ZE ZHU

Essays on China's Tax System

ESSAYS ON CHINA'S TAX SYSTEM

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Essays over het belastingssysteem van China

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For Xiaohua

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Contents

List of Figures

List of Tables

"The public finances are one of the best starting points for an investigation of society,
especially though not exclusively of its political life.
The full fruitfulness of this approach is seen particularly at those turning points,
or better epochs, during which existing forms begin to die off and to change into something new,
and which always involve a crisis of the old fiscal methods."
– Schumpeter (1918, p.101)

1. Introduction

1.1. Background

Taxation is at the very core of any state (Schumpeter 1918). It forms the base for government activities, such as allocating resources, redistributing income, and stabilizing business cycles (Musgrave 1959). Yet, taxation is not neutral, which is especially linked to the development of the modern democratic state. History offers England's Glorious Revolution of the seventeenth century and the French Revolution of the eighteenth century (Kiser and Kane 2001) to name but two examples; while in modern times, we have witnessed the important role of tax reform in the transformation of Eastern Europe (Bird *et al.* 1995). Modern democracies, contrary to expectations, have a wide variety of tax systems, differing dramatically in structure, size, role and function. The intriguing question then is why do they vary and how do they come into being?

Existing literature offers competing theoretical models but mostly focus on those developed countries and thus provides limited theoretical explanation for transition economies and, more importantly, less operational guide for their transformation courses toward a democratic governance. Therefore, this prompts the research on changes of tax systems in transition economies.

As the largest and most successful transition country with 1.3 billion population and average 10 per cent annual GDP growth rate after the reform in 1978 (UNTCAD 2005), China is a typical case for such research. In contrast to the fall of former Soviet Union blocs, China's rise also lends deep theoretical implications and ample practical suggestions for the world transition economy. Moreover, despite an authoritarian political regime in China, a series of fiscal and tax reforms have resulted in a *de facto* fiscal decentralization. It yields appropriate incentives and hard budget constraints as powerful

"carrots and sticks" to align local officials' interests with local economic prosperity and steer their behaviors in favor of market transformation. Since local governments not only obtain considerable discretionary power over budget, investment, land-sale, taxation and the like, but also shoulder substantive top-down mandatory tasks providing of public goods and services, such as education, health, social insurance, and infrastructure, to develop market economy is, therefore, a rational choice for local governments. They relax the control of sate-owned enterprises (SOEs) and township and village enterprises (TVEs) by privatizing, bankrupting, merging, or outsourcing, protect market transaction by enforcing legislations and contracts, and coordinate business activities by building a compatible tax system with substantive tax incentives. Some scholars depict such institutional setting as a "market-preserving federalism" (Montinola *et al* 1995; Qian and Roland 1998; Qian and Weingast 1996, 1997; Weingast 1995). However, the main characteristics of the system is not its federalism, which is in any case not constitution-based and rather weak, but the existence of "local autonomy" emerged at the interplay of formal and informal governance structures, given the unique "central-local dual-track" tax system. On the one hand, a formal and standardized national tax system operates under the custody of the central government while *de facto* informal and flexible local tax systems are managed by local governments resulted from the fiscal decentralization after 1978 on the other hand.

The last issue is the major concern of this research, namely *the emergence of the "central-local dual-track" tax system in China's transition economy*, which prompts an in-depth insight into *interactions between the central government, local governments and firms during such institution building process*.

1.2. Theoretical Issues

This dissertation applies New Institutional Economics (NIE) into the field of public finance based on two reasons: 1) unstable institutional environment and 2) immature democracy in transition economy. Neither Public Finance theory (e.g. Musgrave 1959, 1969) nor Public Choice theory (e.g. Brennan and Buchanan 1980; Mueller 2003; Oates 1972; Olson 1969) is capable of tackling these two issues since the former takes institutions as given and the latter is grounded on the democracy. From the perspective of NIE (North 1990, 2005), the tax system is a part of state institutions and thus changed by a dynamic institution building process, in which various political/economic agents continuously interact with each other. The existing institutional framework dictates the perceptions and learning process of the agents who adjusts their behaviors by competition and cooperation (North 1993, 1995). The central government, local governments and firms

are three major agents for institution building of the tax system in China. On the one hand, the central government initiates the top-down institutional change by enacting tax laws and regulations (formal institutions) and firms trigger the bottom-up tax changes by various tax practices (informal institutions) on the other hand. More importantly, the increasing local autonomy resulted from the ongoing fiscal decentralization enables local governments to coordinate and integrate the institutional supply from the central government and institutional demand from firms. As a result, the interaction between the central government, local governments and firms shapes China's idiosyncratic "central-local dual-track" tax system.

Figure 1.1 describes an analytic framework of this dissertation. Institutional environment impacts behaviors of the central government, local governments, and firms, who interact with each other and shape the formation of tax system. During the institution building process, the interactions between these three players are constrained by efficiency, power and legitimacy. The dissertation seeks to establish the causal mechanisms of the macro-micro-macro sequences of changes by examining the interaction between the central government and local governments at macro level, the interaction between local governments and firms at micro level, and overall changing process of the tax system at macro level.
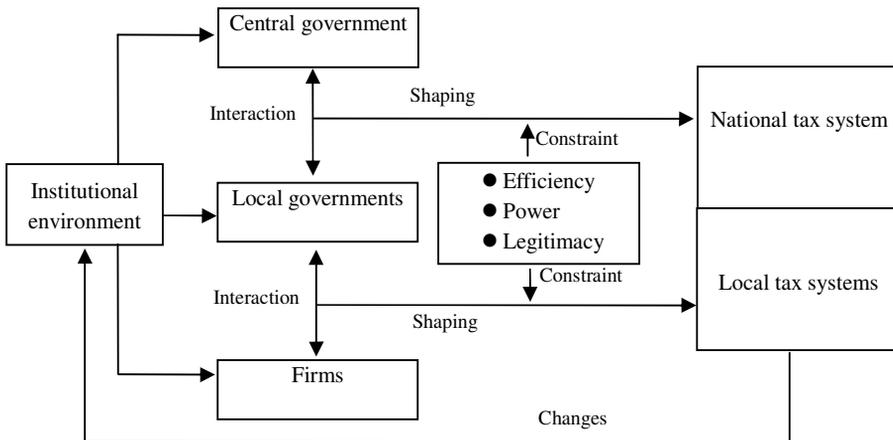
Figure 1.1: Analytical Framework of the Evolution of China's Tax System

■ *Tax farming, local autonomy and local diversity*. Like English and French monarchs in seventeenth and eighteenth century (e.g. Kiser 1994; Kiser and Kane 2001; O'Brien

1988; Donald and O'Brien 2002; Weir 1989; White 1995, 2004), Chinese central government farmed out tax authority to local governments for reliable tax revenue at the beginning of the reform. Being the residual claimant of tax collection, local governments are extremely mobilized to foster local economic growth. More importantly, local autonomy is growing up (e.g. Oi 1992; Qian and Weingast 1996; Wong 1991, 2000; World Bank 1995). This has important consequences. The institution building is devolved from the central government to the local level which allows local governments either to accommodate national tax policy to local differences or to formulate local tax systems through coordination with local economic actors. The central government cannot monopolize the institution building of tax system but have to tolerate various local diversities in local tax systems (Hendrischke 2003; Krug 2004a; Krug and Hendrischke 2003). (Chapter 2)

- *Leviathan model, fiscal federalism, and yardstick competition*. In Brennan and Buchanan's model (1980), the government is depicted as a monolithic Leviathan maximizing its tax revenue, which should be restrained by the institutional setting of fiscal federalism. Yet, the model cannot be directly applied to China, although a *de facto* fiscal federalism exists (Montinola *et al* 1995; Qian and Roland 1998; Qian and Weingast 1996, 1997; Weingast 1995). First, one-party ruling regime dismisses the democracy ground of the Leviathan theory, i.e. constituencies cannot influence government decision by voting by hands. Second, the inter-regional mobility of resident (Tiebout 1956), i.e. voting by feet, is hampered by a household-registration-system (*hukou*)[1]. Considering these two facts, Chapter 3 modifies the Leviathan model by dropping the assumption of election-based and mobility-driven inter-jurisdictional competition and arguing that the top-down supervision and promotion system of party cadres induces yardstick competition (Shleifer 1985; Besley and Case 1995) among local officials. Moreover, increasing local autonomy under the *de facto* fiscal federalism intensifies such kind of inter-jurisdictional competition for mobile resources and tax bases. In this sense, the Leviathan model still holds in the Chinese case. (Chapter 3)

- *Tax competition and exit-voice game*. The *de facto* fiscal federalism invites tax competition among local governments (Brean 1998; Wong 1997; Zhu and Krug 2007).

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[1] The household-registration-system (*hukou*) was adopted in 1948. After then, a regulation in 1958 restrained the resident mobility by requiring households to register their place of residence and apply for official permission for any change in residence.

In order to attract investment, various local tax concessions are offered and firm's tax burden is even opened to negotiate. However, this phenomenon, to our best knowledge, receives no special attention in the field of China research (cf. international tax competition literature, e.g. Bond and Samuelson 1986; Doyle and van Wijnbergen 1994; Janeba 2000, 2002; King *et al.* 1993). Furthermore, in the existing international tax competition models, firm only has a passive strategy of exit. Instead, we observe an exit-voice game that firms play with local governments by performing an active voice strategy to influence local policy-making in China. Hirschman's exit-voice framework (1970) is applied to model the bargaining game between firms and local governments. (Chapter 4)

■ *Institutional building and changes of tax system*. The Public Choice theory is not directly applicable to China because of its basic assumption of election constraint on government behavior. Instead, based on NIE (North 1990), we see the tax system as an institution and its changes as institution building process shaped by interactions between the central government, local governments and firms. More importantly, historical institutionalism approach (Steinmo 1993; Steinmo *et al.* 1992) brings us to the deep insight into the very link between tax changes and Chinese idiosyncratic politics. By understanding dynamic institutions in Chinese historical context, we find that efficiency, power and legitimacy are three fundamental factors shape changes of the tax system. (Chapter 5)

1.3. Research Design

Data about Chinese taxes, especially at local level, are hard to come by. Official statistical yearbook only offers general information at national and/or provincial level. This explains that most studies on China's central-local fiscal relation stop at the provincial level. It is even more frustrating to find documents which would allow describing local tax systems. The informal character of local tax systems also exacerbates this problem. For these reasons we embarked on a rather unusual method in addition to the econometrics methods commonly used in the field of public finance. We first interviewed firms in two provinces, by which we could re-construct the actual local institutional landscape and learn about the informal part of local tax systems. In a second step we interviewed representatives of local tax bureaus or finance departments to understand the formal part of local tax systems. More importantly, thanks to local coordinator's special network, these local officials are willing to disclose more information of their informal policies, thereby offering us a deep

insight into the complex of formal and informal local tax administration. Moreover, in order to capture the interaction between local governments and firms, a game model is employed and further developed in three case studies.

Three types of data are collected, i.e. published official documents, archive data from firms, and face-to-face interviews. The published official documents include statistical yearbooks, government report, and county gazetteer. The archive data from firms consist of organization charters, financial reports, enterprise brochures and magazines. Interviews are conducted with local officials and managers or CEOs of private enterprises, using open-ended and semi-structured questionnaire in bilingual: English and Chinese. To assure the accuracy of the interview data, Chinese was used in conversations and interview notes, which was double-checked by the original informants and then translated into English.

Chapter 2 is based on the fieldwork in Zhejiang and Jiangsu province, adjacent to Shanghai, in June and July 2004. With an area of 101,800 sq. km and a population of 47 million, Zhejiang province was famous for the Wenzhou model characterized by flourishing private entrepreneurship while Jiangsu province, a home to 74 million population with an area of 102,600 sq. km., was successful for its Sunan model encouraging township and village enterprises (TVEs) in 1990s. Nowadays, both provinces are one of the most developed and open regions in China, which doubled per capita GDP of the national level in 2004[2]. Around thirty in-depth interviews with heads of township, tax officials and officials of finance department at provincial, county (city) and township level, and mangers and CEOs of firms were conducted in these two provinces.

Considering the macro-level of analysis in Chapter 3 and 5, econometrics is performed based on provincial panel data obtained from various statistical yearbooks, government reports and the author's calculation.

Chapter 4 develops a game model on the exit-voice game between the local government and firm in which several equilibrium outcomes are derived and further illustrated by three empirical cases. The case study is based on the fieldwork in July and August 2005 with three firms. Seven managers and entrepreneurs were interviewed at length using open-ended questionnaire and story-telling conversation. Hundreds of pages of organization charts, corporate brochures, annual reports, newspapers and contracts between the firm and government were also collected.

1.4. Outline of the Dissertation

[2] Zhejiang and Jiangsu province yielded per capita GDP of 23,942 and 20,705 RMB, respectively, compared to the national level of 10,561 RMB in 2004 (NBS 2005).

The dissertation proceeds as follows. Chapter 2 provides a detailed and systematic empirical research of evolution history and *stats quo* of China's tax system, especially at sub-provincial level. Based on the fieldwork in Zhejiang and Jiangsu province, the chapter illustrates how a conventional tax structure under nationally legislated hierarchical command is paralleled by a separate nested hierarchy of local jurisdictions that practice tax farming. In this local hierarchy, local tax and finance authorities interact to negotiate tax payment and reimbursements with individual firms. Therefore, as an amalgam of formal and informal elements resulted from the fiscal decentralization, China's unique "central-local dual track" tax system sets incentives for local government to promote private business activities.

Chapter 3 focuses on the fiscal decentralization between the central and local government and its influence on the size of public sector. In addition to three conventional explanations of insufficient government revenue, decline of public demand and statistical technique problem for China's shrinking public sector, the chapter offers an alternative approach of Leviathan model (Brennan and Buchanan 1980). Importantly, the precondition of democratic electoral constraint for Leviathan model is dropped. Instead the chapter proposes that top-down appointment supervision within the Party cadre system induces inter-jurisdictional yardstick competition and thus restricts local government behavior. Chapter 3 empirically tests the Leviathan hypothesis in terms of vertical decentralization, horizontal fragmentation, yardstick competition, and intergovernmental collusion and finds supportive evidences in China.

The fiscal decentralization also invites tax competition amongst local governments competing for mobile tax bases (firms) by offering a variety of tax concessions. Thus, tax liabilities of firms are subject to negotiation. Chapter 4 constructs game models in which a firm bargains with a local government for preferential tax treatments. In addition to the "exit" option overstressed in tax competition literature (e.g. Bond and Samuelson 1986; Doyle and van Wijnbergen 1994; Janeba 2000, 2002; King *et al.* 1993), the model incorporates a "voice" option based on Hirschman's (1970) Exit-voice theory. Moreover, the voice is constructed in a unique Chinese way of *guanxi* networking in accordance with the business reality in China. The models show that equilibrium outcomes are determined by changes of involved exit and voice cost and information structure. In addition to exit strategy as a threat, a rational firm will opt for voice strategy. Particularly, when holding private information of exit costs, the firm will resort to bluffing strategy. The empirical cases fully illustrate such rational entrepreneurship of exit plus voice to profit from local preferential policies.

Chapter 5 provides a new approach to taxation research in transition economy since traditional Public Finance literature takes institutional environment as given and approaches taxation from a normative way based on equity and efficiency while Public Choice literature incorporates the (political) institutional factor into the taxation research yet basically models the tax changes and government behaviors on the ground of a mature democracy, which is not suitable for those transition economies like China. The chapter attempts to combine North's (1990) perspective of institutions and institutional changes and Steinmo's (1993) historical institutionalism approach by modeling the tax changes as a result of interaction between the central government, local governments, and firms under various economic, political and social constraints. A systematic analysis of the evolution of China's tax system shows that the changes reach a general equilibrium in which efficiency, power and legitimacy are balanced. Following Hettich and Winer (1999), empirical results lend supportive evidence.

Chapter 6 summarizes the dissertation with main findings of previous chapters and concludes.

2. China's Emerging Tax system: Local Tax Farming and Central Tax Bureaucracy[3]

2.1. Introduction

Economic transformation asks not only for less state appropriation of resources, it also asks for a change of the *means* by which the state does so. Generally speaking, there are four ways to generate budgetary revenues: first, exploitation of state owned/controlled resources; second, taxation of assets and income or trade flows; third, forced loans on economic agents and finally, *seigniorage*, i.e. printing money. Given their commitment to stability, the Chinese government is forced to rely on the first three revenue sources. Yet, privatization and un-competitiveness of state-owned firms reduce government revenue from the state sector; while revenue from forced loans, i.e. compulsory transfers of the firms' cash flow and compulsory saving of private households, declines following price and wage liberalization. Subsequently, state expenditure depends increasingly on taxation, which needs to be revised to comply with the reform course.

This shift in state revenue sources draws attention to the fact that *transition economies need to establish market conforming taxation*. Three aspects can be singled out. First, new tax codes need to include the reemerging private sector, such as firms or investors, and foreign companies. Second, a new system of intergovernmental transfers needs to replace the old planning bureaucracy allowing for decentralization. Third, a new tax bureaucracy needs to be established. In contrast to the European transition economies,

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[3] This chapter has been published as Z. Zhu and B. Krug. 2007. China's Emerging Tax Regime: Local Tax Farming and Central Tax Bureaucracy. in B. Krug and H. Hendrischke. (eds.) *China's Economy in the 21st century: Enterprise and Business Behavior*. London: Edward Elgar.

which right from the beginning copied tax codes from neighboring countries (or the EU), China opted for incremental reform of its tax system. In other words, one component of economic transformation is the change in the country's *public finance*.

While traditional public finance theory (e.g. Musgrave 1959; 1969) propagating rational financial systems concentrates on the effectivity of taxation (and spending) with respect to well-defined goals, public choice literature treats the state as a Leviathan (e.g. Brennan and Buchanan 1980) and sees fiscal federalism (e.g. Oates 1972; Olson 1969) as institutional remedy. The trade off between rational taxation versus small government (expenditure) was taken up again in the discussion of institutional change in transition economies, where two opposing hypotheses define the conceptual and empirical discussion, namely the "Grabbing Hand"-hypothesis (Frye and Shleifer 1997; Shleifer and Treisman 1999) pointing to the risk that the Leviathan will survive economic transformation (the Russian case), and the "Helping Hand"-hypothesis (e.g. Oi 1992; Walder 1995) stressing the benefit of continuing state intervention during the transformation period (the China case). The China specific dimension of this debate centers around three features: local autonomy; local diversity; and tax farming.

2.1.1.   Local Autonomy

Descriptive analysis of China's fiscal reform since 1978 concludes that fiscal decentralization, whether intended or not, generated local autonomy. Some studies attribute China's success to a market-preserving federalism that empowers local governments and offers them positive incentives for promoting local economic growth (e.g. Montinola *et al.* 1995; Qian and Roland 1998; Qian and Weingast 1996, 1997; Weingast 1995). For example, *local state corporatism* (Oi 1992, 1994, 1995) describes the local government as a business corporation which mobilizes resources *ad hoc*, offers preferential tax policy, or brokers bank credit as a means to insure profitability of its tax base. Such a form of corporatism, based on loosely coupled coalitions (Nee 1992, 1998) between local government agencies and the emerging private sector, leads to minimized upward tax transfers and facilitates privatization from below (Naughton 1994). Then the industrial base of a locality can be added to the local tax base.

In the case of Township and Village Enterprises (TVEs), local governments act as quasi-owners when they claim residual profit and as quasi-tax-legislators when they levy taxes on TVEs provided these are registered as firms "outside the planned economy". Subsequently, this institutional setting not only secures local property rights in a weak market setting and uncertain institutional environment (e.g. Chang and Wang 1994; Li

1996; Weitzman and Xu 1994), but also gradually releases resources from state control accompanied by a shift of revenue sources from direct expropriation of profit or cash flow to taxation of firms in the non-state sector.

2.1.2. Local Diversity

Characterized by a severe principal-agent problem between the central government as the principal and local units as agents, fiscal decentralization must also lead to local diversity (Hendrischke 2003; Krug 2004a; Krug and Hendrischke 2003). First, the central government grants different "degrees" of independent decision-making to different local government agencies (Bird and Chen 1998) as in the case of Special Economic Zones. Second, different local government agencies react differently to the same central policy guidelines according to different local conditions, such as size, geography, history and resource endowments (Krug 2004b; Hsu 2004). Third, jurisdictional competition forces local governments to generate competitive advantages by offering preferential taxation and subsidies to its tax base (Walder 1995, 1996). Fourth, an alliance between firms and local government agencies facilitates escaping national legislation, if not manipulating national tax legislation (Chen and Rozelle 1999; Goodman 2000; Shirk 1993; Wank 1996; Wedeman 2003)[4].

2.1.3. Tax Farming

One unexpected component of decentralization was the introduction of tax farming in general. A tax farming system is connected to the pre-modern states of England and France (e.g. Donald and O'Brien 2002; Kiser 1994; Kiser and Kane 2001; O'Brien 1988; Weir 1989; White 1995, 2004)[5]. It was only after the Glorious Revolution in the former and French Revolution in the later that a centralized tax bureaucracy developed in both countries in response to changing transaction costs, and the expansion of financial markets, which offered an alternative means for financing state budgets. An economic analysis of this change argues that two factors influence institutional choice: the monarch's (state's) attitude toward (economic or political) risk and the incentives necessary to make lower

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[4] There is a measurement problem. With the notable exception of World Bank (2002), most studies stop at provincial level (e.g. Wong 1991, 1992, 1997; Wong *et al.* 1995; World Bank 1990, 1993, 1995; Brean 1998; Ma 1995; Oksenberg and Tong 1991; Chung 1995; Lee 2000; Tsui and Wang 2004; OECD 2005) due to the lack of statistical data to the effect that a systematic analysis across provinces, prefectures, counties (districts) and townships is missing.

[5] The French as well as the tax farming system in Imperial China "farmed out" tax authority not only to lower administrative levels but also to private persons.

administrative units to act as tax agencies on behalf of the monarch. With respect to the incentive structure, three different forms of tax systems can be singled out, usually described as contractual arrangements between the central state and local agents: a *rent-based*, a *wage-based* and a *(crop-) sharing contractual arrangement* (e.g. Allen and Lueck 1995; Sappington 1991; Stiglitz 1974). The first refers to a lump sum contract-type where the central state "farms out" tax authority to local governments in return for a guaranteed (low risk) fixed sum. By doing so, local tax agents become the residual claimant on tax revenue. The second wage-based arrangement refers to a professional *bureaucracy*, which in return for a share of the national budget, fixed wages and promotion within the state bureaucracy "selflessly" implements central policy without bearing individually or organizational risks. The third form follows *crop-shared contracts* in which both central as lesser and local governments as lessee share economic risk productivity gains in tax administration (cropping sharing contract).

While in the socialist era, China had a Weberian-style of bureaucracy, it started experimenting with tax farming in the eighties to be followed (in the nineties) by a widespread (tax) sharing system and the re-introduction of a bureaucratic system. This unusual phenomenon of different tax systems coexisting, calls for empirical analysis. Does that kind of institutional choice follow arguments offered by the analytical concepts? Or which other factors that prompted institutional change can be singled out:

■ Normative considerations, such as taxing "equal activities equally"?

■ Distributional considerations, most prominently the problem of regional disparities?

■ Economic considerations, such as standardization gains or transaction costs in monitoring and enforcement?

■ Political considerations such as conflicting interests between the central and local government agencies, or setting incentives that ensure local government agencies comply with the reform course?

As will be shown in what follows the different reforms aimed mostly for a mixture of all these motives. However, in the end, economic and political considerations prevailed.

A second set of questions refers to the present state of affairs: What is the effect of the tax reform in 1994? How did the local governments react? What is the *status quo* of the tax system at the local level at the lowest governmental level, the township? What can we

say about the *de facto* as opposed to the *de jure* tax system?

In order to analyze local autonomy and local diversity caused by taxation (tax farming), and to answer the questions above, it is necessary to explore not only recent developments. Such an analysis needs also to *endogenize* formal and informal elements in actual tax policy. For this reason findings from fieldwork undertaken in Zhejiang and Jiangsu province in 2004 and 2005 will be included in the part that deals with the actual functioning of the tax system at the township level.

Here follows a descriptive analysis of the different reforms since 1978 stressing the causes and effects of institutional change with respect to local autonomy and local diversity (Section 2.2 and 2.3). Then a *status quo* analysis of the present tax system (Section 2.4) serves as an introduction to the analysis of how the present tax system, local autonomy and local diversity interact -formally and informally -at the lowest layer of government in China (Section 2.5). This is done in order to illustrate the difference between the intended functioning of the tax system and the actual interplay between taxation and the emerging market sector. Section 2.6 presents a summary of the empirical results and a general assessment of China's tax system.

2.2. Rebuilding Tax Codes: Shifting Government Revenue

In the pre-reform era three categories of indirect taxes[6], i.e. the industrial and commercial tax, tariff and the agriculture tax, were levied in China[7]. State-owned enterprises (SOEs) were subject to the industrial and commercial tax in addition to the compulsory transfer of "profit" and cash flow. Tax revenue (1978: 46 per cent) and profit remittance (1978: 51 per cent) were the two dominant resources of total revenue (MOF 2005). To increase productive efficiency while avoiding privatization, the reforms introduced first a "contract responsibility system" (*chengbao zeren zhi*) to be followed by a "tax-for-profit" scheme (*li gai shui*) in 1983 and 1984. Both reforms acknowledged the SOEs as independent economic actors entitled to part of profit which they could allocate internally to working capital, investment, wages, and bonuses without state intervention as long as they fulfilled the contract quota. The share of after tax profit and the tax rate were subject to individual negotiations between the firm and the responsible state agency and varied according to enterprise size, sector and *ad hoc* situation. It quickly turned out that in response to fuzzy

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[6] Except the urban real estate tax.
[7] Totally 13 taxes were levied after 1973 which were industrial and commercial tax, consolidated industrial and commercial tax, industrial and commercial income tax, tariff, cattle transaction tax, bazaar transaction tax, urban real estate tax, vehicle and vessel usage license tax, vessel tonnage tax, slaughter tax, agricultural tax, animal husbandry tax, and deed tax.

property rights the SOE managers channeled undisclosed profit into their private pocket by establishing joint ventures with TVEs or by outsourcing production to new private firms rather than reinvest in productivity increasing change. That asset-stripping eroded the state sector's profitability further and ended in a sharp increase of loss making SOEs. Yet, with a state sector still not liable to a hard budget constraint (Kornai 1986), the underperformance of the state sector directly translated into higher government expenditure in the form of subsidies or loans necessary to "bail out" the bankrupt SOEs. The situation was further aggravated when the non-state sector started to out-compete the SOEs further reducing the latter's profit remittance and tax contribution. In 1985 already, subsidies for SOEs were eleven times higher than the revenues from SOEs (MOF 2005). Facing such eroding revenue base the central government had incentive enough to search for a new broader tax base, namely one that included foreign enterprises and all forms of joint ventures.

Thus, direct (income) taxation made its re-appearance in China, which foreign enterprises, joint ventures, SOEs, collective enterprises and individuals became subject to. Simultaneously the reform of indirect taxes started with introducing a VAT for twelve categories of products, (such as machinery, and steel, but also consumer goods, such as bicycles, electric fans, or sewing machines) with rates between six per cent and 16 per cent. Other economic transactions were taxed by product (270 items) subject to a flat rate varying from three per cent to 60 per cent in 1984. Such a diversified tax structure increased the monitoring and enforcement cost for tax collection and administration considerably. Not surprisingly, the 1994 reforms abolished the product tax, expanded VAT to all manufactured products with a standard rate of 17 per cent (and a reduced rate of 13 per cent for necessities), and levied a business tax on the service industry but kept the consumption tax on eleven categories of goods[8]. Since then total 29 taxes have been levied on turnover, income, resources, property and behavior (Table 2.1)[9]. Now, indirect taxes are the major revenue source of the Chinese state. In 2003 VAT, consumption tax, business tax and custom duties added up to 69 per cent of total tax revenue, in which the VAT alone provided 36 per cent of total revenue (SAT 2003).

After all, the reforms of 1994 support the assumption that tax changes can (and will) follow transaction costs considerations, i.e. monitoring, collecting and enforcement costs when indirect taxes were introduced. As is pointed out elsewhere, indirect taxation allows concentrating on a few taxable assets thereby offering lower collection costs than a system

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[8] Consumption tax encompasses eleven tax items and often enough serves as an educational tax discouraging the consumption or use of luxury products, such as cigarettes, liquor, cosmetics, jewellery, firework, gasoline, diesel oil, car tyre, motorcycle, and cars.
[9] In fact, total tax items are 26 not 29 because inheritance tax, security transaction tax and fuel tax are not levied yet. An illustration of the tax system can be found in Table 2.1.

that aims at assets or income of all (potential) tax payers (Ardant 1975; Kiser and Kane 2001). China's WTO entry in 2001 prompted further changes in order to comply with international standards. Foreign (15 per cent income tax) and domestic (25 per cent income tax) firms will no longer be treated differently by the tax authorities (Mui and Jia 2002). The scope of VAT will be expanded to cover a broader range of products. A new social security and property tax are aimed at better coping with challenges created by the economic transformation, including employment insecurity and greater disparities in wealth.

Table 2.1: Chinese Tax Codes After 1994

	Taxes
National tax	Consumption tax, Tariff, Income tax on FIEs and FEs [a], Vehicle acquisition tax
Local tax	Business tax [b], Agricultural tax, Tax on special agricultural produce, Animal husbandry tax, Resource tax [c], Urban and township land usage tax, Occupied farmland tax, Real estate tax [d], Urban real estate tax [d], Land appreciation tax, Urban maintenance and construction tax [e], Deed tax, Vehicle and vessel usage license tax, Vehicle and vessel usage tax, Vessel tonnage tax, Slaughter tax [f], Banquet tax [f], Orientation adjustment tax on investment in fixed asset [g]
Shared tax	Value-added tax (VAT), Enterprise income tax [h], Individual income tax, Stamp tax

Notes:

a   Enterprises with foreign investment (FIEs) include Chinese-foreign equity joint ventures, Chinese-foreign contractual joint ventures and wholly foreign-owned enterprises; Foreign enterprises (FEs) include foreign companies, and other economic organizations that are not Chinese legal entities, but operate in China. The nominal income tax rate on FIEs and FEs is 33% of which 30% are allocated to the central, and 3% to the local government.

b   Business taxes on railway, headquarters of banks or insurance companies go to the central government.

c   The resource tax on ocean and petrol companies goes to the central government.

d   Domestic enterprises and Chinese citizens are subject to the real estate tax while FEs, FIEs and foreigners are subject to the urban real estate tax.

e   Urban maintenance and construction tax of the Railway Administration, the headquarters of banks and insurance companies go to the central government.

f   According to State Council circular (Guofa[1994]No.7) local government are expected to abolish the slaughter tax and banquet tax.

g   The Ministry of Finance (MOF), State Administration of Taxation (SAT) and National Development and Reform Commission (NDRC) jointly issued a circular (Caishuifa[1999] No.299) to suspend levying the orientation adjustment tax on investment in fixed asset.

h   Income tax of the enterprises subordinate to the central government, local banks, foreign-funded banks and non-bank financial institutions are allocated to the central government.

Source: State Administration of Taxation, P.R. China, www.chinatax.gov.cn

All in all, the institutional change within the tax systems reflects the attempt to define a tax base and establish tax codes compatible with a market economy. The description also shows that transaction costs played a major role when it came to designing and re-designing the tax base, and tax rates.

2.3.   Tax Farming: Positive Incentives and Local Autonomy

Fiscal decentralization in China refers to taxation and intergovernmental fiscal relations, i.e. the allocation of revenue and expenditure across different government levels, based on a decentralization of regulatory power or agreed upon transfers. The inherited centralized fiscal system relied on local government agencies to collect revenues for transfer to the national treasury. In return, the central government assigned (expenditure) items financed basically by re-transferring revenues to local budgets. Labeled as "eating from the big pot (*chi da guo fan*)" local agencies had neither an incentive to promote the local economy, nor did they have the leeway to do so.

To redress this problem, the reforms started with transferring fiscal authority, i.e. the power to tax, to local governments. Several experiments were carried out, such as a "fixed overall revenue sharing rate" in Jiangsu province in 1977, "dividing central, local and central-local sharing revenue" in Sichuan province in 1979 and a "fixed lump sum transfer" in Guangdong and Fujian province in 1979, later (1980-1993) expanded to six types of contract arrangements (e.g. Oksenberg and Tong 1991; Wong 1991, 1992). It is worth mentioning that these fiscal arrangements are modifications of tax contracting analytical models described earlier[10].

Empirical fieldwork suggests that the rental-based model quickly emerged as the dominant form. In this kind of tax contracting, the central government negotiates a fixed share of revenue (in absolute terms, or as a ratio) leaving the local government the *de facto* residual claimant of revenue. From the local perspective, disposable revenues were directly linked to economic growth and/or the attractiveness of the local economy for investment from outside (other jurisdictions or foreign companies). Yet, as suggested in the economic analysis of tax farming, three unintended consequences emerged. First, the principal-agent problem remains unsolved: local governments profit from asymmetric information; hiding the correct information (if not falsifying tax reports) is an easy way to minimize the amount of tax revenue to be transferred to the contract partner. Second, renegotiable contracts include an element of uncertainty in local budget planning as well as in anticipating budgeting across localities. With the length of contracts and the sharing formulas re-negotiable, future budgetary revenue depends less on economic trends but rather on the relative power positions of the contract partners. Contract arrangements vary also with respect to sharing rates, time period, or spatial factors, when some provinces, regions, or localities are granted special licenses from the central government. Third, as all

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[10] For those rich provinces, they may keep certain portion of increment revenue based on preset shared ratio or formula while those poor provinces received subsidies and grants from the central government.

"agents" share the interest to minimize upward transfers and manipulate the tax base, the state's financial base is eroded even further. Whether the trend is measured as total government revenue per GDP, or central revenue as a share of total government revenue during the 1980-1993 period, the result is the same: the ratio of total government revenue to GDP fell from an already low 26 per cent in 1980 to 13 per cent in 1993. The share of the central revenue to total government revenue fell from 41 per cent (1984) to 22 per cent (1993) (Figure 2.1).
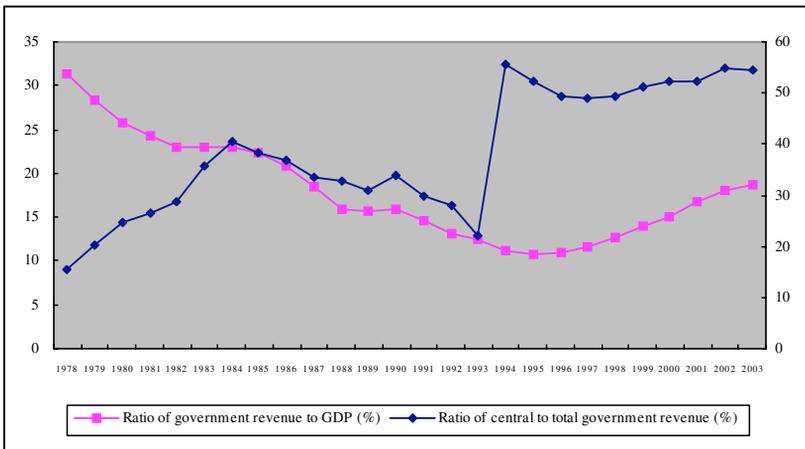
Notes:
    a   The government revenue refers to budgetary revenue.
    b   Domestic and foreign debts are excludes.
Source: National Bureau of Statistics, P. R. China. 2004. *China Statistical Yearbook* (Beijing: China Statistics Press)

Figure 2.1: Ratio of Government Revenue to GDP and Central to Total Government Revenue

The introduction of tax farming reflects three aims of the Chinese government: first, to mobilize local support for the implementation of the reform course; second, to link the self-interest of local government agencies to the economic performance of their local jurisdictions; and third, to offer enough flexibility in the tax system that widely differing local conditions can be accommodated.

2.4. Tax Sharing: Bureaucratizing Tax Administration

In the face of shrinking revenue the central government attempted to recentralize tax

authority in the reforms of 1994 by building up a central tax bureaucracy regarded to more effectively implement tax collection. Yet, not much unlike the monarchs in Europe before them (Kiser and Kane 2001) the central government had to accept that local autonomy is not easily disposed of. The Tax Sharing System (*fen shui zhi*) (e.g. Wong 1997; Wong *et al.* 1995) aimed at replacing locally negotiated tax farming with a unified national system of taxation. Aside from the re-centralization effort, the change was expected to address three further issues. A unified tax system would ensure equal taxation for equal transactions and tax base. A higher share of central revenue would ensure that distributional effects could be mitigated, as the system of local autonomy had no provision (and no incentive) for inter-provincial transfers. A third intention, namely the abolishment of extra-and off-budgetary revenue sources will be dealt with separately.

The newly introduced tax sharing system does not refer to a separation of tasks between different layers of government to which specific sources of revenues (taxes) are allocated as in "Western" models of multi-layered government, such as federalist states or the EU for example. Instead, the tax revenue (and not tax legislation) is divided in such a way that some taxes are exclusively assigned to the central level, some are assigned exclusively to the local level, and some taxes are shared between both levels according to a fixed ration. It is worth stressing that the category of local revenues includes fees and other kinds of revenue which are manipulated by local governments. As Table 2.1 illustrates these local taxes encompass a variety of fees and taxes, which reflect the willingness and ability to tap local resources when they concentrate on the taxation of relatively immobile factors rather than following an economic policy of generating competitive advantages for a locality[11]. At first sight the tax sharing system seems to follow international practice in the sense that the two largest revenue sources, namely the VAT and income tax, are divided between the central and local level (see Table 2.2). That revenues from tariffs go directly to the national coffer is also common. On the other hand the socialist legacy can be seen in the fact that the income taxation of foreign firms remains a concern of the central government.

To better cope with the monitoring and enforcement problem, the tax administration was split into two separate bureaucracies, each with a distinctive line of command. The national tax bureau (*guoshuiju*, NTBs) subordinate to the State Administration of Taxation (SAT), (defined as a ministry since 1993), was put in charge of central and shared taxes[12]. While the SAT is autonomous with respect to central taxes, its

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[11] This is known in public finance as Ramsey rule (1927): immobile factors are more vulnerable to tax as the exit option can be considered at high costs only.

[12] The shared tax would be retransferred to local government based on the shared ratio.

role changes when it comes to local taxes administered by local tax bureaus (*dishuiju*, LTBs), the second tax bureaucracy. As stipulated by the law, the SAT and local government "jointly" supervise the LTBs, which in the case of the SAT limits its role to operational guidance (*yewu zhidao*) and comment on nominations for tax personnel to the provincial LTBs (Figure 2.2). In other words, LTBs, in particular below the provincial level, are *de facto* subordinate to local governments leaving the institutional architecture of local autonomy unchanged.

Table 2.2: Central-local Taxes: Sharing Formula

Shared taxes	Central	Local
VAT	75%	25%
Enterprises income tax [a]	50%(2002)	50%(2002)
	60%(2003)	40%(2003)
Individual income tax [b]	50%(2002)	50%(2002)
	60%(2003)	40%(2003)
Stamp tax	94% of taxes on security transaction	6% of taxes on security transaction
		Other stamp taxes

Notes:
    a. Before 2002 the "corporate income tax" on domestic enterprises was a local tax, since then it is a shared tax.
    b. Taxes on capital gains go to the central government. Before 2002 the personal income tax was a local tax, afterwards it became a shared tax after.

Source: Certified Public Accountant (CPA) Committee, Ministry of Finance (MOF), P. R. China. 2003. *Taxation laws* (Beijing: China Economic Press)

Unintentionally, the tax reforms established a dual tax system where a streamlined *Weberian* bureaucracy for central taxation (including those taxes whose revenue were to be shared with local units) and largely unreformed local tax farming co-exist. A closer look at the reforms indicates that the reason for such top down bureaucratization is to be found in the shortage of professional tax personnel able to run a modern centralized tax administration, and the lack of modern monitoring devices that would keep the costs of tax collection (and moral hazard) low[13].

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[13] Thus, for example in order to prevent fraud of VAT invoices, a computer network connecting the SAT and its branches down to the county (district) level, the so-called Golden Taxation Project, - was launched in 1994. By the end of 2002, it had installed 1.4 thousand servers, 25 thousand PC servers and 0.4 million PCs, staffed 26 thousand computer technicians and covered approximately 0.6 million units, i.e. about 45% of taxpayers (SAT 2003).
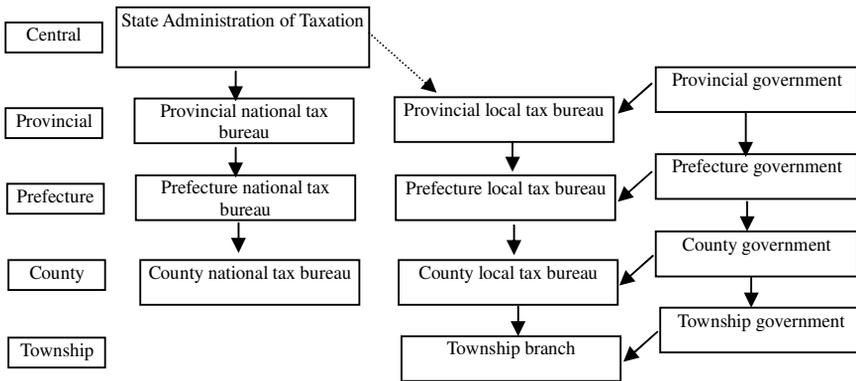
Notes:
  a. The hierarchy of taxation administration is corresponding to government administrative structure.
  b. The black line refers to vertical leadership.
  c. The dashed line refers to operational guidance.

Source: State Administration of Taxation, P. R. China. www.chinatax.gov.cn

Figure 2.2: Structure of Taxation Administration

Aside from the introduction of computer based monitoring devices, a system of merit-based recruitment and systematic government training (0.4 million national and 0.35 million local tax officials in 2002 alone) are seen as the first necessary steps for shifting toward a bureaucratic tax system at all levels of government. At the same time, the personnel deployment policy, which asks for out of place-of-origin appointments and job rotation, is seen as a means to prevent corruption. This follows stricter legislation as stipulated in the *Law on the Administration of Tax Collection* (1995) and the amendment to the *Criminal Law* which explicitly addresses the problem of tax collection and dereliction of duty on taxation (1997).

While generally successful in consolidating central state control[14], a more detailed analysis shows that the system was rather ineffective in establishing rational unified tax codes and tax bureaucracy. Tax farming is still the dominant institutional architecture at the lower level of the state political and administrative system. Once more transaction cost considerations and the need to compromise politically with local politicians and agencies prevail in institutional choice.

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[14] The ratio of total government revenue to GDP increased from 13% in 1993 to 19% in 2003. The share of the central government revenue to total revenue in 2003 (55%) is about two times of that in 1993 (22%), as shown in Figure 1.

2.5. The *Status quo* of the Tax System

It is worth emphasizing that all reforms in the last three decades were directed toward the provincial level, while sub-provincial government agencies were rarely mentioned. General recommendations, such as "promoting" local initiatives (*fangquan rangli*) or "adjusting" for local conditions (*yindi zhiyi*) left the provinces with considerable leeway to modify central policy. Thus, for example, the 1994 reform merely stipulates that provinces improve sub-provincial fiscal administration without giving further directions. This apparent neglect should be interpreted as a political compromise where rich provinces (in particular) and/or sub-provincial government agencies saw their discretionary powers re-confirmed in return for compliance with other parts of the reform program. The creation of a national tax bureaucracy outside the reach of "local" control is a good example of this.

2.5.1. *Ad hoc* Non-tax Levies

One of the most striking differences between the Chinese and international tax systems are the so-called extra-budgetary revenues (EBRs) and off-budgetary revenues (OBRs), two devices inherited from the socialist past yet in the nineties re-invented for ad hoc taxation, and for legitimizing income from commercial activities (e.g. Wong 1997, 1998; Fan 1998; Eckaus 2003).

Extra-budgetary revenues (EBRs) originated in 1950 as a means to locally finance specially earmarked local expenditures. It includes three major parts: 1) government funds and surtaxes, such as agriculture surtax, and education surtax, levied on the income, consumption, profit or turnover base; 2) a hold up of special funds of SOEs, such as depreciation, major repair, and innovation funds; and 3) locally self-raised funds and administrative fees, such as road construction fund, public utility fee, road toll, and tuition fee[15]. OBRs on the other hand are public "voluntary" contributions made by individuals, firms or Overseas Chinese, various unregulated fees, and lately, profits from TVEs, and revenues from land sales (Fan 1998). Lacking uniform procedures with respect to computation, base, rate, or frequency means that in fact, EBRs (or OBRs) are quasi-taxes. Their ambiguous legal status adds support to the notion of strong local autonomy in today's fiscal system (Wong 1998).

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[15] Major changes of composition of extra-budgetary revenue in 1993 and 1997 excluded the innovation fund, the major repair fund and government funds.

Table 2.3: Tax Collections by Authorities

Collection authority	Items
National tax bureaus (NTBs)	Consumption tax, VAT, income tax on enterprises [a], Income tax on FIEs and FEs, stamp tax on security transaction, vehicle acquisition tax
Local tax bureaus (LTBs)	Business tax, individual income tax [b], resource tax, urban and township land usage tax, urban maintenance and construction tax, real estate tax, urban real estate tax, land appreciation tax, vehicle and vessel usage license tax, vehicle and vessel usage tax, slaughter tax, banquet tax, other stamp taxes
Customs	Tariff, VAT (collected by Customs), consumption tax (collected by the Customs), vessel tonnage tax
MOF/LTBs [c]	Agricultural tax, tax on special agricultural produce, animal husbandry tax, deed tax, and occupied farmland tax

Notes:

a. The local tax bureau collects corporate income tax of those domestic firms established before 1 January 2002. The SAT collects the same tax of younger firms. The SAT also collects the corporate income tax on central government owned SOEs, ministry of railway, headquarters of banks, and ocean and petrol companies.

b. Individual income tax became a shared tax in 2002 but is still collected by the local tax bureau.

c. Before 1996, Ministry of Finance (MOF) collected occupied farmland tax, deed tax, agricultural tax, tax on special agricultural produce and the animal husbandry tax, to be replaced bay local tax bureaus.

Sources: Certified Public Accountant (CPA) Committee, Ministry of Finance (MOF), P. R. China. 2003. *Taxation laws* (Beijing: Zhongguo Jingji Chubanshe); State Administration of Taxation, P. R. China. www.chinatax.gov.cn

EBRs and OBRs were hardly worth mentioning if they had not been hijacked by local governments in the nineties to legitimize new revenue sources. As previously mentioned, local governments have no tax legislation power and are only entitled to collect "local tax" legislated by the national government whose total amount cannot but add to a minor fraction of local budgets (Table 2.3). Yet, driven by local self-interests and disposable revenue maximization, local governments are motivated to search for additional revenue sources whether entitled to do so or not. They sell state assets, invest in business activities, apportion mandatory contributions to local projects, issue local bonds, or levy illegal service charges, the proceeds of which are listed as EBRs and OBRs in order to suggest legitimate revenue sources. As will be shown later (Tables 2.4 and 2.5) the revenues from commercial activities for which there is no precedent in the socialist era became the largest source for local income in particular in the rich East. Profits (or dividends) or local taxes on TVEs, as well as proceeds from land deals and real estate management can increase the independence of local government agencies. EBRs and OBRs are used to legitimize revenue maximization, which is further evidence of local resistance to central budgetary control.

EBRs and OBRs remain a controversial issue. Some analysts stress the negative influence on economic stabilization, state redistribution capacity and fiscal administration (e.g. Lee 2000; Wong 1998), while others emphasize its positive outcome in the form of local wealth as measured in the provision of local public goods and services, such as school or heath care (Fan 1998). In some places, such as the less-developed inland regions, arbitrary EBR-or OBR-extraction has led to rural protest and violence (Bernstein and Lü 2003; Tsui and Wang 2004). On the other hand, in coastal and developed provinces, the advantages of EBRs or OBRs are seen in the ability of local government agencies to quickly respond to local public needs, if not as a starting point for more civil participation in local policy formation (as demonstrated in Fan's field research of 1998).

2.5.2. Complicated Intergovernmental Transfer System

There is still no procedure for coordinating intergovernmental transfers between the five layers of the administrative hierarchy (central, provincial, prefecture, county and township). The present tax sharing system only deals with the central-provincial level and leaves considerable discretionary power for sub-provincial transfer practices. Diversity within the sub-provincial intergovernmental transfer system is unavoidable. The 1994 reforms did not tackle the problem; to the contrary it became even more complicated by adding the new transfer modes of national taxation.

Under the previous tax farming system, local governments transfer the contracted lump-sum amount, a progressive sharing ratio on incremental revenue, or a fixed sharing ratio of overall revenues (or a combination of all these). In return, the central government re-transfers subsidies to the provinces according to the agreed upon fixed amount, earmarked purposes or *ad hoc* appropriation of local budget surpluses (*jiesuan*) at the end of fiscal year. Aside from the former negotiable transfer system, the present reforms introduced the rule-based transfer for the national taxes supervised by the SAT. For instance, local governments are entitled to the re-transfer of 25, 40 and 40 per cent of the VAT, corporate and individual income tax respectively.

In other words, the tax farming nature of sub-provincial intergovernmental relations is kept unchanged. Superior layers of government farm out taxation to lower layers. Such a tax contract describes the agreed upon share of tax revenue to be transferred to the superior level as well as the agreed upon provision of public services invested and operated by the lower level. Negotiations between different levels of local governments on transfer and re-transfer of revenue became a constant feature of local intergovernmental relations. Regardless which version of tax contracting is chosen, two systematic features dominate

the effects: First, as a "lessee" and residual claimant, each agency at the lower level attempting to maximize discretionary revenue will shift expenditures for public services upwards while manipulating the tax base to minimize upward transfers (Tsui and Wang 2004); Second, as will be seen presently, effective tax rates do not reflect tax legislation; they are rather the outcome of intergovernmental tax contracting, and the unsolved principal agent problem, or reflect the ingenuity of sub-provincial government agencies in finding new revenue generating sources.

2.5.3.   Dual Tax Administration System

As said earlier, two tax systems co-exist in China. One is defined by national legislation which stipulates the tax base, tax rates, and the procedure by which taxes are enforced, and how total revenue is shared between the central and local budgets (consolidated at the provincial level). The other one is characterized by provincial and sub-provincial discretion and tax contracting, *ad hoc* taxation, and unspecified procedures. This dual tax system has major implications. First, firms can calculate the effective tax rate only *ex post* when the exact local rates and fees are known. This makes, second, the local government agencies the ultimate authority in defining effective tax rates. Third, local government agencies facing different (financial) needs and/or different political leverage in tax contracting will differ in their revenue generating policy, subsequently contributing to the diversity of the local business environment. Finally, the national treasury or central government has only limited ways of controlling overall taxation. The most recent reform focused only on the revenue and central-provincial sharing side and cut off the link to the government spending. Moreover, the "tax-for-fee" reform launched in 2000 attempted to put an end to the practices of sub-provincial government agencies using *ad hoc* fees (Yep 2004) and aimed at tighter budgetary control, yet also on limiting the overall tax burden for overcharged peasant households, i.e. distributional purposes. Since local governments were obliged to generate even more revenue sources by embarking on commercial activities, the effect was minimal, if not counterproductive.

2.6.   Township M and L: Budgets and Intergovernmental Transfer

China has an atypical system of taxation where different jurisdictions overlap and procedures are left unspecified, or burdened with a political rhetoric that confuses even the technical side of tax collection. How does this system work in practice? With only little information available at the local, i.e. prefecture, county and township level, data needed to

be generated before a systematic analysis could be attempted. We decided to focus on the lowest level of the political and administrative hierarchy, namely the township, as this is the government agent, which meets the taxpayer (in most cases firms)[16]. On the factual side, we wanted to know how the dual tax system affects local budgets, and how intergovernmental transfers contribute to local revenues.

On the behavioral side, we wanted to know how the effective tax rate for firms is calculated, how much disposable income townships have and how they make use of their disposable funds. Finally, we expected that the answers to these questions would shed more light on the problem of diversity and local autonomy. The interviews conducted between 2003 and 2005 cannot answer all these questions. Instead of offering general interpretations, we decided to present two case studies, which, to the best of our knowledge, offer the first complete picture of budgets and budgetary procedures in two townships, called M and L[17].

2.6.1. Revenues

The budgets of the two townships presented in Table 2.4 and Table 2.5, offer different pictures which is partly caused by different ways to categorize revenue items. Township M classifies all revenue into two categories only, namely budgetary revenue and extra-budgetary revenue, while Township L is much more specific. In the latter case revenues are listed as budgetary revenue, budgetary fund revenue, earmarked fund revenue and "other revenue" (Table 2.4). This practice confirms the findings from the World Bank (2002, p. 64) that there is no standard procedure for reporting revenues at the local level.

After reclassifying the revenue items (in Table 2.5), it becomes clear that Township M depends much more on taxation (45.2 per cent of total financial revenue) and extra-budgetary revenues (22.3 per cent) than Township L (24.4 per cent and 11.6 per cent, respectively). To put it differently, the category of "other revenue" is essentially revenue from commercial activities, such as land deals, TVE shareholding and other business activities. It contributes 32.5 per cent of total revenue in Township M, yet 64 per cent in Township L, in turn suggesting that the latter is more entrepreneurial. It is worth emphasizing the returns from TVEs (dividends or profit) contribute 9.9 per cent of total revenue compared to the proceeds from land sales plus local tax on transaction, which add

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[16] The following findings form part of the larger research project on local autonomy. The authors thank Hans Hendrischke for generously providing some findings of his interviews on 2004 and 2005.

[17] Close to Suzhou, Jiangsu province, Township M covers 34 square kilometers with population of 53,000 in 2003. Township L is located at 15 kilometers away from Hanghzou, capital of Zhejiang province and covers 43 square kilometers with population of 60,000 in 2003.

up to 53.6 per cent of total revenue, in Township L!

Table 2.4: The Revenue Side of M and L Township's Budgets

M Township	Original tax base	L Township	Original tax base
Budgetary revenue	Income, output	**Budgetary revenue**	Income, output
Bonus remittance of taxes		Bonus remittance of taxes	
Fixed remittance of taxes		Fixed remittance of taxes	
Earmarked subsidy		Earmarked subsidy	
Extra-budgetary revenue		**Budgetary fund revenue**	
Surcharges to taxes for education	Income, output	Surcharges to taxes for rural education	Income, output
Fee for garbage collection	user	Surcharges to taxes for education	Income, output
Fee for sewage disposal	user	**Earmarked fund revenue**	
Fee for public security	p.c., per firm	Profit of TVEs	
Fee for public utility	user	Fee from administration agencies	User, p.c.
Water rates	user	Water conservancy construction fund	p.c., per firm
Fee for family planning	p.c.	Proceeds of education-assets-sale	
Banking interests		Other subsidy	
Other subsidy		**Other revenue**	
Proceeds of land-sale		Proceeds of land-sale	
Fee for land transaction		Fee for land transaction	
Other		Other	

Note: User charges asked by those units that provides the service, i.e. usually public utilities, are not fees in budgetary terms but charged by the providers directly (Eckaus 2003, p.78)

Source: Respondent 24 & 26 (2004)

2.6.2. Intergovernmental Transfer

Information about intergovernmental transfer of taxes is not published but needs to be generated by interviewing three to four groups of economic agents: representatives of the national and local tax administration, representatives of the local government, and firms. Instead the transfers follow the bargaining between government agencies, and between the township and firms. The interviews in Township M suggest three features that characterize

transfer practice at the township level.

Table 2.5: Composition Revenue, 2003: M and L Township

Items	M (%)	L (%)
Total financial revenue	100	100
Budgetary revenue	45.23	24.40
thereof		
Bonus remittance of taxes	31.90	18.20
Fixed remittance of taxes	12.78	4.58
Earmarked subsidy	0.55	1.62
Extra-budgetary revenue	22.28	11.65
thereof		
Surcharges to taxes for education	4.08	5.44
Fees charged by administration agencies	6.51	1.63
Other	11.69	4.58
Other revenue	32.49	63.95
thereof		
Proceeds of land-sale	26.99	44.58
Fees for land transaction	5.24	8.98
Profit of TVEs or governmental investments	0.03	9.85
Other	0.69	0.54

Source: Respondent 24 & 26 (2004)

1. Township M has to share revenue with four superior government layers: local (county level), prefecture, provincial, and national. Interaction between these different layers of government agencies is partly *statutory*, i.e. based on legislation, and partly resulting from previous negotiations. At the time of the interview, seven transfer modes were employed. Aside from the standardized sharing rules supervised by the SAT, a negotiated sharing of "excess" tax income, as for example more revenue from VAT than anticipated in the tax contracts for a budget year (see below). Other sharing formulas address "approved budgetary expenditure", "approved budgetary expenditure of financial department", "other shared tax items", "subsidy from superior units" and "remittance to the prefecture level". Each mode follows distinctive formulae such as quota-based, growth-based, progressive or regressive

rates. For instance, in the tax contract for 2003, M Township agreed to collect 120 million RMB in VAT and consumption tax on behalf of the SAT. The actually collected amount added up to 160 million, which was not allocated according to the usual 75:25 percentage formula between the centre and the local units. Instead, Township M is entitled to a bonus based on the 40 million of "excess" revenue. The calculation follows a 'progressive' rate: 12 per cent bonus for the first 12 per cent of the excess revenue (1.73 million), 15 per cent bonus for the following 12-15 per cent of excess revenue (54 thousand) and 18 per cent bonus for any excess beyond 15 per cent (3.94 million). The total amount of the thus calculated bonus added up to 6.2 million RMB considerably lower than the ten million RMB the local tax agencies would have been entitled to, if the usual tax sharing formula had been applied (Table 2.6).

2. Superior government agencies, such as the province, prefecture or county can and will press for a sharing formula which squeezes the township of the tax income generated here. All that is needed is a document written on an official letterhead (*hongtou wenjian*). This form of state capture (Hellman 1998) can be illustrated by the way the bonus on VAT collection allocated to different layers of government. For instance, Township M was entitled to a due share of 3.88 per cent of total VAT and consumption tax generated in the township. Yet, Suzhou city, superior to Township M, appropriated 0.6 per cent, leaving M with 3.28 per cent. Even worse, for 2004 Suzhou increased "its" share to 1.6 per cent, which would cut Township M's share to 2.06 per cent (Table 2.6).

3. Generally in Jiangsu province, out of the 25 per cent that goes to local units from consumption taxes, 50 per cent is claimed by the provincial government, 16 per cent is claimed at the prefecture level, 6.8 percent remains at the county level, and only 27.2 per cent remains in the township. Likewise, of the total tax revenue collected by Township M in 2003, 40 per cent went to the central budget, 27 per cent to the provincial budget, ten per cent to the prefecture budget, five per cent to the district (county) budget and 18 per cent to the township budget. Not surprisingly, the local government officials in Township M "lament that they are sacrificed for superior officials". They, as most other townships, must search for alternative revenue sources. These are usually off-budgetary activities.

Table 2.6: A Case of State Capture: Sharing VAT and Consumption Tax Revenue M Township (2003 -2004 in mil. RMB)

No.	Item	2003	2004	Remarks
1	VAT and consumption tax	160	210 [a]	Total tax revenue collected.
2	Revenue target	120	160	Total tax revenue collected in last year.
3	Growth part above revenue target	39	49	3=1-2
4	Share based on 0-12% part of growth part	1.73	2.31	Shared ratio 12%; 4=2*12%*12%
5	Share based on 12-15% part of growth part	0.54	0.72	Shared ratio 15%; 5=2*(15%-12%)*15%
6	Share based on above 15% part of growth part	3.94	4.66	Shared ratio 18%; 6=(3-2*15%)*18%
7	Township entitlement to share	6.21	7.69	7=4+5+6
8	Remittance to prefecture level	0.96	3.36	8=1*remittance ratio; (0.6% 2003, 1.6% 2004)
9	Actual shred revenue	5.25	4.33	9=7-8
10	Actual shared percentage (%)	3.28%	2.06%	10=9/1

Note: Predicted figure based on revenue task 2004.

Source: Respondent 24 (2004)

2.6.3. Expenditures

Only after looking at both revenue and expenditure can the complete picture of financial flows around the local tax system be seen (Figure 2.3). One major reason why expenditure needs to be integrated into the analysis of intergovernmental transfers and local budgets is the fact that tax farming between the township and the tax payer shows up on the expenditure side. As said before, the township cannot change or modify tax legislation, while at the same time having a strong incentive to cultivate a wealthy tax base, if not to expand the tax base by attracting additional investment. Thus, the tax contracts between the township and individual firms do not prescribe lower tax rates, for example. Instead tax rebates or exemption, bonus, grants, subsidy, or awards are negotiated which promise *ex post* reimbursement for taxes paid. These rebates are usually listed as means for supporting the local economic sector.

Thus for example, L Township grants all firms established since 2001 a three-year exemption (via *ex post* reimbursements from local budget) from VAT, enterprise income tax and business tax. Likewise, firms investing more than ten million RMB in

technological innovation enjoy a three-year tax refund. These refunds show up on the expenditure side of the Township L (Table 2.7) under industry and transportation items in 2003, reaching 38 million RMB at 20.9 per cent of Township L's total financial expenditure. In addition to tax preferential treatment, Township L invested 46 million RMB (25.6 per cent of total expenditure) in infrastructure and 65 million RMB (35.9 per cent of total expenditure) in education to improve the investment environment. Land prices are another are of inter-jurisdictional competition, which at a discounted rate can be used for attracting investment. As Township L claims it was this policy that enabled them to attract 83 new established enterprises in 2003, of which 40 enterprises were from other localities.
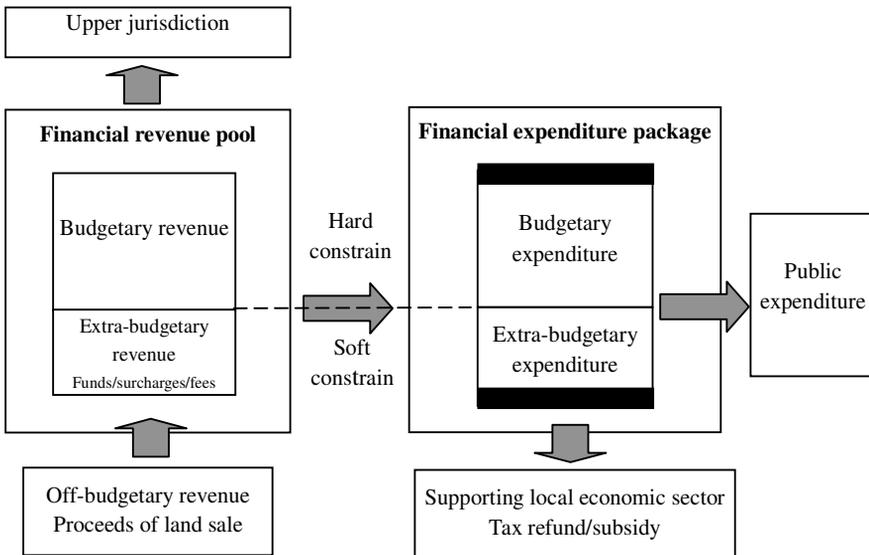
Note: Black part of expenditure refers to extra expenditure of actual amount.

Figure 2.3: Financial Revenue and Expenditure at Township Level

Table 2.7: The Expenditure Side of L Township' Budget, 2003

Items	Amount (million RMB)	Per cent
Total financial expenditure	181	100
Agriculture	4	2.5
Industry and transportation	38	20.9
Infrastructure	46	25.6
Education	65	35.9
Culture	8	4.5
Health	3	1.9
Social	4	2.4
Administration	10	5.4
Other	2	0.9

Source: Respondent 26 (2004)

To sum up, tax farming at the lowest administrative level defines the *effective tax rate* for firms, i.e. by far the largest taxpayer. The effective tax rate can be calculated only ex post, as the rate depends on reimbursement in the following year. Jurisdictional competition between lower level government agencies exists and thrives; yet alimented by local returns from commercial activities of government agencies rather than by "tax design". Intergovernmental transfer is renegotiable and enables agencies (in particular, the middle-layers of government, such as prefecture and county) to appropriate a share of tax revenues. At the township level, tax administration and tax policy cannot be separated. Despite all the technical formulae used within the tax sharing process, the budget procedure at the township level follows three rather straightforward steps. The township first estimates the total amount needed to fulfill the mandatory tasks, keeping the agreed upon commitments to different groups (such as firms) and the money needed to run the local government. In a second step, the township negotiates the volume of tax revenue to be transferred and re-transferred with all other local government agencies. As the township knows the range of transfers and re-transfers from past experience, it can anticipate a deficit or surplus. The township will simultaneously, in a third step, search for additional revenue sources outside the bureaucratic tax system. In short, *the township is not forced to adjust expenditure to revenue available, but adjusts revenue to expenditure planned and contracted*. The system implies further that the more the central state attempts to harden the budget constraint the more entrepreneurial townships will become, by embarking on business activities outside the reach of bureaucratic control.

2.7. Conclusions

China's tax system is unique. We don't know of any other case where a national tax bureaucracy and local tax farming co-exist. It would however be misleading to interpret this co-existence as a case where the socialist legacy prevails. To the contrary, the institutional change in taxation is the deliberate response to the political and economic development in China's economic transformation.

First, aside from the rhetoric, the *reforms were driven by transaction cost considerations* and political compromises. Each reform step reveals the search for a broader tax base, and enforcement mechanisms, which increase administrative efficiency. Second, reforms to the tax system *serve as a means to better align the interests* of different government agencies. Unlike other countries where taxation defines hard (budget) constraints and state enforcement agencies, China's tax system offers positive incentives for its tax agents which in return for compliance to the national tax codes (if not the whole reform program) are entitled to residual tax revenue. Third, tax farming harnesses local autonomy. *It offers townships a resource base outside central control.* It is worth stressing that local autonomy in China is not the consequence of a constitutional separation of power, but the consequence of decentralization, i.e. the transfer of regulatory power to local agencies, and the transfer of resources that enable local jurisdictions, such as the township, to finance local policy. Fourth, not surprisingly then, tax farming must contribute to diversity in economic outcomes as well as diversity in the institutional architecture at the local level. It is hard to find evidence which would support the Grabbing Hand -or state seizure-hypothesis (Frye 2002; Northrup and Rowan 1963) on the one hand and the Helping Hand or state capture hypothesis (Hellman 1998) on the other hand, which claims that over time the central state will increasingly appropriate more resources in the case of the former; or that the alliance between the business community and local government agencies will over time subvert the institutional architecture to better serve their own self-interest. Both would imply the emergence of informal (if not illegal) organizations and institutions, while the tax farming bargaining game is part of the official tax system. From this point of view, local *tax farming can be seen as an ex ante device for limiting, if not even legitimizing, ex post opportunism* (of the tax agents). Finally, jurisdictional competition seems to work, limiting overall taxation. This does not mean however that China can expect a corporatist state with as many local business and tax systems as townships or counties. As the interviews indicate, imitation of good (tax) practices in neighboring localities will lead to at least regional convergence of the *de facto* tax systems, if not tax practices.

3. The Central Government and Local Governments: Fiscal Decentralization as Deterrence to Public Sector Growth[18]

3.1. Introduction

China seems to defy Wagner's Law, which describes a positive correlation between the expansion of the public sector and economic development (Dudley and Witt 2004; Bird 1970; Krusell and Rios-Rull 1999; Meltzer and Richard 1981; Musgrave 1959, 1969; Peacock and Wiseman 1961). Despite an average annual GDP growth rate of 9.6 per cent since the beginning of reform, the Chinese public sector, measured by the size of government expenditure[19] relative to total GDP, has decreased from 31 per cent in 1978 to 21 per cent in 2004 (NBS 2006) , as shown in Figure 3.1. In contrast, the average size in the OECD countries climbed to 45 per cent (OECD 2005). The intriguing question therefore is why does China depart from not only theoretical prediction but also the empirical facts from these market economies?

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[18] This chapter is based on Zhu and Krug. 2005. Is China a Leviathan? *ERIM Working Paper.* I am grateful to Bruno Frey, Lars Feld, and Frank Bohn for helpful comments and suggestions. The chapter has also benefited from presentations at the Annual Meeting of *European Public Choice Society (EPCS),* April 20-23, 2006 in Turku (Finland) and a workshop, *Shifts in Governance (NWO project)*, July 24-28, 2006 in Hangzhou (China).

[19] The Chinese public budgety system includes extra-budgetary revenue and expenditure, which supplement the regular budget. Data on extra-budgetary revenue and expenditure only began to be compiled after 1982 when statistical reporting was established. In this paper, "government revenue and expenditure", unless otherwise stated, refers to formal budgetary revenue and expenditure only.
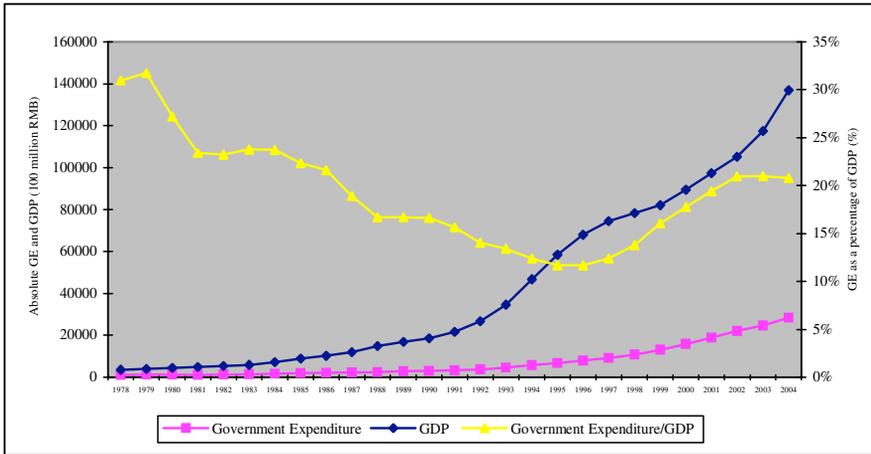
Figure 3.1: Government Expenditure and as Percentage of GDP: 1978-2004

There are three possible explanations: 1) the retreat of government from the economy demands less government outlay; 2) shrinking government revenues reduce the government budget relative to GDP; and 3) technical flaws in the statistics might cause under-reporting of total government revenues and expenditures (Zhu and Krug 2007). In addition, we propose that Chinese government size is curtailed by the *de facto* fiscal decentralization that has developed since the early 1980s. This new approach takes the Leviathan model which sees the state as a monolithic entity maximizing its (tax) revenue with fiscal decentralization acting as a strong institutional constraint on its reach (Brennan and Buchanan 1980). Yet, testing the Leviathan hypothesis has been so far restricted to functioning market economies, in particular those where decentralization takes the form of a federalist state (Litwack 2002). China is not a federalist state but operates in a "Chinese style of fiscal federalism" (Montinola *et al*. 1995; Qian and Weingast 1996, 1997; Weingast 1995). In China, there are no general elections and no significant democratic constraints. Instead, we observe a centralized top-down party cadre system of supervision, which dramatically induces yardstick competition among local officials (Besley and Case 1995; Shleifer 1985). Thus, China offers the opportunity to analyze the effects of fiscal decentralization on government size irrespective of the democratic political market, thereby extending the applicability of the Leviathan hypothesis to non-democratic states. Moreover, our empirical investigation of China's fiscal decentralization and its government size performed in the paper also contributes to the field in which, to our best knowledge,

few work has been done (cf. Lin and Liu 2000; Ma 1997; Zhang and Zou 1998 on fiscal decentralization and economic performance).

The remainder proceeds as follows: Section 3.2 summarizes the three conventional explanations for China's shrinking public sector (as noted above). Section 3.3 presents the Leviathan hypothesis, followed by a survey of empirical literature and fiscal decentralization in China. Section 3.4 describes methodology and data. Section 3.5 provides the empirical results followed by our conclusions.

3.2.   Changing Government Size in China

3.2.1.   The Demand Side

Reform-era price liberalization and privatization reduced the government's planning and control functions in the economy since the emerging market functions in the place of government intervention (Walder 1996; Naughton 1995). For example, from 1980 the non-state sector tripled its share of gross industrial output value (GIOV) to 65 per cent and quadrupled its share of fixed investment to 64 per cent by 2004 (Figure 3.2). As a result, government expenditure for economic development dropped from 20 per cent of GDP in 1978 to 6 per cent in 2004 (Figure 3.3).
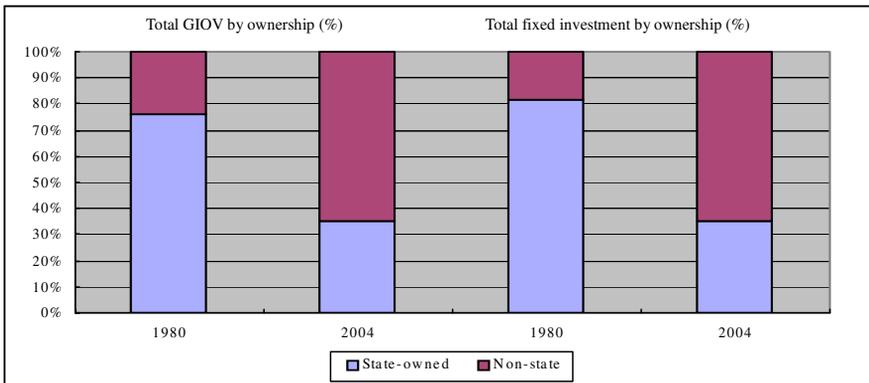
Source: National Bureau of Statistics, P. R. China. 1996-2005. China Statistical Yearbook (Beijing: China Statistics Press)

Figure 3.2: Development of Non-state Sector
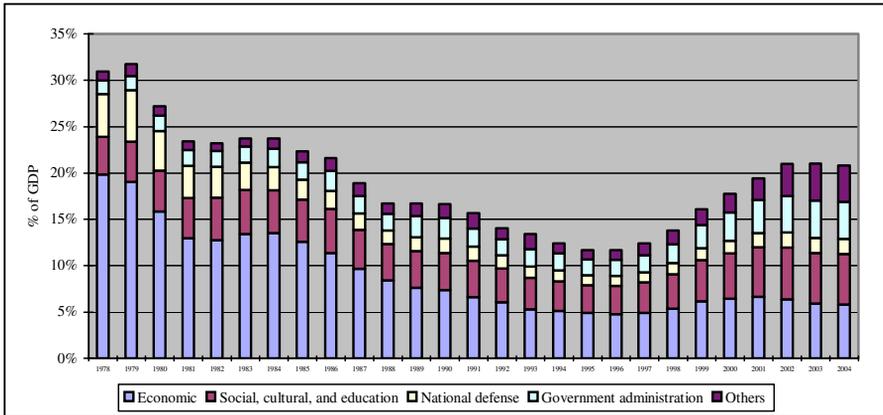
Figure 3.3: Government Expenditure by Function (% of GDP)

3.2.2.   The Supply Side

China transformed its fiscal regime from a socialist "owner-state" surviving on controlled resources (Campbell 1996) to a "tax-state" subject to its capability and legitimacy to extract the surplus from tax bases (Schumpeter 1918). Indeed, this transformation, to a large extent, jeopardizes revenue extraction. Before reform, government budgets basically relied on profit remittances from state-owned enterprises (SOEs), which generated 51 per cent of total government revenue in 1978. However, SOEs struggled to be profitable when exposed to market competition and are no longer reliable revenue bases. Rather they have often become a financial burden. The subsidy to loss-making SOEs held 25 per cent of total government revenue, about 13 times more than the revenue they contributed in 1985 (Figure 3.4). An alternative is to tax non-state sectors, i.e. a large number of small and medium private enterprises and individuals, which gravely challenges government's tax administration (Wong 1997; World Bank 2002). A lack of traditional tax compliance also exacerbates the tax collection problem. Consequently, the ratio of total government revenue to GDP plummeted from 31 per cent in 1978 to a rock bottom of 11 per cent in 1995, while recently recovering to 20 per cent in 2004 (NBS 2006).
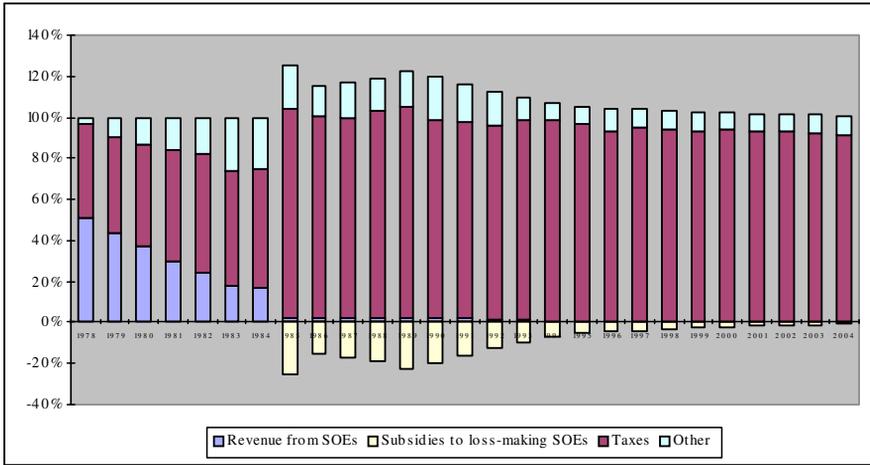
Figure 3.4: Government Revenue by Source (%)

3.2.3. The Hidden Figures

The existence of extensive extra-budgetary or even off-budgetary activities implies that the actual amount of government revenue and expenditure is much larger than official statistics suggest (Eckaus 2003; Fan 1998; Wong 1998; Zhu and Krug 2007). To mitigate the scarcity of local financial resources, extra-budgetary revenues consisting of administrative service charges, fees, and various surcharges are levied for Central and provincial governments, and corresponding financial and regulatory departments. They remained a minor part of economic life in China before the 1980s but experienced a vicious spiral after that. In 1978, extra-budgetary revenues represented 10 per cent of GDP and escalated to an average of 17 per cent during 1980s. Although they have sharply decreased since 1993, they represented about 4 per cent of GDP in 2003 (NBS 2006) (Figure 3.5). In addition, volumes of off-budgetary revenues and expenditures escape from the public budget system and are excluded from official budgetary figures. Thus, the actual government size of China is, to a large extent, underestimated.
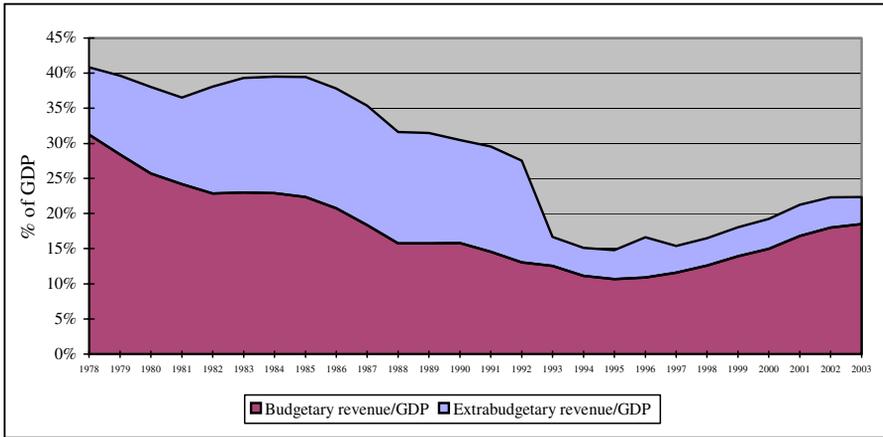
Figure 3.5: Government Budgetary and Extra-budgetary Revenue as a Percentage of GDP

3.3. Taming the Dragon: The Leviathan Model and China

3.3.1. Leviathan Theory and Hypotheses

Brennan and Buchanan (1980) claim that a state maximizes revenue, and simultaneously fully appropriates the monopolistic rent for those goods and services whose provision is regarded – or defined – as the exclusive right of the government due to market failure or (more often) a proclaimed public consent. To restrain the Leviathan, an electoral process is presumed to result in political competition offering comparable services and public goods at the lowest price and tax rates. In addition, fiscal federalism further effectively curtails the expansion of government size thanks to two major merits: information revelation and competition (Musgrave 1959, 1969; Oates 1972). On the one hand, a decentralized decision-making process (Hayek 1945) addresses the principal-agent problem between government agencies and constituencies by releasing enough information to provide an effective check and balance on government's coercive power to tax. Similarly, fiscal decentralization invites Tieboutian competititon (1956), i.e. citizens migrate among different jurisdictions searching for public goods and services at the lowest costs, which forces government agencies to compete with each other for a reliable tax base.

However, since the Leviathan hypothesis is grounded on the assumption of

democracy it is not directly applicable in China. As we observe, a centralized party cadre system empowers the central government to control local officials in their career development. Any promotion within the bureaucratic/party hierarchy, especially at the provincial level, is decided by the superior and, eventually, the central government. Moreover, promotion is, to a large extent, based on officials' performance, especially the economic development of their jurisdiction. Consequently, in contrast to the bottom-up constraints imposed by constituencies in a democratic society, such top-down supervision from higher level hierarchy induces yardstick competition (Besley and Case 1995; Shleifer 1985) among local officials. Moreover, increasing fiscal autonomy intensifies the inter-jurisdictional competition for mobile resources and tax bases. In this sense, fiscal decentralization serves as a powerful institutional constraint on local government expansion.

Therefore, the Leviathan hypotheses still holds, only the logic behind fiscal decentralization influencing government size is modified for the Chinese scenario. Taking the ratio of lower level government agencies to total government revenue and expenditure as a measure for effective decentralization allows for the formulation of a *decentralization hypothesis*:

The more fiscal authority is transferred to lower levels of government, the smaller the total public sector.

As the intensity of Tieboutian competition depends on factor mobility and the availability of numerous competing jurisdictions a *fragmentation hypothesis* can be assumed:

The larger the number of competing jurisdictions, the smaller the total public sector.

Using the average government size of neighboring localities as a benchmark, competition should result and a *yardstick competition hypothesis* can be assumed:

The smaller the public sector of neighboring provinces, the smaller the public sector in one's own province.

Furthermore, in practice, fiscal federalism normally sees tax revenue and expenditures assigned to different levels of government based on the following factors: mobility of tax base, economies of scale and scope, fiscal equity ground, and spillover

effect (McLure 1983; Musgrave 1997; Oates 1999). In other words, central government levies part of taxes and transfers revenues to local government. However, Brennan and Buchanan (1980) emphasize that such intergovernmental transfers may subvert jurisdictional competition and thus stimulate a larger government; the *collusion hypothesis*:

The more intergovernmental grants, the larger the total government size.

In short, the effect of decentralization on the size of the public sector depends on four factors: decentralization, fragmentation, yardstick competition and intergovernmental collusion. Here, the first three factors limit, while the last enlarges government size.

3.3.2. A Survey of Empirical Literature

Although the Leviathan hypothesis appears to be on sound theoretical ground, numerous empirical studies headed by Oates have shown inconsistent evidence at national, subnational and/or local level (Table 3.1)[20]. Based on a cross-sectional sample of 57 countries, Oates (1972) conducted a simple regression of government size (share of tax revenues in national income) on decentralization (central government tax revenue as a fraction of total tax revenues) and found a significant inverse relationship: increased decentralization resulted in a larger government sector. After controlling the variable of income level for Wagner's Law, the coefficient remained negative but statistically insignificant, which lent no support to the decentralization hypothesis. In 1985, Oates used a sample of 43 IMF countries and again found no statistically significant association between fiscal decentralization and government size. Yet, the empirical results verified the collusion hypothesis that relatively heavy intergovernmental grants induce larger public sectors. To address the possible unreliability of IMF data, Heil (1991) used two comparison samples of 22 OECD and 39 IMF countries. In addition to the Ordinary Least Squares technique, he also ran the Two-Stage Least Squares regression by constructing federal structure, literacy rate and gross exports as a percentage of GDP as instrumental variables. In all cases, no significant impact of fiscal decentralization on government size was obtained at the national level. Moreover, Stein (1999) observed relatively larger governments in fiscally decentralized Latin America, particularly when subnational governments enjoyed extensive vertical imbalances, discretional transfers and borrowing autonomy. Yet, in Moesen and van Cauwenberge (2000), the decentralization variable was matched by local tax autonomy, thereby excluding intergovernmental grants and local

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[20] The survey of previous empirical literatures is based on Shadbegian (1999) and Feld (2003).

borrowing, i.e., subnational government taxes as a percentage of total government expenditures. The results from 19 OECD countries supported the Leviathan hypothesis that a decentralized tax authority tended to reduce overall government size. Rodden (2003) and Anderson and van Den Berg (1998) confirmed this point as well. Furthermore, Rodden provided empirical evidence that decentralization accompanied by intergovernmental transfers produced a larger government. Jin and Zou (2002) explored how government size at different levels was influenced by different fiscal decentralization measures. Using panel data from 17 industrial and 15 developing countries from 1980-1994, they found that: i) expenditure decentralization resulted in smaller national governments, larger subnational governments and larger overall government size; ii) revenue decentralization increased subnational government size but greatly reduced national government, thereby reducing aggregate government size; and iii) intergovernmental grants enlarged government size at all levels. Marlow (1988) initially performed a time-series regression on 1946-1985 data from the United State and found strong supporting evidence for the decentralization hypothesis. Later, Grossman (1989a; 1989b), using the same data set, verified that decentralization (the share of subnational expenditure in total government expenditure) curtailed government spending (total government expenditure relative to GNP, in this case) while federal-to-state grants encouraged government expansion. Similarly, data from Australia (1950-1984) and Canada (1958-1987) was tested by Grossman (1992) and Grossman and West (1994), respectively. In the former case, the collusion hypothesis was demonstrated but not the decentralization one; while in the latter case, both hypotheses were supported. Kwon (2003) analyzed time-series data from Korea (1979 to 2001) and obtained supporting evidence for the decentralization hypothesis.

At the subnational level, Oates (1985) performed a regression analysis on cross-sectional data from 48 contiguous US states. In his estimated specification, the dependent variable was the state government size measured by aggregate state-local tax receipts as a fraction of personal income. The explanatory variables included the state share of state-local revenues and expenditures (decentralization hypothesis), number of local government units (fragmentation hypothesis), and intergovernmental grants as a percentage of state-local general revenues (collusion hypothesis). Per capita personal income, population and urbanization ratios were the control variables. Neither of the regression results showed a statistically significant association between explanatory variables and dependent variables. Nonetheless, the collusion hypothesis was partially supported by one of the three equations in which a positive and statistically significant coefficient resulted. The decentralization hypothesis was also notably supported by Wallis and Oates (1988), Joulfaian and Marlow (1990, 1991), and Shadbegian (1999). Meanwhile,

the collusion hypothesis was supported by Raimondo (1989), Grossman (1989) and Shadbegian (1999). With regard to the fragmentation hypothesis, Nelson (1986, 1987) found general-purpose local government units increased intergovernmental competition and then restricted the state-local government size. In addition to US states data, de Mello (2001) examined data from 38 rayons (subnational units) in Moldova that provided supporting evidence for the above three hypotheses. Feld *et al.* (2003) also lent support to the decentralization and collusion hypotheses (though not the fragmentation hypothesis) based on evidence from 26 Swiss cantons (subnational units).

Empirical studies at the local level mainly concentrate on counties and municipalities in Standard Metropolitan Statistical Areas (SMSAs) of the United States. Forbes and Zampelli (1989) reject the fragmentation hypothesis with a positive and significant effect of the number of counties on county government size, using a sample of 345 counties in 157 SMSAs. Zax (1989), using a larger sample of 3022 counties and Eberts and Gronberg (1988) using 2900 counties, both observed that increased general-purpose local government units were likely to reduce government size. Sjoquist (1982), Schneider (1986), and Eberts and Gronberg (1990) also found supporting evidence for the fragmentation hypothesis at municipal or SMSA level. A more recent investigation undertaken by Campbell (2004) looked at how different government levels impact on government size: 1) increased decentralization of expenditures tended to decrease municipal expenditures while having no influence on county expenditures; 2) increased fragmentation reduced county expenditures while having no effect on municipal expenditures.

Table 3.1: Empirical Literature of Leviathan Hypotheses

Author(s)	Size of government	Leviathan hypotheses	Measurement	Level of observation units	Time	Result
Oates (1972)	Taxes/national income	Decentralization	Central taxes/total taxes	57 countries	1972	No
Sjoquist (1982)	GOVE per capita	Fragmentation	Number of jurisdiction in an SMSA	48 southern SMSAs, US	1972	Yes
	Subnational taxes/personal income	Decentralization	State GOVR (GOVE)/subnational GOVR(GOVE)	48 states, US	1977	No
		Fragmentation	Number of local government units			No
Oates (1985)		Collusion	Intergovernmental grants/subnational GOVR			Yes
	GOVR/GDP	Decentralization	Central GOVR (GOVE)/total GOVR (GOVE)	43 countries	1982	No
		Collusion	Intergovernmental grants/total GOVR			Yes
Schneider (1986)	GOVE per capita	Fragmentation	Number of suburban municipalities in an SMSA per 100,000 capita	757 suburban municipalities in 46 SMSAs, US	1972-77	Yes
Nelson (1986)	Subnational tax per capita	Decentralization	State taxes/total subnational taxes	49 states, US	1976	No
	Subnational tax/personal income Subnational taxes	Fragmentation	Population per county (special district)			Yes(No)
Nelson (1987)	(GOVE)/personal income	Fragmentation	Number of general-purpose (single-) units per capita	50 states, US	1977	Yes (No)
Wallis&Oates (1988)	Subnational GOVR (GOVE)/per capita income	Decentralization	State GOVR (GOVE)/subnational GOVR (GOVE)	48 states, US	1902-1982	Yes (Yes)

45

The Central Government and Local Governments: Fiscal Decentralization

Author(s)	Size of government	Leviathan hypotheses	Measurement	Level of observation units	Time	Result
Eberts&Gronberg (1988)	GOVE/personal income	Fragmentation	Number of general-purpose (single-) units, per capita, per square mile	2900 counties, US	1977	Yes (No)
				280 SMSAs, US		Yes (No)
Marlow (1988)	GOVE/GNP County	Decentralization	Subnational GOVE/total GOVE	US	1946-1985	Yes
Zax (1989)	GOVR/personal income County taxes/income, county taxes per capita, county GOVR/income, county GOVR per capita	Decentralization Fragmentation	County GOVR/total local GOVR Number of general-purpose (single-) governments per 1000 capita	3022 counties	1982	Yes Yes (No)
Forbes&Zampelli (1989)		Fragmentation	Number of counties in an SMSA	345 counties in 157 SMSAs, US	1977	No
Raimondo (1989)	GOVE/personal income (e.g. six forms)	Collusion	Federal-funded GOVE/state-local GOVE Local-funded GOVE/state-local GOVE	50 states, US	1960, 1970, 1980	Yes
Grossman (1989a)	GOVE/GNP	Decentralization Collusion	Subnational GOVE/total GOVE Federal grants/subnational GOVR	US	1946-1986	Yes Yes
Grossman (1989b)	Subnational GOVR/personal income	Collusion Fragmentation	Per capita state-to-local transfers Population per multiple function government	48 states, US	1976-77	Yes No
Joulfaian&Marlow (1990)	GOVR/GNP GOVE/GSP	Collusion Decentralization Fragmentation Collusion	Per capita federal grants Subnational GOVE/total GOVE Number of local governments Federal grants/subnational GOVE	US 50 states, US	1948-1984 1981, 1984	Yes Yes Yes No

Author(s)	Size of government	Leviathan hypotheses	Measurement	Level of observation units	Time	Result
Eberts&Gronberg (1990)	Own-source GOVR (GOVE)/personal income	Fragmentation	Number of local jurisdictions	218 SMSAs, US	1977	Yes
Joulfaian&Marlow (1991)	GOVE/GSP Per capita GOVE	Decentralization Fragmentation Collusion	Subnational GOVE/total GOVE(Local GOVE/subnational GOVE) Number of local governments Federal grants/subnational GOVE	48 states, US	1983-1985	Yes Yes No
Heil (1991)	GOVE (GOVR)/GDP	Decentralization	Central GOVR (GOVE)/total GOVR (GOVE) Dummy variable for federal structure	22 OECD and 39 IMF countries	1985	No (No) No
Grossman (1992)	GOVE/GDP	Decentralization Collusion	Central (state/local) GOVE/total GOVE Grants/total state-local GOVR	Australia	1950-1984	No (No) Yes
Grossman&West (1994)	GOVE/GNP	Decentralization Collusion	Central (province/local) GOVE/total GOVE Grants/total provincial-local GOVR	Canada	1958-1987	Yes Yes
Anderson&van Den Berg (1998)	GOVR/GDP	Decentralization	Central GOVR (GOVE)/total GOVR (GOVE)	45 countries	1990	Yes (Yes)
Stein (1999)	GOVE/GDP	Decentralization Collusion	Subnational GOVE/total GOVE Local program financed by central funds State and local own-purpose GOVE/total GOVE	19 Latin American and some OECD countries	Average 1990-1995	No Yes
Shadbegian (1999)	GOVE/GSP	Decentralization Collusion	Central-state and state-local grants/total state-local GOVR	48 states, US	1979-1992	Yes Yes
Moesen&van Cauwenberge (2000)	GOVE/GDP	Decentralization	Local taxes/total GOVE	19 OECD countries	1990-1992	Yes
de Mello (2001)	Per capita GOVE	Decentralization	Rayon's GOVR (GOVE)/total GOVR	38 rayons, Moldova	1998	Yes

The Central Government and Local Governments: Fiscal Decentralization

Author(s)	Size of government	Leviathan hypotheses	Measurement	Level of observation units	Time	Result
		Fragmentation	(GOVE)			(Yes)
		Collusion	Number of cities and communes in rayon			Yes
			Per capita grants			Yes
Jin&Zou (2002)	GOVE/GDP	Decentralization	Subnational GOVR (GOVE)/total GOVR (GOVE)	17 industrial and 15 developing countries	1980-1994	Yes (No)
		Collusion	Central grants/subnational GOVE			Yes
		Decentralization	Own-source subnational revenue/total revenue	44 countries	1978-1997	No
		Collusion	Grants/total GOVR			Yes
Rodden (2003)	GOVE/GDP	Decentralization	Own-source subnational revenue/total revenue	25 countries	1980-1993	No
		Collusion	Grants/total GOVR			Yes
		Decentralization	subnational revenue/total revenue	18 OECD countries	Average	Yes
		Collusion	Grants/total GOVR		1985-95	Yes
Kwon (2003)	GOVE/GDP	Decentralization	Local GOVE/total GOVE	Korea	1979-2001	Yes
		Collusion	Central-to-local grants			Yes
		Decentralization	Communal GOVR/ subnational GOVR per capita			Yes
Feld et al (2003)	Per capita GOVR	Fragmentation	Number of communes per capita	26 Swiss cantons	1980-1998	No
		Collusion	Net central-to-canton grants per capita			Yes
						No
Campbell (2004)	Per capita GOVE	Decentralization	Own GOVE/ municipalities and counties GOVE	205 counties, US		Yes
		Fragmentation	Number of units per 100,000 capita	665 municipalities, US	1982	Yes
						No

Note: GOVE: Government expenditure, GOVR: Government revenue, GSP: Gross state product, GDP: Gross domestic product, GNP: Gross national product.

48

3.3.3. Chinese Fiscal Decentralization

Considering the mixed empirical results, further study based on new data sets is warranted to unravel the contradictions in the existing literature. China is a good place to look. First, *de facto* fiscal decentralization has developed here over the last three decades. Local interest in development, together with the policy legacy of rural autarky from the Mao era, accelerated the formation of a Chinese style of fiscal federalism (Montinola *et al.* 1995; Qian and Weingast 1996, 1997; Weingast 1995). Since the beginning of reform in 1978, decentralization in China has emerged through a series of tax and fiscal reforms: tax-for-profit reform (1983-84), the fiscal contracting system (1985-93) and the 1994 tax-sharing system (World Bank 1995, 2002; Wong 1995, 1997). Under the fiscal contracting system, the central government assigned fixed revenue-remittance contracts and made local governments *de facto* residual claimants (Zhu and Krug 2007). As shown in Figure 3.6, the central share of budgetary revenue diminished during the period 1985-93, which dropped 16 percent (from 38 per cent to 22 per cent). The central share of budgetary expenditure fell from 40 per cent to 28 per cent in the same period, provoking tax reforms in 1994, aimed at arresting this declining trend. The results were dramatic: the central share of budgetary revenue increased to 56 per cent in 1994 and has maintained an average of 51 per cent in recent years. Yet, on the extra-budgetary revenue and expenditure side, remarkable decentralization has occurred, particularly after 1992: the local share of extra-budgetary revenue and expenditure rocketed from 56 per cent in 1992 to a high of 95 per cent in 1998 and averaged 92 per cent to 2003 (Figure 3.7).
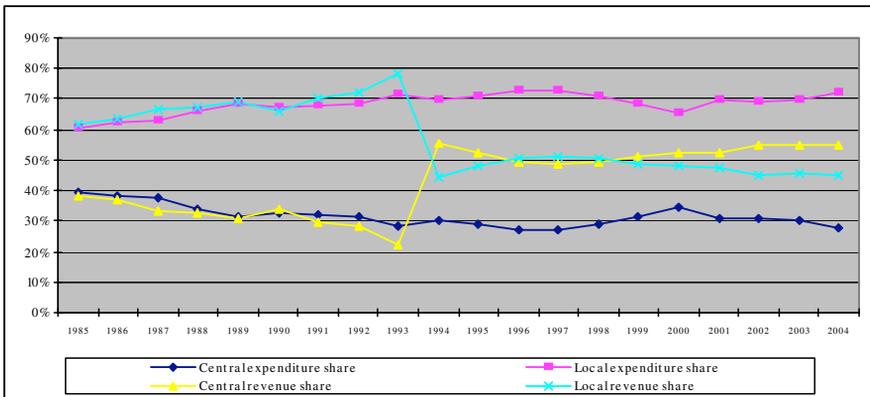
Source: National Bureau of Statistics, P. R. China. 1996-2005. China Statistical Yearbook (Beijing: China Statistics Press)

Figure 3.6: Central and Local Share of Budgetary Government Revenue and Expenditure
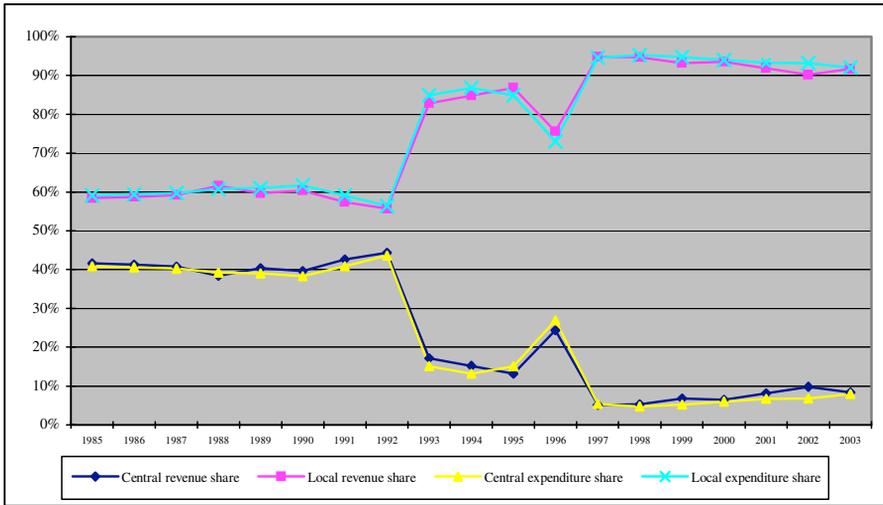
Figure 3.7: Central and Local Share of Extra-budgetary Government Revenue and Expenditure

Second, as Brennan and Buchanan point out, fiscal decentralization may effectively constrain government's power to tax even without a democratic monitor. From this point of view, the absence of democracy in China offers a great opportunity for testing such a hypothesis. Third, China's sheer size – 31 provincial level government units, 333 prefectures, 2,074 counties, and 44,741 townships (NBS 2006) – allows for panel data analysis at the subnational level.

3.4. Empirical Model

We intend to test the impact of decentralization, fragmentation, yardstick competition and intergovernmental collusion on government size, thereby addressing the inconsistency of shrinking public sector and Wagner's Law in China.

3.4.1. Variables and Model

The empirical model is as follows:

$$GOV_{it} = {}_0 + {}_x X_{it} + {}_c C_{it} + {}_s S_{it} + u_{it} \tag{1}$$

where i and t denotes province and year, respectively. GOV_{it} stands for government size; X_{it} denotes the set of independent variables which we are interested in; C_{it} denotes conventional control variables used in previous empirical studies; S_{it} is specific control variables to capture the Chinese transition situation, and u_{it} denotes the error term.

Figure 3.8: Map of China

Following previous empirical literature (Campbell 2004; Joulfaian and Marlow 1991; Schneider 1986), government size is measured by per capita aggregate provincial expenditure. Considering China-specific extra-budgetary spending, we have GOV_{BE}, GOV_{EE} and GOV_{CE} for the budgetary, extra-budgetary and consolidated (sum of the former two) provincial expenditure, respectively. Zhang and Zou (1998) suggest that revenue is not a good indicator of decentralization in China; following this, we construct four fiscal decentralization variables based on expenditure at two different levels. At the central-provincial level, DEC_CP_{BE} is the ratio of provincial to central budgetary expenditure per capita; DEC_CP_{EE} is the ratio of provincial to central extra-budgetary expenditure per capita; DEC_CP_{CE} is the ratio of provincial to central consolidated budgetary and extra-budgetary expenditure per capita. At the provincial-local level, DEC_PL is the share of subprovincial in aggregate provincial-subprovincial consolidated budgetary and extra-budgetary expenditure. The predicted signs of these four decentralization variables should be negative. In addition to the vertical dimension of fiscal

decentralization, the number of local government units per million populations (NUMLG) reflects the degree of inter-jurisdictional competition at the horizontal fragmentation dimension which should be negatively correlated with government size. We use average GOV_{BE}, GOV_{EE}, and GOV_{CE} of geographically neighboring provinces as the performance benchmarks for yardstick competition[21] (Figure 3.8). We expect a positive relationship between government size in one's own province and neighboring provinces. Following Grossman (1989), we test the influence of intergovernmental collusion on the dependent variables: $GRANTS_{BE}$, $GRANTS_{EE}$ and $GRANTS_{CE}$ represent the share of total central grants to provinces in aggregate provincial-subprovincial budgetary, extra-budgetary, and consolidated expenditure respectively. A positive correlation is expected. Population (POP), urbanization (URB) and per capita income (INC) are conventional control variables that are always included in the regression and should have a positive influence on government size according to Wagner's law. Two specific control variables – the share of SOEs in total gross industrial output value of each province (SOE); and the share of total volume of foreign trade (sum of exports and imports) in provincial GDP (OPENNESS) – capture the transitional nature of the Chinese economy. The effect of SOEs on government size is open to test. Meanwhile OPENNESS should present a positive sign, which has previously been shown by Rodrik (1998). Table 2 shows the description of variables. Table 3.2 shows the description of variables.

3.4.2. Data

Since tax reform in 1994 dramatically changed China's tax and fiscal system, we choose annual data from 1995 to 2002 across 31 provinces[22]. Data of GOV_{BE}, GOV_{EE}, GOV_{CE}, NUMLG, YS_{BE}, YS_{EE}, YS_{CE}, $GRANTS_{BE}$, $GRANTS_{EE}$, $GRANTS_{CE}$, POP, INC, URB, SOE and OPENNESS are from China Statistical Yearbooks; DEC_PL are from Provincial Finance Yearbooks and Provincial Budget Reports; DEC_CP_{BE}, DEC_CP_{EE} and DEC_CP_{CE} are from China Finance Yearbooks.

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[21] As Besley and Case (1995) pointed out, using geographic neighboring provinces as a benchmark, to the largest extent, captures the similarity.

[22] Provincial level government units refer to 22 provinces (*sheng*), 5 autonomous regions (*zizhiqu*), and 4 autonomous municipalities (*zhixiashi, Beijing, Shanghai, Tianjin, and Chongqing*). Taiwan province and two special administrative regions, Hong Kong and Macao are excluded.

Table 3.2: Variable Descriptions

Variable	Descriptions	Predicted sign
GOV_{BE}	Per capita provincial budgetary expenditure	
GOV_{EE}	Per capita Provincial extra-budgetary expenditure	
GOV_{CE}	Per capita Provincial consolidated expenditure	
DEC_CP_{BE}	Provincial /central budgetary expenditure	-
	(expressed in per capita term)	
DEC_CP_{EE}	Provincial /central extra-budgetary expenditure	-
	(expressed in per capita term)	
DEC_CP_{CE}	Provincial /central consolidated expenditure	-
	(expressed in per capita term)	
DEC_PL	Subprovincial/provincial consolidated expenditure	-
$NUMLG$	Number of local government units per million population	-
YS_{BE}	Average GOV_{BE} in neighboring provinces	+
YS_{EE}	Average GOV_{EE} in neighboring provinces	+
YS_{CE}	Average GOV_{CE} in neighboring provinces	+
$GRANTS_{BE}$	Central grants/provincial budgetary expenditure	+
$GRANTS_{EE}$	Central grants/provincial extra-budgetary expenditure	+
$GRANTS_{CE}$	Central grants/provincial consolidated expenditure	+
POP	Provincial population (millions)	+
INC	Per capita income in urban and rural region (RMB)	+
URB	Urban residing population/provincial population	+
SOE	SOEs' GIOV/provincial GIOV	?
$OPENNESS$	Volume of foreign trade (exports + imports)/provincial GDP	+

Table 3.3 reports the mean of variables from 1995 to 2002 across eastern, middle and western regions[23]. An astonishing disparity exists among different localities. The eastern region has the highest per capita expenditure. Its average GOV_{BE} and GOV_{CE} reaches 1,312 and 1,736 RMB, twice as large as those lowest in the middle region, and its average GOV_{EE} is 423 RMB, almost treble that in the western region. The eastern region, obviously, has gained much more fiscal autonomy from the central compared with other regions, as shown by the highest DEC_CP_{BE}, DEC_CP_{EE} and DEC_CP_{CE} of 4.31, 24.77 and 5.24, respectively. The subprovincial decentralization (DEC_PL) seems close across three regions with 71 per cent in the eastern region, 72 per cent in the middle region, and 62 per cent in the western region. The western region receives the most central

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[23] See Appendix for the grouping.

grants-in-aid which hold 62 per cent of budgetary expenditure ($GRANTS_{BE}$) and 51 per cent of consolidated expenditure ($GRANTS_{CE}$) while the eastern region the least potion of 29 per cent and 19 per cent, respectively. The number of local government units measured in per million populations is lower in the eastern and middle region with 2.12 and 2.67 compared with 7.76 in the western region. Average population is 43 million in the eastern region, 51 million in the middle region, and 25 million in the western region. By contrast, the per capita annual income presents a reverse order with 5,216 RMB, 3,455 RMB, and 3,358 RMB, respectively. Moreover, as the most developed region, the eastern region has the highest urbanization ratio (35 per cent), the lowest share of SOEs (42 per cent), and the largest openness in economy (56 per cent).

Table 3.3: Mean of Variables: 1995-2002

Region	Eastern	Middle	Western
GOV_{BE}	1,312	604	972
GOV_{EE}	423	191	148
GOV_{CE}	1,736	795	1,120
DEC_CP_{BE}	4.31	1.92	3.09
DEC_CP_{EE}	24.77	11.35	8.52
DEC_CP_{CE}	5.24	2.36	3.27
DEC_PL	0.71	0.72	0.62
YS_{BE}	0.10	0.12	0.19
YS_{EE}	0.04	0.03	0.04
YS_{CE}	0.13	0.15	0.22
$GRANT_{BE}$	0.29	0.47	0.62
$GRANT_{EE}$	-0.09	-0.06	-0.10
$GRANT_{CE}$	0.19	0.34	0.51
NUMLG	2.12	2.67	7.76
POP	0.43	0.51	0.25
INC	5,216	3,455	3,358
URB	0.35	0.26	0.21
SOE	0.42	0.65	0.76
OPENNESS	0.56	0.09	0.11

3.5. Empirical Results

To mitigate the potential heteroskedasticity problem, all variables are measured in percentage or per capita values instead of absolute values. Cross section and period effects

are fixed in the regression. In addition, White diagonal standard errors and covariance provides consistent estimates of the coefficient in the presence of heteroskedasticity of unknown form. Two-Stage Least Squares (TSLS) and lag of the decentralization variable as instrumental variable are employed to tackle potential endogenous problems (Feld *et al*. 2003; Hettich and Winer 1999).

3.5.1.   Central-provincial Decentralization

Table 3.4 reports the TSLS regression results. In three models, DEC_CP shows a strongly statistically significant (1 per cent level) and positive relationship with provincial government size. Our findings agree with Jin and Zou (2002) that federal-state (central-provincial) fiscal decentralization may induce a larger subnational government size. A general explanation proposed by John Wallis (Wallis's hypothesis) is that since individuals may have more influence on state (provincial) level government agencies than those at federal (national) level, they are thus more willing to empower the former with a wider range of public functions and responsibilities (Oates 1985). A China-specific explanation may be that when the central government decentralizes fiscal power, it simultaneously shifts major mandatory tasks downwards to provinces, such as social, health and education spending, which inevitably enlarges provincial government size. Therefore, our empirical results confirm that the greater the central-provincial fiscal decentralization, ceteris paribus, the larger the provincial government size. NUMLG holds negative relations statistically significant at the 1 per cent level in three models, which shows that jurisdictional competition curtails government expansion. The yardstick competition variable holds positive signs but is only statistically significant in Models 1 and 3 confirming that neighboring provinces' budgetary and consolidated spending serve as a benchmark for one's own province. We also find that extra-budgetary spending is significantly positively related to central grants.

The income variable is positively significant in all models in line with Wagner's Law that government expenditure increases with economic development. However, the population is significantly negative relative to government size showing that public expenditure does not keep pace with the increasing population of the world's most populous country. Urbanization presents no significant signs in all models. The coefficient of SOE is positive in all models and strongly significant with budgetary and consolidated expenditure. It indicates that a large portion of budgetary (consolidated) expenditure is subsidies to loss-making SOEs resulting in a larger total budgetary (consolidated) government size. OPENNESS is positive in all models but only strongly significant in

Model 2 suggesting the essential role of the government's fiscal policy in the economy. Chinese local governments boost economic development by large investments in fixed assets, such as infrastructure, public housing and other projects, via extra-budgetary spending. Such government spending also serves as a risk-reducing device in the local economy exposed to significant external risks related to international trade (Rodrik 1998).

3.5.2. Provincial-local Decentralization

As shown in the Table 3.5, the signs of our primary concerned variables are basically consistent with the prediction and similar to those in Table 3.4. NUMLG holds negative in all models and significant at 1 per cent with budgetary and consolidated expenditure. Significant positive signs of yardstick competition again confirm the benchmark effect of other provincial budgetary and consolidated public spending. Central grants only present significantly positive correlation with extra-budgetary spending. As for control variables, most signs are the same as those in Table 3.4. In contrast, the DEC_PL holds negative yet insignificant in Models 4 and 6, indicating provincial-local decentralization might constrain budgetary and consolidated provincial spending. It also shows a positive yet insignificant coefficient in Model 5 that suggests provincial-local level decentralization might enlarge extra-budgetary spending. It is worth stressing that extra-budgetary revenues and expenditures are usually *ad hoc* levies with ambiguous legal status and lacking uniform procedures of computation, base, rate, or frequency (Eckaus 2003; Wong 1998). Such ambiguity provides local government with considerable discretionary power in collection and spending. Moreover, unlike central-provincial decentralization with powerful monitoring measures, very few checks and balances at the provincial-local level exist. This dramatically induces local government agencies to pursue extra-budgetary revenue and spending.

3.6. Conclusions

This chapter explains the departure of China from Wagner's Law by proposing a new approach. Seeing the centralized party cadre system and top-down supervision in China, we claim that a yardstick competition among local officials functions in the place of democratic constraint and thus makes fiscal decentralization a powerful restraint on the expansion of government size. Consequently, this chapter contributes to the Leviathan model by relaxing its democratic premise. Moreover, we find empirical evidence for the Leviathan model from vertical decentralization, horizontal fragmentation, yardstick

competition and intergovernmental collusion at central-provincial and provincial-local level in the context of China's transition economy. In particular, vertical decentralization at different level exerts effects on government size poles apart. Central-provincial decentralization stimulates expansion of provincial government spending whereas provincial-local decentralization curtails it.

Table 3.4: TSLS Estimates for Central-provincial Decentralization: 1995-2002

Dependent Variable	GOV$_{BE}$	GOV$_{EE}$	GOV$_{CE}$
	Model(1)	Model(2)	Model(3)
Constant	-1354.726	-33.37031	-2214.472
	(-1.33643)	(-0.361751)	(-2.268048)
DEC_CP$_{BE}$	195.9213*		
	(1.814955)		
DEC_CP$_{EE}$		5.957125***	
		(3.02752)	
DEC_CP$_{CE}$			315.5208***
			(2.628631)
NUMLG	-505.6416***	-21.92055***	-404.3624***
	(-5.221977)	(-2.93644)	(-5.546242)
YS$_{BE}$	1754.708***		
	(3.07508)		
YS$_{EE}$		633.4524	
		(0.571258)	
YS$_{CE}$			1015.603*
			(1.726262)
GRANT$_{BE}$	-206.5735		
	(-0.466202)		
GRANT$_{EE}$		89.04097**	
		(2.538333)	
GRANT$_{CE}$			-558.1778
			(-1.206624)
POP	-12.8421*	-1.102532**	-8.653233*
	(-1.738478)	(-2.391428)	(-1.795102)
INC	0.756456***	0.045773***	0.803979***
	(5.987823)	(2.600355)	(7.065459)
URB	-287.712	49.44133	-534.8685
	(-1.009219)	(1.394464)	(-1.487994)
SOE	1378.988***	97.85616	1324.813***
	(2.722277)	(1.298533)	(2.676092)
OPENNESS	344.8516	210.6635***	775.587
	(0.774922)	(2.698163)	(1.442198)
Period effect	Yes	Yes	Yes
Cross-section effect	Yes	Yes	Yes
Adjusted R-squared	0.953113	0.966686	0.963265
Jarque-Bera	320.3233***	68.58648***	126.5542***
Cross-sections	31	31	31
Observations	213	213	213

Notes: a. t-statistics in parentheses. b. * Statistically significant at 10 per cent level; ** statistically significant at 5 per cent level; *** statistically significant at 1 per cent level. c. White diagonal standard errors & covariance (no d.f. corrected). d. The Jarque-Bera is a test statistic for testing whether the residuals are normally distributed. Significant Jarque-Bera value leads to the rejection of the null hypothesis of a normal distribution e. Instrument list: C, DEC_CP$_{BE}$ (-1) (DEC_CP$_{EE}$ (-1), DEC_CP$_{CE}$ (-1)), NUMLG, YS$_{BE}$ (YS$_{EE}$, YS$_{CE}$), GRANT$_{BE}$ (GRANT$_{EE}$, GRANT$_{CE}$), POP, INC, URB, SOE, and OPENNESS.

Table 3.5: TSLS Estimates for Provincial-local Decentralization: 1995-2002

Dependent Variable	GOV_{BE}	GOV_{EE}	GOV_{CE}
	Model(4)	Model(5)	Model(6)
Constant	461.9691	-36.20891	83.07641
	(0.385917)	(-0.192083)	(0.069783)
DEC_PL	-878.3655	41.96712	-796.7552
	(-1.338038)	(0.35286)	(-1.253185)
NUMLG	-450.1624***	-3.92247	-449.1406***
	(-3.835571)	(-0.498271)	(-3.903144)
YS$_{BE}$	2187.9***		
	(3.047233)		
YS$_{EE}$		-2127.049	
		(-1.318638)	
YS$_{CE}$			2103.191***
			(2.985666)
GRANT$_{BE}$	-443.4199		
	(-0.860129)		
GRANT$_{EE}$		109.7251*	
		(1.932679)	
GRANT$_{CE}$			-281.2483
			(-0.538481)
POP	-18.01043**	-0.88584	-17.59**
	(-2.335736)	(-1.037048)	(-2.085744)
INC	0.721398***	0.06045**	0.799585***
	(6.671033)	(2.008967)	(6.96933)
URB	11.78942	134.7273**	120.589
	(0.049353)	(2.335374)	(0.530676)
SOE	779.8136*	160.6108	851.9306*
	(1.842577)	(1.274958)	(1.953075)
OPENNESS	-162.5543	84.66226	-148.9203
	(-0.339574)	(0.62327)	(-0.304438)
Period effect	Yes	Yes	Yes
Cross-section effect	Yes	Yes	Yes
Adjusted R-squared	0.94425	0.932065	0.953565
Jarque-Bera	1228.025***	950.4197***	848.4799***
Cross-sections	31	31	31
Observations	201	201	201

Notes: a. t-statistics in parentheses. b. * Statistically significant at 10 per cent level; ** statistically significant at 5 per cent level; *** statistically significant at 1 per cent level. c. White cross-section standard errors & covariance (no d.f. corrected). d. The Jarque-Bera is a test statistic for testing whether the residuals are normally distributed. Significant Jarque-Bera value leads to the rejection of the null hypothesis of a normal distribution e. Instrument list: C, DEC_PL (-1), NUMLG, YS$_{BE}$ (YS$_{EE}$, YS$_{CE}$), GRANT$_{BE}$ (GRANT$_{EE}$, GRANT$_{CE}$), POP, INC, URB, SOE, and OPENNESS.

Appendix

Table 3.6: Sample of Provinces, China

Eastern region	Middle region	Western region
Beijing	Jilin	Guangxi
Tianjin	Heilongjiang	Guizhou
Hebei	Shanxi	Yunnan
Liaoning	Inner Mongolia	Tibet
Shandong	Jiangxi	Shaanxi
Shanghai	Anhui	Gansu
Jiangsu	Henan	Qinghai
Zhejiang	Hubei	Ningxia
Fujian	Hunan	Xinjiang
Guangdong	Chongqing	
Hainan	Sichuan	

Source: National Statistics Bureau, P. R. China. www.stats.gov.cn

4. Local Governments and Firms: An Exit-voice Game[24]

4.1. Introduction

As shown in Chapter 2 and 3, the *de facto* fiscal decentralization has been one of the most significant consequences of fiscal and tax reforms in China. It invites tax competition amongst local governments which bid for firms by offering various tax concessions (Brean 1998; Wong 1997; Zhu and Krug 2007), thereby enabling firms to negotiate with local governments for their tax burden. No attention has yet been paid to the pervasive bargaining game between firms and local governments in China; instead, most literature examines the intergovernmental institutional setting within an authoritarian political system (Montinola *et al.* 1995; Qian and Weingast 1996, 1997). On the other hand, international tax competition literature focuses on the interplay between multinational firms and host-country governments (Bond and Samuelson 1986; Doyle and van Wijnbergen 1994; Janeba 2000, 2002; King *et al.* 1993) and, to the best of our knowledge, has not investigated the Chinese situation. Moreover, this school only models firm's behavior in a passive way by taking "exit" – relocation – as the outside option to threaten a host government in the bargaining game. In fact, firms can proactively opt for "voice" to

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directly influence government's policy decision (Hirschman 1970)[25].

Hence, to fill the gaps, this paper constructs two dynamic game models in which an existing firm employs exit and voice strategies to pursue preferential tax treatment. Furthermore, it's worth stressing that those common voice actions in a democracy (voting, protest, etc.) are at best limited in their extent in China. Instead, the specific Chinese way to express voice is through *guanxi* networks, which play an irreplaceable role in Chinese business practices of long-standing. This point is shared by many academic researchers and business managers (Bian 1997; Boisot and Child 1996; Hendrischke 2007; Peng 2003; Peng and Zhou 2005; Redding 1990; Xin and Pearce 1996; Yang 1994, 2002).

The exit-voice framework has been applied in various fields. Yet, it encounters criticisms, including those that point to an allegedly vague notion of voice, complex exit-voice relations, the scarcity of hard empirical data, and the absence of a rigorous research methodology (Dowding *et al.* 2000). This paper also contributes to Hirschman's exit-voice theory by addressing these problems.

The rest of the chapter is structured as follows. Section 4.2 conceptualizes exit and voice in Chinese context. Section 4.3 and 4.4 present the basic and extended model of the exit-voice game between an existing firm and a local government with corresponding equilibrium outcomes, followed by the section of empirical cases (Section 4.5). The final section draws conclusions.

4.2.　Exit-voice Framework

4.2.1.　Tiebout's Exit and Hirschman's Voice

Tax competition literature (for a review see Wilson 1999) stresses Tiebout's exit (1956), which allows firms to migrate among regions for a lower tax burden and thus induces inter-jurisdictional competition for mobile firms. This especially happens when host-countries compete for multinational firms. Several game models have been developed. Black and Hoyt (1989) use a static model to show that competition for multinational firms improves social welfare by addressing inherent distortions in the provision of public goods and services. Moreover, such competition may lead to government subsidies to firms or public investments in infrastructure (King *et al.* 1993). Doyle and van Wijnbergen's (1994)

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[25] For instance, a joint memorial (*On New Corporate Income Tax Law: Standpoints of Multinationals Investing in China*) was submitted to the State Council, Ministry of Finance, State Administration of Taxation, and Ministry of Commerce by 54 multinational which petitioned Chinese government to extend their tax holiday in the corporate income tax reform in 2005. (See name list in Appendix A).

infinite sequential game model confirms that the sunk cost of irreversible investment in a host-country creates an *ex post* bilateral monopoly situation that enables the host-country to exploit the lock-in effect by gradually increasing tax rates from an initially low level to a constant maximum level over time (tax holiday). In contrast, Bond and Samuelson (1986) demonstrate that such tax concessions are a sign of a host-country's productivity for multinational firms. Janeba (2000) finds a quasi exit option in holding excess production capacity in two countries, which acts as a countervailing threat that compels a host country to commit to offering tax concessions. He also reveals the importance of credibility for a host-country government, together with tax and production cost considerations, in multinational firm's investment patterns (Janeba 2002).

The above models build on exit as an outside option that allows multinational firms to threaten host-country governments. Exiting is, in real life, not so easy to be executed. Rather, it may involve prohibitive costs due to physical asset specificity (Williamson 1985) or human capital specificity (Blankart 2002). It's not surprising that the Tiebout model has received numerous theoretical critiques (see Bewley 1981) and experienced empirical challenges (see Dowding *et al.* 1994). Moreover, the above models neglect the alternative firm may have, namely to actively influence government's decision-making by voice. Such "voting by hand" may be more attractive than the passive way of "voting by feet".

Hirschman (1970, p.30) defines voice as "any attempt at all to change, rather than to escape from, an objectionable state of affairs" and points out that "voice is nothing but a basic portion and function of any political system". However, different political institutional settings determine the variation of means and extent of voice. On a continuum from pure direct democracy, to representative democracy, to non-democracy, the possibility and effectiveness of voice, in a formal institutional sense, declines (Feld 1997). With its authoritarian political regime, China, if not dismissing, at least limits those kinds of voice common in a democracy. Instead, an informal channel for voice is provided through *guanxi* network, a unique cultural, social and informal institutional element deeply embedded in Chinese society.

4.2.2. Exit and Voice in China

The *de facto* fiscal decentralization has led to some degree of local autonomy throughout China (Fan 1998; Zhu and Krug 2007). On the one hand, local governments are forced to raise revenues to finance decentralized mandatory tasks (the provision of local public goods and services etc.); on the other hand, decentralized regulatory and tax powers allow local governments to compete for investments and tax bases by offering local preferential

tax policies. Such inter-jurisdictional tax competition, thus, encourages firms to negotiate for their tax burden. As a result, firms either migrate to the locality where a lower tax rate is imposed or express their voice via a *guanxi* network to negotiate for tax concessions.

Having far-reaching cultural and historical roots in ancient Confucian ethics emphasizing order, hierarchy, family unit and social harmony (Hofstede 1991; Redding 1990), *guanxi* network plays a crucial role in every aspects of daily life and evolves in accordance with the on-going transformation of China (Yang 2002). From a resource-dependent viewpoint (Pfeffer and Salancik 1978), firms obtain needed resources, which cannot be generated internally, via external exchanges in its network with its task environment. Given the unstable environment in China, *guanxi* networking with all levels of governments is particularly vital to firm's survival and success. The significant contribution of *guanxi* to doing business gains not only theoretical support (Nee 1998; Peng 2003), but also empirical confirmation in firm performance (Luo and Chen 1996; Luo 1997; Park and Luo 2001; Peng and Luo 2000), in competitive advantage (Peng and Heath 1996; Tsang 1998; Yeung and Tung 1996), in rural industrialization (Peng 2004), in job-seeking (Bian 1997), and as a substitute for formal institutional support (Xin and Pearce 1996) during the early phase of institutional transition. With the current development of a market economy and the underpinning formal institutions, *guanxi* network may change dramatically and may gradually decline in significance over time (Guthrie 1998; Peng 2003), transform from a strong to a weak-tie (Peng and Zhou 2005), adapt to a new environment (Yang 2002), or eventually reform following a model of network capitalism (Boisot and Child 1996).

Nevertheless, *guanxi* network exists and will remain a feature of the Chinese economy and business environment for the foreseeable future, though varying in form and function in response to varying circumstance. As a social mechanism coordinating individual behavior (Hendrischke 2007), the *guanxi* network is a web of interpersonal connections structured in concentric circles extending from the family at the core, to relatives, friends and acquaintances located on the periphery according to the distance of the relationship (Fei 1992). It "involves the exchange of gifts, favors and banquets; the cultivation of personal relationships and networks of mutual dependence; and the manufacturing of obligation and indebtedness" (Yang 1994, p.6). A commitment to trust and reciprocity holds the *guanxi* network members together. Any deviation from this commitment is sanctioned by losing one's face (*mianzi*), or social and professional reputation. Reciprocity leverages interpersonal exchanges in favor of forming social obligations (*renqing)* among members. Moreover, a long-term relationship prevents opportunism since this requires members to invest substantial time, money and effort to

cultivate, maintain and expand the *guanxi* network. Therefore, with regard to business, its value depends, to a large extent, on: 1) the durability of the relationship in the long-term; 2) the wielding of discretionary power over scarce resources; 3) connectivity to expand the network; and 4) the degree of tightness (Wank, 1996). Not surprisingly, the utilitarian rather than emotional function of the *guanxi* network blurs the line between means and ends can result in confusion between "corruption" on the one hand and the normal functioning of a *guanxi* network on the other. However, as Yang (1994, 2002) points out, *guanxi* network places much more emphasis on *renqing* (long-term social and professional obligations) than on relationships of purely material exchange.

In short, the interaction between firms and local governments in China is characteristic of a bargaining game. Firms are able to employ either exit strategy of relocation or voice strategy via a *guanxi* network to influence local government's policy-making.

4.3. Exit-voice Game: The Basic Model

4.3.1. Structure of the Game

Consider in a locality, a firm generates profits   and a local government agency imposes a tax rate r. At the same time, a local government agency in a neighboring locality (the third passive player) levies a lower tax rate r_L ($r_L < r$), thereby allowing the firm an outside option to relocate its plant for a lower tax burden. The firm also has a voice option to directly influence local government's tax policy via a *guanxi* network. Neither exit nor voice is costless. Relocation of the firm incurs exit costs, C_E ($C_E > 0$), such as costs for establishing a new factory, recruiting and training staffs, and purchasing equipments. Voice action requires a firm to pay considerable rent, C_V ($C_V > 0$), to local government via a *guanxi* network, which could include donations to public projects, investment for local employment, even bribes. Considering the potential for corruption involved in such *guanxi* networking, the local government may only capture part of such rent C_V in which (0   1) is the rent-dissipation coefficient. If the firm accepts the current tax rate r, no extra cost is incurred. On the other hand, the local government has two options: to maintain the tax rate r or reduce it to r_L[26]. The firm seeks to maximize its profits net of tax and incurred

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[26] As the different forms of preferential tax treatments virtually reduce *ex post* effective tax rate to firm, local government's strategy is simplified to reduce or maintain the tax rate in the model. It is further assumed that the costs for collecting taxes are negligible at the local level for simplifying purpose.

exit or voice costs, while the local government seeks to maximize its corporate tax revenue. The game consists of three stages with complete and perfect information. The order of moves of the firm and local government is as follows (Figure 4.1 characterizes the extensive form.):

1. In the first stage, the firm opts for the Exit, Voice or Accept option. Exit means that the firm migrates to a neighboring locality and ends the game with higher after-tax-profits adjusted for exit cost $(1-r_L)$ -C_E to the firm and zero tax revenue to the local government. If choosing the Accept option, the firm stays in the locality and remains subject to the current tax rate r. Consequently, it receives net profits $(1-r)$ and local government obtains tax revenue of r . The Voice option of the firm brings the game into the second stage.

2. In the second stage, if the local government decides to reduce the tax rate r to r_L, the game is ended. The firm obtains higher after-tax-profits minus voice cost $(1-r_L)$ -C_V while the local government gains lower tax revenue plus part of the voice rent $r_L R$+ C_V. The game continues if the local government takes the Maintain option.

3. In the third and last stage, the firm has two options: Accept or Exit. The Accept option yields profits net of the current tax burden and voice cost $(1-r)$ -C_V to the firm and current tax revenue plus part of the voice rent r + C_V to the local government. If choosing the Exit option, the firm receives higher after-tax-profits minus voice and exit costs $(1-r_L)$ -C_V-C_E, while the local government obtains zero tax revenue but part of voice rent C_V.

Firm   Exit $(1-r_L)$ $-C_E$ Payoff to firm

0   Payoff to local government

Accept   Voice

Local government

$(1-r)$

r

Reduce   Maintain

Firm

$(1-r_L)$ $-C_V$

$r_L + C_V$ Accept   Exit

$(1-r)$ $-C_V$

$r + C_V$ $(1-r_L)$ $-C_V$ $-C_E$

C_V
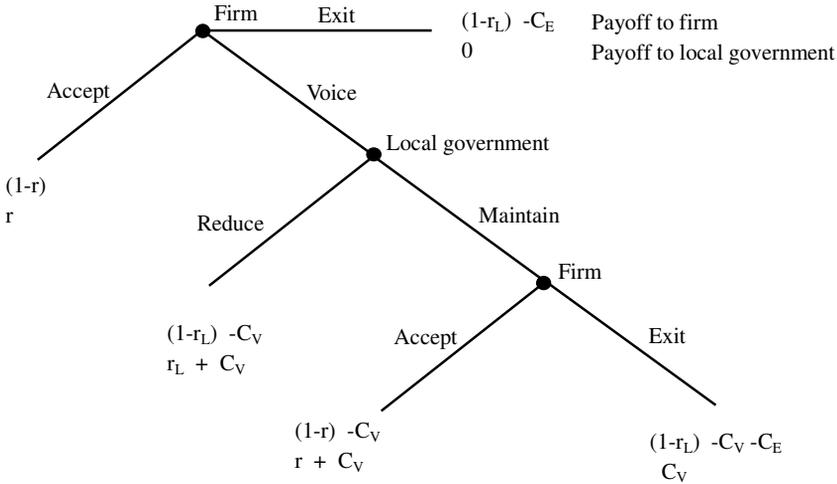
Figure 4.1: The Basic Model in Extensive Form

4.3.2. Subgame Perfect Equilibrium

We use backwards induction to solve this game for subgame perfect equilibrium. Three types of equilibria are derived depending on the relationships between exit cost C_E, voice cost C_V and regional tax differential $(r-r_L)$. Table 4.1 illustrates the three cases.

Table 4.1: Three Cases and Equilibria

Case	Stage 3	Stage 2	Stage 1	Equilibrium
	Firm	Local government	Firm	
1. C_E $(r-r_L)$	Accept	Maintain	Accept	Firm accepts current tax rate.
2. $C_E<(r-r_L)$ and $C_E<C_V$	Exit	Reduce	Exit	Firm exits to neighboring locality.
3. $C_E<(r-r_L)$ and $C_V<C_E$	Exit	Reduce	Voice	Firm voices. Local government reduces tax rate.

Initially, in the third stage, the firm maximizes its payoff between the actions Accept and Exit: $\underset{A,E}{Max}$ {$(1-r)$ $-C_V$, $(1-r_L)$ $-C_V-C_E$}. In Case 1, if C_E $(r-r_L)$

$\Rightarrow$ (1-r) -C_V (1-r_L) -C_V-C_E, then the firm will opt for Accept. Similarly, in Case 2 and 3, if C_E<(r-r_L) $\Rightarrow$ (1-r) -C_V<(1-r_L) -C_V-C_E, then the firm will choose Exit.

Local government's optimal strategy in the second stage depends on the firm's strategy in the final stage. If C_E (r-r_L) (Case 1), the local government anticipates that the firm will resort to Accept and then maximizes its payoff between Reduce and Maintain: $\underset{R,M}{Max}$ {r_L + C_V, r + C_V}. The local government will choose Maintain since r_L + C_V<r + C_V. If C_E<(r-r_L) (Case 2 and 3), i.e. if the firm chooses Exit in the third stage, the local government's maximum payoff becomes $\underset{R,M}{Max}$ {r_L + C_V, C_V}. Obviously, the local government will opt for Reduce because r_L + C_V> C_V.

Finally, in the first stage, if C_E (r-r_L) (Case 1), the firm predicts that government will maintain the present tax rate in the second stage and force it to opt for Accept in the final stage. Using the voice option for firms in the first stage will result in a payoff of (1-r) -C_V. Thus, the firm's maximum payoff between Accept, Voice and Exit is: $\underset{A,V,E}{Max}$ {(1-r) , (1-r) -C_V, (1-r_L) -C_E}. The firm will resort to Accept because C_E (r-r_L) $\Rightarrow$ (1-r) >(1-r) -C_V and (1-r) >(1-r_L) -C_E. On the other hand, if C_E<(r-r_L) (Case 2 and 3), local government's strategy in the second stage will be Reduce and thus the firm's payoff of Voice will be (1-r_L) -C_V. Consequently, the firm maximizes payoff of: $\underset{A,V,E}{Max}$ {(1-r) , (1-r_L) -C_V, (1-r_L) -C_E}. In Case 2, if C_E<(r-r_L) and C_E<C_V $\Rightarrow$ (1-r_L) -C_E>(1-r) and (1-r_L) -C_E >(1-r_L) -C_V, then the firm chooses Exit; in Case 3, if C_E<(r-r_L) and C_V<C_E $\Rightarrow$ (1-r_L) -C_V>(1-r_L) -C_E >(1-r) , then the firm prefers Voice. The above findings are summarized with the following propositions:

Proposition 1: *If the exit cost is higher than the regional tax differential (C_E>(r-r_L)), then the firm will stay and accept the present tax rate.*

Proposition 2: *If the exit cost is lower than the regional tax differential (C_E<(r-r_L)) and voice cost (C_E<C_V), then the firm will move to neighboring locality for preferential tax treatments.*

Proposition 3: *If the exit cost is lower than the regional tax differential (C_E<(r-r_L)) but larger than voice cost (C_E>C_V), then the firm will embark on a voice strategy resulting in the reduction of the tax rate by the local government.*

Proof. Omitted.

4.3.3. Efficiency Analysis

We have derived three equilibria from the basic model depending on the exogenous parameter value of exit cost C_E, voice cost C_V and regional tax differential $(r-r_L)$. To determine which equilibrium outcome is the most efficient, we need to compare the sum of social welfare, i.e. the total payoffs of all players (active and passive) in the basic model. Table 4.2 illustrates the efficiency analysis of equilibrium outcomes.

Table 4.2: Efficiency Analysis of Equilibrium Outcomes of the Basic Model

Player/payoff	Equilibrium 1	Equilibrium 2	Equilibrium 3
Firm	$(1-r)$	$(1-r_L)\ \theta - C_E$	$(1-r_L)\ \theta - C_V$
Local government	r	0	$r_L + \theta C_V$
Local government (in neighboring locality)	0	r_L	0
Total payoffs		$-C_E$	$-(1-\theta)C_V$

Suppose exit and voice are costless, i.e. $C_E=C_V=0$, then all equilibria are equally efficient with equal total payoffs θ. However, when exit and voice costs are positive, i.e. $C_E>0$, $C_V>0$, Equilibrium 1, namely that local government maintains the current tax rate and the firm accepts it, is the first-best as $\theta > -C_E$ and $\theta > -(1-\theta)C_V$. Given that the rent-dissipation coefficient θ ranges from 0 to 1, two extremes may result: $\theta=0$ or $\theta=1$. In the former case, there is severe corruption and all voice rent is dissipated inefficiently. Equilibrium 1 continues to be the first-best while the second-best equilibrium is either Equilibrium 2 (if $C_E<C_V$) or the Equilibrium 3 (if $C_E>C_V$). When $\theta=1$, which means no corruption occurs, the local government captures all voice rent from the firm, thereby yielding total payoffs of θ in Equilibrium 3. As a result, Equilibrium 3 is as efficient as Equilibrium 1, while Equilibrium 2 is the second-best ($\theta > -C_E$). If the value of θ is between 0 and 1, corruption occurs and the local government only receives part of the voice rent θC_V. The second-best efficient equilibrium, thus, depends on the value of C_E and $(1-\theta)C_V$: if $C_E<(1-\theta)C_V$, Equilibrium 2 becomes the second-best, or Equilibrium 3 is the second-best if $C_E>(1-\theta)C_V$.

4.3.4. Comparative Static Analysis

Figure 4.2 illustrates the comparative static analysis of the basic model in which changing the parameter value of exit and voice costs yields different equilibrium outcomes. As shown in the right column, where the exit cost exceeds the regional tax differential, i.e. C_E $(r-r_L)$, Equilibrium 1 is reached and the firm renounces any attempt of voice or exit and accepts the current tax rate in the first stage. It confirms the findings of the conventional analysis of taxation, which claim that immobile firms (high exit costs) are taxed most heavily (Ramsey's Rule, 1927). The left-below box indicates the scenario of a low exit cost ($C_E<(r-r_L)$) and high voice cost (C_V C_E) in which the equilibrium outcome is that the firm directly exits to a neighboring locality for a lower tax burden. This draws attention to Hirschman's view (1970, p. 43) that an exit option that is too easy will "*atrophy the development of the art of voice*". In other words, voice will not happen. Only if voice is cheaper than exit in the left-upper box will firm opt for voice while keeping exit as an outside option. In this case, exit becomes "a reaction of *last resort* after voice has failed" (Hirschman, 1970, p.37). If the local government recognizes a threat, then it may agree to reduce the tax rate. Interestingly, we observe that Chinese firms often use low-cost quasi-exit options by registering headquarters or establishing nominal affiliated enterprises in different localities so as to better leverage their exit option when negotiating with local government agencies.
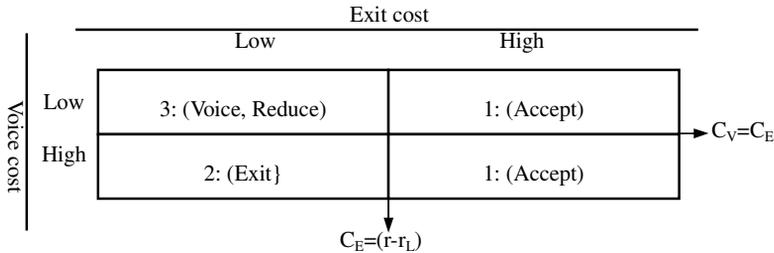
Figure 4.2: Comparative Static Analysis of the Basic Model

4.4. Exit-voice Game: The Extended Model

4.4.1. Structure of the Game

We change the information structure of the game to allow the firm to keep private information about its exit costs. Therefore, the extended model proceeds with complete but imperfect information. The local government no longer knows the exact move of the firm in the first stage but only infers from its likely actions, following Bayes Rule. With regard to such an asymmetric information problem, the game starts with an artificial player (nature) who introduces two types of firms: Type A denotes the firm with a lower exit cost ($C_{EL}<(r-r_L)$) and type B with a higher exit cost ($C_{EH}>(r-r_L)$). p_L ($\in(0,1)$) defines the probability of the firm being Type A and $1-p_L$ for Type B. The assumption here is that only the firm knows its precise type while the local government only knows the probability p_L. Figure 4.3 describes the extensive form of the extended model. As we are most interested in the functioning of the *guanxi* network which offers a low voice cost option at the local level, we limit our analysis to the case $C_V<C_{EL}<(r-r_L)$ $<C_{EH}$, i.e. the voice cost is lower than the exit cost. Other settings follow the basic model.
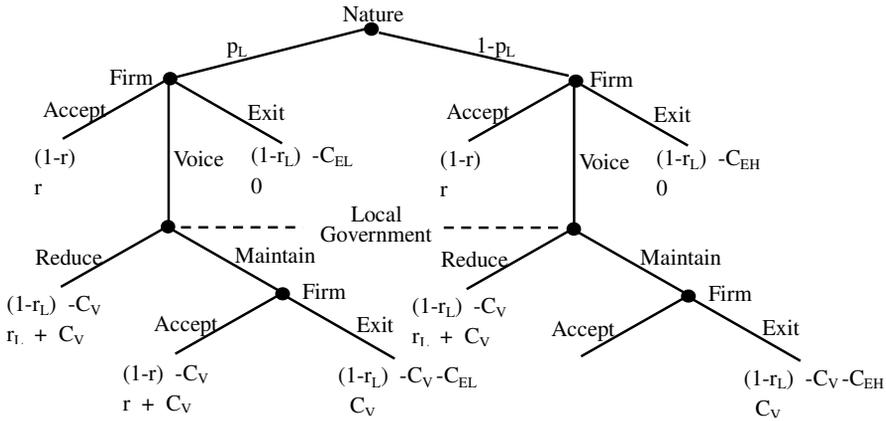
Notes: a. Upper-level payoff to the firm and lower-level payoff to the local government. b. The dash line denotes the information set for the local government.

Figure 4.3: The Extended Model in Extensive Form

4.4.2. Nash Equilibrium

Combining backwards induction and strategic form, we have following Nash equilibra[27]:

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[27] We concentrate on the pure-strategy Nash equilibrium in the chapter but we give the results of

Proposition 4: *Suppose voice cost is lower than exit cost ($C_V<C_{EL}<(r-r_L) <C_{EH}$) and the probability p_L (being the low-exit-cost type firm) is smaller than the value of $(r-r_L)/r$, then we can expect a segregation of different types of firm: low-exit-cost-type firm will migrate while high-exit-cost-type firm will stay and accept the present tax rate.*

Proposition 5: *Suppose voice cost is lower than exit cost ($C_V<C_{EL}<(r-r_L) <C_{EH}$) and the probability p_L (being the low-exit-cost type firm) exceeds the value of $(r-r_L)/r$, two Nash equilibria are yielded:*

    a *A low exit-cost firm will migrate while a high exit-cost firm will stay and accept the present tax rate.*

    b *Both types of firm will embark on voice resulting in a reduction of the tax rate by the local government. This means that the high exit-cost firm bluffs by pretending to be a low exit-cost firm.*

Proof. See Appendix B.

4.4.3. Efficiency Analysis

Similar to the Section 4.3.3, efficiency analysis is used to compare the total payoffs of all players for each equilibrium, which are thus determined by the exogenous parameter value of C_{EL}, C_V, r, r_L, p_L and . Table 4.3 illustrates the total payoffs of each equilibrium outcome. Two different cases of p_L determine the equilibrium outcome, given the assumption $C_V<C_{EL}<(r-r_L) <C_{EH}$. When $p_L<(r-r_L)/r$, the low exit-cost firm chooses exit and the high one accepts the current tax rate resulting in total payoffs to all players $-p_L C_{EL}$. When p_L $(r-r_L)/r$, however, multiple equilibria arise (5a and 5b). Equilibrium 5a is the same as Equilibrium 4 with total payoffs $-p_L C_{EL}$. The other equilibrium (5b) indicates that both types of firm will voice, inducing the local government to reduce the tax rate with total payoffs of $-(1-)C_V$. Therefore, the comparison between Equilibrium 4 and 5b depends on $p_L C_{EL}$ and $(1-)C_V$. When $p_L C_{EL}>(1-)C_V$, then the former equilibrium is more efficient than the latter, or other way around. In fact, Equilibrium 1 is an extreme case of Equilibrium 4 and 5a when $p_L=0$, i.e. the firm is a high exit-cost type with exit cost larger than $(r-r_L)$ while Equilibrium 5b can be simplified into Equilibrium 3 when $p_L=1$, i.e. the firm is a low exit-cost type with an exit cost smaller than $(r-r_L)$.

mixed-strategy Nash equilibrium in Appendix B.

Table 4.3: Efficiency Analysis of Equilibrium Outcomes of the Extended Model

Player/payoff	Equilibrium 4	Equilibrium 5a	Equilibrium 5b
Firm	$p_L[(1-r_L) -C_{EL}]$ $+(1- p_L)(1-r)$	$p_L[(1-r_L) -C_{EL}]$ $+(1- p_L)(1-r)$	$(1-r_L) -C_V$
Local government	$(1-p_L)r$	$(1-p_L)r$	$r_L + C_V$
Local government (in neighboring locality)	$p_L r_L$	$p_L r_L$	0
Total payoffs	$-p_L C_{EL}$	$-p_L C_{EL}$	$-(1-)C_V$

4.4.4.   Comparative Static Analysis

Maintaining the privacy of information regarding exit cost gives firms an advantage in the game and the parameter value of p_L determines the equilibrium outcome (Figure 4.4). One straightforward outcome is that no matter what the value of p_L is, the low exit-cost firm always exits and the high exit-cost firm accepts since the firm knows exactly what its exit cost is and acts rationally according to this (Proposition 4 and 5a). This result (re)confirms Proposition 1 and 2 which claim that a low cost exit option prompts migration without expressing objections, whereas a high exit cost prevents firm from migrating and expressing voice. Consequently, a segregation of different types of firm can be expected. For instance, labor-intensive firms (low exit-cost) will concentrate in low tax localities while capital intensive firms (high exit-cost) will be found in localities with higher tax rates. However, when p_L exceeds a certain level of $(r-r_L)/r$, an interesting equilibrium may arise, namely both types of firms will choose voice with the result that the local government reduces the tax rate (Proposition 5b). The logic behind this finding is as follows. A Type B firm, i.e. one with a high exit-cost, will pretend to be a Type A firm, i.e. one with a low exit-cost (bluffing). Given the high likelihood of dealing with a real low exit-cost firm, the local government will find it safer to compromise than insisting on the current tax rate, making the voice option effective.

Probability of low-exit-cost

	Low	High
Voice cost Low	4: (Exit, Accept)	5a: (Exit, Accept) 5b: (Voice, Voice)/(Reduce)

$$p_L = (r-r_L)/r$$
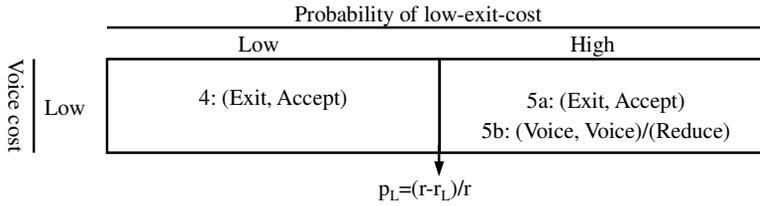
Figure 4.4: Comparative Static Analysis of the Extended Model

4.5. Empirical Cases

This section intends to demonstrate the validity of the findings in Section 4.3 and 4.4 in the context of real life in China. Considering the practical difficulty of collecting data for "real" exit-voice costs, effective tax rate and informal interaction between firm and local government, a case study is our preferred research method to uncover, filter and analyze useful information from the real-life context (Yin 2003). Three empirical cases are selected based on the following considerations: First, a multinational firm (P&G), a joint venture (SZCH), and a domestic private company (WZSL) are chosen in order to give a complete picture of different ownership types of firms; Second, different industries of consuming product, manufacturing, and processing are selected to avoid biased information of similar behavior pattern of firms within the same industry; Third, a practical factor is the access to informants. The case study is based on in-depth interviews, archives, and other publications[28]. In July and August 2005, we interviewed seven managers and entrepreneurs using an open-ended questionnaire and a narrative interview style. The average interview time was more than three hours. We also collected hundreds of pages of archival data including organization charts, corporate brochures, annual reports, newspapers and contracts between the firm and government. Names of firms, localities, and interviewees are disguised to ensure confidentiality.

4.5.1. Exit plus Voice Strategy: Strong Bargaining Position

Procter & Gamble (P&G) entered China by a joint venture – Guangzhou P&G – in 1988. This was followed by a rapid expansion of operations with total thirteen joint ventures and

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[28] For instance, www.pg.com, www.sz-changhong.com, www.sanlian-group.com, and Dyer, D., Dalzell, F. and Olegario, R. 2004. Rising Tide: Lessons from 165 Years of Brand Building at Procter & Gamble. Harvard Business School Press.

wholly owned companies located in five provinces.

Two motivations, i.e. tax avoidance and mobility, drove P&G to rapidly geographically diversify its operation. First, establishing subsidiaries in different regions allows P&G not only to shift income via transfer pricing and exploit tax benefits in different localities, but also to use financial techniques, such as thin capitalization – financing subsidiaries with debts in order to avoid tax obligations. A case in point is that Guangzhou P&G obtained a bank loan of 2 billion RMB in 2002 and then made interest-free loans to its subsidiaries. By doing so, Guangzhou P&G reduced its taxable income by interest deductions on the one hand and avoided taxable interest incomes from other subsidiaries on the other hand. Consequently, a total of 81.5 million RMB corporate income taxes were evaded (CBT 2004). Second, diversified operations in different localities enhance P&G's mobility, thereby increasing its bargaining power in negotiations with government. In 2002, P&G forced the Guangzhou government to give up its shares in Guangzhou P&G by threatening to move to Tianjin. As a result, P&G successfully took over Guangzhou P&G (acquiring 99 per cent of its shares) leaving the Guangzhou government a symbolic 1 per cent share.

In addition to the exit strategy, P&G also commits itself to the voice strategy by cultivating a strong relationship with government at national and especially provincial and local levels. Donations to public projects are an effective means. During the period of 1996-2003, P&G donated total 16 million RMB to a rural education project, 10.7 million RMB to Tsinghua University, 7 million RMB to the Ministry of Education, 1.5 million to the China Wildlife Conservation Fund, 1 million RMB to the World Gymnastics Championships 1999 (Tianjin), and 3 million RMB to the Beijing 2008 Olympic Games. Meeting high-ranking official is another way to ensure good connections with government. The meeting list includes former premiers Zhu Rongji and Li Peng, former vice-premiers Qian Qichen, Wu Xueqian and Tian Jiyun and mayors of Beijing, Shanghai and Guangzhou. Such a strong *guanxi* network with governments at all levels helps P&G express voice for various tax privileges[29].

The P&G case illustrates propositions 2, 3 and 5b. Exit and voice are not mutually exclusive and can be combined to strengthen the bargaining position in the game with government as shown in the case of P&G. In this case, the exit strategy is carried out by establishing subsidiaries in other localities that enhance the mobility and facilitates inter-subsidiary tax avoidance. P&G also employs a voice strategy by *guanxi* networking

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[29] For instance, P&G received a special tax deduction of 86.8 million RMB for 'disposal of asset loss' in 2004. See a circular (Yu Guoshui Han [2004] 333) issued by State Administration of Taxation (Guangdong) on 2 July 2004.

with all levels of government through donations, meetings, and investments. Moreover, it maintains the private information regarding its exit cost and performs bluffing strategy. Consequently, such multiple strategies achieve the purposes of various tax concessions.

4.5.2.   Voice-centered Strategy: Exit as a Backup

Founded in 1997, SZCH specializes in manufacturing precision moulds and is today a leading company in the industry. SZCH has total assets of 130 million RMB and 288 employees. Its key customers include Panasonic, Konica-Minolta, Canon, Epson, Brother, Sony, Samsung, Sharp and Ricoh. In 2002, HKCH was established as headquarters in Hong Kong. Two years later, a joint venture, SHCM was founded with registered capital of 18 million RMB (HKCH 70 per cent and SZCH 30 per cent) in Shanghai.

SZCH has three shareholders: Mr. Li (80 per cent), Mr. Hua (10 per cent) and Mr. Xu (10 per cent), all three are from the same county and know each other for more than ten years. They cultivate an extensive *guanxi* network with local officials in Shenzhen and Shanghai. In particular, Mr. Hua's *guanxi* network with several officials from Shenzhen LG district is essential to SZCH's success. He first met Mr. Jiang, head of the credit department of Bank of China and later was introduced to Jiang's colleague, Mr. Zhang, director of Bank of China. Jiang also introduced his friend Mr. Peng, director of the Economic and Trade Bureau to Mr. Hua. Later, Mr. Peng brought in his friend Mr. Xiong, director of the Science and Technology Bureau, and his friend Mr. Wang, Governor of PS Township.

SZCH benefits tremendously from this *guanxi* network. First, Mr. Xiong qualified SZCH as a Shenzhen New & High-Tech Company in 2003. This brought various preferential treatments, such as an exemption from import equipment tax, an exemption from corporate income tax for the first three year and half liability for corporate income tax for the following six years. Second, Mr. Peng and Mr. Zhang brokered a 50 million RMB interest-reduced bank loan. Third, SZCH purchased 25,000 sq. m. of land from Mr. Wang in PS Township at a low price of 160 RMB per sq. m., which saved the company 8.5 million RBM compared to the estimated market price. At the same time, SZCH was exempted from paying tax on land purchases thanks to the New & High-Tech qualification.

The SZCH case illustrates Proposition 3 in which the firm resorts to voice but keeps exit as a backup. In this case, as a joint venture, the SZCH relies on a network-centric strategy to obtain valuable resources. An extensive *guanxi* network with a few powerful figures who could arbitrarily allocate controlled key resources yields credit, land and tax benefits for the firm. Moreover, a complementary exit strategy is performed

by setting up a joint venture (SHCM) in Shanghai as an outside option in order to mitigate the potential risks associated with the *guanxi* network, including the disruption caused by an official retiring, resigning or being reassigned.

4.5.3.   Bluffing Strategy: Partial Exit

In his hometown AJ Township in P County, Mr. Wang set up WZSL to produce gear units in 1985. Twenty years later, WZSL became a holding company with total assets of 200 million RMB and 500 employees. Its operations have expanded into several sectors including variable speed machinery, real estate, stationary, and utilities (water, in this case).

As former chairman of the Private Entrepreneur Association, Mr. Wang is connected to an extensive and embedded *guanxi* network in P County. WZSL was accredited as a Wenzhou New & Hi-Tech Company in 2000 and therefore enjoyed a three-year-exemption from corporate income tax. It also purchased 34,000 sq. m. land in the industrial park at only 225 RMB per sq. m compared to the estimated market price of 600 RMB per sq. m. However, a political struggle between the county head, Mr. Dai, and the party secretary, Mr. Cao, nearly ruined Mr. Wang's *guanxi* network and business in 2002 since his political friends from both sides abandoned him. The following case of a water-supply co-project between Mr. Wang and the county government illustrate this point. He invested 50 million RMB in this project yet suffered 2 million RMB losses every year as the county government refused to purchase the water at the agreed price of 1.55 RMB per cubic meters. Instead, the county government forced Mr. Wang to accept the low price of 0.6 RMB by threatening him with tax inspections and the withdrawal of preferential tax treatments.

In 2003, the head of Y County, Shangdong Province, thousands of kilometers from P County, tried to attract investment by offering considerable tax concessions, free land (only 7 RMB per sq. m.) and sufficient bank credit. Mr. Wang wanted to move his factory to Y County. He purchased 134,000 sq. m. of land and received a 20 million RMB loan from the Y County branch of Construction Bank. Yet, Mr. Wang underestimated the exit cost since the total shift would stop production for at least half a year, causing a significant loss of 20 million RMB. Political risk in Y County also needed to be reckoned with. In the end, Mr. Wang decided to temporarily move ten per cent of the production capacity to his new factory in Y County in 2004. Knowing Mr. Wang's plans to move to Shandong Province, the P county government responded more positively. Mr. Wang took the chance to rebuild his *guanxi* network. The tension between him and P county officials declined after several official contacts and negotiations. As a result, the P county government

arranged several things for WZSL. First, the provincial subisidy of 20 million RMB, which had been frozen by the P county government for two years, was transferred to the water-supply project. Second, the P county government also negotiated with Industrial & Commercial Bank to write off 29 million RMB of debts from the water-supply project. Third, WZSL had their qualification as Wenzhou New and Hi-tech Company renewed and was thereby granted a new tax holiday for three years.

The WZSL case illustrates Proposition 5b. In this case, the exit option is not easily executed since the sunk cost and exit cost are prohibitive which allows local government to exploit the firm to an extreme extent. However, when firms lower their exit cost by using a partial exit strategy and maintaining the private information pertaining to its exit costs, it gains advantage in the bargaining game that allows the firm to bluff. Confronted by a credible threat, the local government compromises and responds to the firm's voice by offering preferential tax treatments. Thus, the bluffing strategy, supported by a voice strategy, succeeds as long as local government is unaware of the firm's exact exit cost.

4.6. Conclusions

The chapter contributes to Hirschman's exit-voice theory by providing a clear notion of voice, explicit exit-voice relations, solid empirical data, and rigorous research methodology (cf. Dowding *et al.* 2000). Using game models, we deal with the pervasive bargaining game between firms and local governments for preferential tax treatments in local China where firms either follow an exit strategy by establishing subsidiaries in other localities, changing organizational forms, and diversifying investments or follow a voice strategy in a Chinese specific way of cultivating, maintaining and expanding a *guanxi* network with government at all levels. The models indicate that relative exit-voice costs and information structures are critical factors in determining equilibrium outcomes. Moreover, exit and voice are not mutually exclusive, but can be combined to reinforce each other in an *exit-cum-voice game* (Hirschman 1995) instead of an *exit-versus-voice* game (Hirschman 1970). Encouraged by the exit option as a credible threat, the firm is willing to express voice forcing the local government to offer tax concessions. Furthermore, an asymmetric information structure in favor of the firm allows it to bluff even without a feasible exit option. The local government rather believes the threat is 'credible' and then compromises. Empirical cases support the findings of the models by showing that a rational firm follows a mixed strategy of *exit-cum-voice* to enhance mobility and the credibility of its exit threat and to boost the effectiveness of voice.

The policy implication for government is that discriminating tax incentives are

needed to tackle the information asymmetry problem. For those relatively immobile industries with heavy investment, government should fix and restrict taxes levied, while offering a preferential tax menu to those more mobile. Moreover, an information revealing mechanism should be established to help identify the types of exit cost faced by firms. Annual financial audit reports may be a reliable source in that the investment level shows the degree of lock-in, which is sunk cost in a locality and the profit level presents its opportunity cost weighed in the exit-voice calculation. The level of voice investment in networks could also be checked as a parameter.

Appendix A

Table 4.4: Name List of 54 Multinational Firms for Joint-petition

ABB	EXXON MOBILE	NOKIA
ALCATEL	GE	OMRON
ALSTOM	GENERAL MILLS	ORACLE
AMAT	GM	OTIS
AMWAY	HONEYWELL	PANASONIC
BASF	HP	PEPSI
BAYER	IBM	PHILIPS
BP	IKEA	PRAXAIR
DEGUSSA	ITOCHU	SAMSUNG
DELL	KCC	SCHNEIDER
DELPHI	KODAK	SHELL
DHL	KRAFT	SIEMENS
DUPONT	LEXMARK	SOJITZ
E28	METRO	SONY
EFFEM	MICROSOFT	TNT
EMRSN	MOTOROLA	TOSHIBA
EPSON	NCR	UNILEVER
ERICSSON	NESTLE	YUM

Source: China Business Times, 13 January 2005, www.cbt.com.cn

Appendix B

Nash Equilibria of the Extended Model

Following backwards induction to solve this game for Nash equilibria, we start at the third stage in which a firm maximizs its payoff by choosing possible actions. A strategic form is presented to solve for equilibria in stage 1 and 2 due to the asymmetric information problem.

A strategy of the firm in the third stage of the game has to specify two actions, i.e. the responses to local government's Maintain action when the firm is of a low or high exit-cost type. Analogous to Section 4.3.2, the Nash equilibrium strategy in the final stage of the game is:

Table 4.5: Firm's Strategy in Stage 3

Firm	
(A_3, A_3)	when $(1-r)$ $-C_V > (1-r_L)$ $-C_V - C_{EL}$ and $(1-r)$ $-C_V > (1-r_L)$ $-C_V - C_{EH} => (r-r_L)$ $< C_{EL} < C_{EH}$
(E_3, A_3)	when $(1-r)$ $-C_V < (1-r_L)$ $-C_V - C_{EL}$ and $(1-r)$ $-C_V > (1-r_L)$ $-C_V - C_{EH} => C_{EL} < (r-r_L)$ $< C_{EH}$
(E_3, E_3)	when $(1-r)$ $-C_V < (1-r_L)$ $-C_V - C_{EL}$ and $(1-r)$ $-C_V < (1-r_L)$ $-C_V - C_{EH} => C_{EL} < C_{EH} < (r-r_L)$

Note: The subscript 3 denotes the third stage.

Considering twelve possible combinations of C_V, C_{EL}, C_{EH}, and $(r-r_L)$, we assume $C_V < C_{EL} < (r-r_L)$ $< C_{EH}$, i.e. the voice cost is lower than the exit cost and that $(r-rL)$ is the threshold differentiating the high or low exit cost, in order to keep the analysis within operable bounds. Furthermore, this assumption is in accordance with the real world and offers the most interesting economic implications.

If $C_V < C_{EL} < (r-r_L)$ $< C_{EH}$, firm will choose (E_3, A_3) in the final stage. This strategy is incorporated in the strategic form of the first two stages in Table 4.6. The Nash-equilibrium response of the local government is to choose Reduce when the firm chooses either (V_1, A_1) or (V_1, E_1) because $R_2 > M_2$; when the firm selects (A_1, V_1) or (E_1, V_1), the local government will prefer Maintain, because $M_2 > R_2$; while the government will be indifferent facing firm's actions of (A_1, A_1), (A_1, E_1) or (E_1, E_1), because $M_2 = R_2$. If the firm chooses (V_1, V_1), the payoff-maximizing strategy of the local government depends on p_L versus $(r-r_L)/r$. When p_L $(r-r_L)/r$, the local government prefer Reduce while Maintain is chosen when p_L $(r-r_L)/r$.

Table 4.6: Strategic Form of the Firm and Local Government in Stage 1 and 2

Firm	Local government	
	R_2	M_2
(A_1, A_1)	$(\,(1-r)\ ,\ r\ )$	$(\,(1-r)\ ,\ r\ )$
(A_1, V_1)	$(\,p_L(1-r) + (1-p_L)[(1-r_L) -C_V],\ p_Lr +(1-p_L)(r_L + C_V)\,)$	$(\,p_L(1-r) + (1-p_L)[(1-r) -C_V],\ p_Lr + (1-p_L)(r + C_V)\,)$
(A_1, E_1)	$(\,p_L(1-r) +(1-p_L)[(1-r_L) -C_{EH}],\ p_Lr\ )$	$(\,p_L(1-r) +(1-p_L)[(1-r_L) -C_{EH}],\ p_Lr\ )$
(V_1, A_1)	$(\,p_L[(1-r_L) -C_V]+ (1-p_L) (1-r)\ ,\ p_L(r_L + C_V)+(1-p_L)r\ )$	$(\,p_L[(1-r_L) -C_V-C_{EL}]+(1-p_L)(1-r)\ ,\ p_L\ C_V+(1-p_L)r\ )$
(V_1, V_1)	$(\,(1-r_L) -C_V,\ r_L + C_V\ )$	$(\,p_L[(1-r_L) -C_V-C_{EL}]+ (1-p_L) [(1-r) -C_V],\ p_L\ C_V+(1-p_L)(r + C_V)\,)$
(V_1, E_1)	$(\,p_L[(1-r_L) -C_V]+ (1-p_L) ((1-r_L) -C_{EH}),\ p_L(r_L + C_V)\,)$	$(\,p_L[(1-r_L) -C_V-C_{EL}]+ (1-p_L)((1-r_L) -C_{EH}),\ p_L\ C_V\ )$
(E_1, A_1)	$(\,p_L[(1-r_L) -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$	$(\,p_L[(1-r_L) -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$
(E_1, V_1)	$(\,p_L[(1-r_L) -C_{EL}] +(1-p_L)[(1-r_L) -C_V],\ (1-p_L)(r_L + C_V)\,)$	$(\,p_L[(1-r_L) -C_{EL}] +(1-p_L)[(1-r) -C_V],\ (1-p_L)(r + C_V)\,)$
(E_1, E_1)	$(\,p_L[(1-r_L) -C_{EL}]+ (1-p_L)[(1-r_L) -C_{EH}],\ 0\,)$	$(\,p_L[(1-r_L) -C_{EL}]+ (1-p_L)[(1-r_L) -C_{EH}],\ 0\,)$

Note: The subscript 1 and 2 denotes the first and second stage, respectively.

83

Using iterated elimination of strictly dominated strategies for firm, it follows from Table 4.5 that $(A_1, A_1) < (V_1, V_1)$, $(A_1, V_1) < (E_1, V_1)$, $(A_1, E_1) < (V_1, E_1)$, $(V_1, A_1) < (V_1, V_1)$, $(V_1, E_1) < (V_1, A_1)$, $(E_1, A_1) < (E_1, V_1)$, $(E_1, E_1) < (E_1, V_1)$ and $(E_1, V_1) < (V_1, V_1)$ in the left column, i.e. local government chooses Reduce. Similarly, in the right column of local government's Maintain strategy, the firm's payoff is as such: $(A_1, A_1) < (E_1, A_1)$, $(A_1, V_1) < (A_1, A_1)$, $(A_1, E_1) < (E_1, A_1)$, $(V_1, A_1) < (E_1, A_1)$, $(V_1, V_1) < (V_1, A_1)$, $(V_1, E_1) < (V_1, A_1)$, $(E_1, V_1) < (E_1, A_1)$ and $(E_1, E_1) < (E_1, V_1)$. Thus, simplifying Table 4.6 into Table 4.7, we have Nash equilibria dependent on the value of p_L.

Table 4.7: Simplified Strategic Form of Firm and Local Government in Stage 1 and 2

Firm	Local government	
	R_2	M_2
(V_1, V_1)	$(\ (1-r_L)\ -C_V, r_L\ +\ C_V\ )$	$(\ p_L[(1-r_L)\ -C_V-C_{EL}]+ (1-p_L)\ [(1-r)\ -C_V],$ $p_L\ C_V+(1-p_L)(r\ +\ C_V)\ )$
(E_1, A_1)	$(\ p_L[(1-r_L)\ -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$	$(\ p_L[(1-r_L)\ -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$

Note: The subscript 1 and 2 denotes the first and second stage, respectively.

Case 1: $p_L < (r-r_L)/r$

When $p_L < (r-r_L)/r$, local government will prefer M_2 when the firm chooses (V_1, V_1) (Table 4.8). We use a graphical representation to solve for the Nash equilibrium.

Table 4.8: The Nash Equilibria in Stage 1 and 2 ($p_L < (r-r_L)/r$)

Firm	Local government	
	R_2	M_2
(V_1, V_1)	$(\ (1-r_L)\ -C_V, r_L\ +\ C_V\ )$	$(\ p_L[(1-r_L)\ -C_V-C_{EL}]+ (1-p_L)\ [(1-r)\ -C_V],$ $p_L\ C_V+(1-p_L)(r\ +\ C_V)\ )$
(E_1, A_1)	$(\ p_L[(1-r_L)\ -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$	$(\ p_L[(1-r_L)\ -C_{EL}]+ (1-p_L)(1-r)\ ,\ (1-p_L)r\ )$

Note: The subscript 1 and 2 denotes the first and second stage, respectively.

Suppose $(p, 1-p)$ is the mixed strategy in which the firm chooses (V_1, V_1) with probability p ($\in[0,1]$) and (E_1, A_1) with $1-p$ and suppose $(q, 1-q)$ be local government's mixed strategy choosing R_2 with probability q ($\in[0,1]$) and M_2 with $1-q$. If local government plays $(q, 1-q)$, firm's expected payoffs are $P_{F(V,}$

$_{V)}$=q[(1-r$_L$) -C$_V$]+(1-q)[p$_L$((1-r$_L$) -C$_V$-C$_{EL}$)+ (1-p$_L$) ((1-r) -C$_V$)] from choosing (V$_1$, V$_1$) and P$_{F(E,\ A)}$=q[p$_L$((1-r$_L$) -C$_{EL}$)+(1-p$_L$)(1-r)]+(1-q)[p$_L$((1-r$_L$) -C$_{EL}$)+(1-p$_L$)(1-r)] from choosing (E$_1$, A$_1$). Then, the best-response correspondence of firm is:

$$p^*(q)= \begin{cases} 1 \text{ for } P_{F(V,\ V)} > P_{F(E,\ A)} => q>q' \ (q'=C_V/[(1-p_L)(r-r_L) +p_LC_{EL}]); \\ 0 \text{ for } P_{F(V,\ V)} < P_{F(E,\ A)} => q<q'; \\ \in[0,1] \text{ for } P_{F(V,\ V)} = P_{F(E,\ A)} => q=q' \end{cases}$$

Similarly, if the firm plays (p, 1-p), local government's expected payoffs are P$_{G(R)}$=p(r$_L$ + C$_V$)+(1-p)(1-p$_L$)r from choosing R$_2$ and P$_{G(M)}$=p[p$_L$ C$_V$+(1-p$_L$)(r + C$_V$)]+(1-p)(1-p$_L$)r from choosing M$_2$. The best-response correspondence for local government is:

$$q^*(p)= \begin{cases} 0 \text{ for } P_{G(R)} < P_{G(M)} => p>0; \\ \in[0,1] \text{ for } P_{G(R)} = P_{G(M)} => p=0 \end{cases}$$

Thus, in Figure 4.5, the intersection of p*(q) and q*(p) is the horizontal segment: (p=0, q< q'). We have a pure-strategy Nash equilibrium: Firm (E$_1$, A$_1$) when p=0 and q=0 and a continuum of mixed-strategy Nash equilibria: Firm (E$_1$, A$_1$) and Local government (q, 1-q) when q< q'.
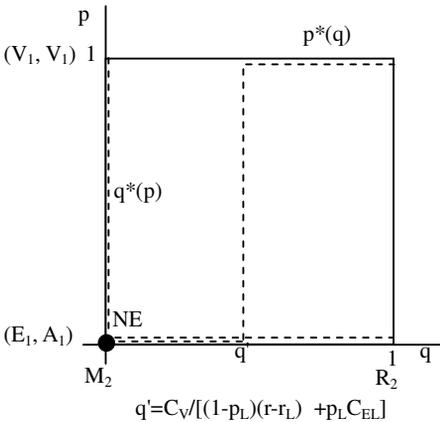
Figure 4.5: Graphical Representation of the Firm and Local Government's Best-response Correspondence (p$_L$<(r-r$_L$)/r)

Case 2: $p_L > (r-r_L)/r$

When $p_L > (r-r_L)/r$, local government will prefer R_2 when firm chooses (V_1, V_1) (Table 4.9).

Table 4.9: The Nash Equilibria in Stage 1 and 2 ($p_L > (r-r_L)/r$)

Firm	Local government	
	R_2	M_2
(V_1, V_1)	$(\ (1-r_L)\ -C_V, r_L\ +\ C_V\ )$ ←	$(\ p_L[(1-r_L)\ -C_V-C_{EL}]+ (1-p_L)\ [(1-r)\ -C_V],$ $p_L\ C_V+(1-p_L)(r\ +\ C_V)\ )$
(E_1, A_1)	$(\ p_L[(1-r_L)\ -C_{EL}]+(1-p_L)(1-r)\ ,\ (1-p_L)r\ )$ ← →	$(\ p_L[(1-r_L)\ -C_{EL}]+(1-p_L)(1-r)\ ,\ (1-p_L)r\ )$

Note: The subscript 1 and 2 denotes the first and second stage, respectively.

Analogous to Figure 4.5, the best-response correspondence of firm $p^*(q)$ in Figure 4.6 is: i) if $q>q'$, $p^*(q)=1$; ii) if $q<q'$, $p^*(q)=0$; iii) if $q=q'$, $p^*(q) \in [0, 1]$. However, for the local government:

$$q^*(p)= \begin{cases} 1 \text{ for } P_{G(R)} > P_{G(M)} => p>0; \\ \in[0,1] \text{ for } P_{G(R)} = P_{G(M)} => p=0 \end{cases}$$

Thus, in Figure 4.6, there are two intersections of $p^*(q)$ and $q^*(p)$: ($p=1$, $q=1$) and ($p=0$, $q<q'$). Therefore, we have two pure-strategy Nash equilibra: i) Firm (E_1, A_1); ii) Firm (V_1, V_1) and Local government R_2 and a continuum of mixed-strategy Nash equilibria: Firm (E_1, A_1) and Local government $(q, 1-q)$ when $q< q'$.
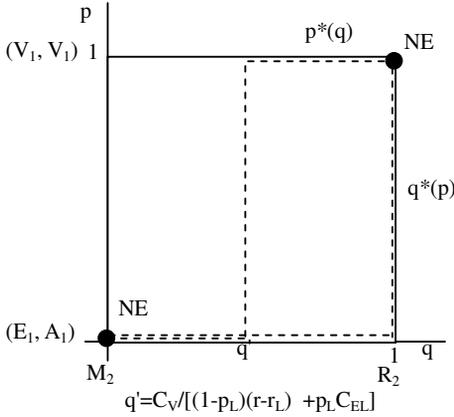
Figure 4.6: Graphical Representation of the Firm and Local Government's Best-response Correspondence ($p_L > (r-r_L)/r$)

Case 3: $p_L = (r-r_L)/r$

When $p_L = (r-r_L)/r$, local government will be indifferent when firm chooses (V_1, V_1) (Table 4.10).

Table 4.10: The Nash Equilibria in Stage 1 and 2 ($p_L = (r-r_L)/r$)

Firm	Local government	
	R_2	M_2
(V_1, V_1)	$(\underline{(1-r_L) \ -C_V, r_L \ + \ C_V})$	$(p_L[(1-r_L) \ -C_V-C_{EL}]+ (1-p_L) \ [(1-r) \ -C_V], \\ p_L \ C_V+(1-p_L)(r \ + \ C_V))$
(E_1, A_1)	$(p_L[(1-r_L) \ -C_{EL}]+(1-p_L)(1-r) \ , (1-p_L)r \ )$	$(\underline{p_L[(1-r_L) \ -C_{EL}]+(1-p_L)(1-r)} \ , (1-p_L)r \ )$

Note: The subscript 1 and 2 denotes the first and second stage, respectively.

Since local government's expected payoffs of R_2 equals to that of M_2 ($P_G(R) = P_G(M)$) if the firm plays $(p, 1-p)$, the local government is indifferent to choose either R_2 or M_2 for any value of p (the whole shadow square in Figure 4.7). Thus, the intersection of $p^*(q)$ and $q^*(p)$ is the value of firm's best-response correspondence $p^*(q)$. We have two pure-strategy Nash equilibria: i) Firm (E_1, A_1); ii) Firm (V_1, V_1) and Government R_2 and a

continuum of mixed-strategy Nash equilibria: i) if q>q', p*(q)=1 and if q<q', p*(q)=0, as indicated by two horizontal segments of p*(q) in Figure 4.7; ii) if q=q', p*(q') is the entire interval [0, 1], as indicated by the vertical segment of p*(q).
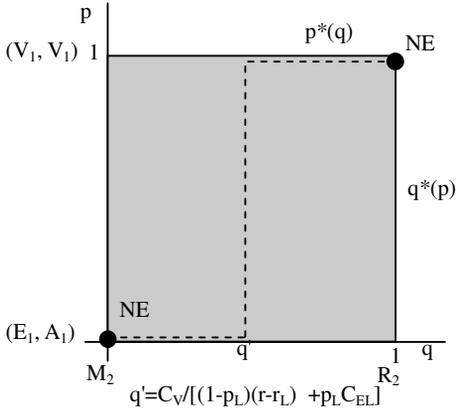
***Figure 4.7: Graphical Representation of the Firm and Local Government's Best-response Correspondence ($p_L=(r-r_L)/r$)***

5. Changing Tax Structure in China: Efficiency, Power and Legitimacy as Constraints[30]

5.1. Introduction

Taxation is at the very core of any state (Schumpeter 1918) as taxation forms the base for any government activity, might that be allocating resources and entitlements, (re-distributing) income or stabilizing business cycles (Musgrave 1959). Moreover, the history of taxation is also inextricably linked to the development of democracy as has been shown by the English and French Revolution (Kiser and Kane 2001) or the beginning of the United States. Yet, when transition economies looked for a blueprint for establishing a market-conforming tax structure, they quickly enough got frustrated (Bird *et al.* 1995).

The empirical studies show that there is not one – ideal type – of a tax structure which fits one political regime, let alone democratic market economies. Instead in international comparisons we observe tax structures which vary in size of revenue and expenditure, or role of taxation (e.g. Cukierman *et al.* 1992; Edwards and Tabellini 1991; Tanzi 1994). The intriguing puzzle is how do they come into being, and why do they vary even within the group of market economies? Existing literature offers competing theoretical models but mostly focuses on developed countries, thereby providing only limited theoretical and operational guidance for transition economies.

Public Finance literature takes institutional environment as a given and examines equity and efficiency in designing a "good" tax system[31]. The Equitable Taxation (ET) stresses equity over efficiency. The ability-to-pay approach concentrates on equivalent taxable capacity and measures this ability by defining the comprehensive tax base in terms of comprehensive income (Simons 1938) – one among many measures examined, including consumption or lifetime income. The sacrifice approach interprets equality as equal sacrifice of individual utility, be it absolute, proportional or marginal, when paying tax (e.g. Edgeworth 1897; Pigou 1951). Thus, progressive taxation is advocated. Acknowledging the necessity of a trade-off between equity and efficiency, Optimal Taxation (OT) seeks an optimal tax structure to maximize a social welfare function subject to constraints. Since Ramsey (1927), a large literature of OT has grown up, including Mirrlees' (1971) work on income taxation and studies on commodity taxation by Diamond and Mirrlees (1971) and Stiglitz and Dasgupta (1971)[32]. In contrast to ET and OT, which both only focus on taxation, Benefit Taxation (BT) links tax payments to public goods and services via the voluntary exchange approach, emphasizing equivalence of marginal-benefit-and-cost. Voluntary consent, pricing equilibrium and decision-making processes (for instance, unanimity), are major concerns of this tradition (Lindahl 1919; Wicksell 1896)[33].

However, Taxation is a product of politics (Holcombe 1998) and any analysis of taxation without reference to politics leads to incomplete understanding. Following Wicksell (1896), the Public Choice literature regards taxation as an exchange of public goods and services in which equilibrium is reached under the collective choice-making process[34]. Thus, different (political) institutional factors (namely, direct or representative democracy and corresponding voting rules) generate diverse tax systems. Given the single dimension voting issue and single-peaked voters' preferences, the Median Voter model (Black 1948) finds that the equilibrium outcome is the peak preference for the median voter, which allows politicians to design a tax structure and expenditure package in favor of median voter's preferences so to maximize their votes (Downs 1957). In the Leviathan model (Brennan and Buchanan 1980), government is a covetous agency, which designs the tax system in order to mobilize maximum revenues. In this case, more powerful constraints should be imposed at the constitutional level, namely, a fiscal constitution (Buchanan and Tullock 1962; Buchanan 1976). Instead of specific institutional features (legislature and committee structures, for instance), the Probabilistic Voting model (Hettich and Winer

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[31] See e.g. Musgrave and Peacock (1967) and Hettich and Winer (1985) for detailed discussion.
[32] See Mirrlees (1976) for detailed discussion.
[33] See Musgrave (1939) for detailed discussion.
[34] See Mueller (2003) and Hettich and Winer (1999) for detailed discussion.

1984, 1999) focuses on political competition in terms of differing tax and expenditure policy platforms. In theory then, rational voters may be expected to evaluate the personal cost to income (including excess burden) caused by taxation against the benefits derived from public goods and services and cast their vote accordingly, thereby encouraging political actors to choose an optimal tax structure by equalizing the marginal political cost of raising additional revenue across tax bands. The Historical Institutionalism approach (Steinmo 1993; Steinmo *et al.* 1992) traces the evolution of specific political institutions in democratic countries and emphasizes their critical influence in forming diverse tax systems by defining the policy preferences of interest groups, politicians and bureaucrats and altering their relative bargaining power over public issues within different institutional contexts. In his comparative analysis of Sweden, the United Kingdom and the United States, Steinmo (1989, 1993) he finds that constitutional differences (different types of governance) fundamentally shape diverse tax policy outcomes.

Despite adding (political) institutional factors into taxation analysis, the Public Choice view is rooted in democratic institutional environment. A competitive electoratal mechanism is essential in determining the equilibrium associated with political and economic trade-offs for government using various tax instruments to raise revenues, since votes are assumed to go to the party or politician that offers the maximum public goods and services with the minimum tax levy. Yet, this cannot be directly applied to those transition economies where democracy is underdeveloped or even nonexistant.

In addition, browsing the literature proves that taxation or more generally the revenue side of government remains an under-researched topic. In striking contrast to government expenditure, which had been at the core of the academic controversy about the appropriate government size in a democratic market economy in the eighties (e.g. Mueller 2003), the problem of linking tax structures, i.e. a major component in state revenues, to political regimes received attention only in connection with developing countries. The few and more recent attempts to explain the surprising international variations in the "tax mix" are based on democratic political regimes only (e.g. Hettich and Winer 1999).

Unsurprisingly a systematic analysis of tax reform in China is missing. The literature sees taxation as part of "Central-Local Relations" (Wong 1991, 1992, 1997; see also contribution in Brean 1998), or offers an amplitude of case studies in which the tax practices of counties, villages or within the state sector are described. We try to bridge the gap between the empirical narratives and models tested in other political contexts. On the conceptual side the challenge is to 1) include non-democratic regimes in the analysis; 2) explain change (tax reform) within one country rather through variations in the tax mix between countries or political regimes; and 3) search for systematic factors behind the

often confusing reforms steps in China between 1978 and today. On the empirical side, a descriptive analysis of taxation needs to provide information about the tax base (who pays taxes and for what), composition of taxes (direct/indirect, "user fees", other revenues sources), and the tax regime (who levies taxes, how are taxes collected).

This chapter shows that despite the apparent trial and error process in China's tax reforms, some systematic factors can be identified which are open for (further) empirical testing. So far the findings suggest that the introduction of the new tax structure follows efficiency considerations, reflects the outcome of interactions between emerging interest groups within the political sector, and confirms the Chinese Communist Party's (CCP) concern with legitimacy. The analysis starts with a descriptive analysis of Reform China's tax structure in the context of a broader understanding of economic, political and social interaction. Identifying the major components is the necessary pre-requisite for constructing the independent variables in the quantitative analysis which will be used for testing the systematic features behind China's tax reforms (Section 5.2). Employing insights from New Institutional Economics, public choice and public finance some approaches will be selected or modified which allow formulating hypotheses (Section 5.3). A simple regression model will be introduced (Section 5.4) which within the limits set by the availability of data shows that indeed China's tax reform follow certain "logic". After a summary of the findings (Section 5.5) we will discuss the limitations of the empirical tests and draws some conclusions (Section 5.6).

5.2. Toward Non-socialist Taxation[35]

The lack of a systematic analysis of the changes in taxation and tax administration in China is in striking contrast to the quickly rising significance of tax revenue as a means to implement government policy whether for investment or re-distributive purposes. Several reasons account for this gap in the literature. First, taxation is most frequently seen as part of central-local relations, a literature where the different administrative layers below the provincial level remain unspecified (Brean 1998; Wong 1991, 1992, 1997). Second, the co-existence of national and local tax structures where two systems work according to different rules offers a confusing picture (Zhu and Krug 2007). Third, the different reform steps indicate a trial-and-error process leaving doubts whether there is a rationale behind all that change.

Broadly speaking, there are two major tax structures after the reform in 1978, i.e.

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[35] Overviews can be found in Brean 1998, Wong 1997; Wong *et al*. 1995.

the 1978-1994 and post-1994 (Table 5.1). Before the reform tax structure followed the socialist notion of an "owner-state" (Campbell 1996) whose dominant revenue source were "profit" of state-owned enterprises (SOEs). Thus for example, if one takes 1972 as a typical year for the socialist era, profit remittance added up to around 60 per cent of total revenue. The rest were industrial and commercial tax, customs duties, and an agricultural tax. This picture quickly changed in Reform China. Being out-performed by non-state enterprises the SOEs, instead of contributing revenue, needed to be subsidized (11 per cent of total government revenue in 1992 alone, see Figure 5.1, Panel A). The SOE-induced drain on overall revenue has been one but not the only reason for the emergence of a broader tax base as the following considerations show.

The tax system is "the product of political conflict and choice but which at the same time constrain and shape political strategies and behaviors" (Steinmo *et al.* 1992, p. 28). To understand why and how the new tax structure evolved asks for "endogenizing" political factors, such as the CCP which designs the rule of the game that ensure its dominance as a player, the interaction between different levels of government/administration and the way political issues are solved. The changes in taxation can be shown in a route map (Figure 5.2) documenting the different programs, or more precisely their rhetoric. The reform started with *Socialism with Chinese Characteristics* (1982), to be followed by a *Planned Commodity Economy* (1984), *Socialist Market Economy* (1992), *Improvement of Socialist Market Economy* (2002), and today's *Construction of a Harmonious Socialist Society* (2006) bearing witness that the CCP while acknowledging the increasing social tension between various interest groups and classes, and responding to the successful development of neighboring countries attempts to (partly) save the notion of the "owner state". And yet, the reforms dramatically changed the socioeconomic and political context none the least by mobilizing new economic actors and acknowledging (and empowering) various interest groups (Goodman 1996). As a consequence taxation became a political issue in the interaction between the CCP, government agencies and increasingly more relevant interest groups such as firms and the business community.
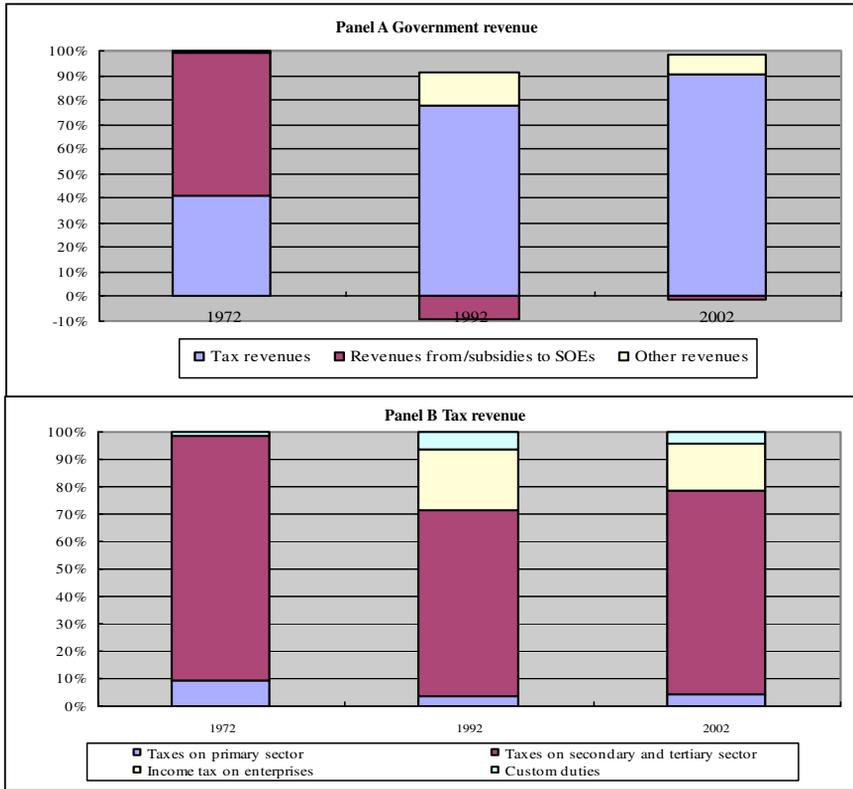
Figure 5.1: Breakdown of Government Revenue and Tax Revenue: 1972, 1992 and 2002

Table 5.1: China's Tax Structure

	1978-1994	post-1994
Turnover Taxes	Value-added tax	Value-added tax
	Product tax	Consumption tax
	Business tax	Business tax
	Consolidated industrial and commercial tax	Customs duties
	Particular adjustment tax	
	Customs duties	
	Special consumption tax	
Income Taxes	Income tax on state-owned enterprises	Enterprise income tax
	Income tax on collective enterprises	Income tax on FIEs and FEs[a]
	Income tax on individual unit of industry and commerce	Individual income tax
	Income tax on foreign enterprises	Agricultural tax
	Income tax on Chinese-foreign Equity Joint Ventures	Tax on special agricultural produce
	Income tax on foreign business enterprises	Animal husbandry tax
	Income tax on private enterprises	
	Individual income tax	
	Adjustment tax on individual income	
	Tax on bonus of state-owned enterprises	
	Adjustment tax on wage of state-owned enterprises	
	Tax on bonus of collective enterprises	
	Tax on bonus of non-profit enterprises	
	Agricultural tax	
	Tax on special agricultural produce	
	Animal husbandry tax	
Resource Taxes	Resource tax	Resource tax
	Urban and township land usage tax	Urban and township land usage tax
	Occupied farmland tax	Occupied farmland tax
	Special tax on burning oil	
	Salt tax	
Property and	Real estate tax	Real estate tax

	1978-1994	post-1994
Behavior Taxes	Urban maintenance and construction tax	Urban real estate tax
	Vehicle and vessel usage license tax	Land appreciation tax
	Vessel tonnage tax	Urban maintenance and construction tax
	Stamp tax	Stamp tax
	Deed tax	Deed tax
	Slaughter tax	Vehicle acquisition tax
	Banquet tax	Vehicle and vessel usage license tax
	Livestock transaction tax	Vehicle and vessel usage tax
	Bazaar transaction tax	Vessel tonnage tax
	Orientation adjustment tax on investment in fixed asset	Slaughter tax
		Banquet tax
		Orientation adjustment tax on investment in fixed asset

Notes: Enterprises with foreign investment (FIEs) include Chinese-foreign equity joint ventures, Chinese-foreign contractual joint ventures and wholly foreign-owned enterprises established in China; Foreign enterprises (FEs) include foreign companies, enterprises and other economic organizations that are not Chinese legal entities, but have establishment or places in China and are engaged in production or business operations.

*Source:* State Administration of Taxation, P. R. China. www.chinatax.gov.cn
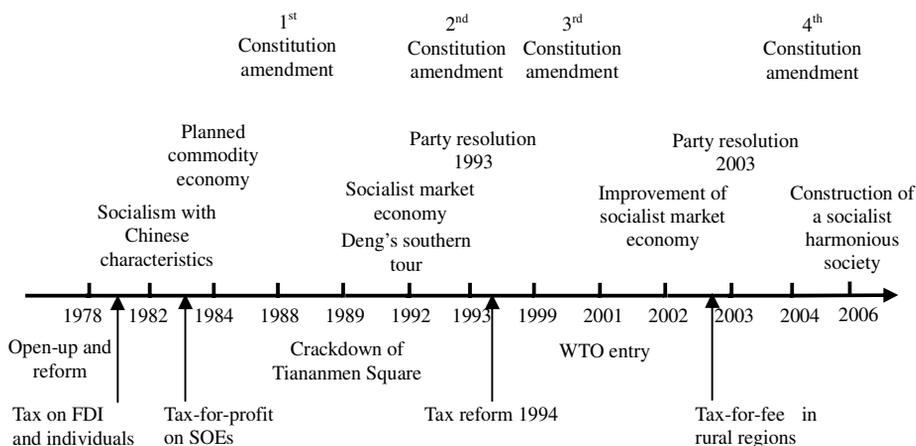
Figure 5.2: Major Institutional Changes and Tax Reforms in China: 1978-2006

5.2.1.   Discovering a New Tax Base: 1978-1991

As the Great Leap Forward (1958-61), and the Culture Revolution (1966-76) had nearly ruined the legitimacy of the CCP, the Third Plenum of the Eleventh CCP Central Committee in December 1978 tried to a rescue the Party leadership by changing economic policy (Krug 1984)[36]. Such a "pragmatist" course met broad approval within the Party and led to numerous Party resolutions, government reports and finally a new Constitution[37]. Under such economic rationale, various reforms in taxation and public finance were undertaken. First, decentralization of economic decision making in rural areas introduced the household responsibility system, relaxation of price control of agricultural products, and reduction of taxation (Lin 1987; McMillan *et al.* 1989)[38]. Second, SOEs were turned into economic actors responsible for profit and loss while becoming a subject for taxation. Based on experiments in Hubei (1979), the tax-for-profit reform (1983-84) granted managerial autonomy to the SOEs who in return for accepting part of the entrepreneurial risk could keep part of (after tax) profit. Which degree of autonomy, i.e. the right to decide over the allocation of working capital, investment, wages, and bonus without state intervention was granted, depended however on enterprises' size, sector if not ad hoc situations[39]. Simultaneously, new taxes were levied on SOEs, such as income tax on SOEs in 1983, product tax, value-added tax (VAT), business tax and salt tax in 1984 (Table 1). Third, attracting new tax payers and thereby broadening the tax base. The opening up policy and the subsequent increasing foreign investments enabled the government to levy income tax on foreign enterprises, joint ventures and individuals (foreign employees)[40]. On

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[36] Hu Qiaomu made it clear: "Why should the masses want the Communist Party if the Communist Party is unable to serve the interest of the great majority? Why should they support the Communist Party?" in *Renmin Ribao* (People's Daily) 6 October 1978.

[37] Deng Xiaoping's address of "Socialism with Chinese Characteristics" at the Twelfth National Party Congress (NPC) (Beijing, 1 September 1982); Zhonggong zhongyang guanyu jingji tizhi gaige de jueding (Resolution of the CCP Central Committee on economic system reform), (the Third Plenum of the Twelfth CCP Central Committee, Beijing, 20 October 1984); Zhao Ziyang's government report at the Third session of the Sixth NPC (Beijing, 27 March 1985); New Article 11 of the Constitution, approved by the First Session of the Seventh NPC (Beijing, 12 April 1988).

[38] Guanyu jianqing nongcun shuishou fudan wenti de baogao (Report regarding alleviation of rural tax burden), (the State Council and Ministry of Finance (MOF), 2 December 1978).

[39] Caizhengbu guanyu guoying qiye li gai shui shixing banfa (Provisional measure of MOF regarding the tax-for-profit reform on SOEs), (24 April 1983); Caizhengbu guanyu guoying qiye dierbu li gai shui shixing banfa (Provisional measure of MOF regarding the second step of tax-for-profit reform on SOEs), (18 September 1984).

[40] The Income Tax Law on Chinese-foreign Equity Joint Venture, promulgated by the Third Session of the Fifth NPC on 10 September 1980, and annulled on 1 July 1991; The Income Tax Law on Foreign Enterprises, promulgated by the Fourth Session of the Fifth NPC on 13 December 1981, and annulled on 1 July 1991; The Individual Income Tax Law, promulgated by the Third Session of the

the other hand tax concessions were "discovered" as a useful tool for attracting foreign investments, such as tax holidays and special economic zones (SEZs). The latter started in Guangdong (Shenzhen, Zhuhai and Shantou) in 1980[41] and quickly copied by other province[42] became almost synonymous with discriminating tax policy. Fourth, private entrepreneurship was encouraged as this offered an additional tax base, yet remained at first under state supervision[43].

The introduction of new taxes for a broader tax base asked for accompanying changes in tax administration. The central government delegated regulatory and fiscal authority to provincial governments employing contracts which stipulated a fixed sum or a percentage of revenue to be transferred to the national coffer (Bahl 1998; Oksenberg and Tong 1991; Wong 1991, 1992)[44]. This arrangement became to be known as Fiscal Federalism (Montinola *et al.* 1995; Qian and Weingast 1996) as it increased local autonomy when provincial governments used the same mechanism with lower (local) government agencies. Based on several experiments such as the Jiangsu model of "fixed overall revenue sharing rate", the Sichuan model of "dividing central, local and central-local sharing revenue", or the Guangdong and Fujian model of "fixed lump sum transfer", this "fiscal contracting system" shows intriguing similarities to the "tax farming system" widely used in 16th/17th century England and France.

The findings of economic history point to efficiency considerations, i.e. low tax collecting or transaction costs (e.g. Donald and O'Brien 2002; Kiser 1994; Kiser and Kane 2001; White 1995, 2004). It is worth mentioning that the analysis also proves that tax farming disappeared in Europe when functioning capital markets offered an attractive re-financing alternative to the government/ruler, to the effect that tax farming lost its comparative advantage. Yet, the Chinese rationale for opting for tax farming went beyond

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Fifth NPC on 10 September 1980, revised on 31 October 1993 and 30 August 1999.

[41] Guangdong sheng jingji tequ tiaoli (Provisions of special economic zone in Guangdong province), (Approved by the fifteenth meeting of the Fifth NPC Standing Committee, 26 August 1980).

[42] From 1984-1988, 14 Economic and Technological Development Zones (ETDZs), Dalian, Qinhuangdao, Tianjin, Yantai, Qingdao, Lianyungang, Nantong, Minhang, Hongqiao, Caohejing, Ningbo, Fuzhou, Guangzhou, Zhanjiang had been approved by the State Council.

[43] "The State permits the private sector of the economy to exist and develop within the limits prescribed by law…The State protects the lawful rights and interests of the private sector of the economy, and exercises guidance, supervision and control over the private sector of the economy." Article 11 of the Constitution 1988.

[44] Guowuyuan guanyu shixing "huafen shouzhi, fenji baogan" caizheng guanli tizhi de tongzhi (Circular of the State Council regarding implementation of fiscal administrative system of dividing revenue and expenditure along each level government with contract), (1 February 1980); Guowuyuan guanyu shixing "huafen shuizhong, heding shouzhi, fenji baogan" caizheng guanli tizhi de tongzhi (Circular of the State Council regarding implementation of fiscal administrative system of dividing taxes, defining revenue and expenditure, and contracting with government layer), (21 March 1985)

efficiency considerations. The positive incentives in these contracts which allowed the tax collecting unit to keep marginal tax revenue mobilized local governments and ensured compliance with the reform course (Nee and Peng 1994; Bahl 1998; Zhu and Krug 2007).

As a result, tax policy stimulated economic growth and facilitated economic transformation. Taxes replaced the socialist remittance scheme. Thus for example, corporate income taxes unknown in socialist China rose to 28 per cent in 1992 (of total revenue); revenue from custom duties rose from 2 per cent in 1972 to 8 per cent in 1992. While taxes on the primary (mostly agricultural) sector dropped from 9 per cent in 1972 to 5 per cent in 1992, indirect taxes, such as VAT, business and consumption tax, contributed about 75-90 per cent of total revenue in the same period. What had been underestimated however, were the distributional effects of the tax administration reforms which worked to the detriment of the central budget (Figure 5.1, Panel B)

5.2.2. Re-defining the Boundaries of the State: 1992-2000

One of the unintended effects of the initial tax reform were the drastically shrinking share of (consolidated) revenue to GDP which fell from 35 per cent (1978) to 20 per cent (1990) and 13 per cent in 1993 (Wong 1998, 190). In order to maintain (state) planned levels of expenditure monetary control weakened (Howe *et al*. 2003). The official figures of government revenue offer an incomplete picture only as they do not include the so-called Off- and Extrabudgetary Revenue (EBR) which levied by local government agencies turned the balance between central government and local government agencies to the latter's advantage. While the consolidated revenue (budgetary plus EBRs) declined from 45 per cent (1978) to around 30 per cent (1993) the total local share of the consolidate budget was as high as 74 per cent in 1993 (Wong 1998, 200). As a remnant from the socialist past EBRs include local government income from "ownership" of industrial assets in form of (shares of) township and village enterprises (TVEs), and public infrastructure, such as electricity, water, roads, or airports. They further include income from land management, when local governments claim ownership, a source of revenue which since the early 2000s should become a major cause for social unrest[45]. Despite names such as users' fees or surtaxes the EBRs are a tax which any analysis of the Chinese tax structure needs to include in the analysis. Subsequently, the Budget Law of 1994 incorporated EBRs into the consolidated budget[46].

From the point of view of the central government the new autonomy of local

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[45] A detailed description can be found in Wong 1998.
[46] Promulgated by the Second Session of the Eighth NPC on 22 March 1994.

government agencies, SOEs and TVEs with respect to investment, loans and wage decisions revealed the weakness of the hard budget constraints the state administration can establish for controlling local expenditure (Kornai 1986). The so-called dual-track price system invited arbitrage dealings for those bureaucrats, Party official or their relatives who could move in both – the lower priced state sector and the higher priced market sector (Lau *et al*. 2000). Corruption became ubiquitous fuelling the demands of the Democracy Protest in Tiananmen in 1989. Inflation and political chaos resulted in a Reform-stop and a subsequent recession caused mainly by anti-inflationary monetary policy. Deng Xiaoping's Southern Tour in 1992 and the Fourteenth Party Congress responded by stipulating further reforms - the so-called *Socialist Market Economy*- indicating the winning of pro-market reformists over conservatives[47]. The general economic policy aimed at liberalization: From the mid-1990s, small and medium-sized SOEs were privatized, price control was ended, and various industries were opened for foreign and domestic private investors.

In contrast to the liberalization in the non-state sector, the tax reform of 1994 aimed at re-gaining political (central) control over the financial (monetary and fiscal) system. The reform aimed at simplifying taxation by reducing the number of taxes levied, establishing clear rules for the division of total tax revenue between the centre and local administrative units, harnessed by the establishment of a professional, "neutral" tax bureaucracy, and curtailing local extra-budgetary revenues (EBRs) (overview in Bahl 1998).

First, the VAT so far applicable to only 12 categories of products was established as the dominant indirect sales tax with rates of 17 and 13 percent replacing the product tax. The business tax with rates between 2 and 20 per cent became the VAT equivalent in the service industry. The direct income tax drastically reduced the top income tax rate from 55 to 33 per cent simultaneously ending different tax rates for firms with different ownership. A consumption tax was maintained for those goods whose consumption the government wants to discourage, such as cigarettes, liquor, patrol or cars.

A "tax sharing system" in which taxes were defined as central, local or shared tax whose revenue was divided accordingly replaced the "fiscal contracting system". Under the new system, tax legislation was centralized, i.e. local governments were deprived of

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[47] See Jiang Zemin's report on the Fourteenth Party Congress, 12 October 1992 and other documents, such as Zhonggong zhongyang guanyu jianli shehui zhiyi zhichang jingji tizhi ruogan wenti de jueding (Resolution of the CCP central committee on issues regarding the establishment of a socialist market economic system), (14 November 1993), Zhonggong zhongyang guanyu zhiding guoming jingji he shehui fazhan "jiuwu" jihua he 2010 nian yuanjing mubiao de jianyi (Suggestion of the CCP Central Committee regarding establishing the ninth five-year plan of economic and social development and 2010 vision), (28 September 1995), the second amendment to the Constitution approved by the Eighth NPC on 29 March 1993, and the third amendment approved by the Second Session of the Ninth NPC on 15 March 1999.

tax legislative power but remained the collecting agency of those taxes which the national legislation (National People's Congress, State Council, Ministry of Finance or the State Administration of Taxation (SAT)) had defined as "local".[48] Subsequently, to ensure the collection of central tax revenue and enforcement of central tax legislation, the tax bureau was split into two separate administrative organs with distinct lines of hierarchy. The national tax bureaus (*guoshuiju*, NTBs) subordinate to the SAT became responsible for collecting and monitoring central and shared taxes while local tax bureaus (*dishuiju*, LTBs) subject to dual leadership of the SAT and local governments administered local taxes. Yet, as the SAT gives only operational guidance (*yewu zhidao*) to provincial LTBs and comments on personnel issues to the provincial government, the LTBs are de facto a local government institution.

The argument that the rationale behind the changes in taxation and tax administration are efficiency considerations cannot easily dismissed. The streamlining of sales and direct taxes reduce monitoring and collection costs. The establishment of a national tax administration reflect a gradual top-town hierarchical bureaucratization where monitoring fewer higher-level officials is easier than monitoring the more numerous and more distant lower-level officials (Kiser and Tong 1992). On the other side, the reforms also reflect a compromise between the central government and "powerful" local government agencies with entrenched interests in revenue resources (Nee and Peng 1994; Tsang and Cheng 1994; Wong 2000). The latter effectively hindered the central government to build up a central tax administration, let alone giving up the national and local tax structure. Finally, the question of legitimacy re-appeared when local governments increasing turning "entrepreneurial" but allocating locally controlled land and industrial assets to best used or using (monopolistic) pricing as an additional revenue source. In this case the legitimacy referred to the notion of the "owner state" which would link the then new competitive non-state sector with the socialist past. Yet, at the same time increasing protest, if not violence, revealed the lack of legitimacy of these revenue sources.

5.2.3. Taxation as a Means for Re-distribution: Since 2000

In the context of China's entry into the World Trade Organization the Sixteenth Party Congress acknowledged a Socialist Market Economy by making the protection of private property rights a constitutional right in 2004[49].

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[48] The SAT was separated from the Ministry of Finance in 1988, given full ministerial status under the State Council in 1993, and put in charge of all tax policy.
[49] See the revised Article 13 in the fourth amendment to the Constitution, 14 March 2004.

Another aspect the Party wanted (and needed) to address was the widening inequality in income distribution across regions (costal and inland), groups (urban and rural), and classes (rich and poor), as shown by a rapid rise of Gini coefficient from 0.3 in 1980s to 0.45 in 2002 exceeding the international threshold which asked for remedies of 0.4 (UNDP 2005). Only poorly reflected in the national statistics are the rapidly increasing (and widely varying) costs for medical treatment, schools and housing which further contribute to the increasing differences in life chances and life income. The illegal confiscating of land by Party or government officials, the deterioration of the environment and corruption further fuelled social unrests[50]. A 2003 Party resolution stressed the necessity to address the problem of income inequality and more effective control of tax evasion, if not corruption[51]. The present government's appeal to build a Harmonious Socialist Society is an attempt to appease mounting social conflicts stemming from uneven distribution of the Reform gains[52]. Tax policy plays a major part in this attempt.

First, the tax-for-fee reform sought to relieve rural tax burden and enhance peasants' income (Yep 2004) by abolishing the (local) EBR-fees. Experiments with this policy started in 2000 (Anhui) in form of the *santi* and *wutong-policy* [53] but became not national policy till 2003[54]. As a further means to lift the overall tax burden, agriculture taxes were abolished in 2006. Second, the income tax was modified. The threshold for taxable income was raised from 800 RMB to 1,500 RMB in 2005[55]. Indirect taxes on inheritance and property acknowledge and tax the increasing wealth of households. Stricter regulations forced (self-employed) individual to file tax declarations. Charges against several celebrities for tax fraught and more frequent investigations of corruption underline the seriousness of the claim to fight "illegal" and thus non-taxable income[56]. Third,

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[50] Official records report 58,000 cases of "public order disturbance" in 2003, 74,000 cases in 2004, and 87,000 cases in 2005 (Lum 2006).

[51] Zhonggong zhongyang guanyu wanshan shehui zhuyi shichang jingji tizhi ruogan wenti de jueding (Resolution on issues Regarding the Improvement of a Socialist Market Economic System), 14 October 2003.

[52] Zhonggong zhongyang guanyu goujian shehui zhuyi hexie shehui ruogan zhongda wenti de jueding (Resolution on major issues Regarding the Building of a Harmonious Socialist Society), 11 October 2006.

[53] *Santi* refers to three village fees: 1) accumulation fund (*gongjijin*) for collective investment such as irrigation construction, collective enterprises, etc., 2) collective welfare fund (*gongyijin*) for old and poor families, 3) administrative fees (*guanlifei*) to cover salary of village cadres and running overhead expenses; *Wutong* refers to five township fees for expenditure on rural education, birth control, welfare for veterans, militia training and transportation.

[54] Guowuyuan guanyu quanmian tuijin nongxun shuifei gaige shidian gongzuo de yijian (Circular of the State Council on guidance concerning well-round furthering rural tax-for-fee pilot reform), 27 March 2003.

[55] Amendment to Article 6 and 8 in the Individual Income Tax Law on 22 October 2005.

[56] Violating tax collection and dereliction of duty of tax official became a criminal offence after

considerable tax incentives were announced in 2000 to encourage investment in underdeveloped western inland regions in line with the propagated regionally balanced development strategy[57].

In sum, the description of the tax reforms since 1978 shows an attempt to cope with the quick economic development and the search for market-conforming taxation. The reforms started with "creating" a group of tax payers, establishing the tax base for direct and indirect taxes, while insisting on extra-budgetary revenues as additional source for local governments. While the tax structure established direct and indirect taxes plus EBRs as main source for government revenue the differing weight attached to the different sources asks for an explanation. The history of the tax reforms shows that different purposes influenced the choice of tax base and tax rates. Some taxes were chosen mainly for generating (enough) revenue for the different layers of governments, some were chosen in order to mitigate the distributional consequences of economic development and some were chosen for educational purposes when certain behavior (consumption) was to be discouraged. Subsequently, the reforms delineated a different "mix" of taxable items and tax rates. The descriptive part already suggests changes in the mix are not at random. Following historical institutionalism (Hall 1986; Steinmo 1993) that sees actors' behaviors (rational, imitative, habitual, or otherwise) following certain goals, preferences, and rules endogenously shaped by the institutional context, we derive context-specific factors from historical and contextual information of changes of China's tax system. Three factors seem to have played a role: First, efficiency considerations, when it was complained that taxation is too complicated, tax compliance hard to monitor and tax collection hard to enforce; Second, power, when specific groups of economic actors, such as local government agencies can influence national legislation, or when groups of tax payers can influence tax reform implementation to their often conflicting advantages; Third, legitimacy when specific groups judging the overall tax burden, specific taxes, or tax enforcement as "unfair" if not corrupt react by withholding information about the "real" income, evade taxes or embark on open protest.

5.3. Conceptual Background: Tax Structure as the Outcome of Institutional Changes

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1997, see amendment to Chapter 3 (new article 121), and Chapter 9 in Criminal Law on 14 March 1997.

[57] Guowuyuan guanyu shishi xibu dakaifa ruogan zhengce cuoshi de tongzhi (Circular of the State Council concerning several policies on carrying out the development of China's vast western regions), (26 October 2000).

5.3.1. Tax Structure as an Institution

Tax structure is an economic, political and social product. More precisely, it is a part of overall institutional setting of the state. "Taxes not only helped to create the state. They helped to form it. (Schumpeter 1918, p.108)" According to North's (1990, 1991, 1994) definition of institutions[58], the tax structure refers to formal rules (tax codes, legislations) and informal constraints (negotiated taxes and tax compliance). As suggested by the summary of the development of the tax system in previous section three dimensions efficiency, power and legitimacy seem to have played a role.

5.3.2. Efficiency

Starting with the Leviathan-hypothesis both New Institutional Economics and Public Choice assume that governments/rulers attempt to maximize revenues within the limits of political parties, ruling families or, in the modern version, army units competing for the top executive positions (Brennan and Buchanan 1980; Buchanan and Tullock 1962, see also the historical institutionalism (Hall 1986; Steinmo 1993)). In contrast, public choice approaches open the "black box" of the state, i.e. a single central focus of authority whether manifests in a constitution or a centralized political regime. Disaggregating the state into an executive and administrative branch (see the seminal work by Niskanen 1971) or by introducing different layers of "federal" government (Buchanan and Tullock 1962; see overview in Mueller 2003) helps to understand how government agencies behave. Supported by empirical studies the models show that governments and bureaucracies attempt to maximize "discretionary expenditure power" rather than total budgets. With respect to tax revenue this means that local branches of tax administration try to maximize the difference between the sum of tax revenue and (collected) tax transfer minus obligations for subsidies (Mirrlees 1971, 1976). This turns the problem of optimal taxation into a principal-agent relationship problem where the question is how the government monitors and controls a tax bureaucracy.

It was further shown that political competition (for votes) is one, but not the only factor "taming the Leviathan". Next to international (tax) competition (Bond and Samuelson 1986; Doyle and van Wijnbergen 1994; Janeba 2000, 2002; King, McAfee, and Welling 1993), voting by feet (Tiebout 1956), decentralization and transaction costs play a role. In the decentralized Chinese financial system transaction cost models would suggest

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[58] Institution refers to the rules of the game, the players of the game, and their equilibrium strategies (e.g. North 1990; Williamson 1998; Aoki 2001). See a critical review in Nelson and Sampat (2001).

to align the interests between the central and local government agencies. And indeed, the history of tax reforms in China offers illuminating evidence. Tax farming in the eighties which could make use of the already existing government agencies was an effective way to implement tax reform when compared to the need to establish a new tax bureaucracy. At the same time, tax farming offered monetary incentives and side payments for local government agencies to support the reform course. The descriptive evidence begs the question whether such an attempt for "optimum taxation" is serendipitous or reflects a systematic element as the approaches claim. One way to test this is to claim that *the search for an effective tax administration will show in a negative correlation between administrative costs and tax revenue*.

Yet, as explained above decentralization leading to local autonomy changed the rule of the game. Within the limits imposed by political supervision local government agencies can either search for more cost-efficient ways to monitor and collect taxes of which they can claim part of revenue, or they can search for other revenue sources. This might be income from local enterprises, profit from local monopolies, such as electricity, water or land management, or they can levy quasi-taxes in form of fees. In short, the EBRs "soften" the (central) budget constraint with the result that there is less incentive to search for more efficient tax administration. Once more, for testing whether this behavior is a systematic factor caused by the institutional set up of the tax system, the assumption would be that efficient tax administration is negatively correlated to EBRs. All in all the insights from the public choice analysis suggest:

Efficiency hypothesis: Efficient tax administration is positively correlated to (a larger share of) direct and indirect taxes and negatively correlated to (a smaller share of) EBRs.

It follows from this line of argument that local government agencies can no longer be modeled as the mute or neutral bureaucracy where the conventional principal agency relation approaches apply. Instead taxation in China turns into a strategic tax game where political power considerations play a role.

5.3.3. Power

While the New Institutional Economics literature concentrates on countries competing with regard to the services they provide, i.e. the expenditure side (North 1990), the public finance literature includes also regulatory competition (Mueller 2003; Sutinen and Kuperan 1999) such as taxation. Conventional models in which one political centre, e.g.

national legislation designs a tax regime while a state bureaucracy by implementing tax policy imbues costs (Niskanen 1971) can no longer describe Chinese reality. As the literature on decentralization has shown increasing fiscal autonomy intensifies the inter-jurisdictional competition for mobile resources and tax bases as it induces yardstick competition (Besley and Case 1995; Shleifer 1985) among local officials. In this sense, fiscal decentralization serves as an effective institutional constraint on local government expansion (Zhu and Krug 2005).

The analysis of the tax structure can shed further light on the mechanism by which vertical competition between local government agencies is linked to horizontal competition between local government agencies and yardstick competition. Taking into account that there are basically two revenue sources at the local level, the empowerment of local government agencies makes the analysis to predict, *that local autonomy is positively correlated with EBRs or (to put it differently) negatively correlated with direct and indirect taxation.*

The power to influence the tax structure is however not limited to a political player such as local government agencies. As was shown in the analysis of yardstick competition where a specific benchmark, for example a "model" – county, serves as a yardstick for assessing the bundle of public goods and regulations potential tax payers can expect for his/her tax payment (Besley and Case 1995; Shleifer 1985; Feld *et al.* 2003) such economic actors can and will influence tax structures. Depending on mobility and information about alternative jurisdictions economic actors "move" to that jurisdiction which offers the best tax payment – local policy output ratio. If local government agencies want to avoid the migration of tax payers and capital they need to search for similar tax payment – policy output ratios. One effect is that, as was shown elsewhere, fiscal decentralization limits total government spending (for China see Lin and Liu 2000; Zhang and Zou 1998; Zhu and Krug 2005). Another effect is that those groups which control mobile resources, are close to information about the working of other local tax regimes, and/or face more than one alternative where to move to at "low cost" have "power" in the sense that they can force local government agencies to change the tax system to their advantage. Such a group is first of all the urban population. By threatening to move to neighboring jurisdictions they will force local government agencies to lower local fees. Thus, with national taxes making only few differences between rural and urban tax bases, *yardstick competition expects that there is a negative correlation between urbanization and EBRs and a positive correlation between urbanization and direct/indirect taxation.*

The theory on interest groups (Becker 1974; Olson 1971; Moe 1980) identified two factors, size and degree of organization, to explain how special interest groups affect

political decisions such as selecting a tax structure that shifts the tax burden onto non-organized groups (Hunter and Nelson 1989). The literature on transition economies adds a third factor, namely the ownership structure of firms. While the Grabbing-Hand hypothesis insists that economic transformation does not automatically lead to less formal and informal taxation of firms, the State-Capture hypothesis provides evidence that former state firms and well organized "cartels" can "buy" the policy they want (Hellman *et al.* 2003) shifting the tax burden to less organized industries and private households. Which group of potential tax payers has most leverage to influence the tax structure in China is first of all an empirical question. Yet as in the case of European transition economies two groups stand out, namely firms whose ownership structure secures a direct link to the central government.

First, SOEs whose number and survival indicates path dependency. The persistence of the notion of the Owner-State for "crucial" sectors translates into a bail-out guarantee for firms in sectors over which the central government claims control (Kornai 1992). Operating outside the local economy even profit-making SOEs do not contribute much to local tax revenue. Local governments need to resort to EBRs as major revenue source for budget alimentation. Thus, *a high share of SOEs correlates positively with EBRs and negatively with direct and indirect taxes*. Second, foreign firms for which national tax policy designed a hospitable niche in return for capital inflow. This turns foreign firms into a powerful "interest group" vis-à-vis local government agencies (e.g. empirical studies by Li 2005; Zhang and Reinmoeller 2006). Foreign firms are not much different from SOEs when the central government offers generous tax concessions independent of economic performance. These concessions reduce the discretionary expenditure power of local government agencies which need to rely on other revenue sources. Subsequently *a high share of foreign companies shows a positive correlation with EBRs and a negative correlation with direct and indirect taxes*.

In short, power as a factor shaping the tax structure in China takes the form of local autonomy, yardstick competition and the acknowledgement of special interest groups.

Power hypothesis: There is a positive correlation between EBRs and local autonomy, a high share of SOEs and foreign companies; there is a negative correlation between direct/indirect taxes and local autonomy, a high share of SOEs and foreign companies; there is a negative correlation between urbanization and EBRs and a positive correlation between urbanization and direct/indirect taxes.

5.3.4. Legitimacy

Generally speaking the legitimacy of a state (or any government) depends on its ability to accommodate a society's demand (Gallarotti 1989). As tax changes affect the distribution of incentives, sanctions, and entitlements legitimacy becomes a pre-requisite while simultaneously the outcome of tax changes will affect the legitimacy of the implementing agencies (e.g. government). As country studies have shown (US: Frey and Schneider 1978a, UK: Frey and Schneider 1978b, Germany: Schneider 1979 and Australia: Schneider and Pommerehne 1980) the better the overall economic performance the more legitimacy an incumbent government can claim in a democratic setting. China-specific studies also stress the link between overall economic performance and legitimacy which shows that positive growth rates mitigate political conflicts that stem from a (re-) distribution of rewards and entitlements (Nee 1989; Nee and Cao 1999, 2005; Nee and Lian 1994; Walder 1996).

At the individual level, legitimacy of taxation is linked to tax moral which is explained by intrinsic motivation (Deci and Ryan 1985), norms and values (Alm *et al.* 1995; Baldry 1986) , education (Dubin and Wilde 1988; McGraw and Scholz 1991; Schwartz and Orleans 1967 or fiscal equity (Spicer and Becker 1980). The latter refers to the fact that a tax payer will regard a tax structure as legitimate when and if the value of public goods provided by the state matches the total tax burden (Alm *et al.* 1992; Becker *et al.* 1987). Roughly speaking, this means that taxes a voluntarily paid if the share on overall state activities that can be appropriated by individuals equals the individual tax burden. It is this kind of equity which renders legitimacy.

Legitimacy is however an *ex post* concept, as the matching between taxes paid and benefits appropriated can be assessed only in retrospect. Whether to pay taxes turns therefore the question of legitimacy into a question of trust in government (Scholz and Lubell 1998). As the literature on trust has shown a record of past fiscal equity is one factor influencing tax morale. Another factor is the interaction between tax authorities and tax payer where "procedural justice" matters (Tyler 1990). If tax authorities treat tax payers "with respect" tax compliance increases (Feld and Frey 2002).

Thus, support for the Reforms is strongest amongst those tax payers who fare best in "fiscal equity" terms. In the case of China this refers to high income and high human capital as these got the "best deal" for their taxes paid compared to the Pre-reform era where income and educational level were politically suppressed. Subsequently, the literature would predict increasing trust into government activities. As many studies on China's tax system stress (Bernstein and Lü 2003; Eckaus 2003; Lee 2000; Tsui and Wang 2004; Wong 1998; Yep 2004), EBRs are ambiguous in legal status and lack uniform

procedures with respect to computation, base, rate, or frequency which are less legitimated than direct and indirect taxes. We would expect the high income educated tax payers to respect tax obligations in general but not the EBRs. Here we use per capita GDP to measure both individual income level and overall economic performance of the society (Schneider and Pommerehne 1980). Therefore, we have:

Legitimacy hypothesis: Per capita GDP and individual educational level are positively correlated with direct and indirect taxes while negatively correlated with EBRs.

5.4. Empirical Model

5.4.1. Variables and Model

Following Hettich and Winer (1984, 1999), we construct an empirical model to test the influence of *efficiency*, *power* and *legitimacy* factors on changes of Chinese provincial tax system. Tax system embraces three components: tax bases, rate structures, and special provisions, such as exemptions and deductions (Hettich and Winer 1988). This chapter focuses mainly on the tax base, i.e. the composition of tax revenue, and leaves other parts to the future research. The empirical model is as follows:

$$TS_{it} = {}_0 + {}_E E_{it} + {}_P P_{it} + {}_L L_{it} + u_{it} \tag{1}$$

Respectively, i and t denote province and year. TS_{it} stands for tax structure. E_{it}, P_{it} and L_{it} are variables for *efficiency*, *power* and *legitimacy*, respectively. u_{it} denotes the error term.

We choose provincial level as analysis level because two reasons. On the conceptual side the use of disaggregated (provincial) data acknowledges China's decentralized fiscal system. The transfer of regulatory power to lower levels of government in combination with revenue sources outside the control of the central government led to a fragmentation of China's economic system. This does not mean that China is riddled with a burgeoning underground economy as local autonomy and different local business systems are regarded as legitimate. Although it can be disputed whether provinces represent the boundaries of the different local business systems they are a useful starting point for the analysis. After all it is at the provincial level where further decentralization to lower administrative level, such as county or township is negotiated. On the technical side panel data allow going around the problem of insufficient numbers of observation.

The tax structure is defined as the ratio of each tax revenue (source) to total tax

revenue (Hettich and Winer 1999). Three revenue categories, i.e. direct and indirect tax (Musgrave 1969) and extra-budgetary revenues (EBRs) are examined. As shown in Table 5.2, the direct tax (DIRECT) includes individual income tax, enterprise income tax, income tax on FIEs and FEs, real estate tax, and land appreciation tax; the indirect tax (INDIRECT) comprises VAT, consumption tax, business tax, resource tax, orientation adjustment tax on investment in fixed asset, urban maintenance and construction tax, stamp tax, land usage tax, vehicle and vessel tax, slaughter tax, banquet tax, and custom duties[59]; the EBRs cover three major parts: 1) government funds and surtaxes, such as agriculture surtax, and education surtax, levied on the income, consumption, profit or turnover base; 2) a hold up of special funds of SOEs, such as depreciation, major repair, and innovation funds; and 3) locally self-raised funds and administrative fees, such as road construction fund, public utility fee, road toll, and tuition fee[60].

Table 5.2: Description of Dependent Variables

Variable	Description
DIRECT	Individual income tax, Enterprise income tax, Income tax on FIEs and FEs, Real estate tax, Land appreciation tax
INDIRECT	VAT, Consumption tax, Business tax, Resource tax, Orientation adjustment tax on investment in fixed asset, Urban maintenance and construction tax, Stamp tax, Land usage tax, Vehicle and vessel tax, Slaughter tax, Banquet tax, Custom duties
EBRs	Extra-budgetary revenue, such as surtaxes, fees, service charges, funds

The independent variables are based on previous empirical literature (e.g. Kenny and Winer 2001; Zhu and Krug 2005) and the availability of data. The proxy for efficiency is tax administration and collection cost (Simon and Nobes 1978; Yitzhaki 1979), measured by the number of tax staffs per million RMB revenue (ADM_COST). Large amount of manpower means low efficiency of tax administration and collection and thus a negative correlation is predicted with direct and indirect taxes and positive correlation with EBRs. The proxy for power of local government is revenue decentralization (DEC), measured by the ratio of per capita sub-national to central consolidated revenue (budgetary and extra-budgetary). The proxy for power of SOEs is measure by the share of SOEs in gross industrial output value (GIOV_SOEs). OPENNESS (measured by ratio of total

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[59] Due to unavailable data, the indirect tax excludes the custom duties in the regression.
[60] Major changes of composition of extra-budgetary revenue in 1993 and 1997 excluded the innovation fund, the major repair fund and government funds.

import and export to GDP) is proxy for power of foreign enterprise. The power of urban populace (URB) is measured by the ratio of urban population. The negative correlation is expected for DEC, GIOV_SOEs, and OPENNESS with direct and indirect taxes and positive with ERBs while for URB positive correlation with direct and indirect tax and negative with ERBs. As discussed in Section 5.3, we use per capita GDP (PCGDP) to measure the state of the economy and individual income level. Educational level is measured by total graduates of higher education, specialized and regular secondary school as percentage in the population (EDU). We expect positive correlation of PCGDP and EDU with direct and indirect taxes and negative with EBRs. Table 5.3 describes the independent variables and predicted signs of coefficients.

Table 5.3: Description of Independent Variables

Variable	DIRECT	INDIRECT	EBRs	Description
Efficiency				
ADM_COST	-	-	+	Number of tax staff per million RMB revenue
Power				
DEC	-	-	+	Ratio of per capita sub-national to central consolidated revenue (budgetary and extra-budgetary)
GIOV_SOE	-	-	+	Share of state-owned and state-holding enterprises in total gross industrial output value
OPENNESS	-	-	+	Ratio of foreign trade (import plus export) to GDP
URB	+	+	-	Ratio of non-agriculture population to total population
Legitimacy				
PCGDP	+	+	-	Per capita GDP
EDU	+	+	-	Ratio of total graduates of higher education, specialized and regular secondary school to total population

5.4.2. Data

Owing to empirical difficulty of collecting data prior to 1995, we only use the data from

1995 to 2003 in this paper[61]. Data of DIRECT, INDIRECT and EBRs are from China Tax Yearbook and China Finance Yearbook; ADM_COST is from China Tax Yearbook; PCGDP, GIOV_SOE, OPENNESS, and EDU are from China Statistical Yearbook; URB is from China Demographic Yearbook.

Table 5.4 shows descriptive statistics of data. To mitigate the potential heteroskedasticity problem, all variables are measured in percentage or per capita value instead of absolute value. The indirect taxes are major revenue source of 31 Chinese provinces that retains average 56 per cent of total revenues for the period of 1995-2003. Extra-budgetary revenues and indirect taxes contribute 30 and 14 per cent, respectively. Average DEC is 1.64 (larger than 1) indicates considerable decentralization of revenue power. SOEs seem to remain a major role in local economy in terms of its average percentage of GIOV of 60 per cent. Urbanization is low with regard to China's huge population which has only 28 per cent urban populace.

Table 5.4: Descriptive Statistics of Dependent and Independent Variables: 1995-2003

	Mean	**Median**	**Max.**	**Min.**	**Std. Dev.**	**Obs.**
DIRECT	13.60632	13.10887	40.07807	3.686092	5.40746	277
INDIRECT	56.43043	55.94302	78.78088	16.83194	8.160134	277
EBRS	29.96326	30.27799	78.52513	7.05946	10.37036	277
ADM_COST	0.84157	0.7945	2.305	0.0471	0.4574	277
DEC	1.640221	1.096281	8.570383	0.404244	1.499101	277
GIOV_SOE	59.56698	62.92526	89.88356	13.1138	19.0655	277
OPENNESS	27.0794	11.90004	175.692	4.004986	33.26239	277
URB	28.01947	23.50699	71.53953	9.42623	13.61387	277
PCGDP	7833.886	6038.508	36533.08	1740.932	5462.209	277
EDU	19.38182	19.87364	31.48091	3.698333	5.274466	277

5.5. **Empirical Results**

Augmented Dickey-Fuller (ADF) Fisher tests (1932) indicate that series of GIOV_SOE, OPENNESS, URB, PCGDP and EDU contain a unit root and thus are non-stationary

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[61] Data of Chongqing in 1995 and 1996 are not applicable since Chongqing became autonomous municipality (*zhixiashi*) in 1997.

(Table 5.5). When independent variables are non-stationary the OLS regression might produce invalid estimates. We, thus, perform a Johansen cointegration test (1991) to examine whether a stationary linear combination exists among our independent variables. Trace test and Max-eigenvalue test indicate two and three cointegrating relation at the 0.05 level, respectively (Table 5.6). In other words, despite above five non-stationary variables, the combination of all independent variables maintains stationary and thus is regarded as cointegrated that still generates valid estimates in the regression.

Table 5.5: ADF Fisher Unit Root Tests

	Method	Statistic	Prob.	Obs.	Cross-sections included
ADM_COST	ADF - Fisher Chi-square	208.09[***]	0	234	31
	ADF - Choi Z-stat	-7.06535[***]	0		
DEC	ADF - Fisher Chi-square	215.252[***]	0	228	31
	ADF - Choi Z-stat	-8.57132[***]	0		
GIOV_SOE	ADF - Fisher Chi-square	35.6049	0.9972	239	31
	ADF - Choi Z-stat	2.61246	0.9955		
OPENNESS	ADF - Fisher Chi-square	62.1791	0.4697	234	31
	ADF - Choi Z-stat	1.66118	0.9517		
URB	ADF - Fisher Chi-square	59.4574	0.568	238	31
	ADF - Choi Z-stat	0.71977	0.7642		
PCGDP	ADF - Fisher Chi-square	28.2755	0.9999	233	31
	ADF - Choi Z-stat	8.71722	1		
EDU	ADF - Fisher Chi-square	54.9397	0.7255	238	31
	ADF - Choi Z-stat	-0.48621	0.3134		

Notes: a. Null Hypothesis is unit root (individual unit root process); b. * Statistically significant at 10 per cent level; ** statistically significant at 5 per cent level; *** statistically significant at 1 per cent level; c. Exogenous variables: Individual effects, individual linear trends; d. Automatic selection of maximum lags; e. Automatic selection of lags based on SIC: 0 to 1; f. Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Before we run regressions, we need to choose our specification between fixed and random effects models since the former is costly in terms of degrees of freedom lost while the latter may suffer from the inconsistency due to the correlation between the included variables and the random effect (Greene 2003). Hausman test (1978) helps determine which model is preferred. It examines whether there is a significant correlation between the unobserved individual specific random effects and the regressors. If there is no such correlation, then the random effects model may be more powerful and parsimonious. Otherwise, the random effects model would be inconsistently estimated and the fixed

effects model would be more suitable. The results in Table 5.7 indicate the rejection of random effects model at 1 per cent level. Therefore, we use fixed effects model.

Table 5.6: Johansen Cointegration Tests

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	Critical Value 0.05	Prob.
None *	0.367642	189.6253	125.6154	0
At most 1 *	0.269851	119.5054	95.75366	0.0005
At most 2 *	0.25978	71.38592	69.81889	0.0373

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	Critical Value 0.05	Prob.
None*	0.367642	70.11995	46.23142	0
At most 1 *	0.269851	48.11946	40.07757	0.0051
At most 2 *	0.25978	46.0237	33.87687	0.0011

Notes: a. Trace test and Max-eigenvalue test both indicate 3 cointegrating eqn(s) at the 0.05 level; b. * denotes rejection of the null hypothesis at the 0.05 level; c. MacKinnon-Haug-Michelis (1999) p-values; d. Included observations: 153 after adjustments; Trend assumption: Linear deterministic trend; Series: ADM_COST, DEC, GIOV_SOE, URB, OPENNESS, PCGDP, EDU; Lags interval (in first differences): 1 to 3.

Table 5.7: Hausman Tests

	Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Direct	Cross-section random	26.224541[***]	7	0.0005
	Period random	9.133186	7	0.2432
Indirect	Cross-section random	26.838727[***]	7	0.0004
	Period random	24.514654[***]	7	0.0009
EBRs	Cross-section random	28.377239[***]	7	0.0002
	Period random	34.681357[***]	7	0

Notes: a. Null Hypothesis is random effect model is preferred; b. * Statistically significant at 10 per cent level; ** statistically significant at 5 per cent level; *** statistically significant at 1 per cent level; c. Cross-sections included: 31; Total panel (unbalanced) observations: 277.

Table 5.8 reports the Panel Least Squares estimates. Efficiency considerations do play a part in the development of China's tax system as shown by the variable of ADM_COST, which present predicted sign in three regressions although only significant at 10 per cent level in indirect tax and EBRs regressions. This confirms that high efficient collection and administration is correlated with higher share of direct and indirect tax and smaller share of EBRs. It also indicates that the arbitrary EBRs demand more manpower to

cope with ambiguous administrative procedures of computation, base, rate, and frequency as well as noncompliance from payers. The typical case is the tax-for-fee reform in Chinese rural region designed to improve tax collection by gradually replacing numerous EBRs with standardized tax levies. The pilot reform carried out in Anhui province in 2000 abolished 40 EBRs and streamlined more than 110,000 cadres at grassroots administration in rural region, who used to go from door to door collect hefty EBRs (People's Daily 2003).

Table 5.8: Panel Least Squares Estimates for Tax Structure: 31 Provinces/1995-2003

Dependent Variable	DIRECT	INDIRECT	EBRs
Variable			
C	0.176725***	0.72842***	0.094855
	(8.177661)	(10.13067)	(1.101276)
ADM_COST	-0.01589	-0.049787*	0.065676*
	(-1.33073)	(-1.673296)	(1.81874)
DEC	-0.01458***	-0.04316**	0.057739***
	(-2.74969)	(-2.529476)	(3.014856)
GIOV_SOE	-0.00041*	-0.001277*	0.00169*
	(-1.81213)	(-1.661241)	(1.789592)
OPENNESS	-0.00065**	-0.000817*	0.00147***
	(-2.26466)	(-1.630424)	(2.692626)
URB	0.000388***	-0.00036	-2.78E-05
	(4.096203)	(-0.908282)	(-0.060381)
PCGDP	4.79E-06***	7.19E-06**	-1.20E-05***
	(3.367759)	(2.399301)	(-3.457557)
EDU	-0.00049	2.77E-05	0.00046
	(-0.8519)	(0.017885)	(0.252119)
Period effect	Yes	Yes	Yes
Provincial effect	Yes	Yes	Yes
Adjusted R-squared	0.86254	0.685719	0.726578
Cross-sections	31	31	31
Observations	277	277	277

*Notes: a. t-statistics in parentheses. b. * Statistically significant at 10 per cent level; ** statistically significant at 5 per cent level; *** statistically significant at 1 per cent level. c. White diagonal standard errors & covariance (d.f. corrected).*

As for power variables, DEC, GIOV_SOE, OPENNESS, and URB present significant signs as predicted showing that power factors play a part in the development of

China's tax structure. This might come as a surprise to those only who assume that the central government or the CCP (still) controls the institutional design of the country. The findings rather illustrate the inherent adaptability of the institutional structure which is obviously able to cope with interest groups, such as SOEs, private enterprise, foreign firms or local government agencies. As we have seen, the central government decentralized fiscal power to align local governments' interest with economic development at the beginning of the reform. However, suffering from a declining fiscal position, the central government launched a tax reform in 1994 aimed at recentralizing tax revenues, yet had to accept several compromises to mitigate immense local resistance (Tsui and Wang 2004; Zhang 1999). A major compromise was a tax rebate scheme to guarantee local governments' tax revenue in the new tax sharing system no less than under the old fiscal contracting system (Wong 2000). Likewise, the tax-for-fee reform in 2000, which abolished various EBRs at the local level, resulted in a compensation for local governments in the form of central fiscal transfers (Yep 2004). Again, the failure of tax-for-profit reform on SOEs in 1983 and 1984 demonstrated that the implementation of a reform package was constrained by the multiplicity of interest groups involved (Tsang and Cheng 1994). In particular, when a new tax reform impaired the entrenched interests of powerful groups, they thwarted its implementation. In 2005, for example, foreign firms lobbied against a reform scheme on corporate income tax aimed to abolish their tax privileges. Finally, the long-awaited new Corporate Income Tax Law was promulgated in 2007 on the condition of granting foreign firms a five-year grace period. URB variable shows a significant positive correlation with direct tax as predicted. This actually confirms the reality that individual and enterprise income taxes are mainly generated in urban regions. We observe that urban wage and salary earners contribute most to individual income tax (65 per cent of the total in 2004). However, it is worth mentioning that we also witness urban group's fight against their tax burden by recent individual income tax reform which relieves their tax burden by lifting the threshold for taxable income from 800 RMB to 1,500 RMB per month.

For legitimacy variables, PCGDP presents significant predicted signs supporting the legitimacy hypothesis while EDU offers non-significant results. Yet, illustrative evidence supports the claim that legitimacy considerations play a role. This can best be illustrated by the position and development of the EBRs. On the supply side EBRs are used as a means for securing an independent revenue base for local government agencies. On the demand side they are objected to as long as they are regarded as "arbitrary", too costly, or riddled with unfair procedure. Since the proliferation of EBRs not only undermines the central control over the macro economy but also causes substantive social unrest in rural

regions (Bernstein and Lü 2003), to curb EBRs therefore is one of major concerns of tax reforms. In 1996, for instance, local governments were requested to put 13 categories of EBRs under the supervision of the Ministry of Finance (MOF) so that the central government could effectively monitor the collection and spending of EBRs at local level (Jin and Zou 2000). The tax-for-fee reform in 2000, on the other hand, aimed to abolish heavy arbitrary EBRs levies in rural regions (Yep 20004) as the central government perceived that two-thirds of China's 1.3 billion population were peasants who are the largest and most important social class in the country and to standardize rural taxes and reduce peasants' financial burden conduces significantly to social stability.

5.6.   Conclusions

This chapter intends to put forth a theoretical framework and empirical research of taxation applicable to the non-democratic background in China and contribute to wide application of New Institutional Economics. Based on a systematic analysis of tax reforms in China, we find that the evolution of China's tax system is an equilibrium outcome of interaction between the central government (CCP), local governments, and various interest groups (firms). Despite numerous and complicated reforms, some systematic factors are singled out. The changes of tax structure follow efficiency considerations, reflect the power influences between emerging interest groups within the political sector, and confirm the CCP's concern with legitimacy. Empirical test provides supportive evidences and a variety of policy implications. First, EBRs are, if not illegitimate, at least, less legitimate than formal tax (Wong 1998; Eckaus 2003). They should be eliminated or replaced by formal tax means, thereby improving efficiency of overall provincial revenue collection and administration. Second, for those EBRs that directly finance local public goods and contribute to local economic development (Fan 1998), they should be brought into formal budget. Third, the decentralization setting should be adjusted to incorporate positive incentive for local governments to collect tax, such as, changing revenue sharing rule in favor of local governments. It is worth mentioning that the quality of disaggregated data makes it hard to test model that meet the usual requirements. This should however not make academics shying away, as the alternative would be to limit empirical research to topics for which sufficient data are available. On the other hand, our exercise shows that the institutional economics and public finance literature can contribute to explaining institutional change of tax system in China provided one keeps in mind that 1) the identification of explainable variable asks for a meticulous descriptive analysis, and 2) concepts need to be selected which offer the best fit with Chinese realities.

6. Summary and Conclusions

The essentialness of a tax system to an economy is self-evident, in particular, for those transition countries because the transformation of a society always involves a crisis of the old fiscal methods (Schumpeter 1918). Compared to the failure of the "*big bang*" and "*shock therapy*" in Eastern European countries, China's huge success of a *gradualism* approach further demonstrates the overwhelming importance of how tax system changes in economic development. The tax system, as a formal institution, could be rapidly switched from an old "owner state" surviving upon state-controlled resources (Campbell 1996) to a modern "tax state" relying on its tax capacity to extract surplus from economic sector by enacting laws and regulations but its enforcement characteristics, to a large extent, are embedded in underpinning informal institutions that evolve in an incremental and lengthy process. The unique China's "central-local dual-track" tax system, therefore, lends tremendous opportunity for economists, political scientists and sociologists to study the interplay of its formal and informal components in the context of institution building.

This dissertation answers the question of how and why China's tax system changes by studying its evolution process and mechanism. Seeing the central government, local governments and firms as three major agents for the institution building of the tax system, the research reveals that formal and informal interactions between these agents shape the transformation course of the tax system under various economic, political and social constraints.

Chapter 2 presents a logic of emergence of China's unique "central-local dual-track" tax system. At the inception of reform in 1978, the economic development was the uppermost priority of the whole society. In order to develop economy, the central government mobilized local governments by fiscal decentralization which provided strong economic incentives for local governments to foster local economic prosperity. They

rendered a "helping hand" to private entrepreneurs (firms) rather than a "grabbing hand" compared to their counterpart in Russia (Frye and Shleifer 1997). The initiative goodwill greatly contributed to the mutual trust and cooperation between local government and private entrepreneurs (firms), thereby leading to a market-conforming federalism that significantly encourages the boom of private sectors (Montinola *et al.* 1995; Qian and Roland 1998; Qian and Weingast 1996, 1997; Weingast 1995). Local governments also competed for mobile tax bases (firms) by offering considerable local preferential tax treatments. Despite no permission from the central government, local governments, however, manipulated tax policy with growing local autonomy. The direct result was diverse local tax systems and declining central share of tax revenues in 1990s. Running deficits incited the central government to launch an overhaul tax reform in 1994 to recentralize fiscal capacity and reinforce control over local governments. Yet, reckoning local resistance and practical reasons, the central government spilt tax revenues and administration into central and local part, respectively, to secure its share of tax revenues. Consequently, the "central-local dual-track" tax system was resulted. On the one hand, a formal and standardized national tax system operates under the custody of central government while *de facto* informal, flexible, and diverse local tax systems are managed by local governments on the other hand.

A centralized party cadre system and top-down supervision in China induces a yardstick competition among local officials that restricts their behaviors despite the lack of bottom-up election constraint. Therefore, according to the Leviathan model (Brennan and Buchanan 1980), Chapter 3 claims that fiscal decentralization curtails the expansion of government size in China, which also explains why China departs from not only theoretical prediction of Wagner's Law but also the empirical facts from those market economies that the expansion of the public sector is positively correlated with economic growth. We find empirical evidences for the Leviathan model from vertical decentralization, horizontal fragmentation, yardstick competition and intergovernmental collusion. In particular, effects of vertical decentralization on government size at different level are poles asunder. Central-provincial decentralization stimulates the expansion of provincial government spending whereas provincial-local decentralization curtails it.

Based on game models, Chapter 4 examines pervasive bargaining games between firms and local governments over preferential tax treatments in local China. Firms perform either an exit strategy by establishing subsidiaries in other localities, changing organizational forms, and diversifying investments or a voice strategy in a Chinese specific way of cultivating, maintaining and expanding a *guanxi* network with government at all levels. The models indicate that relative exit-voice costs and information structure are

critical factors in determining equilibrium outcomes. Moreover, exit and voice are not mutually exclusive, but can be combined to reinforce each other in an *exit-cum-voice game* (Hirschman 1995) instead of an *exit-versus-voice* game (Hirschman 1970). Keeping the exit option as a credible threat, the firm expresses voice via *guanxi* network forcing the local government to offer tax concessions. Furthermore, an asymmetric information structure in favor of the firm enables it to bluff even without a feasible exit option. The local government rather believes the threat is 'credible' and thus agrees to offer preferential tax treatments. Empirical cases show that a rational firm performs a mixed strategy of *exit-cum-voice* to enhance mobility and the credibility of its exit threat and thus to boost the effectiveness of voice.

With regard to the limitation of Public Finance and Public Choice literature on taxation research in transition economy, Chapter 5 extends application of New Institutional Economics into this field by combing North's (1990) theoretical framework of institutions and institutional changes and Steinmo's (1993) historical institutionalism to model the evolution of China's tax structure in the context of non-democratic environment. The model sees the tax system as an institution shaped by interaction among the central government (CCP), local governments, and various interest groups (firms). The systematic analysis of the evolution of China's tax structure shows that the changes follow efficiency considerations, reflect the power influences between various interest groups within the political sector, and confirm the CCP's concern with legitimacy.

In short, this dissertation intends to put forth a theoretical framework and empirical methods of taxation research applicable to non-democratic background in China and contribute to wide application of New Institutional Economics. It's a first step towards this approach that calls for further theoretical and empirical research for transition economies in general and for China in particular.

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Samenvatting (Abstract in Dutch)

Het belastingsysteem is een van de beste startpunten voor een onderzoek naar China's transitie omdat de transformatie van een maatschappij altijd gepaard gaat met snelle veranderingen in het oude fiscale regime. Dit boek ziet de centrale overheid, lokale overheden en ondernemingen als de drie grote spelers en laat zien dat interactie tussen deze drie spelers heeft geleid tot China's unieke, 'centraal-lokaal tweesporige' belastingsysteem. De centrale overheid mobiliseert lokale overheden door fiscale decentralisatie, wat resulteert in toenemende lokale autonomie en hen drijft tot maximalisatie van lokale belastingopbrengsten. Zij concurreren voor mobiele belasting bases – ondernemingen – door het lokale belastingbeleid te manipuleren. Dus, in tegenstelling tot een formeel en gestandaardiseerd nationaal belastingsysteem dat gecontroleerd wordt door de centrale overheid, worden informele en flexibele lokale belastingsystemen geleid door lokale overheden. Dit boek bevat vier essays. Het eerste essay analyseert systematisch de evolutie en huidige status van China's belastingsysteem. Het illustreert hoe de formele en informele interactie tussen de centrale overheid, lokale overheden en ondernemingen vorm geeft aan de instituties van China's belastingsysteem. Het tweede essay onderzoekt de interactie tussen de eerstgenoemde twee spelers in fiscale decentralisatie en laat zien dat deze de grootte van de overheid beperkt. Het derde essay modelleert de interactie tussen de laatstgenoemde twee spelers in een onderhandelingsspel waarin een onderneming een exit en voice strategie gebruikt om te onderhandelen met een lokale overheid voor gunstige belastingen en verklaart daarmee de diversiteit in lokale belastingsystemen. Het laatste essay modelleert de veranderingen van het belastingsysteem als een interactie tussen de drie spelers onder variërende economische, politieke en sociale beperkingen; de veranderingen bereiken een evenwicht waarin efficiency, macht en legitimiteit in balans zijn.

论文摘要(Abstract in Chinese)

税收体制是研究社会转型的最佳切入点之一，因为任何一个社会的转型都必定伴随着旧有财政体制的转变。本论文提出中央政府、地方政府以及企业作为社会转型期间制度建设中的三个主要参与者，其相互间的交互作用导致了中国特有的中央一地方、双轨税收体制的形成。中央政府通过财政分权调动地方政府的积极性，增强了地方自治性，并且促使后者追求地方财政收入最大化。因此，地方政府之间为了争夺流动的税基（企业）而竞相操控地方税收政策，给予企业税收减免。税收体制逐渐地呈现出两级分化，即中央政府监管之下的严格的、制度化的国家税收体制以及地方政府支配之下的弹性的、可协商的地方税收体制。本论文由四篇相对独立但内在相关的论文组成。第一篇论文通过系统分析中国税收体制演变地历史和现状，揭示了中央政府、地方政府以及企业之间的正式和非正式的互动作用推动了中国税收体制领域的制度建设。第二篇论文考察了中央政府和地方政府之间的财政分权，以及因此引发的地方政府间的标杆竞争，发现这种交互作用对于政府规模的扩张起到了一定的遏制作用。第三篇论文通过构建博弈模型，研究地方政府和企业之间的税收互动。在该模型中企业通过使用"退出和发言"两个战略与地方政府进行税收谈判以获取税收优惠。博弈均衡解释了地方政府给予税收优惠的必然性。基于实证研究，第四篇论文提出税收体制的演化是中央政府、地方政府以及企业之间在经济、政治和社会约束之下的交互作用的结果，而效率、影响力和合法性这个三个因素之间的制约平衡会促使税收体制的演化达到一个均衡。

Curriculum Vitae

Ze Zhu was born on 1 January 1978, in Shangyu, Zhejiang province in China. After obtaining his Bachelor of Science in Business Administration in 1998 and Master of Science in Management Science and Engineering in 2001 at Zhejiang University, he worked at China Mobile Communications. He became a Ph.D. candidate at the Department of Organization and Personnel Management, RSM Erasmus University in 2003. He visited University of New South Wales, Sydney, for research in 2005. His research interests include fiscal decentralization, tax competition and business strategy. He published a book chapter and several Chinese journal articles. He also presented papers at international conferences, such as the Annual Conference of International Society for New Institutional Economics, the Annual Meeting of European Public Choice Society and the Conference of Asia Academy of Management.

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Essays on China's Tax System

The tax system is one of the best starting points for investigating China's transitional course because the transformation of a society always involves rapid changes in its old fiscal regime. Seeing central government, local governments and firms as three major players, this dissertation shows that interactions between them lead to the emergence of China's unique "central-local dual-track" tax system. The central government mobilizes local governments by fiscal decentralization, which results in growing local autonomy and thus drives them to maximize local tax revenues. They compete for mobile tax bases – firms – by manipulating local tax policies. Thus, in contrast to a formal and standardized national tax system overseen by the central government, informal and flexible local tax systems are operated by local governments. This dissertation consists of four essays. The first essay systematically analyzes the evolution history and status quo of China's tax system, which illustrates that the formal and informal interaction between the central government, local governments and firms shapes the institution building process of China's tax system. The second essay, then, examines the interaction between the former two players in fiscal decentralization and finds that it curtails the expansion of government size. The third essay models the interaction between the latter two players by a bargaining game in which a firm employs an exit and voice strategy to bargain with a local government for preferential tax treatments and thus explains the diversity of local tax systems. The last essay models changes of the tax system as a result of interactions between the above three players under various economic, political and social constraints; the changes reach a general equilibrium in which efficiency, power and legitimacy are balanced.

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