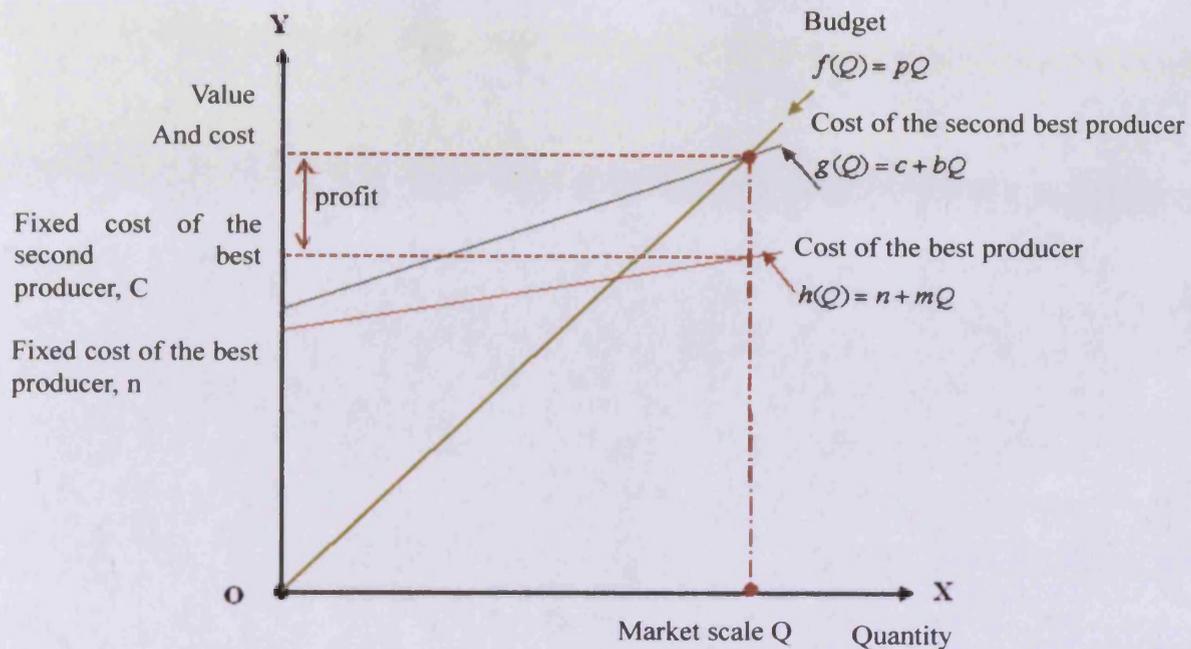


Figure 8.2. Producer competition: pricing with constant return

Compared with constant/increasing return, diminishing return is a little more

producer of a product cannot price freely, and excess monopoly profits are not sustainable. The extent of such monopolistic competition is even more intense than that of the perfect competition.

¹⁶³ The competition among monopolistic local governments in China, is a good case to illustrate producer competition. In the land market, the investor who can offer high-income employment or contribute high tax is rare. Local governments are producers of locations. To attract good investors (consumers of location), local governments lower their tax and supply better infrastructure. The most efficient local government is able to afford the highest subsidy. In China, local government monopolises the primary land market. According to traditional theory, the monopolist would not have a motive to improve its efficiency. But with producer competition, local government has to compete with its neighbouring local governments. In China, local governments often compete for good investors through lowering the price of land and offering tax incentives. The better the consumer is, the better conditions local government is willing to offer. The investors vote with their feet. Once the public service gets worse or other city gets better, they move away from the city and thus force the local government to improve its efficiency.

Note that this conclusion does not imply that monopoly does not need to be controlled. Monopoly is not the same as monopolistic competition. Monopoly is, due to various reasons (e.g. an unparalleled resources, no substitute products or designated franchise), the state of the absence of the second-best competitors (or producers of Hayek products) in the market. In monopolistic competition, the second-best producers (or producers of Hayek products) play a crucial role in pricing. Therefore, the most important issue for breaking up monopolies and protecting monopolistic competition is not to restrict the best (optimal) producers, but to reduce market barriers and support (or even create) second-best producers (or producers of substitute Hayek products).

complicated. The optimal output size of the best producer can be more, less, or equivalent to the effective demand. When it is more than effective demand, the equilibrium consequence is the same as with constant/increasing return. In other words, there is only one best producer. However, if the market size is big enough to accommodate more than one producer, we have to augment Schumpeter competition. The best producer cannot have the entire market share, but stops producing at its optimal output. Meanwhile, the second, third, and more producers join in the production process until the n th producer satisfies all effective demand. Therefore, the market price is determined by the competition between the n th producer and the $(n-1)$ th producer. According to the hypothesis that a producer must obtain positive profit, the optimal price would make the profit of the n th producer equal to zero. When the market demand is big enough to allow n to approach infinity, the situation tends to one described by perfect competition in neoclassical economics - all producers simply take the price but only the marginal one producer is the price-makers. That is to say, perfect competition is merely an extreme example of Schumpeter Competition.

8.3.3 Conversion between two equilibriums

I have discussed the pricing mechanisms of consumer competition and producer competition. Now let us further discuss the competition between consumers and producers for pricing power, which is incarnated by the way of competition. To contest for pricing right consumers would strive to make producers compete each other and the producers would strive to lead on the competition occur among consumers. Many organizations, such as OPEC, and institutions, such as antitrust Acts, are designed to control the right of pricing.

The breaking point of oversupply and underproduction is the critical point that decides which side will control the right to price. When the quantity of the product reaches the critical point, the mode of competition would shift immediately from consumer competition to producer competition, or contrarily, from producer competition to consumer competition. This suggests that the equilibrium of supply

and demand is not stable. The equilibrium jumps from one type to another. Accordingly, the curve of price change will not be continuous. The equilibrium price will jump up or down from one equilibrium to another equilibrium.

When the market reaches producer equilibrium, all consumers will maximize their consumer surplus. As the degree of oversupply gets higher, price cuts will be fiercer and there will be more consumer surplus. In short, consumers benefit from producer competition. With scale economies, the most efficient producer can exclude other producers by price cuts. However, once the producer arrives at monopoly status, he will restrain his production to within consumers' demand to force consumer compete and thus obtain maximum surplus.

Similarly when the market reaches the consumer equilibrium, the producer would enjoy the producer surplus. Then the consequent question is whether producer equilibrium and consumer equilibrium is more efficient? To answer this question, we must introduce a new norm—maximised consumer's utility. This norm suggests that maximised surplus does not the purpose of economy. The final aim of economy is to make the most of satisfaction of the preference of consumers. In other words, the optimal way of competition does not depend on which one can create (or save) more surplus, nor which party is disadvantaged (by number). Rather, it is determined by which equilibrium is more efficient in achieving the maximization of consumer utility. This norm leads to the demand for new product—the variety of product. Let's further analyse the relationship between variety, price and scale.

8.4 Emergence of a new product—the utility function

8.3.1 Hayek product

In his book, *Individualism and Economic Order*, Hayek (1949) says:

... we [have] to deal with a continuous range of close substitutes, every unit somewhat different from the other but without any marked break in the continuous range. The result of the analysis of competition in such a situation might in many

respects be more relevant to the conditions of real life than those of the analysis of competition in a single industry producing a homogeneous commodity sharply differentiated from all others. Or, if the case where no two commodities are exactly alike be thought to be too extreme, we might at least turn to the case where no two producers produce exactly the same commodity, as is the rule not only with all personal services but also in the markets of many manufactured commodities, such as the markets for books or musical instruments. (p. 99)

Assume, following Hayek, that for each product there is a continuous range of close but different substitutes¹⁶⁴ and name those substitutes as *Hayek products*. The gap between similar products is the degree of difference (substitutionability) between them.

When there are Hayek products, the monopoly market price will not only be limited by the sub-optimal producer, but also be limited by existence of the producers of substitutes. Coase (1937) notes the importance of product diversity:

“It has sometimes been assumed that a firm is limited in size under perfect competition if its cost curve slopes upward, while under imperfect competition, it is limited in size because it will not pay to produce more than the output at which marginal cost is equal to marginal revenue. But it is clear that a firm may produce more than one product and, therefore, there appears to be no prima facie reason why this upward slope of cost curve in the case of perfect competition or the fact that marginal cost will not always be below marginal revenue in the case of imperfect competition should limit the size of the firm. Mrs Robinson makes the simplifying assumption that only one product is being produced. But it is clearly important to investigate how the number of products produced by a firm is determined, while no theory which assumes that only one product is in fact produced can have very great practical significance. (p. 12)

With a Thünen-style figure, Coase (1937) explains that the boundary of a firm

(product) can be limited by another firm (product):

Imagine an entrepreneur who starts controlling exchange transactions from x. Now has he extends his activities in the same product (B), the cost of organising increases until at some point it becomes equal to that of a dissimilar product which is nearer. As the firm expands, it will therefore from this point include more than one product (A and C). (p.13)

The method used by Coase to deal with this issue is the same as that used by Tiebout to deal with optimal community size, i.e. assuming the cost the curve of a firm (community) is convex. If this assumption is relaxed by allowing unlimited economies of scale, the equilibrium of price-size will not exist. Obviously, Coase himself noticed this problem. He indicates that “this treatment of the problem is obviously incomplete, but it is necessary to show that merely proving that the cost curve turns up does not give a limitation to the size of the firm.” (Coase 1937: 49)

Sraffa (1926) gives the most insightful description of the relationship between various monopolists under incomplete competition:

“When each of the firms producing a commodity is in such a position, the general market for the commodity is subdivided into a series of distinct markets. Any firm which endeavours to extend beyond its own market by invading those of its competitors must incur heavy marketing expenses in order to surmount the barriers by which they are surrounded; but, on the other hand, within its own market and under the protection of its own barrier each enjoys a privileged position whereby it obtains advantages which – if not in extent, at least in their nature – are equal to those enjoyed by the ordinary monopolist.” (p. 8)

As with Coase, however, Sraffa does not explain why there are different products and does not describe how the market size-price of each product is determined and what the optimal variety is. What he indicates is that there is a cost for producers who switch from one product to another. Is it possible to explain product diversity from the viewpoint of consumption rather than production? Obviously, it will be more difficult,

since it is very easy to reach Tiebout's conclusion that everyone wants to be his own producer, due to the diversity of preference.

8.3.2 Utility function

To solve the problem, Spence (1976) and Dixit and Stiglitz (1977) propose the Constant Elasticity of Substitution (CES) function. The function simply assumes that diversity increases as market size expands. The relationship between price and quantity in Marshall's price theory is replaced by the relationship between variety and quantity in this function. However, as Marshall's theory, which cannot explain the pricing mechanism, the CES function cannot explain the dynamics of new product emergence.

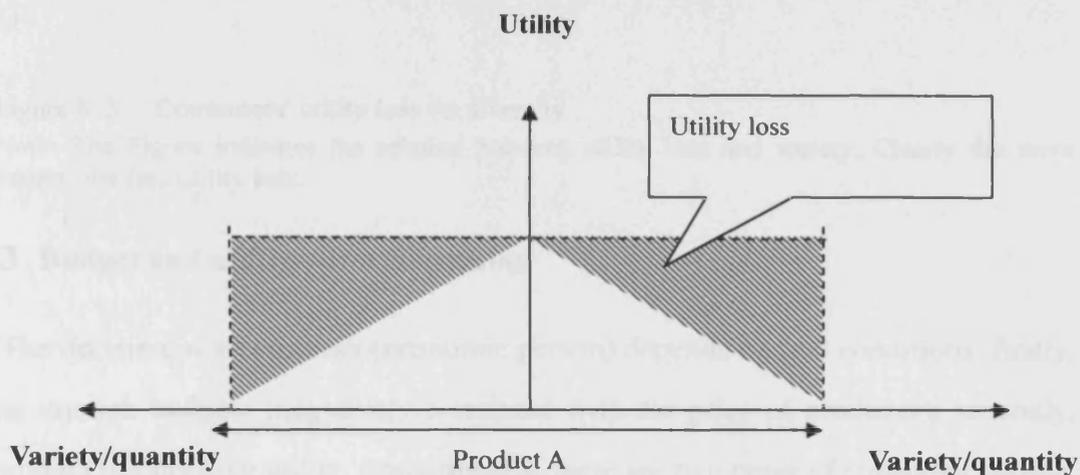
If we re-consider this issue with an augmented Schumpeter competition, the dynamics by which new products emerge and the competition of product variety become clearly articulated.

Consider the new norm: *maximization of consumer utility*. As mentioned above, the consumption function in my model is composed of utility, budget and surplus. Satisfaction of each consumer is the ultimate purpose of production. Yet for a single product, the utility of each consumer and the degree of satisfaction varies. Assuming that no two consumers have exactly the same preference, one single product can only completely satisfy one consumer. Other consumers' utilities will suffer utility loss even though their utility may be positive.

Take the market for shoes as an example. Everybody's feet are different and everyone regards their feet in different ways, yet shoes are produced in a limited variety of ways because of scale economies. Assuming that everyone's feet are different and therefore everyone has a unique preference for shoe size (not to mention style and quality), only one pair of feet will exactly fit one particular manufactured size of shoe and other consumers' feet will be less comfortably accommodated. Of course it will be good if sizes of shoes produced could be as diverse as the preferences/needs of consumers. But this would tend to mean producing special shoes

for each person¹⁶⁵ ¹⁶⁶ and as Tiebout said: *This is not even a first approximation of reality (Tiebout, 1956:421)* since producers generally have to be concerned with scale economies. This reveals that price is not the only concern of consumers. There must be an equilibrium between maximizing consumer's utility and producer's surplus.

As shown in the case of the shoes, producers prefer specialization while consumers prefer diversity. For producers with increasing (or constant) returns, larger scale production means lower average costs. For producers, mass production is more efficient than specialised production. Consumers, however, prefer more choice for a given price for the more diversity of products, the less their utility loss¹⁶⁷.



¹⁶⁵ It is something like what Tiebout suggested: if each resident's preferences are unique, "there is no reason why the number of communities will not be equal to the population, since each voter can find the one that exactly fits his preferences." (1956:421)

¹⁶⁶ Of course markets do develop for bespoke (tailor-made) clothing – precisely because of the mismatch I am referring to here.

¹⁶⁷ This model shows that a decrease in firm size due to specialisation and the bifurcation of a market are two different processes. On the production side, specialisation leads to local economies of scale, which results in the reduction of product cost and, indirectly, the reduction of product price. On the consumption side, utility maximisation leads to bifurcation of the market, which results in the reduction of consumers' utility loss.

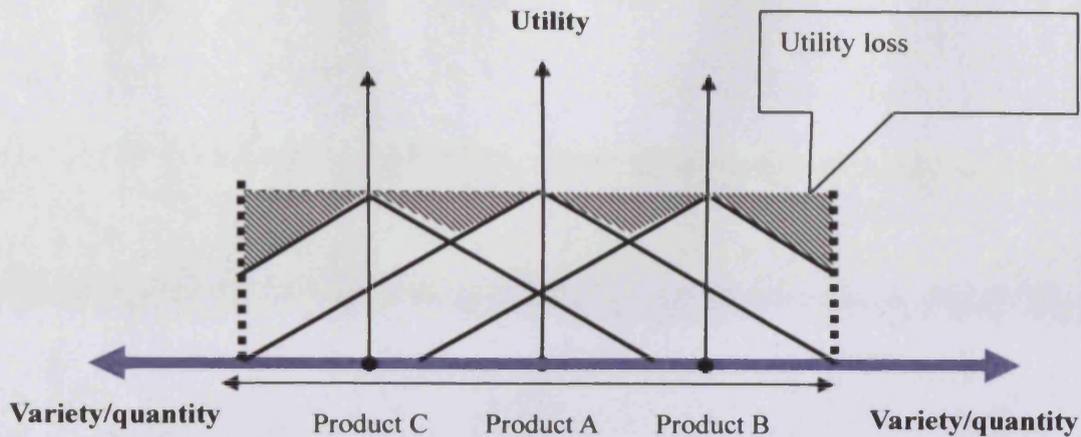


Figure 8.3. Consumers' utility loss vs. diversity

Note: The Figure indicates the relation between utility loss and variety. Clearly the more variety, the less utility loss.

8.3.3 Budget and utility—two constrains

The decision of a consumer (economic person) depends on two conditions: firstly, he has enough budgets (negatively correlated with the price of producer); secondly, the product has positive utility. Consequently, there are two types of consumer surplus: utility surplus and budget surplus. For a consumer, there can only be one type of surplus: 1) budget surplus: he cannot find the product he wants, although his budget is sufficient; 2) preference surplus: he wants the good but does not have sufficient budget. Clearly these two types of efficiencies are negatively correlated, and cannot be satisfied at the same time. When there is budget surplus, the definition area of market is confined by utility bounds. The preference of marginal consumer (economic person) is zero—he has sufficient budget but does not like the good. When there is preference surplus, the definition area of market in confined by budget bounds. The budget of marginal consumer (economic person) is zero—he like the good but cannot afford it.

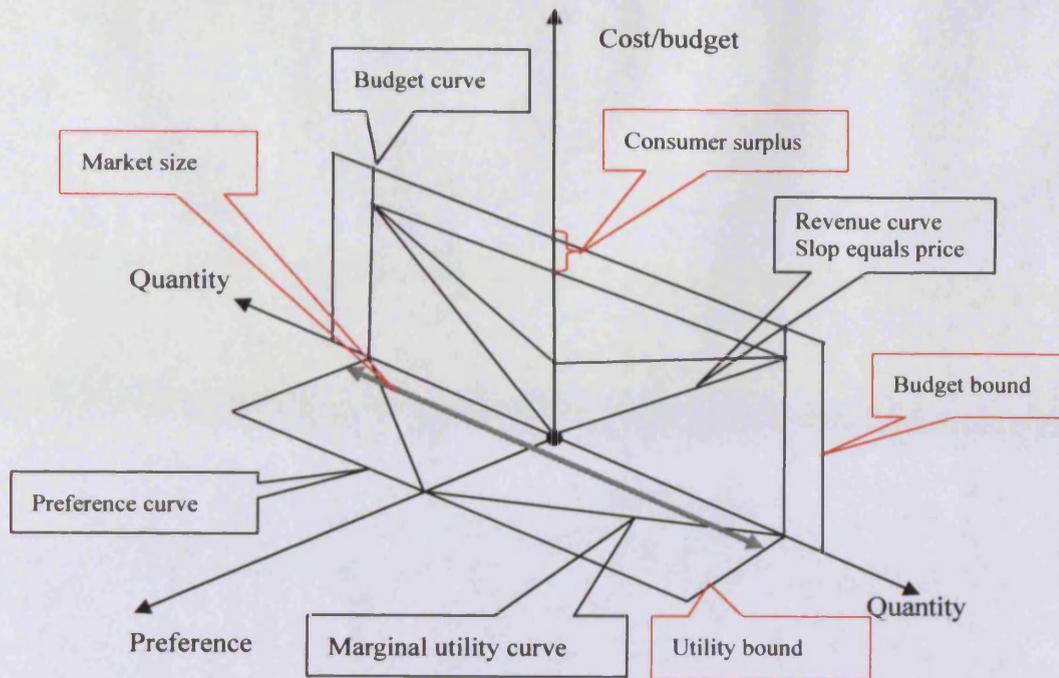


Figure 8.4. The effective demand and market size confined by utility bound

Note: The utility bound replaces the budget bound to confine the market size. This would cause the accumulation of consumer surplus.

When a producer reduces price, the market size will expand due to the increase of effective demand from consumers who are restricted by their budgets. On the other hand, it will have no effect on the consumers who are restricted by the utility of the product. They will select the products that can best meet their preferences. In other words, when the market size is restricted by consumers' budget (i.e. there are enough preferences, but there is not enough budget), the boundary of the market will be determined by the last affordable consumer agent. When the market size is restricted by consumer's preference (i.e. there is enough budget, but there are not positive preferences to the product), the boundary of the market will be determined by the number of economic person whose preference are large than zero. When the effective demand sets of two different products overlap each other, there must be a Buridan consumer¹⁶⁸, who can afford both products and whose preference is indifferent

¹⁶⁸ This concept is modified from the philosophical story of Buridan's donkey (or ass, dog, etc), who, when faced with two equally appealing bales of hay (or barley and oats, or carrots) could not make up its mind which to eat and so died of starvation. The paradox is named after the 14th century French philosopher Jean Buridan.

between them.

8.3.4 General equilibrium

Only when the utility bounds confine the market size would a new product emerge. When the market size is constrained by the utility of consumers, the increase of income or the decrease of product price will not lead to the enlargement of market size, but the growth of budget surplus. Once the consumer surplus reaches a certain point, the old market bifurcates -- the alternative Hayek product(s) will be produced to reduce the loss of consumer utility.

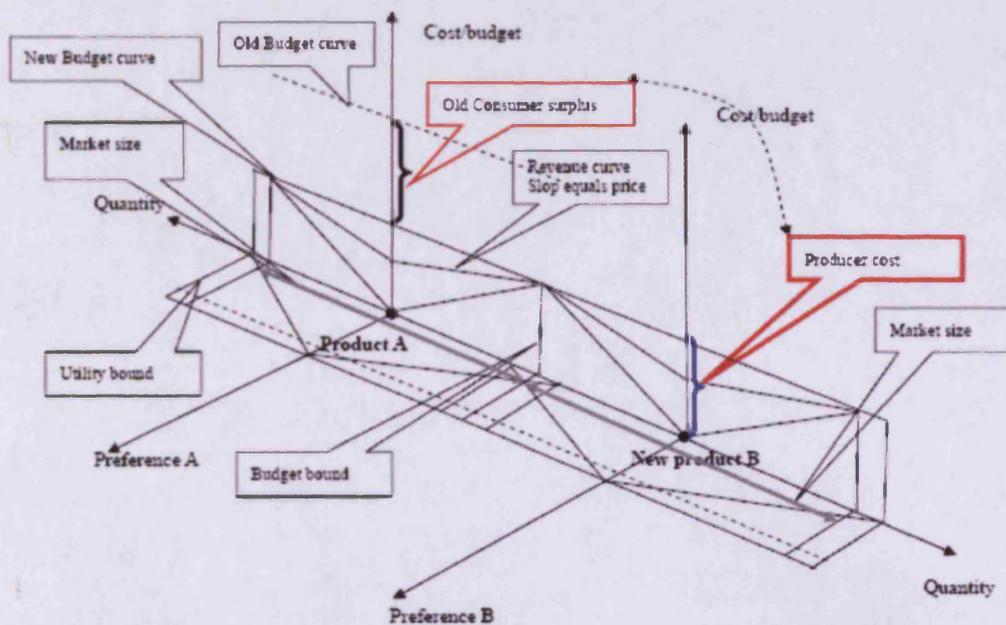


Figure 8.5 The birth of new product

Note: This illustrates the bifurcation of a market and the birth of a new product. The accumulation of budget allows producer to invent the new product and thus to reduce the utility loss of consumers.

The concept of equilibrium is given a new meaning by introducing the time-space concept. In this new framework, equilibrium can exist in the short run only. With the change of time or space, surplus will change accordingly (accumulation or wastage) and the equilibrium will be destroyed. Therefore, in the long run, there is

no Walrasian stable equilibrium; neither for any product nor for the entire market.

Within this framework, the dynamics of product diversity and market size-price mechanism can be described clearly. Product diversity is driven by consumers' preference. The equilibrium product diversity is that associated with the minimum of utility loss and maximum of budget of the consumers. It is worth to note that the process of market bifurcation is reversible. When economy shirks the two markets of Hayek products may merge into one. Once there is not enough surplus to contain new product, the market reaches its equilibrium.

Let us conclude the discussion in this section. Product variety is the trade off between consumption preference for diversity and production preference for economy of scale. Social surplus (budget and profit) determines the equilibrium of product variety-quantity-price. According to this mechanism, we have the following conclusions:

1. Because of the existence of Hayek products, there is no product whose price and market size can be determined independently.
2. No combination of any of the two elements alone (variety and price, quantity and price, or quantity and variety) can reach equilibrium.
3. Since the accumulation of surplus is not constant, any economy must vary over time (expanding or contracting).

8.5 Conclusions

Staring at the innovation of Tiebout and also his unresolved problem, this Appendix finds that the reason why public goods cannot be analysed within the neoclassical framework is the perfect competition paradigm. To incorporate public goods and private goods within a consistent framework, this Appendix proposes a new price theory, based on the logic embedded in the thought of Schumpeter, Coase, Vickrey and Hayek. I have proposed a price theory that is able to explain some inherent conflicts within neoclassical theory and greatly reduces the unrealistic

assumptions required by conventional price theory.

First of all, it resolves the problem of increasing returns and scale economies. Economists acquainted with neoclassicism are all aware that increasing returns and scale economies are incompatible with conventional price theory. This incompatibility hinders price theory from explaining many economic phenomena. This is especially true when it comes to spatial issues as Fujita, Krugman and Venables point out in their masterly work, *The Spatial Economy* (2002):

The basic problem with doing theoretical work in economic geography has always been that any sensible story about regional and urban-development hinges crucially on the role of increasing returns. Suppose that we really lived in the constant-returns world that much economic theory still assumes. Then it would be hard to understand why the economy is not characterized by “backyard capitalism”, in which each household or small group produces most items for itself...Unfortunately, increasing returns have always posed difficulties for economic theorists. Except under very special circumstances they lead to a breakdown of perfect competition; even if this problem can somehow be finessed, they pose problems for the existence and uniqueness of equilibria (pp.2-3)

In order to overcome the technical obstacle to economic modeling, spatial economy theorists have adopted the CES functions developed by Dixit and Stiglitz (Dixit and Stiglitz 1977). This attempts to deal with the troublesome problem of increasing returns to scale in a very technical and mathematical fix. However, even these authors are not satisfied with the CES function because it is based on a very unpractical assumption that market scale affects neither the price nor the scale of a single market and that all market scale effects are functionally related to products and their varieties. In the new theory that emerges from CES assumptions, price leaves the scene and the famous relation between scale and price in Marshall Price Theory is replaced by a relation between scale and variety. In other words, the factor of price is sacrificed in economic analysis in order to solve the problem of increasing returns.

In contrast, the pricing theory framework proposed in the appendix to this thesis can resolve the relation of price, quantity and variety synchronously. *It can therefore be applied to the analysis of pricing both in traditional competitive markets and, crucially for urban studies, in monopolistic markets.* Competition (at the margin) between optimal and second-best products, as well as competition between close-substitute products, takes the place of perfect competition. Or more precisely, perfect competition becomes a special case. These types of competition also help bring into a uniform framework, unmanageable problems (unmanageable under the paradigm of neoclassical economics) such as spatial analysis and the provision of public goods.

The proposed model also resolves the problem of perfect competition, which is not compatible with monopolistic competition - the main form of spatial competition and public good supply. Since the formation of neoclassical price theory, people have not stopped criticizing perfect competition. Hayek wrote in the fifth chapter “The Meaning of Competition” in *Individualism and Economic Order* that:

“According to the generally accepted view, perfect competition presupposes:

- 1. A homogeneous commodity offered and demanded by a large number of relatively small sellers or buyers, none of whom expects to exercise by his action a perceptible influence on price.*
- 2. Free entry into the market and absence of other restraints on the movement of prices and resources.*
- 3. Complete knowledge of the relevant factors on the part of all participants in the market.” (p.95)*

Hayek then suggested that:

“The peculiar nature of the assumptions from which the theory of competitive equilibrium starts stands out very clearly if we ask which of the activities that are commonly designated by the verb “to compete” would still be possible if those

conditions were all satisfied. Perhaps it is worth recalling that, according to Dr. Johnson, competition is “the action of endeavouring to gain what another endeavours to gain at the same time”. Now, how many of the devices adopted in ordinary life to that end would still be open to a seller in a market in which so-called “perfect competition” prevails? I believe that the answer is exactly none. Advertising, undercutting, and improving (“differentiating”) the goods or services produced are all excluded by definition — “perfect” competition means indeed the absence of all competitive activities.” (p.96)

Nearly a century has elapsed and the neoclassical paradigm has not collapsed, although masters of economics like Sraffa, Hayek and Young have falsified the price theory of neoclassicism and there more and more ‘abnormalities’ are included in the lexicon of economic ideas. On the contrary, the mainstream paradigm constantly sets up various branches (game theory, information theory, development economics, institutional economics) to deal with these abnormalities through a series of “adjustment, adaptation and assimilation” (Kuhn 1962). The effect has been to keep neoclassical price theory alive. One important reason is that all these criticisms have failed to give birth to a more explanatory paradigm that parallels and potentially competes with the neoclassical.

Through introducing the idea of Coase-Vickrey competition (consumer competition), Schumpeter competition (producer competition) and Hayek competition (variety competition), this thesis generalizes the pricing theory of monopolistic competition and makes perfect competition a special case of monopolistic competition. It thereby resolves the incompatibility of neoclassical price theory with monopolistic competition and includes all competition models in one uniform analysis framework.

Another contribution of the proposed model is to clarify an important question concerning the structure of competitive markets – who is it who sets price? In the Marshallian paradigm, the primary issue concerning equilibrium is supply and demand, which makes people think that competition will surely exist simultaneously among consumers and producers. This blurs the essential question of whether it is

consumers or producers who decide the price. In order to avoid this question, neoclassical economics regards pricing as an abstract and impersonal process – in the fictitious Walras auction, nobody can determine the price of the market; rather, it is already fixed and what the producers and consumers need to do is to select different production factors or different consumption combinations on the basis of this fixed price. Therefore, the neoclassical price theory doesn't qualify as a genuine "price" theory; it is at most an optimal allocation theory. Within the proposed price theory framework, market subjects are no longer the price receivers but the price makers – it ensures that the price of the market is determined by somebody.

In brief, the new price mechanism differentiates two states: (1) supply that exceeds demand and (2) demand that exceeds supply. When supply exceeds demand, there is among producers and the price is determined by *Schumpeter competition*. When demand exceeds supply, there is competition among consumers and the price is determined by *Coase-Vickrey competition*. If consumers can choose among various substitute goods, market competition arises between the producers of these substitute goods and the price lies with *Hayek competition*; if producers can choose among various consumption demands, competition arising among various consumers and producers will turn to the most profitable products until the profit (surplus) of the marginal producer is equal to that of the producer of another product.¹⁶⁹ Whatever the competition is, the optimal criterion is what I have denoted the *Coase Optimum* – surplus maximization.¹⁷⁰

This market structure is of ultimate importance to the selection of political systems (including the nature of governance in cities). When supply falls short of demand and consumers cannot choose freely among different producers or products,

¹⁶⁹ We can regard the equilibrium of scale and price determined by competition among producers or consumers for the same product, as partial equilibrium; and regard the equilibrium based on competition among the producers of different products as general equilibrium. After introducing currency – the universal equivalent - all products can be seen as kindred products. In this way, without additional assumptions, partial equilibrium and general equilibrium can be examined within a uniform framework containing price – scale – variety.

¹⁷⁰ But not utility maximization. After the concept of the *economic person* is brought in, the intensity of consumers' preferences is no longer important. All utility is measured with one unit — only the value counts — positive or negative — whatever the intensity is.

democracy is needed to limit the opportunistic behaviors of producers. Whereas, when supply exceeds demand and consumers may choose liberally among a range of producers or products, democracy becomes redundant. The autocracy does not affect the Hayek Competition if the taxpayers can move freely among many monopolistic public goods suppliers. In the In reality, competition among local governments for taxpayers (enterprises, individuals), is also a form of Hayek competition. Tiebout's model is actually the abstraction of Hayek competition to the urban public goods problem.¹⁷¹

Within the neoclassical framework, there are no transaction costs and the market is therefore able to run smoothly without any institutions (apart from the all pervasive perfectly competitive market with its invisible Walrasian auctioneer). But in the proposed price mechanism – as with other theories in the new institutional economic mould - institutions become an analyzable and significant economic factor. The core of institution design is to create business models that consist of variable cost and fixed cost and can maximize profit through the combination of production factors. The business model itself is a fixed cost (capital asset) – its repeated applications will also produce economic surplus.

Within the analytical framework proposed in this appendix, we can see that there is no difference in nature between the pricing of public goods and private goods. The pricing mechanism of public goods and private goods can be explained within the same framework (following the genius of Tiebout several decades ago):

“.....The solution, like a general equilibrium solution for a private spatial economy, is the best that can be obtained given preferences and resource endowments.”

And

“.....local government represents a sector where the allocation of public goods

¹⁷¹ The analysis of market structure can also be used to explain the vertical integration of enterprises — this is an institutional compensation to prevent the opportunistic behavior of the other party when one party loses flexibility and can't quit the transaction at will.

(as a reflection of the preferences of the population) need not take a back seat to the private sector.” (Tiebout, 1956:424)

Appendix 2

Rethinking of Coase Theorem and Auction theory

9.1 Paradigm change?

Since perfect competition became a pillar of mainstream economics, insightful economists, such as Sraffa, Schumpeter, Hayek, Dixit and Stiglitz, have never stopped reconsidering the micro-foundation of economics. An important breakthrough came from the work of Ronald Coase (1959, 1960). After the effort of a generation of economists, Coase' theory has now been developed as one of the foundations of the New-institutional economics (is . However, there are reasons to believe that even this magnificent success – culminating in a Nobel prize – may fall short of what he might have originally been seeking. From Coase' point of view the methodology he developed was a challenge to the foundation of economics, rather than merely a complement to mainstream economics. At a fundamental level, Coase' transaction cost paradigm and the perfect competition paradigm are not, in fact, consistent in nature.

Although few economists admit this point, Coase himself is very clear about it. In his Nobel Prize Lecture, Coase started with this:

“In my long life I have known some great economists but I have never counted myself among their number nor walked in their company. (p.713)”

This meaningful prologue has naturally been regarded as modesty. However, it might also be interpreted as Coase demarcating a line between himself and the mainstream economists. His seminal paper, “The Problem of Social Cost”, had been highly regarded at that time: indeed it was one of the two papers for which he

received the Nobel Prize. Nevertheless, Coase said:

“I will not say much here about its influence on legal scholarship which has been immense but will mainly consider its influence on economics, which has not been immense, although I believe that in time it will be.(p.717)”

Obviously, Coase was not unclear about the influence of his paper, but assessed that its influence on economics should be greater. Coase’s extraordinary confidence comes from his deep understanding of his idea. In this well know speech, Coase boldly asserted:

“It is my view that the approach used in that article will ultimately transform the structure of microeconomics...[T]hey will, as I believe, bring about a complete change in the structure of economic theory, at least in what is called price theory or microeconomics.”

Coase himself realized :

“I am very much aware that many economists whom I respect and admire will not agree with the opinions I have expressed and some may even be offended by them(p.719)”,

because what he has been challenging is not only so-called ‘high theory’ but also the very basis of neo-classical economics.

Since then, however, the ideas of Coase have been gradually quoted by neo-classical economists and have finally become something of a decorative addition or extension to the neo-classical economics framework. Mainstream economists cite the Coase theorem much more than they understand it, as Oliver Williamson has critically noted. It is plain that the revolution in micro-economics has not yet occurred as Coase foretold. Partly, this must be due to the fact that mainstream economists are, Coase’ own words “extremely conservative in their methods, (and) have not been inclined to attempt it.” More importantly, however, although Coase exposes the weaknesses of Arthur Pigou's market-failure logic, he does not provide a new

paradigm explicitly that can replace the price theory of mainstream economics.

9.2 Coase Theorem

In his seminal papers of *The Federal Communications Commission* and *The Problem of Social Cost*, Coase (1959, 1960) put forward what was subsequently dubbed the *Coase Theorem*, by Stigler (1972). The Coase Theorem can be interpreted as follows. When transaction costs are zero, parties to an externality problem will settle their conflict through contracting property rights over the externality and the production activity that causes it. These rights would be assigned to those who can use them most productively. Many scholars emphasize one implication of Coase Theorem: that market can achieve optimality automatically without government intervention¹⁷². Others point to the more substantial message of Coase: that when transaction costs are not zero, then the distribution of property rights is crucial in determining a solution. However, I suggest that a more revolutionary contribution of the Coase theorem lies in its criticism of the analytical framework of the perfectly competitive mainstream economics model¹⁷³.

To clarify the misunderstanding of the Coase Theorem, in his paper *Notes on the Problem of Social Cost*, Coase refers to the example used in *The Federal Communications Commission* about a newly discovered cave:

“Whether the cave is used for storing bank records, as a natural gas reservoir, or for growing mushrooms depends, not on the law of property, but on whether the bank, the natural gas corporation, or the mushroom concern will pay the most in order to be able to use the cave.”

In making this argument, Coase gives an explanation of economic surplus that is very different from the neo-classical economics explanation, based as it is on utility theory and perfect competition. In Coase’s world, when different bidders bid to use

³ In the *New Palgrave*, Cooter defines the Coase theorem as: “The initial allocation of legal entitlement does not matter from an efficiency perspective so long as the transaction costs of exchange are nil.”

¹⁷³ Cheung (2000) also thinks that, in future, economics theorists will treat the transaction cost paradigm as a revolution against neoclassical marginalism.

the same resource, their efficiencies are different. As a result, the most efficient bidder acquires the property right of the scarce resource by paying the most. This contrasts with the neo-classical idea that bidders simply take the market price and decide how much of the goods they would like to buy according to their marginal substitution rate, which varies from one consumer to another consumer. In other words, the price in a Coasian world is made by the bidders but in neo-classical economics, no one makes the price - all players are price-takers.

9.3 Coase optimum

The Coase theorem is a great challenge to mainstream economics. There have been numerous studies that attempt to incorporate the Coase theorem into the neo-classical framework. In his article, *The Public Use of Private Interest*, Schultze (1977) argues that zero transaction costs do not guarantee efficiency but that only clear-cut property rights can achieve the highest efficiency through perfect competition. Cooter (1982) alternatively asserts that zero transaction costs plus perfect competition can achieve the efficient allocation of resource. However, I suggest that the Coase approach is fundamentally in conflict with the idea of perfect competition, basing this on Coase (1988) Notes on the Problem of Social Cost, where he says:

“Stigler states the Coase Theorem in the following words: ‘... under perfect competition private and social cost will be equal.’ Since, with zero transaction costs, as Stigler also points out, monopolies would be induced to ‘act like competitors,’ it is perhaps enough to say that, with zero transaction cost, private and social costs will be equal. It will be observed that Stigler’s statement of the Coase Theorem differs from the way I expressed the same thought in my article. There I spoke of the value of production being maximized. There is, however, no inconsistency. Social cost represents the greatest value that factors of production would yield in an alternative use” (p. 158)

According to the Coase paradigm, producers are always pursuing maximum

benefit. This results in an equilibrium in which the most productive producer acquires the property right of a resource, and thus are social benefits maximized. Coase here puts forward an analytical criterion completely different from the neo-classical Pareto optimality, which is the maximum social benefit. Elsewhere I have named it the *Coase Optimum* (Zhao 2003). Within this framework, neither the assumption of perfect competition nor the idea of subjective cost is required: the Coase equilibrium can be achieved through comparing the net surplus of different demander¹⁷⁴. Optimal solutions in the neo-classical framework also result from comparisons of net surplus – for example, land users in Alonso’s bid rent economy, bidding away their surplus (following Ricardian and von Thunen ideas of value) as land rent. But this mechanism requires the perfect competition/perfect knowledge/ zero transaction costs assumption.

¹⁷⁴ The Alonso’s model is good case to contrast the difference between the neo-classical and Coase.
 1) In Alonso, the so-called rent curves are not curves of different rent but the curves of cost of transportation actually. The only decision bidders have to make is the quantity of land - according to their indifferent curves. That is to say, the bidding in Alonso’s model is pseudo-bidding - without bidding, the curves would still be the same. The curves are decided by the “market” not the bidders. All bidders simply take the equilibrium curves. The curves indicate the lower limit of the rent but not the curves of rent. If the cost curves are simply presumed to be the rent curves, as Alonso assumed, it must be presumed immediately that no bidder obtains rent from this. Otherwise, the curve would rise until the surplus turns to zero.
 2) In Coase’s model, bidders do not care about the cost curves. What they care about is where they can maximize their net surplus - the turnover minus the costs (including cost of transportation). Even if we presume that the profit curves of different land uses are Thunen-Alonso style, the rent curve of land would follow the curves of the second-best bidder. See the figure in which the rent curve has already taken the cost of transportation into consideration.

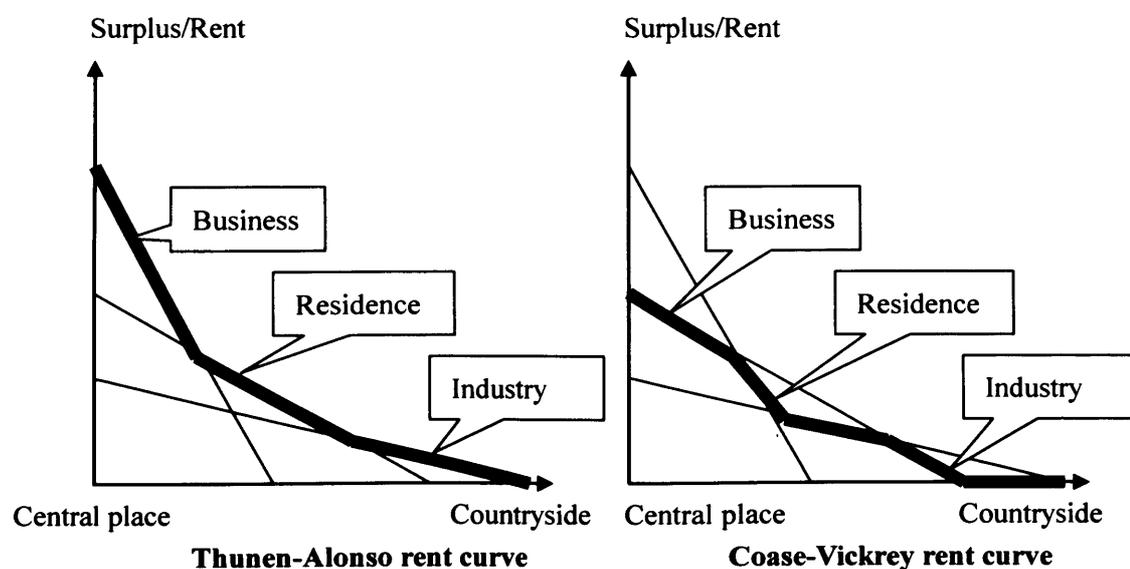


figure 9.1 Thunen-Alonso rent vs. Coase-Vickrey rent

Take the famous farmer and cattle-rancher case in Coase's 1960 paper as an example. Assume a farmer and a cattle-rancher operate on neighboring properties. Without any fencing between the properties, an increase in the size of the cattle-rancher's herd increases the total damage to the farmer's crops. According to the neo-classical paradigm, or Pigou's approach, as Coase noted, it would be desirable to make the cattle-rancher liable for the damage caused to the farmer, or alternatively, to place a tax. From Pigou's point of view, both meat market and crop market are at equilibrium with a given set of prices. The damage to crops is an *externality* of the cattle-rancher's herd, which is equivalent to a third product arising from the two markets. It becomes a missing market (Arrow's term) and a natural solution is to place tax or penalty on the cattle raising business to bring the third market into equilibrium as well. The so called market failure will be corrected when the tax enters the cattle farmer's production function.

From Coase' point of view, however, this 'natural solution' is questionable. In the framework of Coase, landed property can either be owned by the rancher or farmer. Who should own the land depends on who can yield more net surpluses. Presume the rancher can gain net profit 100 yuan, whereas the farmer can create 50 yuan. If the original property of the land is in the hands of rancher, the land remains in the hands of rancher. The social surplus is 100 yuan. If the original property belongs to farmer, the rancher could pay the farmer 50 yuan, which equals the surplus of the farmer, to gain the right to raise cattle. The aggregate social surplus is still 100 yuan. Regardless of the original property status, the final result will be that the one who can create more net surplus should get the property right of land if the transaction cost is zero. The aggregate social surplus also equals 100 yuan. Likewise, if we use an illustration of an industrial plant that generates pollution and the polluted residents replace the rancher and farmer, the result is the same.

Where there is no liability for damage, the allocation of resources will be the same as in the case where there is liability for damage. Therefore,

"It is necessary to know whether the damaging-business is liable or not for

damage caused since without the establishment of this initial delimitation of rights there can be no market transactions to transfer and recombine them. But the ultimate result (which maximizes the value of production) is independent of the legal position if the pricing system is assumed to work without cost.” (Coase,1988, p. 104)

According to the Coase theorem therefore,

“[but] if the private cost is equal to social cost, it follows that producers will only engage in an activity if the value of product of the factors employed is greater than the value which they yield in their best alternative use. That is to say, with zero transaction costs, the value of production would be maximized.” (Coase, 1988, p.158)

Transactions between producers and consumers will automatically lead to maximum value of the factor. The factor would transfer to its best user. If we extend this principle to ‘maximum social surplus’¹⁷⁵, we can achieve a new price criterion, the *Coase optimum*¹⁷⁶. Comparing this with the old neo-classical criterion, the Pareto Optimality, it is not necessary to consider the marginal rate of substitution, the marginal rate of technical substitution or marginal rate of transformation when market allocates resources. The only important thing is the maximizing of social surplus. In Pigou’s framework, the surpluses are not important or even a useless concept. The cost is the core of Pigou’s theory. The only thing that Pigovian economist wants to do is to make the private cost of a damaging-business equal to the social cost, in order to meet the preconditions of perfect competition. Pigou’s method of achieving this was to impose a tax on the damaging-business. Contrast this with Coase, who said:

¹⁷⁵ In “Notes on the Problem of Social Cost”, Coase has a quite tangled but very important discussion. He said: *“Rent consists of the difference between what a factor of production earns in a given activity and what it could earn in the best alternative activity. The factors engaged in an activity would be willing, if need be, to pay an amount of money up to slightly less than the sum of their rents to allow their employment in that activity to continue, because, even after taking this payment into account, they would be better off than if they had to move to their best alternative.....*

since the rents represent the increase in the value of production (and therefore of incomes) from undertaking a particular activity rather than the best alternative, it follows that the value of production, as measured on the market, is maximized when rent is maximized”. In this paper, Coase’s did not directly compare the surplus of different uses of the factor. Instead he uses “the sum of the rents of both the farmers and the ranchers (as defined) minus the value of the crops destroyed by the cattle” to measure the sum of the surplus. To simplify the thought, I compare the surpluses of alternative uses to find out who is the best user of the factor. This seems much clearer than Coase’s original argument. Even if this is not the correct explanation of Coase, I would stand on this.

¹⁷⁶ To a great extent, this criterion is equivalent to Kaldor-Hicks Criterion.

The problem which we face in dealing with actions which have harmful effects is not simply one of restraining those responsible for them. What has to be decided is whether the gain from preventing the harm is greater than the loss which would be suffered elsewhere as a result of stopping the action which produced the harm. (Coase, 1988, p.132)

In other words, the solutions of Pigou may be right or not. What we need is a criterion by which to judge them. And Coase Optimality gives the criterion

9.4 Auction theory

After analyzing the English auction, Dutch auction, First Price Sealed Bid auction, and the so called Vickrey auction, Vickrey (1961) found that whichever auction approach is adopted, the result is the same: the highest bidder wins and he or she pays the amount bid by the next highest bidder. In other words, the optimal bidding strategy of the highest bidder is to just keep the next highest bidder out¹⁷⁷. Economists now regard the Vickrey auction as pioneer idea in information economics, and its main contribution is to provide a solution to how to design contracts to deal with incentive and regulation issues under the circumstances of information asymmetry or incompleteness. But the Vickrey auction is also a kind of price theory. In the perfect competition model, price is determined by the invisible Walras auctioneer; and consumer and producer allocate resources and maximize their utilities according to the given price. Nobody can decide or manipulate the market price. But the pricing mechanism of Vickrey is different. He disregards the neo-classical assumption of a fictitious Walras auctioneer and argues that price in the factor market is decided by the highest bidder who considers the efficiency of the next highest bidder. In other words, under the assumption of profit maximization, the strategy of a rational bidder is to evict the second highest bidder at the lowest cost. Therefore,

¹⁷⁷ Kleperer translates Vickrey's conclusion as a 'Revenue Equivalence Theorem', in terms of neo-classical language: Assume each of a given number of risk-neutral potential buyers of an object has a privately known signal independently drawn from a common, strictly increasing distribution. Then any auction mechanism in which (i) the object always goes to the buyer with the highest signal, and (ii) any bidder with the lowest-feasible signal expects zero surplus, yields the same expected revenue (and results in each bidder making the same expected payment as a function of her signal). (Paul Klempner 2004, p.17)

Vickrey auction is equivalent to transaction process assumed by the Coase Theorem in factor market¹⁷⁸.

At this point, it will be worth briefly reviewing the progress of auction theory in the context of consumer competition.

Auction theory is one of the most significant developments of modern economics but for a long time it is not taken as the mainstream of economics for it is incompatible with neo-classical price theory. Although Vickery won the Nobel prize for his contribution to auction theory and later on many celebrated economists (e.g. Milgrom, 1979, 1987, 1989, Milgrom and Weber, 1982, Maskin and Riley, 2000, Riley and Samuelson, 1981, Myerson, 1979, Wilson, 1967, 1969, 1998, Riley 1980, 1988, 1989, McAfee and McMillan, 1986) conducted thorough studies on auction theories and methods, the mainstream economics textbooks for undergraduates hardly contain any introduction to auction theory.¹⁷⁹ Paul Klemperer (2004) complained that:

Although this work was a remarkable achievement, there seemed to be little relationship to traditional price theory, which made the subject a difficult one for many economists. (p.17).....

[But] some people still see auction theory as a rather specialized field, distinct from the main body of economic theory, and as an endeavor for management scientists and operations researchers rather than as a part of mainstream economics. (p.76)

Economists have always been striving to bring auction theory into the mainstream economics and it seems they are fairly close to this goal. Bulow and Roberts (1989) demonstrated that: optimal auction is “essentially equivalent to the analysis of standard monopoly third-degree price discrimination. The auctions

¹⁷⁸ The Coasian story of “cattle-raiser and farmer” can be seen as two bidders in a Vickrey factor (land) market.

¹⁷⁹An example which could explain the problem is that, Myerson’s creative work “**Optimal Auction Design**” was published in operational research journal *《Mathematics of Operations Research》*, rather than any economics journal. This paper helped Myerson won the Nobel economic prize.

problem can therefore be understood by applying the usual logic of marginal revenue versus marginal cost.” (Bulow and Roberts, 1989) However, the pricing activities presented during auction are in essential conflict with perfect competition, where nobody is able to determine market price, as well as the concept of general equilibrium. The mainstream economics has excluded most price maker economic phenomena from the general theoretical framework. Like game theory and the theory of monopolistic competition, auction theory has been unable to stride into the gate of the mainstream economics and thereby has to make a fresh start together with the theories which are based on pricing activities, such as game theory, to reorganize their own system.

But in the new analytical framework proposed in this framework, auction theory is not on the edge of price theory but rather at the core of this mansion, which is the fundamental form of all consumer competitions. Coase-Vickery pricing theory is the rule to be abided by consumer competitions. The theory of consumer competition grounded on auction theory may provide explanation to almost all behaviours of consumer competition such as oligopolistic pricing, queues, lobbying contests, tournaments and rationing. Besides, the new framework includes pricing tools like game theory that have long been incompatible with pricing rules and makes them the organic components of the new theory.

9.5 Conclusion

According to a Coase-Vickrey pricing mechanism, the final equilibrium is: (1) the highest bidder acquires the property right of the factor; (2) the price is determined when the surplus of the next highest bidder is zero; (3) the base price is higher than the revenue that the original owner of the factor can benefit from it. When the transaction cost is zero, the result of Coase equilibrium is that the highest bidder – the one who can create the maximum social surplus - acquires the property rights. Under this mechanism, profit is the sole criterion that determines who can maximize social

surplus and obtain the property rights of factors¹⁸⁰.

Since last half century, the transaction cost theory has won glorious success (Chueng, 1991). It can be found in almost all branches of social science. But it has been failed to replace the neo-classical paradigm and thus become the mainstream of economic analysis. The main reason is that the transaction cost and auction theory are not whole comparing with neoclassical paradigm. Coase-Vickrey pricing system only solves the pricing mechanism when demand exceeds supply. The pricing system for demand falls short of supply is still out of rang. That is the cause why new institutional economics fail to frame its own pricing theory and drive the neoclassical paradigm out the analysis completely. The Coase theorem needs more sound ground of pricing theory to stand on.

¹⁸⁰ As Coase said, “(rent) is the difference between what a factor of production earns in a given activity and what it could earn in the best alternative activity.” (p.165)

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