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An Empirical Study of Fiscal Decentralization of Local Governments in China

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AN EMPIRICAL STUDY OF FISCAL DECENTRALIZATION OF LOCAL GOVERNMENTS IN CHINA

by

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AN EMPIRICAL STUDY OF FISCAL DECENTRALIZATION OF LOCAL GOVERNMENTS IN CHINA

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The world is experiencing dramatic fiscal reconstruction in the socialist and (former) socialist countries and of continuing and fascinating evolution of government structure elsewhere. Being one of the fastest growing economies over the past nearly three decades, China seems deeply embracing this global mantra of power devolution in her effort to energize local economy that was suffocated in the highly constricted state-planning system. The literature of the Chinese central-local studies suggests that fiscal decentralization from the central government to provincial governments is a key institutional factor to explain Chinese economic success. However, the literature misses various lower levels of government in China. Has the fiscal power been eventually trickled down to them? This is the question addressed in this project.

This project makes several contributions to the thriving Chinese central-local study. It brings back the missing local governments in the intergovernmental debate. By linking various local governments with the national government, the findings in this project help to draw a more comprehensive and holistic picture of the intergovernmental fiscal relations in China. Such a study on the evolution of fiscal

structure among local governments also adds knowledge to understand the broad economic and administrative transformation in contemporary China.

Using the latest datasets of public finance, this project performs a series of statistical analysis to understand if fiscal decentralization has taken place to each level of Chinese local governments in the reform era. This project also tests the factors that have been widely identified in the classical welfare theory as explanative factors for the fiscal arrangement at different levels of local government. This project finds out that fiscal decentralization fails to capture the main trend of the intergovernmental fiscal relations at various Chinese local governments. Instead, there has been a rather consistent pattern of fiscal centralization across those local governments during the 1990s and the early 2000s.

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Jianfeng Wang

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Introduction

Purpose Statement

The world has, as of late, been witness to poignant moments of dramatic fiscal reconstruction which have taken place in socialist and formerly socialist countries… Indeed, generally speaking, it has been witness to a continuing and fascinating evolution of government structures elsewhere. Hearkening the neo-liberal trend championed by Reaganism and Thatcherism, the idea of "decentralization" has ascended to the commanding heights in fiscal thinking and practice, as nations try to enhance the effectiveness with which their governments respond to social needs by moving decision-making responsibilities away from the center out to the people they serve. Since it has had one of the fastest growing economies in the world for nearly the past three decades, China seems to be embracing this global mantra of power devolution in its effort to energize a local economy that was suffocated under what was once an extremely tightly wound state-planning system. The literature about the Chinese central-local situation suggests that fiscal decentralization from the central government to provincial governments has been a key institutional factor that has contributed to China's economic success. However, the literature does not attend to the various lower levels of Chinese government in this regard. Has fiscal power now trickled down even to them? This is the question addressed by this project.

Although it is a unitary system, Chinese administrative structure is not monolithic and unified. It is composed of numerous horizontal and vertical governments, so to speak, and it is the latter – the vertical relationship among local governments – that is the subject of this project. Using the latest datasets, this project will perform a series of statistical analyses so as to attempt to understand if fiscal decentralization has occurred at each level of Chinese local government in the reform era. This project will also test the factors that have been widely identified in classical welfare theory as explanatory factors for fiscal arrangements at different levels of local government.

This project makes several contributions to the thriving study of the Chinese central-local situation. It brings levels of local government that have been missing from the current literature into the intergovernmental debate. By linking various entities of local governments with the fiscal policies of the national government, the findings of this project help to draw a more comprehensive and holistic picture of the intergovernmental fiscal relationship in China. In addition, such a study of the evolution of fiscal structures of local governments also reveals knowledge that helps to contextualize the broad economic and administrative transformations that have been taking place in contemporary China.

Fiscal Decentralization and the Broad Debate about the Central-Local Relationship in China

The subject of intergovernmental fiscal relations involves what the specific division of fiscal rights and responsibilities between central and local government entities, and among various levels of local governments in a given country looks like, i.e., the distribution of fiscal power vis-à-vis the governmental hierarchy. The intergovernmental fiscal relationship defines the degree of fiscal decentralization/centralization that exists in a given context, and hence also the capacity of all levels of governments for social and economic management and service provision, among other things.

Different contexts call for different kinds of fiscal arrangements. This is probably obvious; there is a great deal of relativity involved in the assessment of different kinds of fiscal structures. That said, however, achieving a workable balance between fiscal centralization and decentralization is and has always been one of the primary tasks of government for both developed and developing countries in the world.

Fiscal Structure and National Polity

If we start by discussing power centralization and decentralization in an absolute sense, all governments in the world can be broadly categorized into three groups: unitary systems, federal systems, and confederal systems. Each system

involves unique structural patterns and functions as well as dynamically different interactions among different levels of government.

In the unitary system, the central government ultimately controls most fiscal resources, although there are still multiple layers of local governments present. There is no doubt that the unitary system emphasizes the centralization of management and decision-making. Local governments often display significant dependence on the central government in unitary systems. There are many countries, both developed and developing ones, which have adopted a unitary system of some sort. Monaco and Singapore—each of which only has a single level government altogether—are examples of purely unitary systems. Some larger countries, such as Japan, Egypt, France, Indonesia, Italy, New Zealand, Portugal, the Philippines, Spain, Sweden, Turkey, and the United Kingdom also have unitary systems, but each of their systems contain more than one level of government.

In contrast, many large countries in the world have chosen a federal system; countries such as Australia, Brazil, Canada, Germany, India, Malaysia, Mexico, Nigeria, Pakistan, Russia, and the United States. Federalism implies the separation or dissolution of power among multiple layers of governments. In federal systems, decision-making processes have been significantly decentralized to all levels of government. A particularly important fact related to federalism is that the state (or provincial) level of government in a federal system even shares portion of sovereignty, which is totally forbidden in a unitary country. The greatest advantage of the federal system is that it allows local governments to properly adjust policies to

their individual conditions, although sometimes the federal system is also plagued by the problems of inefficiency, such as come along with overlapping and even contradictory bureaucracies and policies, and otherwise very complex relations between levels of governments. In a federal system, the federal (central) government imposes limited constraints on localities. Although the federal government can exact influence over local governments through various means, such as laws, intergovernmental fiscal transfers, etc., many local governments enjoy a high level of fiscal autonomy. Many if not most lower level entities of government are able to establish their own tax base and tax rate, and they are able to decide how to spend the revenue earned from their taxes as such.

In a confederal system, the central government is a totally different type of entity from what it is in either the unitary or federal systems. Limited to being a mechanism of the coordination of its member states, the central state in a confederal system has few powers of taxation or spending discretion. The confederal system is a very decentralized system in which the power rests ultimately with the member states. In this loosely united system, each of member states has its own sovereignty, including a significantly high level of fiscal independence. The European Union and the Commonwealth of Independent States (CIS) after the collapse of the Soviet Union are typical examples of the confederal system. The United States between 1776 and 1787 also had some of the characteristics of a confederal system.

Centralization and Decentralization in a Unitary System

It is clear that the confederal system is witness to the greatest degree of power decentralization while the unitary system is witness to exactly the opposite situation. However, we have to be aware that the division among the three types of polities in terms of their internal power distribution sometimes can be depicted only on a fuzzy continuum. A discussion of centralization versus decentralization is only meaningful on the basis of relativity. In a confederal or federal system, one can discuss the looming trend of centralization, despite the fact that the basic institutional arrangement leans towards decentralization. In contrast, in a unitary system, there are also possibilities of decentralization, although the central government is able to acquire much more power than its counterpart in a confederal or federal system. Therefore, the balance between centralization and decentralization is an enduring problem for all kinds of polities. The debate over centralization or decentralization has to be put into the specific economic and political context of a country in order to be meaningful.

Because of her sheer size of territory and population, China is the largest country in the world that has adopted a unitary system. In China, political power is centralized in the central government, which naturally leaves it more responsibilities and rights. As a result, compared with the confederal or federal system, the Chinese central government controls a relatively greater amount of fiscal resources. Various levels of local government are subject to centralized control; therefore, they are more

reliant upon the central government, they are able to share less fiscal resources, and of course they have less discretion over the use of fiscal resources.

Figure 1-1 highlights the structural relationship between the central government and local governments in a unitary system. The white area represents the power of local governments, and the dark area is the power of the central government. In a typical unitary system, the dark area is often significantly bigger than the white area, reflecting the dominant role of the central government in intergovernmental power distribution. However, this does not imply that local governments in a unitary system are destined forever to a fixed amount of power. When measuring fiscal centralization/decentralization, what really matters is the trend of power balance between the white and dark areas. Although it is not feasible to quantify this balance, it is generally appropriate to claim a trend of centralization if the white area is condensed, or decentralization if it is enlarged.

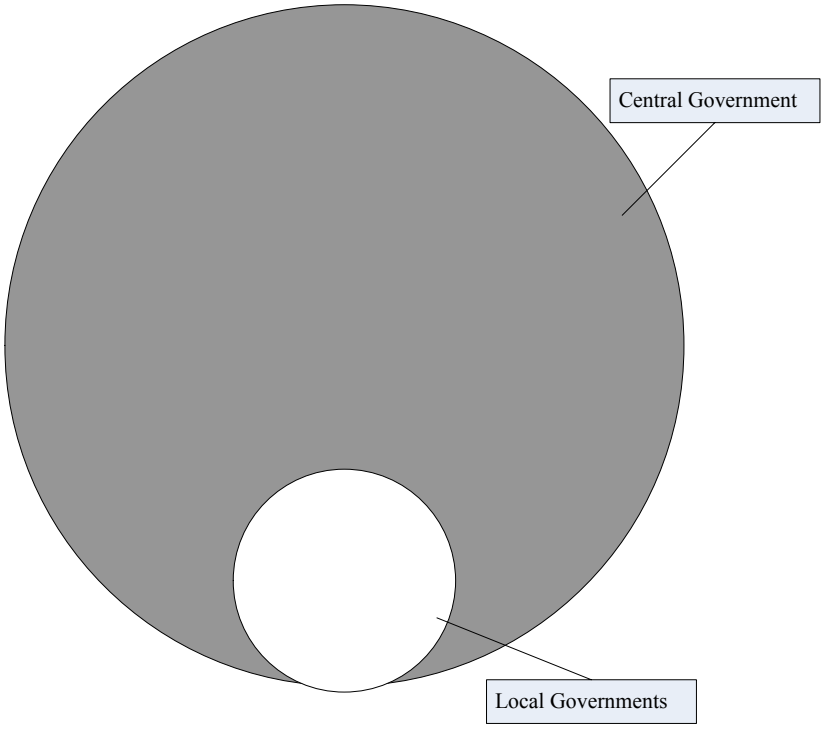

Figure 1-1: Decentralization (Centralization) in the Unitary System

Judging by decentralization/centralization experiences worldwide, there is a discernable trajectory that the power balance follows during the process of modernization. The process begins from an original state of decentralization where there is no functioning central government towards a state of high state-centralization, following which there tends to be a moderate movement back towards a decentralized status (Burki, Perry, and Dillinger, 1999). There have been two worldwide moments of centralization. One happened at the end of the feudal period, as capitalism arose as

a system in Western Europe, and the other happened after the World War II. Although sporadic movements of decentralization existed during the two periods, the truly salient decentralization began in the 1950s when the status of local governments greatly diminished. It is clear that centralization is a necessary stage of the modern process of nation-state building. However, over-centralization may hurt and even jeopardize the modernization process if the power of the central government is expanded without any sort of constraint. This kind of initial over-tightening tends to explain the subsequent move towards moderate decentralization; decentralization emerges as a response to the over-centralization that occurs in the primary stage of the modernization process. Again, the modernization process in many nation-states follows this path: decentralization → centralization → moderate decentralization. And of course, as the overall central-local balance changes, the intergovernmental fiscal relationship will change accordingly as well. It is with exactly this kind of a macro trend in mind that the intergovernmental fiscal relationship in contemporary China is examined in this project.

The Chinese Intergovernmental Fiscal Relationship from the Past to Present

Although it has essentially had a unitary system for the past two thousand years, China has achieved fiscal centralization in the modern sense as a developing country since the establishment of the People's Republic of China in 1949. Since then, the intergovernmental fiscal relationship in China has experienced significant but subtly obscure twists and turns. This section is devoted to explaining the brief

history of this relationship, with a focus on China's budgetary system. In general, the evolution of the intergovernmental fiscal relationship in China can be divided into four stages:

The stage of unified revenue and expenditure [*tongshou tongzhi*] or total centralization (1949-1952). This was a period of extreme centralization that was intended to help the national economy recover from a protracted state of war. Scarce resources were needed to effect this end, and this justified the incredible centralization dynamic that the PRC experienced during these years. In general, the central government took control of almost every aspect of public finance, such as national fiscal policies, regulations, items of revenue and expenditure, scale, standard, and methods. All revenue collected by lower levels of governments had to be remitted to their superior governments, which eventually were deposited into the coffers of the central government. Accordingly, Beijing allocated expenditures to provincial governments, which then further distributed these moneys to even lower levels of governments. And of course all of this happened in accordance with preset spending plans. The year-end surpluses of all local governments (if there were any) were required to be remitted back to the central government. This was from top to bottom a highly centralized fiscal system where the central government enjoyed absolute predominance, if not total monopoly, over fiscal power. There are several things that go along with this type of fiscal centralization:

First, all kinds of revenue were centralized into and emanated from the central government. No local government was allowed to spend the revenue without sanction from the central government.

Second, local expenditures had to be approved beforehand by the central government. The central government allocated all local governments expenditures on a monthly basis.

Third, the budgeting process took place only in the central government. All elements of the budgetary process including tax structure, number of governmental employees and their salary level, final accounting of revenue and expenditure, accounting and auditing policies and activities, etc. All other entities of government were nothing more than the agents that carried out the fiscal directives of the center.

Fourth, only meager fiscal resources were left to local governments with which they could address their public spending priorities, such as those involved with education, sanitation, and other infrastructure.

The stage of unified leadership but classified management [*tongyi lingdao, fenji guanli*] (1953-1978). This is the stage when a certain degree of fiscal decentralization occurred. The structure of the fiscal regime varied during this period. There were mainly three types of fiscal arrangements that were common during this period.

Dividing revenue. Both the central and local governments had their own respective sources of fixed revenue. In addition, they also participated in a revenue-sharing plan involving several pre-determined revenue sources. The central

government set the category and rate of those kinds of resources that were shared. The basic idea was to enable the anticipated local revenue from various revenue sources to equal the budgeted expenditure.

Sharing the total revenue. This was the most commonly adopted fiscal arrangement during this period of time. Instead of categorizing revenue into central, local, and sharing revenue, all locally collected revenue was pooled together for sharing. The central government ratified a sharing rate with local governments. The rate was often determined as a percentage of projected expenditure out of the total amount of collected revenue at various levels of local government. The shared revenue on the basis of the sharing rate then became the budgeted revenue that the local governments could spend. The sharing rate was adjusted on an annual basis. In order to encourage local governments to collect more revenue, the central government also allowed local government to retain a certain portion of the collected revenue that exceeded the mandatory target. The sharing rate for the above-target revenue usually worked according to two formats: it either simply copied the rate for sharing total revenue or worked out a new rate negotiated between the central and local governments.

Decoupling expenditure from revenue. The basic idea with this type of fiscal arrangement was that the central government made appropriations to local governments regardless of whether they could meet the target of revenue collection. The year-end surplus at the locality would, under this arrangement, be returned to the

central government. If deficit occurred at the locality, the central government would provide money to cross out the deficit.

Although the above three types of fiscal arrangement were different, they essentially share some key similarities. First, under the central government's unitary policy, planning, and regulation imperatives, the budget system was stratified into different layers which paralleled the different levels of government administration. Principally, each layer had its own budget. However, since all local governments had very limited revenue and spending power, each local government did not exist as an independent budget entity.

Second, the establishment of tax base, rate, and exemptions was all in the hands of the central government. The central government also set target revenue for local governments. Total revenue consisted of fixed revenue and sharing revenue, both of which were collected by local governments. In order to provide incentive to local governments, the above-target revenue was shared.

Third, the central government was responsible for cross-region transfers and payment. It extracted revenue from the rich regions and subsidized those in revenue deficit.

Fourth, local budgets more or less maintained a balance between revenue and expenditure, that is, the level of revenue was determined by the level of expenditure. Both levels were set by the central government.

Finally, the revenue sharing plan did not aim at long-term stability. The sharing rate was subjected to annual adjustment, and such an arrangement left more

discretion to the central government, since it could always make prompt adjustments to its advantage if it needed to.

The stage of fixed revenue and expenditure, and lump-sum transfer [*huafen shouzhi, fenji baogan*] (1979-1993). This was an adjusted "sharing total revenue" model. The basic idea was that each level government would become responsible for its revenue and expenditure after negotiating a fixed rate with its superior government. If its collected revenue exceeded its expenditure, it could retain most of the surplus. However, if its expenditure was more than its revenue, the government had to cut its budgeted expenditure for the next year in order to offset the current deficit. This type of fiscal arrangement had the following characteristics:

First, local governments had gradually become independent budget entities with corresponding responsibilities, rights, and interests. The revenue and expenditures between the central and local governments were specified and separated. Those local governments which were capable of collecting more revenue were then rewarded with greater spending power.

Second, the expenditure at local governments was tied to the revenue they collected. The central government promised to leave certain portions of the above-target revenue for local government. This provided incentive for local governments to increase their efforts in revenue collection.

Third, the new arrangement enlarged the scope of local budget. Local governments were no longer merely revenue-collecting "machines" for the central government. Local budgets were expanded not only in terms of regular expenditures,

but also in terms of their ability to spend on capital projects. Local governments had to pay more attention to the growth of the local economy from which their revenue was generated.

Fourth, the new fiscal arrangement increased the predictability of the budget process. Unlike the previous arrangements that adjusted the revenue sharing rate annually, the new system allowed the negotiated sharing rate to stay for a longer term, usually three to five years. This predictability enhanced the stability of central-local fiscal relations.

The stage of tax-sharing system [*fenshui zhi*] (1994-today). This new budget system was implemented to correct the negative consequences from the budget system that had been in place between 1979 and 1993.

China adopted the fixed revenue and expenditure and lump-sum transfer system in 1979. Several problems had gradually emerged in the intergovernmental fiscal relationship.

First, specific manifestations of this system were very unsystematic. The system designed six types of revenue plan in total, each of which targeted a different region.

Second, the system protected the "vested interests," particularly the interests of those economically developed regions. For example, the rich regions often started with a larger revenue base when they negotiated with the central government for a revenue-sharing plan. As a result, they were always enjoying a better deal than the

poorer regions. Consequently, the central government's fiscal policy to reduce regional disparity was badly received.

Third, although it had comparatively greater stability than the pre-1979 budget systems, the fixed revenue and expenditure system still lacked necessary stability. During the fourteen years of implementation, the system had experienced at least three patches of difficulty in 1981, 1987, and 1990. Each round of adjustments had made significant changes to the system, particularly to the determination of the fixed revenue and expenditure.

Finally, the central government felt that its fiscal power had been weakened because of this budget system. The center's revenue share over the national revenue had dropped at an average rate of more than two percent a year. This raised alarm for the sustainability of the center's fiscal functions. The expansion of the local revenue in general also became a political problem, as the center saw its fiscal leverage—its power to rein in different provinces—being reduced rapidly.

As a radical response to these problems with the fixed revenue and expenditure system, China introduced a tax-sharing system into the central-local fiscal arrangement January 1, 1994. The core idea behind the reform was to underline a clear differentiation between taxes and responsibilities, and a balanced relationship between central and local governments.

Under the new tax system, the tax base between the central and local governments is clearly divided. Table 1-1 summarizes the division of fiscal revenue

and responsibility between the central and local governments under the tax-sharing system.

Table 1-1: The Division of Fiscal Revenue and Administrative Power between the Central and Local Governments under the 1994 Tax-Sharing System

	Fixed fiscal revenue	Administrative responsibility
Central government	Custom duties; consumption tax; income tax of state-owned enterprises; product tax; revenue from banks, railways and insurance companies; income tax paid by financial organizations licensed by the People's Bank of China; special income from the increase of tax on tobacco	National defense; foreign relations; armed police force; key construction projects; administrative expenditure of state organizations; repayment of capital and interest on domestic and foreign debts
Local governments	Business tax; income tax of local enterprises; individual income tax; agricultural trade tax; tax on urban maintenance and construction; market trade tax; bonus tax	Local political, economic, cultural, and security affairs
Central-local shared evenly[1]	Value-added tax; resources tax (marine resources tax paid to central government); stock transaction tax; industrial and commercial consolidated tax	

Source: Cheung, 1997, p. 514.

Under the new tax system, the central government is not allowed to intervene in the budgeting process of various local governments. It increases local governments' discretion over the usage of their fiscal resources. In addition, the tax collection system is divided into a national tax collection system and a local tax

[1] In the minority region, the sharing rate is "twenty-eighty," that is, the center takes twenty percent of shared revenue and the minority regions take eighty.

collection system. Local revenue is no longer submitted to the national coffers for "keeping." Instead, local governments can established their own coffers in which they can deposit their revenue.

Fiscal Decentralization and the Broad Debate about the Central-Local Relationship in China

As the evolution of the intergovernmental fiscal relationship told thus far indicates, the fiscal structure that exists between the central and local governments is certainly a very salient part of the broader debate about the central-local relationship in China. This debate has experienced three periods of major development, each of which roughly correspond to the changing dynamics of the central-local relationship in China.

Sporadic investigation before the early 1980s. The study of the central-local relationship dynamic was not an independent subject in China studies during this period. Indeed, studies of the various layers of Chinese administration had not yet been systematically attempted. The majority of the literature discussing the central-local relationship was only a subpart of other related studies. The studies that directly targeted the central-local relationship were few and were very random in what they discussed, and they essentially did not paint a very detailed picture of the overall situation. There are two reasons for this. First, the central government had almost

complete control of local governments for most of the time before 1980s.[2] This was a period when local interests could not easily be addressed without being heavily if not completely affected by national planning imperatives. The locality was nothing more than the center's agent for policy implementation. Even though Mao Zedong listed the central-local relationship as one of the famous "Ten Great Relationships,"[3] intergovernmental relations aroused little research attention. The little available research concerning the central-local relationship not surprisingly drew similar conclusions: the central government was the kingmaker in intergovernmental arrangements and therefore there was really no imperative to take local governments seriously (Chang, 1981; Goodman, 1981; Stavis, 1978; Lampton, 1979; Solinger, 1982 & 1977; Teiwes, 1971; Vogel, 1969; McMillen, 1979; White, 1976; Scalapino, 1976; Moody, 1973; Bennett, 1973; Chamberlain, 1972; Unger, 1971; Oksenberg, 1974 & 1967). Second, besides the "insignificance" of central-local studies, the information unavailability also greatly barred researchers from identifying problems, testing hypotheses, and building theories. There was simply no public information for systematic study of the Chinese central-local relationship during this period.

The founding period from the mid-1980s to the early 1990s. Subsequent to the 1978 reforms, the center started to devolve its economic power to the localities in order to stimulate local incentives. This of course greatly increased the scope of local

[2] Even the two significant decentralizations which happened during this period, the Great Leap Forward (1958-1960) and the Cultural Revolution (1966-1976), did not rouse academic attention to the subject of intergovernmental relations.

[3] In Mao's "On the Ten Great Relationships" on April 25, 1956, the central-local relationship took the No.2 and No. 5 slots among the total ten relationships: No.2 was the relationship between industry in the coastal regions and industry in the interior; No. 5 was the relationship between the center and the regions (Schram, 1974).

discretion in promoting local development. The Chinese economy has been witness to great expansion since the early 1980s. Efficiency has gradually replaced equality as the dominant strategy-paradigm in the economic arena. Localities with superior endowments and policies started to experience rapid growth. However, along with the economic boom, the inter-jurisdictional competition between localities brought with it the pressure of inflation and regional welfare discrepancies in the late 1980s.

Because of these dramatic changes in intergovernmental practices, the central-local relationship, especially the intergovernmental fiscal relationship, began attracting academic attention. Fiscal decentralization in these kinds of cases not only serves as an engine for economic development, but also constantly changes form as reforms deepen (Goodman, 1986; Policy Research Office of the State Planning Commission, 1994; Wang, 1988). Therefore, it is not surprising that central-local studies mushroomed during this period. There are two major characteristics of the founding period:

First, economic (including fiscal) decentralization was the main theme for almost all of intergovernmental studies. It was a period when researchers started to identify the study of intragovernmental problems as an important intellectual pursuit. Central-local interaction was generally seen as a situation of devolving power and shared profits [*fangquan rangli*], i.e., the center transferred its control over economic resources to the localities, providing incentives for local economic development. Research during this period usually equated the dynamic of the central-local relationship with the idea of decentralization, and economic growth with local

entrepreneurship. However, when economy ran out of rein in the late 1980s, the tone of the literature suddenly saw a huge turnover. Over-decentralization became the dominant topic and many researchers labeled the parochial and patrimonial interests of various local governments as a main reason for soaring inflation. They claimed that the center should recentralize fiscal power in order to curb local disorder and excessive expansion. The literature during this period focused on over-decentralization, state capacity, and stability, i.e., how to strengthen the power of the central government (Chang, 1992; Ferdinand, 1994; Friedman, 1993; Jia & Lin, 1992; Qiu, 1990; Wang, 1994; Wang & Hu, 1994; Yang, 1994).

Second, economic analysis of the intergovernmental relationship started to break down the traditionally dominant framework of political analysis. The research focus gradually shifted from political behavior to economic and fiscal behavior in central-local studies. Since the economic system had experienced such dramatic changes, most intergovernmental studies during this period took on an economic character and focus of analysis, with fiscal policy being the topic of most intense interest in this regard.

The thriving period from mid-1990s to the present. This was a period when researchers started exploring the factors that contributed to the rapid growth of the Chinese economy. Consistent with the studies of the 1980s, intergovernmental decentralization was widely seen to be one of the key explanations for China's economic success. Indeed, understanding the connection between economic growth and decentralization became one of the most salient topics in China studies in 1990s.

Compared with the work of the 1980s, the new research of the 1990s furthered the study of intergovernmental relations in both depth and width. First, researchers started to avoid the early emergent "fashion-following style" dynamic of research, i.e., the focus of the research was no longer exclusively dictated by the temporary shifts in the structure of centralization/decentralization. They became more interested in the linkage of problems rather than the continual morphing of problems. Now, because of the fact that researchers have had the opportunity to observe more than a decade of facts and experiences since the late 1970s, they are better positioned to perform dynamic studies of Chinese intergovernmental relations.

Second, the research questions related to central-local relations are no longer narrowly focused on contemporary ones. Many studies on contemporary problems have traced the roots to the late 1970s or even further. Some researchers even go back as far as early the early 20th century to understand the current state of Chinese intergovernmental relations. The development of this kind of a sense of history greatly expands the scope of intergovernmental study in China.

Third, although economic issues still dominate the studies, researchers have now begun to explore many different aspects of the central-local relationship. They are now investigating subjects as varied as culture, personnel management, public security, the military, the media, and education alongside or in conjunction with economic issues (Latham, 2000; Li, 1997). Researchers of non-economic subject areas have greatly enriched central-local administrative studies.

Finally, researchers have begun to let go of their black/white understanding of central-local relations. They have begun to question the mechanically normative interpretation of (de)centralization as a dynamic. The controversies inherited from the debates of the 1980s, such as those involving China's integrity, state capacity, equality versus efficiency, have been further expanded with the introduction of new evidence. Many new concepts have been brought into the area, such as the idea of the non-zero-sum game, the trap of state capacity, value transformation, consensus building, etc (Li, 1997).

Given the evolution of the intergovernmental studies above, this project fits tightly into the existing literature. Despite more than two decades of exploration of intergovernmental relations in China, the literature is deeply flawed in one substantive aspect: intermediate governments are largely missing from the picture. So far, the vast majority of literature focuses on either central/provincial governments or grassroots level governments. This project fills the gap by bringing the missing intermediate players into the discussion.

Methodologically, the current central-local studies are dominated by either legal-institutional methods or cultural methods. Contrastingly, this project contributes to the literature by employing statistical analysis. Admittedly, the legal-institutional method is the current paradigm in the area. It is consistent with the legal paradigm that was dominant in the 1940s and 1950s which emphasized formal legal and

institutional explanations.[4] This model takes formal legal and institutional arrangements as explanatory variables from which the state of the central-local relationship is interpreted. It tends to define the state of the central-local relationship based on various formal and institutional laws, regulations, and policies. It often adopts a detailed configurative research strategy. However, this method is flawed in its static nature of analysis.

Cultural method is also widely used in the literature. It tries to offer an alternative to the rigid legal-institutional brand of analysis. Cultural method, as Chung (1995) argues, originates from the modernization paradigm and its branch theory of national integration. The hypothesis is that stable central-local relations are heavily dependent upon successful value transformation on the part of the locality, since parochial and primordial values prevent the cultivation of loyalty to the nation as a whole—and such loyalty is ostensibly an important prerequisite for sound political and economic modernization. It is a long-term perspective, which often attempts to understand contemporary central-local problems by looking to history. The cultural method emphasizes the macro dynamics of intergovernmental relations: a conflicting circle with one replaced by another in turn. Whenever one trend goes to the extreme (whether to an over-centralized extreme or to an over-decentralized one), the other trend will emerge to balance it. Cultural method postulates the existence of an endless circle without a clear end or long-term equilibrium. However, cultural

[4] However, they are different in at least one respect: the old legal-institutional approach is largely normative while the new legal-institutional approach to studying Chinese central-local relations is mainly descriptive and inclusive in nature. The current legal-institutional model goes beyond narrowly focused formal laws and institutions to describe actual central-local interactions.

method is too broad and too abstract to be analytically useful. In many circumstances, cultural method offers us an abstract theory that cannot be easily tested and hence has very limited empirical values.

This project will borrow the use of a statistical method that has been widely adopted in the study of China's economic issues, including in the study of such issues as monetary policy, tax policy, and state-owned enterprise reform. Statistical method is a quantitative approach which places great emphasis on the concept of generalizability and causality. It bases its research on the discovery of regularities in intergovernmental relations which seem to be more or less universally applicable. Intergovernmental relations are specific and variable driven. The materials that this method works on are long-term datasets, such as expenditure, revenue, income per capita, etc.

The method has several obvious merits. First, it focuses on finding causal relationships. Its efforts at theory-building in general are consistent with the commonly accepted definition of science, since its method tends to deduce conclusions from empirical evidence and is also subjected to empirical testing. In addition, the method defines intergovernmental relations as the causal relationship between variables, focusing on how variables are logically connected; therefore, the method is strong in terms of internal validity. Third, the method is strong in terms of reproducibility since its analysis is based on empirical data. Fourth, the method is especially useful for handling more than a handful cases at a time. Intergovernmental relations in this project involve the discussion of more than one level of government.

To do a case study on each of them is obviously beyond the capacity of any lone researcher. However, the statistical method can analyze multiple variables and subjects in a much more efficient way than any other method can. Finally, the method encounters the tendency to favor particularistic explanations of special cases, which is often the weak point of case studies undertaken according to the legal-institutional or cultural method. It offers a potential means for socializing central-local studies into a more cohesive rather than divided field.

Following behavioralism, the statistical method provides a powerful tool for the study of fiscal decentralization. It is in this fact that this project can benefit the existing literature methodologically. However, this method also has several shortcomings that should be mentioned.

First, the validity of the causal inference. This method first observes regularities and correlations on the basis of prior theories and research and then makes causal interpretations based on those observations. Although the literature generally accepts this procedure as a legitimate method of causal inference, the causality should not be over exaggerated.

Second, the statistical model deduces abstract truths about the central-local relationship from numbers, leaving many detailed interactions untouched. By doing so, it might disguise a lot of detailed information about laws and policies, institutions and structures, and actors. Therefore, this method should serve as a complement to legal-institutional and cultural methods of analysis, not a substitute.

Literature of the Chinese Intergovernmental Fiscal Relations

The subject of intergovernmental fiscal relations has been one of the most thriving areas in contemporary Chinese central-local studies, and indeed the existing literature has explored central-local fiscal relations in substantial depth. Much fruitful research has been pursued on the subject vis-à-vis the debate dealing with decentralization and centralization. The current literature displays a clear tendency to confine itself into two distinct polarities: it focuses on provincial governments on the one hand, and on rural villages, enterprises, and likely rudimental local units on the other. Given this, an element of extreme importance to the discussion has been neglected: intermediate governments. The vast majority of governance takes place at this level. That said however, intermediate governments are neither the places where salient bargains and lively bureaucratic politics happen as they do in center-province interaction, nor are they administrative entities whose policies or plans impose influence over only a small group of people, as the rural village self-governance body usually does. However, those local governments constitute the bulk of administration, politics, economic development, and state-society interactions. They serve as the intermediaries for both the lofty and basic entities in a polity. A central-local literature that does not tend to these intermediaries is inherently flawed. Just as Blecher and Shue (1996, p. 202) described, the current literature is "a behemoth with a head and feet but no body."

In addition, the literature seems to be reaching a consensus that China's economic development since 1978 was initiated and then strongly supported by the

decentralization of power from the center to the province and, ultimately, to even lower levels of government (Feltenstein and Iwata, 2005; Li, 1998; Lin and Liu, 2000; Montinola, Park, Rozelle, and Wong, 1996; Qian & Weingast, 1995; Thun, 2004; Tsui and Wang, 2004; Wong 1991; Zhang, 1999). This local-driven development scenario assumes that local governments, rather than the central and provincial governments, are best able to serve their local economy. Following this logic, China's economic reform has been perceived as a process of successful decentralization of economic power that has effectively stimulated the incentives of local governments to operate more effectively in terms of economic development. A core implication of decentralization theory is that various local governments have gained significant enough fiscal autonomy so that they can finance their developmental goals.

Unfortunately, this implication lacks empirical support. The current literature has extensively studied intergovernmental fiscal relations between the center and the province, and yet, the fiscal relationship as it exists below the level of the provincial government has barely been studied (Marc & Shue, 1996). In most cases, any understanding to be had regarding the various entities of local government and their fiscal relationships to other entities of government has to be tangentially gleaned from other studies that have been done on either the central government or the urban and rural grassroots sectors. Few studies directly target local governments and even fewer study fiscal decentralization at local governments, which should be a key aspect of any intergovernmental study (Bahl, 1999).

This project attempts to fill the gap by bringing various levels of local governments into the literature and empirically detailing the fiscal decentralization scenario in the reform era. Particularly intriguing is the question of whether the trend of fiscal decentralization, which has occurred between the center and provinces, has trickled-down to local governments. That is to say, to what extent has this decentralization reached local administrators? Given the size of China, have the various levels of local governments experienced differing extents of fiscal decentralization? Are there variations in fiscal decentralization at local governments across the nation? What would account for these variations, if they exist? These are important questions for understanding local public finance as well as for understanding power distribution throughout the entire governmental hierarchy.

Research Question and Methodology

The main research question addressed by this project is: *Has fiscal power been decentralized to local governments in the reform era in China?* In the Chinese multi-layer administrative structure, different levels of local government are supposed to enjoy different amounts of fiscal power; therefore, the answer to the research question will help us to understand: (1) how intergovernmental fiscal power is divided among levels of government; (2) the transformation of economic system; and (3) the state of general administrative reforms in contemporary China.

To be specific, this project asks three questions:[5]

1. Has fiscal power been decentralized to county governments nationwide in China?
2. Has fiscal power been decentralized to county governments in Jiangsu Province?
3. Has fiscal power been decentralized to all levels of cities nationwide in China?

Here, usage of the term "fiscal power" requires further discussion. It is a commonly used but ill-defined term in the study of intergovernmental fiscal relations. Generally speaking, it applies to the measure of a particular government entity's fiscal capacity. In this project, fiscal power is defined as a specific government's capability to finance the public services it provides.

[5] The three specific questions addressed by this project cover all types of local governments in China. The reason for framing specific research questions in the above way is largely the result of data limitations (which will be discussed in later sections). The availability of the data has been a challenge for China studies for a long time. For a quantitative study like this project, the data has to be a defining factor not only for the analytical strategy, but also for the research questions to be asked.

Fiscal power can be gauged according to multiple parameters. For example, from the political point of view, a federal system usually leaves more fiscal power to the locality than a unitary system, since the former guarantees relatively more independence and legal and regulatory rights to various levels of local government. Fiscal power also varies among regions in federal situations, and is often dependent on distinctive levels of economic growth, such as GDP and personal wealth. Governments in rich regions are often better prepared financially for service provision than those in underdeveloped regions. Another parameter regularly used in intergovernmental fiscal relations studies is the tax factor, such as tax base and tax rate. Finally, fiscal power can also be measured by a government's revenue (and/or expenditure).

These four types of parameters cover diverse aspects of fiscal power. Therefore, an ideal study of the intergovernmental fiscal relationship has to consider them simultaneously. For the purposes of this study, however, we will focus on the last parameter mentioned above. There are several reasons that justify this. First, China is a unitary system, which means little fiscal independence for local governments from the political and legal perspective.

Second, in a unitary system like China, richer regions do not necessarily provide more revenue to local governments, since the central government can easily seize their resources. Indeed, the economically prosperous regions, such as Shanghai, often become "cash cows" of the national coffer as opposed to being a benefit to their near environs.

Third, the Chinese tax system is very centralized. Although local governments sometimes have limited discretion over revenues generated within their areas of jurisdiction, the ultimate power of drawing tax base and rate is monopolized by the central government. In addition, there is an interesting phenomenon developing in China whereby a government's revenue is often twenty or thirty percent higher than the taxes it collects. The extra tax revenue includes the profit of state-owned enterprises, administrative fees and fines, state-sponsored funds, etc. Therefore, judging a situation based on tax revenues alone might well underestimate a specific government's fiscal power.

Fourth, the revenue (expenditure) parameter is often considered to be the most viable indicator for quantitatively measuring fiscal power. Despite the differences between political and legal systems, economic conditions, and tax factors, a government's fiscal power has to be eventually reflected into monetary terms, i.e., how much it gets and spends in real *yuan*.[6] This parameter further allows for a trans-regional or even trans-national comparison of the state of intergovernmental fiscal relations, regardless of vastly different political and economic situations.

Therefore, this project uses a government's revenue (expenditure) as the major indicator of its relative degree of fiscal power. The details of measurement will be discussed in the following chapters where specific entities of government are studied.

[6] The Chinese currency is *yuan.*

Chinese Administrative Structure

The Chinese polity is a unitary system, one in which only the central government has sovereignty. However, given the size of the country, its administrative structure is divided into several hierarchical entities (Figure 1-2). The central government-province-regional city-district (or prefecture or county) dimension—which is illustrated by the bold line in Figure 1-2—is the main skeleton of contemporary Chinese governmental structure. China has twenty-seven provinces. While the number of regional cities varies, a province has roughly eight regional cities. An average regional city usually consists of about ten districts, prefectures, and counties together.

Provinces and regional cities are comprehensive levels of local governments, since their jurisdictions cover significant portions of both rural and urban areas. The government entities below regional cities include districts, prefectures, and counties, and are divided according to their geographic locations. For example, a district is usually the urban core of a regional city, and therefore is a highly urban-oriented level of government. A county runs the opposite direction: their jurisdiction is predominantly over rural areas. A prefecture is a special type of city, which used to be called a county but was renamed a prefecture later when its economy grew quickly in the reform era. The urbanization rate of a prefecture is often higher than that of a county, but lower than that of a traditional city (Song & Zhang, 2002; Park, Rozelle & Wong, 1996). Finally, districts, prefectures and counties are at same level of the Chinese administrative hierarchy and there is no vertical relationship between them.

There were 250 districts and 393 prefectures in 2001. In contrast, China has more than 2,000 counties, where the majority of Chinese population lives (*Urban Statistical Yearbook of China*, 2002).

There are some other governments underneath the district, prefecture and county levels, such as street offices and townships. However, unlike the local governments in Figure 1-2, they serve only as dispatching units of district, prefecture or county governments (Remick, 2002). Their functions are narrow and most of them do not have independent budgets. Therefore, I do not include them in Figure 1-2 as notable levels of local government.

Besides this main skeleton, China has also developed two types of special governing entities: municipalities and vice-provincial cities. As Figure 1-2 shows, a municipality is a special metropolitan area that is directly under the control of the central government. A municipality is a city with the highest level of administrative status, equal to a province. China used to have three municipalities: Beijing (the capital of China), Shanghai (the economic center of China) and Tianjin, and all of them were established in early 1950s. Chongqing was added as the fourth municipality in 1997. These four municipalities have tremendous economic and political influence in China. Since a municipality is at an equal level of status with a province, its immediately subordinate levels of government (districts, prefectures, and counties) have equal status of fiscal administration with regional cities under a province (Wang, 2002).

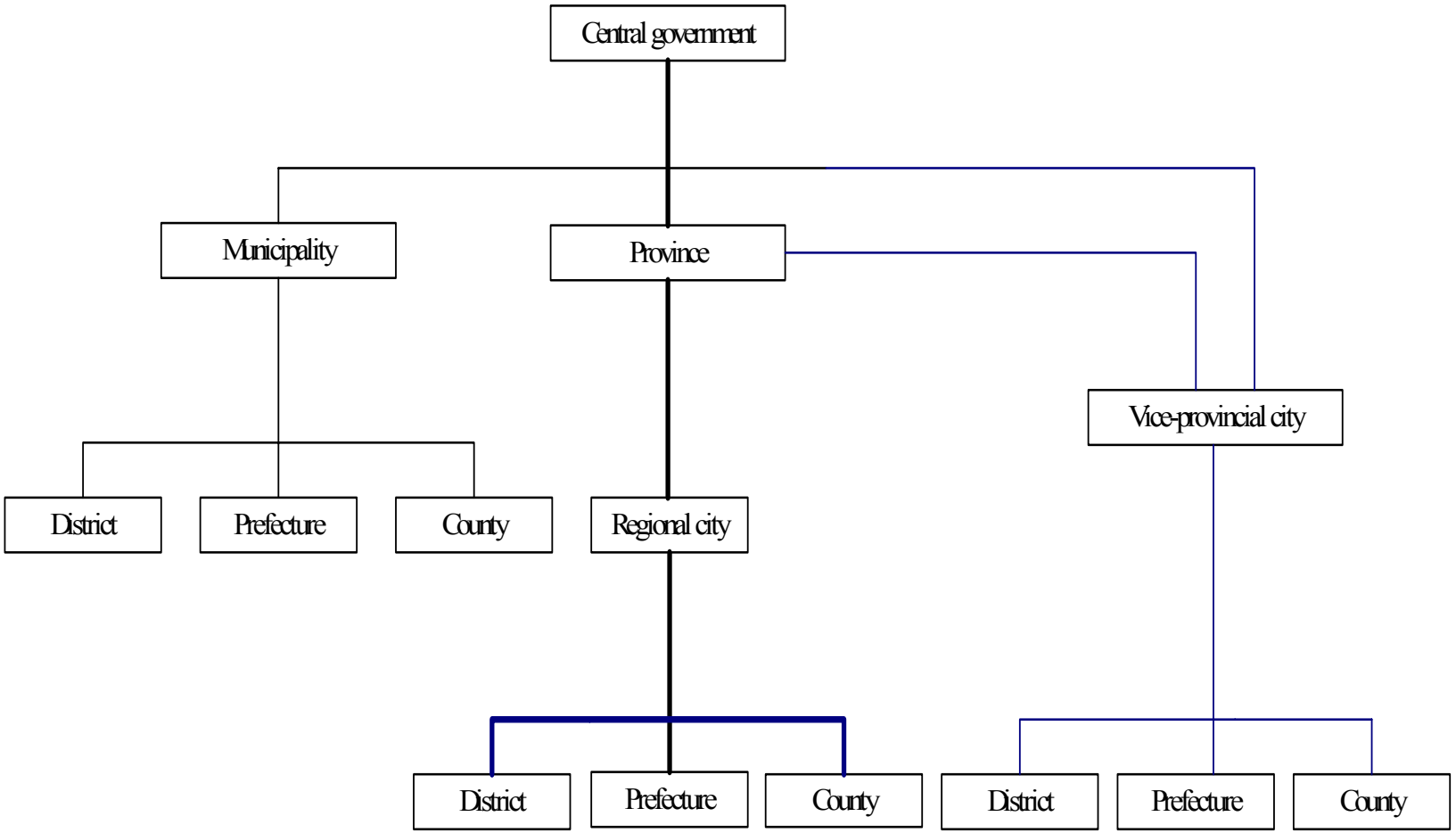

Figure 1-2: Administrative Structure of China

A vice-provincial city is another special type of government, which was created in the reform era. It is usually the provincial capital or a regional city with a strong economy. According to Chinese administrative law, it is subjected to the administrative rule of the province (*Urban Statistical Yearbook of China*, 1987). However, the State Council (the Chinese central government) decided to expand the economic decision-making power of vice-provincial city in 1983 (Wei, 1994). Rather than functioning as a subordinate to its province, the vice-provincial city has been given equal economic decision-making power with the province since then. The city reports its economic activities directly to the central government, not to the provincial government. However, compared with a municipality that is totally independent from any province, a vice-provincial city is still subject to the rule of the province in matters of non-economic administration (Wang, 2002). As Figure 1-2 displays, the administrative status of a vice-provincial city is ambiguous since it serves two "bosses," the central government and the provincial government. It usually enjoys higher status than a regional city, but lower status than a province. However, its immediately subordinate governments (district, prefecture and county) are administratively equal to those directly under the control of a regional city. There are fifteen vice-provincial cities in China today.

This project plans to study how fiscal decentralization has occurred at each level of local government in the reform era. However, given the data limitations that affect its inquiries, this project is unable to treat each type of local government equally. For the purposes of this project, county-level governments (including district,

prefecture, and county levels) and regional cities will constitute the main focus. Since they constitute the most important layers of local government in China, this project can contribute a relatively comprehensive picture of the intergovernmental fiscal relationship among Chinese local governments to the current discourse.

Classical Welfare Theory

This project studies the state of fiscal decentralization at the local government level according to classical welfare theory. It is a theory that developed from several classical welfare economists, such as Pigou, Bentham, and Pareto. The theory basically states that the performance of economic institutions can and should be judged according to whether they provide economic goods in quantities that accord with consumer's relative desires for those goods. High marks are given to economic systems that display a close fit between the relative terms on which economic goods are made available and people's relative preference for those goods. Although the theory originally targeted the behavior of private businesses, theorists started asking similar questions of public sector institutions in the 1940s. For the private sector, the competition between producers helps lower the prices of goods and services and thus increases the state of consumer welfare. Would competition between different governments in the public sector also increase the efficiency of public goods provision? Classical welfare theory gives affirmative answers to this question.

The theory first acknowledged the problem of market failure because of the public nature of some goods and the free-riding problem (Samuelson, 1954). The

public nature of some goods determines that individuals do not have an incentive to reveal their preferences for them. Instead, everyone has an incentive to understate one's true preferences so as to reduce his/her own tax burden, while still hoping to be able to enjoy the public good supplied by others. Markets therefore fail to provide public goods efficiently, and some form of government intervention is needed. Classical welfare theory offers a solution to solve this efficiency problem in the form of governmental service provision.

The core idea proposed by the theory is laid out by Charles Tiebout (1956): the stratification of public goods, i.e., the character and nature of public goods that benefit different groups of the population largely influence the multi-layer public financial structure. Like any private goods, public goods vary according to the nature of those goods, who benefits from them, and the preferences of consumers for them. For example, some services, such as a national defense, are not suitable for local governments to provide. However, other services, such as education and fighting crime, can be provided more efficiently by local governments. This stratification of public goods imposes the need for a rationalization of why public finance is necessary for different goods between and across different levels of governments. It then naturally induces the question: which level of government should provide a particular type of public goods for the sake of efficiency?

In the theoretical world built by Tiebout (1956), there is perfect residential mobilization, no spillovers of benefits across regions, and costs of public service provision increase as additional people receive services. He finds that, in contrast to

the prevailing assumption that government will usually provide inefficient levels of public goods, decentralized systems act just as efficiently as regular markets because of the quasi-competitive environment composed of multiple layers of governments.

The Tiebout model has had a large impact on debates about fiscal decentralization (centralization) and the proper roles of central, regional, and local governments. It highlights the stratification and inter-connections between levels of governments. Being different entities, governments at different levels often have distinctive priority and capability over public service provision, which naturally requires them to divide fiscal resources according to the unique situation of each government. A large literature about public finance has built on Tiebout's insights about the distribution of public resources to better match local demands for various public goods (Donahue, 1997; Hoyt and Rosenthal, 1997; Kollman, Miller and Page, 1997; Mieszkowski and Zodrow, 1989; Whiteman, 1987).

This project adopts classical welfare theory in order to study the Chinese intergovernmental fiscal relationship. It believes that Chinese governments should also rationalize the stratification of their internal fiscal arrangements so as to provide public services and goods efficiently. What the Chinese intergovernmental fiscal relationship includes are multiple revenue (expenditure) divisions and interactions between central and local governments and among local governments, and these are the targets of the analysis conducted herein.

Method

The basic model used throughout the project is the same: a multivariate ordinary least squares (OLS) regression model. It is a basic but powerful and commonly used regression model in the social sciences, even though it is not as sophisticated as some other more advanced regression models are.

Utilizing classical welfare theory as a starting point, I will first explore the factors that have influenced or could influence fiscal decentralization at certain levels of government, such as land size and population, income and wealth, demands for public services, and the fiscal situations of particular levels of government. Based on that, I will develop a group of hypotheses, which will serve as indicators for the interpretation of the status of fiscal decentralization in China. These hypotheses will be tested with the available datasets. Findings and conclusions will be primarily drawn from the test results.

I will explore both changes over time and cross-sectional differences in the extent of fiscal decentralization among different types of local governments. The basic regression model for the hypothesis-testing takes the form:

$$Y_t == a + bC_t + cX_t + p_t + t_t + e$$

where Y is the measure of fiscal decentralization. C is a vector of control variables. X is the vector of explanatory variables that are going to be tested in the regressions. "p" is a geography-specific disturbance term (such as region and province). "t" is a time-specific disturbance term and "*e*" is the normal disturbance term with zero expected mean.

Data Structure

Data is the most important factor that has constrained previous researchers from pursuing a quantitative study of fiscal decentralization at the local government level. China has a complex and often changing local government structure. In addition, the fact that China still lacks transparency and standardization in statistical filing and reporting protocols also makes a quantitative study on fiscal decentralization in China very difficult. The statistics about all levels of local governments sometimes are "notoriously" sketchy, inconsistent, and unsystematic. The caliber of the statistics also changes from time to time, which makes the data collection and later data integration very laborious and tough. I have had to search a wide range of statistical publications for data, and I have had to use them as mutual references so as to adjust the caliber of some variables. In addition, for many parts of the datasets in this project, I needed to manually collect them, input them into computer databases, and finally integrate them.[7]

Collecting and processing data proved time-consuming, but extremely rewarding. The three datasets I generated for this project have enabled me to pursue empirical studies of fiscal decentralization at the local government level for the first time in the field. Each dataset is unique by itself and provides useful and comparable information about different levels of local governments. Furthermore, two datasets

[7] The process of integrating data involves unifying the units of several variables. For example, revenue, expenditure and GDP for counties were counted by 10,000 *yuan* in early statistics (before 1993) and by 100,000,000 *yuan* in later statistics (after 1994). Therefore, I have had to transmit them into same scale.

include nationwide information about county and various cities, which make nationwide generalization of fiscal decentralization possible.

Each dataset includes cross-sectional data on certain local-level governments as well as longitudinal data over some periods. The cross-sectional data have allowed me to explore the static relationship among the pertinent variables, and the longitudinal data has been used to capture the dynamics overtime.

The first dataset is a three-year panel dataset that covers all China's counties in 1992, 1995, and 1999. The data is primarily drawn from a panel dataset recently compiled by the Ministry of Finance, called "Major Social and Economic Parameters on Counties" (MSEPC). It is so far the most comprehensive panel dataset on public finance of county governments on record, covering twenty-five major variables, ranging from a county's demographic features to its social, economic, and fiscal data. It provides a significant amount of information that can be used to examine the fiscal situation of counties across the nation. However, this dataset also has an obvious defect: It only has data for three non-consecutive years, which reduces the generalizability of the dynamic trends of fiscal decentralization presented by the data.

In order to correct this defect, I use another complementary dataset so as to study a longer and consistent trend of fiscal decentralization in counties in Jiangsu Province. This dataset includes the latest eight-year consecutive panel dataset of one of the most developed provinces in China: Jiangsu Province. The dataset is drawn from the *Jiangsu Statistical Yearbook* (various editions) and covers all counties in Jiangsu from 1994 to 2001. So far, Jiangsu is the only province in China that

consistently publishes comprehensive county data in its provincial statistical yearbooks. The eight-year dataset provides rich information on the latest trends of fiscal decentralization at the county level in Jiangsu. The findings from Jiangsu can be used as a complement to the findings pulled from other counties nationwide.

The third dataset is drawn primarily from *Urban Statistical Yearbook of China* (various years). The *Yearbook* is compiled by the Statistical Bureau of China, the highest Chinese statistical authority; therefore, the data from the Yearbook is believed to be the most authoritative and comprehensive information about cities in China. My dataset covers a broad range of socioeconomic variables pulled from all levels of government administration in cities from 1987 and 2001. Therefore, the final dataset consists of fifteen years of cross-sectional observations from cities in China, which represent the dynamics of fiscal decentralization as it has progressed in the reform era.

Limits of the Research

Besides the limits inherited in the statistical analysis, which were mentioned earlier, there are two additional weaknesses that come with the datasets used in this project.

The first is the authenticity of the data. Most Chinese scholars have agreed to maintain a critical attitude towards data released by any level of Chinese government. Various governments in China have sometimes intentionally exaggerated or reduced some statistics in order either for the sake of earning rewards or avoiding punishment

from their superior governments. Sometimes they have simply failed to record certain important sources of data, such as extra-budget revenue. There is little way for outside researchers to validate the authenticity of the public data. Even though the quality of Chinese official data has been significantly improved in recent years, the question of authenticity is still a good reminder for China observers to be cautious when drawing conclusions about fiscal decentralization in contemporary China.

The second limitation involves the inconsistency of data recorded by different levels of governments. One of the primary goals of this project is to tell whether or not fiscal power has been systematically decentralized from the center down to various levels of local governments. The ideal situation would be that all governments adopt the same sort of statistical framework so that the data used across governments would be completely consistent. However, the datasets used in this project do not meet this expectation. Indeed, all three of the datasets exhibit different structures. For example, the dataset for nationwide counties provides data only for local revenue, the revenue collected for a county's usage only. In contrast, the dataset for counties in Jiangsu Province lists only total revenue, the revenue that includes two parts: local revenue and revenue remitted to the superior governments. Although the three types of analysis of different levels of local governments can be used to check each other, the data problem may still diminish the substantiveness of any systematic comparison made across different levels of local governments.

Chapter Two

Fiscal Decentralization at the Level of Nationwide County Governments

Introduction

As discussed in the first chapter, the intergovernmental fiscal relationship between the five layers of governments in China has undergone significant transformation throughout the reform era. Since the 1970s, fiscal decentralization is widely believed to have been a crucial institutional arrangement which allowed progress to be made in terms of Chinese economic growth and in terms of administrative reform (Lin and Liu, 2000). Through reforming the highly centralized vertical fiscal relationship that once existed between levels of government and through delegating fiscal power downward, the center has provided incentives as well as opportunities for increasing regional economic welfare by modifying levels of economic growth and administration according to the preferences of the regions (Burns, 2000; Burawoy**,** 1996; Montinola, Qian, and Weingast, 1995). Some even state that fiscal power is so overly-*de*centralized that the center is losing its capacity to effectively maintain the unitary system (Wang and Hu, 1999; Wong, 1991).

The current literature has explored the intergovernmental fiscal relationship between the center and the province in substantial depth, and yet, the fiscal relations below the level of the provincial government have barely been studied. This chapter focuses on fiscal decentralization as it has progressed at a particularly important level of local government—the county. China has around 2,100 counties that manage an

average size population of nearly a half million residents each. The county has historically formed the administrative backbone of all regimes in Chinese history, and it has been a key focus of local government studies on pre-1949 China. The triple-layer structure of center-province-county has remained almost unchanged throughout the twists and turns of history in China as the stanchion of administration. Most counties have shown extreme stability in their territories, cultures, and even names. Many provinces, regional cities, and townships have shifted names and boundaries over time, but many if not most counties have endured hundreds or thousands of years of history without significant changes – demonstrating more stability than any other layer of Chinese government. Consequently, they constitute a significant source of personal identity for most Chinese, especially rural Chinese. As if to underscore this point, the Chinese government's authoritative *Who's Who in China: Current Leaders*, which reports the native birthplace of officials born in all eras and locales in China's tumultuous twentieth century, chooses to identify the native place of most officials by the county from which their family hails, rather than the province, regional city, or township.[8]

Counties also hold a crucial status in contemporary China's political economy, with more than a half of the national GDP and eighty percent of the population living under the rule of county governments. Moreover, since many counties boast populations well over a million, they are not only fairly large administrative units; many of them even come close to constituting whole economies

[8] Who's Who in China: Current Leaders (1994 Edition), (Beijing, Foreign Languages Press, 1994).

in themselves. According to one study, the industrial output managed under the jurisdiction of the counties already accounted for more than half of the national aggregate industrial output by the 1980s (Xie and Ling, 1996). It is fair to say that counties are still the nuclei of local governance, despite the rapid urbanization that China has experienced in recent years.

However, unlike the relatively easy availability of data about the central and provincial level governments, the biggest hurdle to performing such a study as this is acquiring information about the county governments in China. Because of severe data limitations, previous scholarship has been largely unable to yield accurate estimates of the fiscal situations of the counties. A recently compiled panel dataset in the Ministry of Finance, called "Major Social and Economic Parameters on Counties" (MSEPC), has allowed me finally to address this issue. The MSEPC includes data from all Chinese counties for the years 1992, 1995, and 1999. This is the most comprehensive panel dataset on public finance originating at the level of county governments so far. It covers twenty-five major parameters, ranging from a county's demographic features to its social, economic, and fiscal data. It provides a significant amount of information that can be used to examine the fiscal situations of counties across the nation.

This chapter focuses on the fiscal patterns of county governments and empirically examines the extent and variation of fiscal decentralization at the level of the county. By filling the vacuum in the literature regarding the intergovernmental fiscal relationship, this study contributes to a more detailed empirical understanding

of the public finance situation of counties, and to the status of the Chinese intergovernmental relationship in general.

This chapter has two sections. The first section explores the factors that have an impact on fiscal decentralization, and develops ten hypotheses regarding the state of fiscal decentralization at the level of county governments. These hypotheses are tested with the MSEPC dataset in series of multivariate ordinary least squares (OLS) regressions in the second section. The testing results and their implications are also discussed in that section, followed by a conclusion about the intergovernmental fiscal relationship as it is manifested at the county level.

Working Towards Testable Hypotheses

The first problem in implementing such an empirical study is to define fiscal decentralization.[9] As the literature has shown, it is a complex issue that depends on what are often ill-defined lines of authority and decision-making power inside the administrative hierarchy. It is rare that any single measure is immediately identified as capturing all dimensions of fiscal decentralization. Sometimes more than one measure is analyzed and then results are combined in summary statistics. Or, the results of multiple analyses may be presented, allowing readers to draw conclusions of their own. In practice, the issue of measurement is dictated by validity, availability, and easiness of interpretation.

This study defines fiscal decentralization as a county's local revenue over expenditure. In China, a county's budget usually has three parts: local revenue, remitted revenue, and expenditure. Local revenue is the portion of the total revenue generated within the jurisdiction of the county, which is for the county's usage only. It is the county's proposed upper limit of spending.[10] Remitted revenue is the difference between a county's total revenue and its local revenue, which is submitted to the county's superior levels of government. Expenditure is a county's actual spending. A county's budget for these three parts is determined by the negotiations

[9] It should be mentioned that while this study focuses on fiscal decentralization, centralization is indirectly measured as well. Generally speaking, a disadvantage of a decentralized system is an advantage of a centralized system, and vice versa.

[10] According to the Budget Law of China (1995), all local governments, including county governments, should follow the rule of expenditure determined by revenue, balance budgeting, no deficit [*liangru weichu, shouzhi pingheng, bulie chizi*], i.e., a county's expenditure should be lower or equal to its local revenue.

that take place between the county and its directly superior governments.[11] Theoretically, a county should match each *yuan* (Chinese currency) it spends with its local revenue. Therefore, a county's local revenue over expenditure shows the degree of actual matching capacity over its spending, since the amount of local revenue is determined through negotiation with its direct superior. Such a measure explicitly tells how much of fiscal resources have been decentralized to the level of county governments.[12]

Table 2-1: Summary of a County's Local Revenue over Expenditure[13]

Local revenue over expenditure (%)	**Nationwide**	**East**	**Middle**	**West**	**Municipality**
1992	1.21	1.09	1.13	1.33	1.03
1995	1.37	1.28	1.28	1.49	1.21
1999	0.54	0.59	0.64	0.44	0.57

(Calculated from the MSEPC)

Table 2-1 is the summary of county's local revenue over expenditure. A county nationwide had more capacity to finance its spending in 1992, which had been further expanded in 1995. However, the same county could only finance slightly more

[11] The directly superior governments over counties vary from municipality to vice-provincial city and to regional city, depending on how a county is established in the administrative hierarchy.

[12] If there is no specification, the "county" here also refers to an inclusive entity. This chapter does not distinguish between county and township (village) due to the difficulty of accessing the fiscal information of towns (townships). For example, a single province, such as Jiangsu Province, has more than 1,800 towns (townships). Therefore, the county's local revenue in the data set includes the local revenue of all towns (townships) within its jurisdiction, so that this variable does not measure the extent of the division of power below the county and its subordinates.

[13] The Western Region includes those provinces on the lists of "Western Region Great Development", such as Inner Mongolia, Shaanxi, Ningxia, Xinjiang, Qinghai, Tibet, Gansu, Sichuan (Chongqing), Yunnan, Guizhou, and Guangxi; The Eastern region includes Hainan, Fujian, Jiangsu, Zhejiang, Guangdong, Guangxi, Hebei, Shandong, and Liaoning; and the rest of the provinces are categorized as Middle. Municipalities are cities that are directly under the control of the central government. They include Beijing, Shanghai, and Tianjin and Chongqing. However, Chongqing is not included as municipality for this study, since for most of time in 1990s, Chongqing was part of Sichuan Province. This type of categorization is consistent with the authoritative criterion adopted in the *Statistical Yearbook of China*.

than half of its spending in 1999. This indicates a sharp decrease in fiscal power for a county government, and it also implies that a county government in this position would have trouble sustaining its spending. This nationwide trend can also be seen to be taking place at the regional level. This study attempts to explain these observed trends.

Here one thing should be mentioned. Those counties under the municipalities are different from the vast majority of counties under the regional cities and vice-provincial cities. As discussed in Chapter One, a municipality is a provincial-level city that is under the central government's direct control. It enjoys a wide range of administrative and fiscal power that is equal to that of a provincial government.[14] As a result, those counties under the municipalities enjoy the same administrative status as the regional cities, and they are therefore one ladder rung higher than those counties that fall under the regional cities in the Chinese administrative hierarchy (Figure 1-2). Therefore, although they are still given the label of "county", those counties under the municipalities are actually at the 'regional city' level of administration. This chapter focuses on those counties that—in terms of the above-outlined hierarchy—are under the regional cities and vice-provincial cities. However, those counties under the municipalities are also included in the analysis in order to complement the overall picture of fiscal decentralization at the county level. All this is to say that readers should take note of the uniqueness of those counties that fall

[14] There were three municipalities before 1997: Beijing, Tianjin, and Shanghai. The fourth one, Chongqing, was added in 1997.

under the authority of the municipalities, and be aware of how they are different from other counties.

The general approach of this study is to identify the factors that fit with a trend of fiscal decentralization, and then to turn these factors into testable hypotheses. The hypotheses will be tested (in the next section) to tell if these factors can explain the observed variation in fiscal decentralization at the county level. There are at least five categories of factors that might impact fiscal decentralization at the county level:

1. Basic conditions relating to the land area of the county, the size of its population, and geographical distribution of the population
2. The wealth of the county
3. The demand for public service(s)
4. A county government's financial condition
5. Macro economic and fiscal policies of county governments

The size of the county both in terms of land area and population has potentially important implications for fiscal decentralization. Classical welfare theory has repeatedly argued that a large jurisdiction with a significant amount of population lends more credence to the establishment of a decentralized fiscal system for the sake of enhancing local welfare. This is a fairly obvious point in certain ways. This immediately suggests

Hypothesis 1*: The larger the land size a county has, the more decentralized, other things being equal, should be the fiscal power at the county.*

The relationship between a county's population and fiscal decentralization needs further consideration in terms of the scale of service provision. Many types of services provided by the county, such as schools, hospitals, and public security, have important relationships to the size of the population. These types of services are public goods, which indicate that additional residents can consume units of service output without reducing the level of consumption of anyone else. That is to say, the unit cost of service varies inversely with the size of the population, before the service exhausts the advantage of the optimal part of the arc of a scale economy. Therefore, in relatively larger counties, a decentralized fiscal system offers more opportunities for fully utilizing the public service. This suggests

Hypothesis 2*: The larger the population of the county, other things being equal, the more decentralized should be the fiscal power at the county.*

In addition to the simple aggregate population size, the distribution of the population in a county is a variable of equal importance for determining the optimal degree of fiscal power distribution. A county with more township governments often faces a more thinly spread population across the county. This kind of a situation increases the difficulty of effectively managing and serving a locality by a centralized power center. This suggests

Hypothesis 3*: The more the number of townships a county has, other things being equal, the more decentralized should be the fiscal power at the county.*

A county's affluence seems to have the opposite effect on the intergovernmental fiscal relationship than would perhaps be expected. First, there are

some studies (Oates, 1985; Bahl and Nath, 1986) indicating that the less affluent countries often have a much more centralized fiscal system than the more affluent countries, partially due to the higher cost of fiscal decentralization (Wheare, 1964) and partially due to the necessity for developing countries to centralize their scarce fiscal resources (Martin and Lewis, 1956). Following this argument, China, being a developing country, should display a relatively centralized fiscal system.

However, such an argument is not closely relevant to this study, since the positive relationship between wealth and decentralization is limited to the comparison between developing and developed countries. This study focuses on the counties within the same country. As Wallis and Oates (1988) argue, wealthier polities tend to engage more in income redistribution, and this activity is highly elastic to the wealth level. According to classical welfare theory, local governments have quite limited advantages in this area, since local provision of income redistribution would encounter free-riding problems. Therefore, an affluent county should see more of its fiscal power being centralized to its superiors for the purpose of redistribution. I use two variables to measure a county's wealth. The first is the personal saving per capita in a county. This presupposes that

Hypothesis 4*: The greater the level of the personal saving per capita in a county, the less decentralized, other things being equal, should be the fiscal power of the county, as a result of a higher level of county involvement in redistributive efforts.*

The second measurement is the geographic location of the county. The nationwide counties can be categorized into three groups according to their location:

western, middle, eastern China. I further list those counties under the four municipalities separately so as to examine them as a special group. According to the MSEPC, the wealth of an average county varies significantly between different regions in terms of its wealth (personal saving per capita) (Table 2-2).

Table 2-2: The Wealth of the Counties Measured by Personal Saving (*yuan* per capita)

Year / Location	1992	1995	1999
Western	493	1,127	1,871
Middle	658	1,526	2,729
Eastern	986	2,249	4,329
Municipality	2,000	5,399	10,438
Average	654	1,502	2,669

(Data source: the MSEPC)

It is clear that the counties of different regions have distinctive levels of wealth. Those counties in eastern China are much more affluent than those in both middle and western China. In addition, wealth disparities between regions steadily increased between 1992 and 1999. These factors together contribute a need for fiscal equalization. Therefore, the location of the county can be used as another measurement of wealth. It suggests that

Hypothesis 5: *Other things being equal, a county in eastern China should have less decentralized fiscal power than a county in middle and western China, as a result of a higher level of involvement in fiscal equalization.*

The third category of factors concerns the taste and intensity of public service demand. Like any other level of government, a county government has to provide a

series of public services to its local residents, such as medical service, education, public security, sanitation, and many others. Classical welfare theory generally believes that a greater diversity of taste and intensity regarding public services seems to be better attended to in a more decentralized fiscal system.

In China, most counties are primarily agriculture-based administrative units, which have a rather low urbanization rate (Table 2-3).

Table 2-3: Urbanization at the County Level in China

	Urbanization rate (%)	Number of counties with above 50% of urbanization rate
1992	15.47	99 (out of a total of 2,081 counties)
1995	16.59	100 (out of a total of 2,088 counties)
1999	18.08	108 (out of a total of 2,084 counties)

(Data source: the MSEPC)

Although the urbanization rate at the county level has been increasing over the years, the average percentage rate remained below the twenty percent until 1999. This fact makes it—for our present purposes—a particularly useful parameter for measuring the demand for public services in these agriculturally-based counties. Peasants and urban residents at the county level exhibit a very distinct structure of demand for public services. In China, urban residents enjoy enormous privileges compared to their rural cousins regarding services and issues like health care, unemployment, price subsidies, quality residence, and other things. In addition, urban residents do not need to pay the bills for elements of their local infrastructure, such as roads, schools, and medical centers. Peasants have to finance most of these items

from their own pockets. Therefore, the different structure of demand for services that exists between rural and urban residents at the county level suggests that

Hypothesis 6: *The larger the fraction of a county's population residing in urban areas, the more decentralized, other things being equal, should be the fiscal power enjoyed the county.*

Besides the specific service provision interests involved in this equation, the intensity of service demand across counties matters for assessing differing degrees of fiscal decentralization. Since the information about medical service is available in the MSEPC, I use the ratio of hospital beds per 10,000 residents to measure the level of demand leveled against a county's capacity for service provision. A lower ratio implies greater demand for the medical service, which implies in turn a greater need for fiscal decentralization. This idea supposes that

Hypothesis 7*: A county with a higher number of hospital beds per 10,000, other things being equal, should have a less decentralized fiscal system.*

The fourth category of factors is a county's capacity for financing its missions. Greater capacity implies more fiscal resources residing in the hands of counties. The MSEPC provides two variables that directly represent a county's fiscal power: local revenue per capita and expenditure per capita. They measure a county's capacity to finance public services from the revenue and expenditure perspectives. They suggest

Hypothesis 8*: The greater the level of local revenue per capita of a county, the more decentralized, other things being equal, should be the fiscal power of the county*; and

Hypothesis 9*: The greater the level of expenditure per capita of a county, the more decentralized, other things being equal, should be the fiscal power of the county.*

According to the Budget Law of China (1995), all local governments, including county governments, should follow the rule of expenditure determined by revenue, balanced budgeting, and a zero deficit [*liangru weichu, shouzhi pingheng, bulie chizi*]. This is the fundamental rule of fiscal discipline that is imposed upon a county government. I use a county's budget balance (its local revenue minus its expenditure) to measure the degree of fiscal discipline that is imposed by its superior government. Following the Budget Law, a positive budget balance in a county implies more effective fiscal discipline, and therefore, the county spends less public resources than it could spend. It suggests

Hypothesis 10*: The greater positive budget balance a county creates, the less fiscal decentralization it has, other things being equal.*

In addition, a county's revenue base is an important factor for determining its fiscal power. In China, the predominant economic base for a county government is agriculture and related labor-intensive industries. A county's laborers are divided into two major categories: those who work in traditional farming sectors, and those who work in more profitable non-farming related sectors, such as manufacturing,

transportation, and construction. It is obvious that the latter category contributes more to a county's revenue than the farming sector does. It suggests:

Hypothesis 11*: A county with a higher ratio of non-farming laborers, other things being equal, should have more decentralized fiscal power.*

The final category of factors addresses the national fiscal policies that have ramifications for a county's fiscal power. In China, there are about 560 counties that are designated as "Counties in Absolute Poverty" (CAP).

Table 2-4: Wealth Disparity between the CAP Counties and Non-CAP Counties (*yuan*)

	Saving per capita		**GDP per capita**	
Year	CAP	Non-CAP	CAP	Non-CAP
1992	350	771	n.a.	n.a.
1995	769	1,783	n.a.	n.a.
1999	1,377	3,161	2,609	5,875

(Data source: the MSEPC)

Table 2-4 shows the wealth disparity between the CAP counties and non-CAP counties. According to the state's "8.7 Poverty Relief Plan," a CAP county should enjoy special fiscal assistance that would be meant to reduce its poverty, including measures such as reduction and remission of revenue that should be submitted to the central government, special loans, and transfer-payments. This suggests

Hypothesis 12*: A fiscal system should be more decentralized in a CAP county than in a non-CAP county, other things being equal.*

As with a CAP county, most minority counties in China also need special assistance, since they are often located in economically underdeveloped regions (Table 2-5).

Table 2-5: Wealth Disparity between the Minority and Non-Minority Counties

	Saving per capita		**GDP per capita**	
Year	Minority	Non-Minority	Minority	Non-Minority
1992	506	711	n.a.	n.a.
1995	1,117	1,654	n.a.	n.a.
1999	1,798	3,016	3,716	5,409

(Data source: the MSEPC)

In addition, the central government also designates a status of "autonomy" to those minority counties, which is supposed to grant minority counties more discretion over their county affairs than non-minority counties. This suggests that

Hypothesis 13*: A minority county should have a more decentralized fiscal system than a non-minority county, other being things equal.*

So far, thirteen working hypotheses about fiscal decentralization have been developed. A summary of the hypotheses is listed in Table 2-6 for easy reading.

Table 2-6: Summary of the Hypotheses for Nationwide Counties

Hypothesis	Independent Variable	Fiscal decentralization	Description
1	Land size	+	A decentralized fiscal system is more efficient in a larger geographic area.
2	Population	+	Greater population often exhausts the scale economies related to public services more efficiently.
3	Number of townships	+	More townships mean a wider distribution of population, and therefore present a greater difficulty for a centralized control.
4	Saving per capita	-	Wealthier counties are "welfare benefit" exporters in the process of fiscal equalization.
5	Eastern China	-	Wealthier counties in eastern China are subject to fiscal equalization.
6	Urbanization rate	+	Urban residents require more public services than rural residents, hence a greater expenditure level.
7	Hospital beds per 10,000	-	A lower hospital bed ratio implies higher demand on medical service expenditure.
8	Local revenue per capita	+	Greater local revenue per capita means greater potential capacity to spend.
9	Expenditure per capita	+	Higher expenditure per capita means more actual spending at the county level.
10	Budget balance	-	A revenue budget surplus implies less expenditure.
11	Ratio of non-farming labors	+	Non-farming laborers contribute more revenue than farming laborers.
12	Being a CAP county	+	A CAP county is supposed to receive additional fiscal assistance which is meant to relieve its poverty.
13	Being a minority county	+	A minority county should enjoy a higher level of "autonomy," including fiscal autonomy.

Fiscal Decentralization at County Governments, Nationwide and Regional Evidence

Data

The panel data for regressions come from the MSEPC, which covers twenty-five demographic, social, and economic parameters for all counties in China in 1992, 1995, and 1999.

Table 2-7 is a sample county reported on in the MSEPC. With this panel data set, I can explore fiscal decentralization at the county level nationwide and across the region over a period of the time.

Regression Model

The multivariate ordinary least squares regressions (OLS) are utilized so as to test the thirteen hypotheses about fiscal decentralization at the county level both nationwide and by regions. I also include the year factors, 1992, 1995, and 1999, into the model to see if there were consistent time patterns in the fiscal power distribution at the county level.

Finally, it should be noted that the hypotheses being tested in the regressions are not based on a fully specified and formally complete model. They instead attempt to bring together many relevant factors and to put them up against the intergovernmental fiscal relationship so as to examine the extent to which the emergent patterns of county-level fiscal power distribution can be explained.

Table 2-7: A Sample of the MSEPC
Major Social and Economic Parameters for Jintang County of Sichuan Province

Number of townships (townships)	Unit	24	24	24
Number of townships	Unit	473	463	463
Land size	Km^2	1,156	1,156	1,156
Total population	10,000	81.4	82.3	83.7
Rural population	10,000	74.9	75.5	74.5
Rural labors	10,000	46.9	47.9	44.7
Rural labors in agricultural production	10,000	40.5	36	30.9
Total power of agricultural machinery	10,000 kw	10.7	10.6	13.7
Fertilizer	Ton	22,211	26,493	28,595
Soil membrane	Ton	285	312	698
Size of agricultural products	Acre	124,915	130,470	129,024
Size of food products	Acre	95,495	95,558	91,412
Food outputs	Ton	362,942	365,046	377,661
Meat outputs	Ton	29,150	44,405	55,852
GDP*	10,000 *yuan*			514,313
Agricultural GDP	10,000 *yuan*			124,978
Industrial GDP	10,000 *yuan*			206,400
Local revenue	10,000 *yuan*	6,261	5,951	12,645
Expenditure	10,000 *yuan*	5,972	5,348	17,636
Personal savings	10,000 *yuan*	29,872	72,044	141,303
Total bank loans	10,000 *yuan*	64,376	123,956	167,315
Total students	Capita		99,695	99,785
Food per capita	Kg/capita	445.9	443.6	451.2
GDP per capita	*Yuan*/capita			6,144.7
Local revenue per capita	*Yuan*/capita	76.9	72.3	151.1
Students per 10,000	Capita		1,211.4	1,192.2
Hospital beds per 10,000	Bed	9.4	18.1	16.6
Students per teacher	Capita		20.4	19.6

(Source: The Bureau of Statistics and the Ministry of Finance, China)

Nationwide Regression Results

Table 2-8 presents nationwide regression results. The first set of hypotheses—Numbers 1, 2, and 3—focus on conditions that are related to the land area of the county, the size of its population, and the geographical distribution of the population.

* The MSEPC does not report the GDP information in 1992 and 1995.

Among the three hypotheses, only Hypothesis 2 is confirmed. There is a positive relationship between a county's population size and its fiscal power. The other two hypotheses display no statistically significant relationships to fiscal power at the county level.

Table 2-8: OLS Regression: The Nationwide Fiscal Decentralization at the Level of County Governments

Independent Variable	Coefficient	P > |t|
Land	-1.92E-07	0.651
Population	**0.001621**	**0**
Number of townships	-0.00037	0.4
Saving per capita	**1.72E-05**	**0**
Western China	(omitted)	
Middle China	**0.050403**	**0**
Eastern China	**-0.04653**	**0.001**
Municipality	0.079319	0.129
Urbanization rate	**-0.08005**	**0.019**
Hospital beds per 10,000	0.000642	0.175
Local revenue per capita	**0.00224**	**0**
Expenditure per capita	**-0.00144**	**0**
Budget balance	**1.29E-05**	**0**
Ratio of non-farming labors	**-0.15733**	**0**
CAP	**-0.04399**	**0**
Minority county	-0.01536	0.194
Year 1992	**0.562706**	**0**
Year 1995	**0.622114**	**0**
Year 1999	(omitted)	
Constant	**-0.61716**	**0**
Adjusted R-squared	0.7436	
N	6,071	

(Data source: MSEPC)

The second set of hypotheses—4 and 5—examine the relationship between a county's wealth and its fiscal power. Both hypotheses propose a negative relationship

because of the process of fiscal equalization that ostensibly takes place across counties in China. However, the negative proposed linkage between personal wealth in a county and its fiscal power is proved to be just the opposite of the reality. A wealthier county tends to enjoy a greater degree of fiscal power than a poorer county. The regression shows mixed results for Hypothesis 5. On the one hand, the counties in eastern China do tend to have relatively less fiscal power than the counties in western China, which partially confirms the hypothesis. On the other hand, the counties in middle China have a higher level of fiscal power than the counties in western China, which contradicts the hypothesis that a county in a wealthier region (middle China) should have a lesser condition of decentralization than a county in a poorer region (western China). Finally, there is no significant relationship between a county's fiscal power and its status of being under a municipality.

The regression results for Hypothesis #'s 4 and 5 together do not support the argument that fiscal equalization is an important determinant of the level of fiscal power of Chinese counties, despite the fact that nationwide wealth disparity is steadily increasing. On the contrary, a richer county tends to enjoy a higher level of fiscal decentralization than a poorer one, and thus there is no evidence to support the idea that the Chinese government in general is making a serious effort to contain and even reduce the income gap between the rich and poor counties.

I used two proxies in Hypotheses #'s 6 and 7 to test the relationship between a county's service responsibilities and its fiscal power. Hypothesis 6 proposes that the urban ratio has positive impacts on fiscal decentralization at the county level.

Hypothesis 7 projects an inverse relationship between the county's available public service capability (hospital beds per 10,000) and its level of fiscal power. However, both hypotheses are rejected by the regression. Table 2-8 shows that a county's responsibility for service provision is negatively related to its fiscal power, i.e., the county which experiences a higher demand for service provision ironically has less capacity to fulfill its responsibilities.

The last set of hypotheses, Hypotheses 8, 9, 10, 11, 12, and 13, are aimed at understanding the impact of macroeconomic conditions and fiscal policies on a county's fiscal power. The regression is able either to approve or reject all these hypotheses except Hypothesis 13.

Hypothesis 8, which projects a positive relationship between a county's fiscal power and its local revenue per capita, is the only hypothesis being supported by the regression. All the rest of the hypotheses are rejected. This essentially means that major economic and fiscal policy factors do not shift fiscal power at the county level in the direction where those factors are purported to lead. For example, according to Hypothesis 11, a county with a larger revenue base (ratio of non-farming laborers) should have more fiscal power. However, the regression shows just the opposite situation.

Note an interesting contradiction between Hypothesis 4 and Hypothesis 11. The regression finds out that a wealthier county (saving per capita) is better positioned to finance its expenditure, and therefore tends to enjoy a higher level of decentralization. However, the regression also finds that a county with a larger

revenue base is negatively related to its fiscal power or, that is, less fiscal decentralization. Since a county with a larger revenue base, for example is often a wealthier county, how can such a county display two opposite tendencies at the same time?

In order to reconcile this seeming contradiction, it is important to understand the difference between the two hypotheses. Hypothesis 11 measures a county's revenue base and Hypothesis 4 measures the impact of fiscal equalization on a county's finances. The regression results show that a county with a greater revenue base actually retains a lesser portion of its revenue, which implies that a greater portion of its revenue is remitted to the higher-level governments than counties with a smaller revenue base. However, the positive relationship between a county's wealth and its fiscal power indicates that revenue remitted into the hands of the higher level governments does not get spent for the purpose of reducing fiscal disparity across counties. Instead, the revenue collected from counties that have a larger revenue base must be getting put to other uses. However, without concrete knowledge about how higher levels of government spend this revenue, this conclusion can only remain tentative.

So far, the regression has tested the thirteen hypotheses. These hypotheses have been developed as the major explanatory factors for fiscal decentralization from the literature of classical welfare theory. Three hypotheses (land, number of townships, and being a minority county) yield no statistical significance. Two hypotheses (those involving population and local revenue per capita) are confirmed

and another hypothesis (being located in eastern China) is partially acceptable. The other seven hypotheses (saving per capita, urbanization rate, hospital beds per 10,000, expenditure per capita, ratio of non-farming laborers to farming laborers, budget balance, being a CAP county) have been proven inappropriate for use in conceptualizing the fiscal situation at the county level.

Now the big question that remains unaddressed involves the discussion of what the fiscal decentralization trends have been at the county level. Has fiscal power been decentralized to county governments? The regression provides only mixed information that can be applied to the answering of this question. Compared to the results for the year 1999, the coefficient of the year 1995 is positive with regard to the subject of fiscal power at the county level. That is to say, Chinese county governments were not witness any statistically significant degree of fiscal decentralization between 1995 and 1999, at least as far as our regression is concerned. However, if we look at the trend between 1992 and 1995, there does appear to have been a moderate expansion of fiscal power at the county level. Therefore, the trend from 1992 to 1999 can be divided into two periods: a moderate period of decentralization first and then a period of steep centralization later. In conclusion, the overall trends of this period can not be characterized by any significant amount of fiscal decentralization taking place at the county level.

Certainly, this research is constrained by limited panel datasets which only give three years worth of detail. A more accurate description of what the trends of fiscal decentralization look like would require more panel datasets, which are

unfortunately unavailable now. However, this regression still substantively challenges the argument that the central government engaged in a consistent and steady pattern of fiscal decentralization vis-à-vis county governments in China throughout the 1990s. Instead, this study cautiously affirms the existence of the opposite pattern, that is, that a dynamic of fiscal *centralization* was a defining characteristic of the intergovernmental fiscal relationship in the 1990s, although there seems to have been a period of reverse that took place in the early 1990s. This argument will be further examined with regard to the counties of Jiangsu Province in the next chapter.

Finally, the broad trend of fiscal centralization can be used as indirect evidence to support the conclusion deduced from the seeming contradiction between Hypothesis #'s 4 and 11. Ostensibly this conclusion states that the revenue extracted from the counties by the central government was used for purposes other than mitigating the fiscal disparities that existed (and still exist) across counties. It is consistent with the observed pattern that counties nationwide are *losing* fiscal resources because they are being extracted from them by higher-level governments.

In the following section, I will further explore the dynamics of the intergovernmental fiscal relationship at the county level by dividing all counties into different regions. This should help to address regional differences and to better explain the nationwide pattern observed in the above regression.

Regressions by Regions

Table 2-9 displays the regression results sorted by regions. For each region, an independent OLS regression has been run so as to test the regional differences in fiscal decentralization at the county level.

In general, the regressions done by region reconfirm the nationwide dynamics that are revealed in Table 2-8, i.e., that there was a moderate trend of fiscal decentralization that took place between 1992 and 1995, which was followed by a trend of deep fiscal centralization that took place between 1995 and 1999. The dynamics of the counties in western and middle China correspond the most closely to the nationwide trend. The counties in eastern China show no difference between 1992 and 1995 in terms of their fiscal power. However, it is clear that their fiscal power was reduced by 1999. This trend is further replicated in the "counties" which fall under the purview of the municipalities, vis-à-vis the Chinese administrative hierarchy.[15] Therefore, it is safe to argue that the overall trend of fiscal power at the county level was not decentralization but centralization for most of the 1990s. This nationwide trend is further echoed by the trends exhibited by the regions.

The nationwide regression supports the existence of a positive relationship between a county's population and its fiscal power (Hypothesis 2). This hypothesis is reconfirmed by the regional regressions. In addition, counties in middle China exhibit a pattern consistent with Hypothesis 1, namely that in a county in middle China there

[15] The regression with municipality shows a sharp drop of identifiable relationships, largely due to the small number of counties under the municipalities.

exists a positive relationship between its land size and its fiscal power. The counties in other regions do not exhibit such a relationship, and thus do not support the hypothesis. Finally, while it is still not statistically significant in western and middle counties, the number of townships in eastern counties is negatively related to those counties' fiscal power, which contradicts Hypothesis 3.

Hypothesis 4 foresees a negative relationship between a county's wealth (saving per capita) and the level of the fiscal power had by the county, because of the impact of the central government's policy of fiscal equalization that is applied across counties. However, as is the case with the nationwide regression, the regressions by regions again reject this hypothesis. There is no clear evidence to support the hypothesis that fiscal equalization is an explanatory factor for fiscal arrangements at the county level. Instead, the current fiscal structure tends to exacerbate the wealth disparities present across counties, which is an irrational outcome according to the predictions of classical welfare theory.

Table 2-9: OLS Regressions: Fiscal Decentralization (by Regions) at the Level of County Governments

	Western China		**Middle China**		**Eastern China**		**Municipality**	
Independent Variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	-3.70E-07	0.492	**7.71E-06**	**0.002**	2.94E-06	0.75	4.72E-05	0.586
Population	**0.0019827**	**0**	**0.001182**	**0**	**0.000932**	**0.006**	0.003796	0.216
Number of townships	0.0002721	0.721	-0.00064	0.156	**-0.00262**	**0.047**	0.002494	0.686
Saving per capita	**0.0000291**	**0**	**1.12E-05**	**0.001**	**1.24E-05**	**0.005**	**2.18E-05**	**0.096**
Urbanization rate	**-0.1031412**	**0.088**	**-0.25124**	**0**	**-0.17505**	**0.056**	2.773578	0.337
Hospital beds per 10,000	**0.0013725**	**0.091**	0.000405	0.386	0.000875	0.509	-0.00112	0.37
Local revenue per capita	**0.0020936**	**0**	**0.003499**	**0**	**0.002108**	**0**	**0.000599**	**0.002**
Expenditure per capita	**-0.0012304**	**0**	**-0.00252**	**0**	**-0.00174**	**0**	-0.00021	0.122
Budget balance	**0.0000143**	**0**	**0.000022**	**0**	**1.35E-05**	**0**	**1.68E-05**	**0**
Ratio of non-farming labors	**0.2275861**	**0.013**	**-0.21678**	**0**	**-0.1397**	**0.061**	-0.14784	0.487
CAP	**-0.0392503**	**0.016**	**-0.0146**	**0.098**	0.03894	0.206	(omitted)	
Minority county	0.0138538	0.427	**-0.04479**	**0.021**	0.004711	0.898	(omitted)	
Year 1992	**0.8028953**	**0**	**0.287552**	**0**	**0.3354918**	**0**	**0.3464026**	**0.004**
Year 1995	**0.8536308**	**0**	**0.331794**	**0**	**0.3692609**	**0**	**0.394867**	**0**
Year 1999	(omitted)		(omitted)		(omitted)		(omitted)	
Constant	**-0.9137598**	**0**	**-0.29798**	**0**	**-0.3098605**	**0**	-3.357128	0.237
Adjusted R-squared	0.7513		0.8393		0.7621		.9260	
N	2,882		2,468		971		50	

(Data source: the MSEPC)

In addition, classical welfare theory states that the intensity and specificity of local residents' demand for public services (as proxied for by the indicators of urbanization rate and number of hospital beds per 10,000) should play a significant role in determining the allocation of public finance; indeed, that these indicators should foreshadow a greater amount of governmental fiscal attention. However, the results of the nationwide regression exhibit just the opposite result for both hypotheses. The regressions performed by region reinforce the findings of the nationwide regression. Together, they convey fact that contemporary fiscal arrangements at the county level in China are not consistent with the emphasis predicted by the indicator 'public service demand' in classical welfare theory.

The final group of explanatory factors focuses on understanding the relationship between a county's fiscal power and the broad economic situation and fiscal policies the county is subject to. Similarly to the nationwide regression, the regressions by regions affirm Hypothesis 8 (local revenue per capita), and reject Hypothesis 9 (expenditure per capita) and Hypothesis 10 (budget balance).

Hypothesis 10 requires further explication. Table 2-10 shows across-the-board deficit spending in the counties of all regions. Therefore, the positive relationship between a county's budget balance and its fiscal power observed in the above regressions implies that a county with a higher level of fiscal decentralization is a county that is able to hold onto more of its local revenue so that it can use it to reduce

its budget deficit. In this regard, the counties of middle China perform better than those in both eastern and western China.

Table 2-10: Summary of Local Revenue Per Capita, Expenditure Per Capita, and Budget Balance (1999)

	Western	Middle	Eastern	Municipality	Nationwide
Local revenue per capita (yuan)	183	187	268	690	202
Expenditure per capita (yuan)	462	302	435	1,358	401
Budget balance	-279	-115	-167	-668	-199

(Calculated from MSEPC)

Table 2-10 also displays an interesting phenomenon, that is, the counties in western China exhibit the highest spending levels of all counties in China, if spending is measured by expenditure per capita. This is significantly counterintuitive because of the anticipated fact that they would spend the *least* amount of revenue because they generally represent the weakest regional economy in China. Additionally, these western counties receive the *least* amount of the local revenue per capita. This huge budget shortfall in these counties thus poses a very serious question about the sustainability of public finance in western China.

Where is the extra revenue going to come from which will enable these western counties to narrow their budget deficit? The regression has shown that the financial situation of the counties of western China has generally worsened in the 1990s. That is to say, these counties together, as a collective administrative level of

the general Chinese hierarchy, are losing financial resources as their superior governments have increased their extraction efforts in the late 1990s. Given the weak economic base of western China, these counties will have a harder time balancing their budgets in the future than the counties of other regions.

The regressions by regions produce mixed results in terms of a county's revenue base (ratio of non-farming laborers to conventional farming laborers) and its fiscal power. The counties of western China have demonstrated a positive relationship, which is consistent with Hypothesis 11. However, counties in the other areas show the opposite outcome of that predicted by the hypothesis, as do all the counties taken together nationwide. It implies that a western county is more likely to retain its revenue than a middle or eastern county.

Finally, being a CAP county does not bring with it any positive outcome in terms of fiscal power. There were nearly six hundred CAP counties nationwide in 1999, most of which were located in west and middle China. These CAP counties had less than half rate of saving per capita than non-CAP counties (Table 2-11). The state's effort to alleviate the level of poverty in CAP counties has thus achieved gloomy results in terms of the broad trend of fiscal centralization. This is obviously because there is no clear evidence that the state committed a large amount of fiscal resources to help the most poverty stricken counties in the 1990s.

Hypothesis 13 aims to understand the state of public finances in these minority counties. While the nationwide regression shows no statistically significant

difference between minority counties and non-minorities ones, the regressions by region find a negative relationship in minority counties in middle China.

Table 2-11: Summary of Saving Per Capita for CAP and Non-CAP

	1992	1995	1999
CAP (yuan)	350	769	1,377
Non-CAP (yuan)	771	1,783	3,161
Nationwide	654	1,502	2,669
Gap between CAP and non-CAP (%)	45	43	44

(Calculated from MSEPC)

Table 2-12: Summary of Saving Per Capita for Minority and Non-Minority Counties

	1992	1995	1999
Minority counties (yuan)	506	1,117	1,798
Non-minority counties (yuan)	711	1,654	3,017
Nationwide	654	1,502	2,669
Gap between minority and non-minority counties (%)	71	67	60
Minority counties also being designated as CAP (yuan)	282	620	1,064

(Calculated from MSEPC)

Table 2-12 shows the wealth disparity between minority and non-minority counties. Saving per capita in minority counties has been consistently below the national average. In addition, the gap between minority and non-minority counties grew in the 1990s. In 1992, the savings rate per capita in a minority county was seventy-one percent of what it was in a non-minority county. This figure decreased to sixty percent by 1999. Table 2-12 also lists the savings rate per capita for those minority counties that fall into the CAP designation. There were a total of 246 such

counties in 1999. These are and were the poorest counties in China. Unfortunately, this project finds no affirmative evidence that these counties have received any kind of fiscal assistance that can substantially enhance their capacity to fight against poverty in the 1990s.

Conclusion

The studies of the intergovernmental fiscal relationship in China have indicated that broad fiscal decentralization from the center to the provincial governments in the reform era has trickle-down effects on the public sectors of the localities. This chapter finds no evidence to support the argument that fiscal power has been persistently transited to the level of county governments in the 1990s. First of all, the trend of fiscal decentralization/centralization at the level of county governments has been unstable and certainly not uni-directional. In addition, after a trend of moderate decentralization that took place between 1992 and 1995, the state of county-level public finance experienced a steep trend of centralization that lasted at least until 1999. Given the unique status of counties in China's administrative hierarchy, the volatile way that the intergovernmental fiscal relationship manifests itself at the county level provides no help for increasing local economic welfare and vitality by tailoring levels of public finance to local preferences across China.

Another thing revealed by this analysis is the disparity between the current fiscal structure at the county level and the rational structure specified by classical welfare theory. Among the hypotheses derived from the theory, few of them capture the real dynamics of what constitutes the public finance situation at the county level in China. Instead, the current fiscal structure has often displayed the opposite tendencies predicted by the hypotheses of classical welfare theory. For example, while classical welfare theory stipulates fiscal equalization as a key element of an intergovernmental fiscal arrangement, this analysis finds that the current financial

structure is not helpful for reducing wealth disparities across counties. Instead, disparity is on track to expand, partially as a result of the irrational arrangement of county level finance. This criticism is particularly important for understanding those counties with CAP or minority status. The central government has crafted numerous policies aimed at helping those counties; and yet, this analysis finds that there is no substantive fiscal set of resources present at the county level that can help to alleviate their poverty. This reflects the fact that significant challenges still lie ahead for the Chinese public financial system if it intends to rationalize its county level arrangement in order to achieve a more efficient output.

Chapter Three

Fiscal Decentralization and the County Governments of Jiangsu Province

Introduction

The last chapter analyzed the trend of nationwide fiscal decentralization at the county level. The strength of the analysis is its wide scope, in that it covers all the counties in China. The regressions have shown that applying the term 'decentralization' to the fiscal situation at the county level does not capture adequately the fiscal relationship-dynamic that truly existed between the county governments and their superior governments in the 1990s. The regional analyses also display strong correspondence to the national trend. However, the robustness of this finding is questionable, because all of the analyses are based upon only three non-consecutive years' worth of datasets (1992, 1995, and 1999). While comparing the results from these three years is meaningful for inferring broad trends, the structure of the nationwide dataset does not allow the researcher to discuss situations that go beyond those three years.

In order to complement the nationwide analyses, this chapter focuses on a longitudinal analysis which covers all the counties in a single province over the ten consecutive years between 1994 and 2003. The province is Jiangsu, which is located in the middle of eastern coastal China (Figure 3-1). Jiangsu Province is the most densely populated province in China with a population of seventy-four million. It is also one of

the most affluent provinces in China. In 2003, its GDP was 1,246 billion *yuan*, ranking it second among China's twenty-seven provinces and four municipalities.

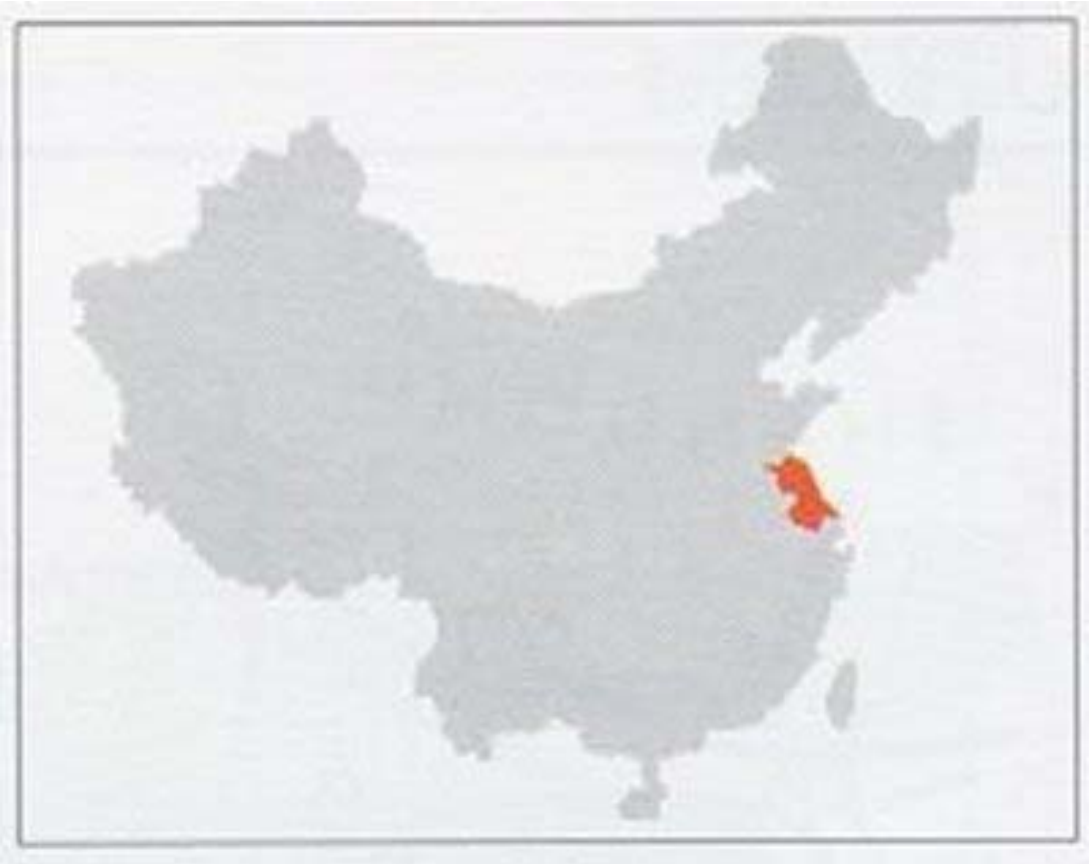

Figure 3-1: The Location of Jiangsu Province In China

Jiangsu Province had fifty-three county governments in 2003. There are two reasons for selecting it as a case study. First, the argument of fiscal decentralization is often associated with good economic performance. Since Jiangsu Province is economically advanced, it is a good subject for testing the workability of the 'fiscal decentralization = good economic performance' equation. In addition, by including all the counties from a single province, the systematic differences between provinces that

might contaminate the empirical analysis can be eliminated. Second, with regard to its counties, Jiangsu Province publicizes some of the most detailed and systematic information of any province in China, which obviously is a key help for making this analysis (or any other) possible and effective. Indeed, the data from other provinces in China is either unavailable or extremely sketchy and unsystematic. In that sense, Jiangsu Province is the only province through which a comprehensive county study can be engaged in, both in terms of the latitudinal-wideness of the data available, and also in terms of longitudinal time-period availability. The details of Jiangsu county data will be discussed later.

Working Towards Testable Hypotheses

As in the last chapter, the first challenge for such an empirical analysis is to define fiscal decentralization. This is ostensibly a complicated term that has multiple possible definitions. In intergovernmental fiscal studies, one of the easiest ways to define it is to examine a county's revenue retention rate, i.e., the ratio of a county's local revenue over its total revenue. It reflects how much fiscal autonomy a county has. However, since counties often keep large amounts of extra-budget revenue, which are not counted as a part of their local revenues, the revenue retention rate only represents a county's *nominal* fiscal power. For example, the local revenue for an average county in Jiangsu constituted only forty-eight percent of its total revenue in 1994. However, the expenses of the average county were equal to its total revenue in the same year (99.7%). The situation has remained largely similar in the subsequent years. This revenue-expenditure difference partially results from extra-budget revenue resources that are withheld by county governments (and by other entities of local government) which means that the actual fiscal power of the average county in Jiangsu Province is nearly *double* its nominal fiscal power. Therefore, the revenue retention rate—taken by itself—can significantly underestimate a county's actual fiscal power.

I decided to use a unique measure to compensate for this: a county's expenditure over its total revenue. Since any county's expenditure is traceable, I can leave aside the complexity of its revenue arrangements. I define fiscal decentralization as the ratio of a county's expenditure to its total revenue in a given fiscal year. This tells explicitly how much revenue generated within a county can be spent by that county, and this can in

turn measure what amount of fiscal resources have been decentralized down to the county from the central government.

In addition, by taking all superior governments (the center, province, and municipality) together as a whole, this measure creates a county-superior dichotomy which can better contribute to an understanding of a county's position in the intergovernmental fiscal relationship.[16]

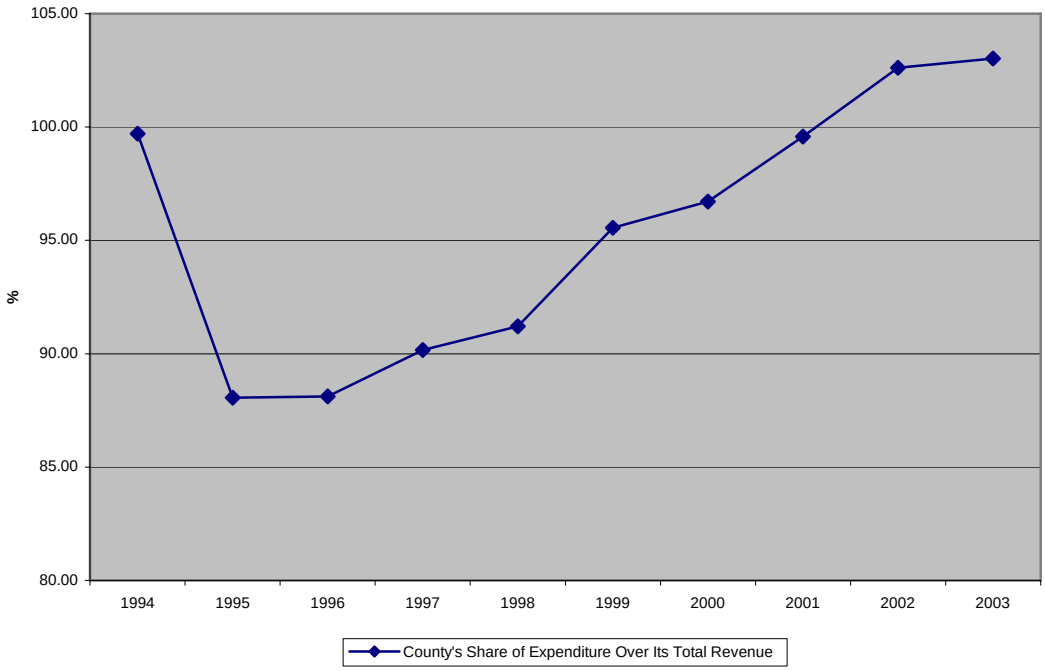

Figure 3-2: Expenditure Level in Jiangsu Counties

[16] However, two things should be made clear. First, since the available dataset does not further differentiate the revenue that is submitted by the county to its superiors, such a measure does not deal with the fiscal relationships among the center, province, and municipality. Second, just as I am aware that the term "province" includes all of its subordinate governments in Chinese central-local studies, if it is not stated specifically, the "county" here is also an inclusive entity. This chapter does not distinguish between county and township (village) due to the difficulty of accessing the fiscal information of towns (townships). In the case of Jiangsu Province, there are more than 1,800 towns (townships) altogether. Therefore, the county's local revenue in the data set includes the local revenue of all towns (townships) within its jurisdiction so that this variable does not measure the extent of the division of power below the county and its subordinates.

According to the "trickling-down" scenario, one should observe a trend of increasing expenditures at the level of counties throughout the 1990s. However, Figure 3-2 shows a clear "V" curve delineating the expenditure trend in Jiangsu counties between 1994 and 2003, which is not consistent with the argument that fiscal power has been decentralized to the county level.

The average county spent nearly all of its total revenue in 1994. This number dropped sharply to eighty-eight percent in 1995, the first year when the 1994 tax-sharing system was implemented. The level of expenditure has begun a slow but moderate rebound since then. An average county's level of expenditure in 2003 is roughly three percent more than what it was in 1994. So, what accounted for the variation in the curve?

As it was in Chapter Two, the general approach in this chapter will be to identify the conditions that are often tended to in the study of intergovernmental fiscal relations as then to test if those conditions can explain the observed variation in fiscal decentralization at the county level in Jiangsu Province. As discussed in the last chapter, I will use five major categories of factors to understand the public finance situation at the county level:

1. Basic conditions relating to the land area of the county and its size of population
2. The wealth of the county
3. The demand for public service
4. A county government's financial conditions

5. Macro economic and fiscal policies of county governments

The last chapter discussed the proposed relationship between fiscal decentralization and the size of land and population of a county. A large jurisdiction with a huge population equals a higher opportunity and likelihood for the presence of welfare-enhancing benefits in a more decentralized fiscal system. It suggests that

Hypothesis 1*: The larger the land size a county has, the more decentralized, other things being equal, should be the fiscal power of the county.*

Hypothesis 2*: The larger the population a county has, other things being equal, the more decentralized should be the fiscal power of the county.*

The second category of factors focuses on a county's fiscal power and its wealth. In a rational intergovernmental fiscal structure, a county with more wealth would more likely become a welfare exporter, as its superior governments tend to transfer its wealth in such a way as to subsidize other counties that have more fiscal difficulties. It suggests

Hypothesis 3*: The greater the level of the personal saving per capita in a county, the less decentralized, other things being equal, should be the fiscal power of the county, as a result of a higher level of involvement in redistributive efforts.*

Jiangsu Province has, historically, been divided into northern and southern regions. South Jiangsu has been traditionally the most developed region not only in Jiangsu Province, but also it has been one of the most developed in all of China.

Figure 3-3 illustrates the wealth disparities that have existed between south and north Jiangsu counties over the years. While the north Jiangsu counties have

experienced ups and downs in their personal savings, the south counties have witnessed a steady and rapid increase of wealth. The wealth gap between them has widened six times between 1994 and 2003. Such an accelerating rate of wealth disparity is certainly an indicator that points to an increasingly irrational public financial system, since classical welfare theory takes containing wealth disparity across regions to be a primary goal.

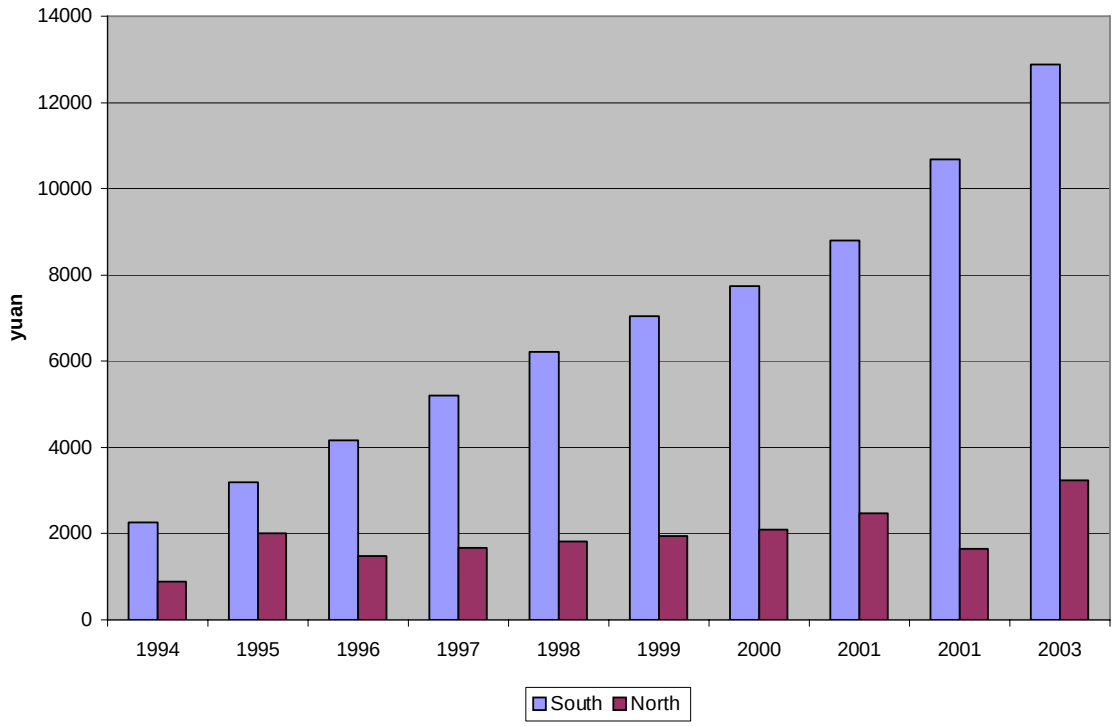

Figure 3-3: Personal Saving Per Capita in Southern and Northern Jiangsu Counties (1994-2003)

The need for fiscal equalization presses the provincial government to transfer some resources from the affluent southern counties to subsidize those of the poorer north. Figure 3-4 displays the revenue retention rate in Jiangsu counties by region.

There is a consistent pattern that the counties in north Jiangsu retained a higher portion of their revenue than those in south Jiangsu. For example, an average south county kept fifty-eight percent of its revenue, while a north county kept sixty-five percent in 2003.

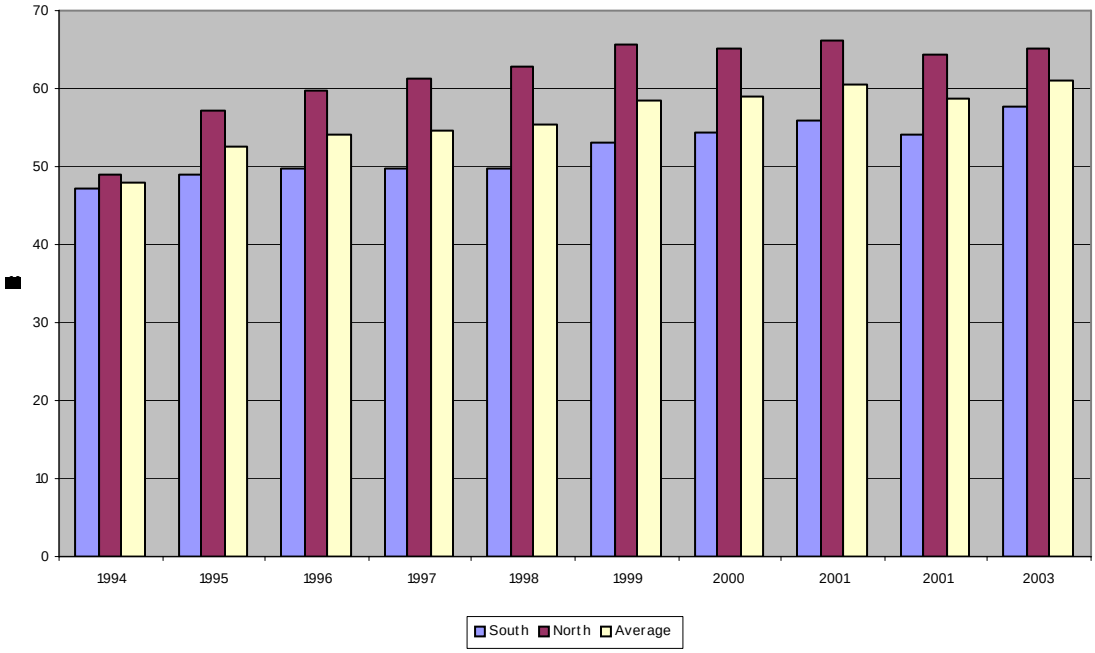

Figure 3-4: Revenue Retention Rate in the Jiangsu Counties (1994-2003)

Therefore, the enlarging wealth disparity and the different revenue retention rates between counties in south and north Jiangsu suggest

Hypothesis 4*: Counties in south Jiangsu should, other things being equal, witness the presence of more fiscal centralization than those in north Jiangsu.*

A third category of factors relates to the demand for public services. As discussed in the last chapter, the urbanization rate in a county can be used as a proxy indicator for the demand for public services. It suggests

Hypothesis 5: *The larger the fraction of a county's population residing in urban areas, the more decentralized, other things equal should be the fiscal power of the county.*

The intensity of demand for public service is measured by the demand for medical service (hospital beds per 10,000). A lower number implies a greater demand for public service, which proposes

Hypothesis 6*: A county with a larger number of hospital beds per 10,000, other things being equal, should have a less decentralized fiscal system.*

The fourth category of factors includes local revenue per capita, expenditure per capita, budget balance, revenue retention rate, and GDP per capita. All of these factors measure certain aspects of fiscal power at the county level. As mentioned in the last chapter, a county's fiscal power is partially reflected by its average revenue and spending level. It suggests

Hypothesis 7*: The greater the level of local revenue per capita of a county, the more decentralized, other things being equal, should be the fiscal power of the county*; and

Hypothesis 8*: The greater the level of the expenditure per capita of a county, the more decentralized, other things being equal, should be the fiscal power of the county.*

Again, according to the Budget Law of China (1995), which applies to all Jiangsu counties, a county should maintain a balanced budget. It proposes that

Hypothesis 9: *The greater positive budget balance a county creates, the less fiscal decentralization it has, other things being equal.*

Besides these factors, a county's expenditure also depends upon how much revenue it can keep at its discretion. A county with greater fiscal autonomy often displays greater bargaining power with its superiors vis-à-vis their revenue sharing plan. Unlike in the U.S. where local governments often collect their revenues directly from the taxpayers according to predetermined tax rates and revenue bases, a Chinese county constantly has to bargain with its superior government for a fair share of the total revenue it collects. Therefore, there is great uncertainty about the amount of sharing revenue that a county can get. A favored revenue retention rate means that more money is kept in the county's purse, i.e., a greater level of fiscal decentralization. It suggests

Hypothesis 10*: A county that is able to bargain for a higher revenue retention rate from its superiors, other things being equal, should have a more decentralized fiscal system.*

In addition, the Jiangsu Statistical Bureau offers a more commonly used parameter for a county's revenue base – GDP per capita. GDP represents the volume of the economy, from which the state extracts most of its revenue. Therefore, compared with the ratio of non-farming laborers used in the last chapter, the GDP per capita measures a county's revenue base more directly. A greater GDP per capita implies a bigger revenue base, and hence, more potential for revenue collection. It suggest

Hypothesis 11*: A county with a greater GDP per capita, other things being equal, should have more fiscal power at its hand.*

Finally, like the rest of China, Jiangsu Province has several counties that have fallen into extremely difficult fiscal situations. The provincial government has designated them as poverty counties and promised to provide extra resources so as to reduce their poverty. It suggests

Hypothesis 12*: A county in poverty should have a more decentralized fiscal system than a regular county, other things being equal.*

The hypotheses in this chapter are summarized into Table 3-1.

Table 3-1: Summary of the Hypotheses for Jiangsu Counties

Hypothesis	Independent Variable	Fiscal decentralization	Description
1	Land size	+	A decentralized fiscal system is more efficient in a larger geographic location.
2	Population	+	Greater population often exhausts the scale of economy in public service better.
3	Saving per capita	-	Wealthier counties are the "welfare benefit" exporters in the process of fiscal equalization.
4	South Jiangsu	-	Wealthier counties in south Jiangsu are subject to fiscal equalization.
5	Urbanization rate	+	Urban residents need more public service than rural residents, hence a greater expenditure level.
6	Hospital beds per 10,000	-	A lower hospital bed ratio implies higher demand on medical service expenditure.
7	Local revenue per capita	+	More local revenue per capita means greater potential capacity to spend.
8	Expenditure per capita	+	Higher expenditure per capita means more actual spending at the county level.
9	Budget balance	-	A revenue budget surplus implies less expenditure.
10	Revenue retention rate	+	A higher retention rate implies more available revenue at the county level.
11	GDP per capita	+	A higher GDP per capita means a larger revenue base.
12	County in poverty	+	A CAP receives additional fiscal assistance for relieving its poverty.

Fiscal Decentralization in Jiangsu Province, County Government

Data

All the data in this chapter comes from the *Jiangsu Statistical Yearbook* (1994-2004). Most of data is retrieved from the official website of the Jiangsu Statistical Bureau, the Statistics Information Network of Jiangsu (http://www.jssb.gov.cn/sjzl/tjnj). The yearly data from 1994 to 1998 come from the printed *Jiangsu Statistical Yearbook*.

The data on the Jiangsu counties that spans ten years from 1994 to 2003 constitutes a unique feature of this chapter. It is by far the most comprehensive and latest dataset available at the provincial level, since Jiangsu Province is the only province that publishes such comprehensive information about public finance at the county level in China. The province started recording fiscal information at the county level in 1994. Since then, it has published the information every year. More importantly, the province has kept very consistent statistical parameters over the years, which is rare in China's statistical practice. This high-quality dataset allows the researcher to conduct a solid regressive analysis of fiscal decentralization at the level of county.

The Jiangsu dataset complements the MSEPC in the last chapter. First, it is a continuous dataset that covers a period of ten years. Therefore, it supplements the regression analysis of the counties nationwide, derived from discrete three years worth of data (1992, 1995, and 1999). Jiangsu is one of the most developed provinces in China. The experience had by this province is likely to be transplanted to other less developed provinces. Therefore, a case study on Jiangsu Province is not only useful for

understanding the situation in that particular province, but it is also enlightening as it helps to foresee the likely trend as it develops in less developed provinces. Second, the Jiangsu dataset can offer detail about the latest fiscal trends at the county level; detail which is not provided by the MSEPC.

Regression Model

A multivariate ordinary least squares (OLS) regression has been utilized in order to test the twelve hypotheses about the variations in fiscal power across Jiangsu counties. I also include year factors into the model to see if there are consistent patterns over the ten fiscal years.

Regression Results and Discussion

Regression results are presented in Table 3-2. The regression accounts for nearly eighty-four percent of the variation in a county's expenditure over its total revenue, which is a rather high explanatory power in statistical analysis.

Hypothesis 1 proposes a positive relationship between a county's fiscal power and its land size. The regression confirms such a relationship: the bigger size a county is, the more fiscal power it has. However, the regression cannot produce a statistically significant result for Hypothesis 2 (the size of population).

The regression regarding wealth factors (Hypotheses 3 and 4) offers some controversial findings. Both hypotheses deal with a county's fiscal power and its overall level of wealth. The regression supports the argument that a southern Jiangsu county,

which is affluent, is able to withhold less fiscal power than a north county, if other conditions are equal (Hypothesis 4). However, the proposed negative relationship between a county's fiscal power and the saving per capita in that county (Hypothesis 3) is proved wrong. Instead, a higher saving level is positively associated with a county's fiscal power.

Table 3-2: OLS Regression – Fiscal Decentralization At Jiangsu Counties

Independent Variable	Coefficient	P > |t|
Land	**0.0000126**	**0.079**
Population	-0.0000352	0.587
Saving per capita	**0.0000142**	**0.006**
South	**-0.1542821**	**0**
Urbanization rate	**-0.0022222**	**0.062**
Hospital beds per 10,000	**-0.0117437**	**0**
Local revenue per capita	**0.0001945**	**0.071**
Expenditure per capita	0.0000119	0.914
Budget balance	**-0.0000125**	**0**
Revenue retention rate	**0.0147893**	**0**
GDP per capita	**-0.0000209**	**0**
County-in-poverty	**0.2539783**	**0**
Year 1994	(omitted)	
Year 1995	**-0.0910479**	**0.003**
Year 1996	**-0.130393**	**0**
Year 1997	**-0.1025745**	**0.002**
Year 1998	**-0.1550031**	**0**
Year 1999	**-0.1220763**	**0.001**
Year 2000	**-0.1355914**	**0**
Year 2001	**-0.1517187**	**0**
Year 2002	**-0.1954749**	**0**
Year 2003	**-0.221344**	**0**
Constant	**4.00782**	**0**
Adjusted R-squared	0.8398	
N	594	

The regression results are meaningful in two respects. First of all, they show that

the wealth factor has imposed the opposite influence over the fiscal power at the Jiangsu county level that it would be expected to. On the one hand, wealthier counties have a stronger tendency toward decentralization in the public sector. It seems like fiscal decentralization is expensive and a county must be relatively affluent to adopt a decentralized form of governance. That is perhaps why we have seen that many developing countries tend to centralize their scarce sources at their early stages of development. On the other hand, wealthier counties are the welfare exporters. The literature of welfare economics suggests that the propensity to engage in income redistribution has a relatively high level of wealth elasticity (Brown and Oates, 1987). Since lower level governments are often circumscribed in their capacity and willingness to redistribute their wealth to other poor governments at the same level, the higher levels of governments have to centralize a certain portion of fiscal resources to assist the poor through welfare transfers.

In addition, the regression results show that the influence of the opposite forces on a county's fiscal power are not of the same intensity as those which would influence the centralizing of fiscal power. While a higher savings rate increases fiscal decentralization in rich counties, the prospect of welfare redistribution across counties certainly imposes a much greater influence in determining the course and targeting of fiscal decentralization imperatives. In other words, while it is true that in certain cases the presence of more wealth or affluence in a county sometimes corresponds with the presence of a degree of fiscal decentralization, it is more often true that where there is affluence, there is also a source of revenue ripe for extraction by higher levels of

government. And the revenue extracted as such often is employed in the pursuit of the welfare/subsidization goals of higher level governments. For the purposes of this analysis, this means that when the impact of the wealth factor is boiled down, its net impact is negatively associated with fiscal decentralization in Jiangsu counties. The wealth factor most often implies more centralization.

The regressions regarding the third category of parameters, the demand for public services (Hypothesis #'s 5 and 6), also reveal mixed results. The proposed negative relationship between a county's fiscal power and its demand for medical service (hospital beds per 10,000) is confirmed in the regressions. However, a county's fiscal power is proved negatively related to its urbanization rate, which is the opposite result anticipated by Hypothesis 5.

The fourth category of measurement includes five parameters, local revenue per capita, expenditure per capita, budget balance, the revenue retention rate, and GDP per capita. The regression produces statistically significant results for all of them except for the expenditure per capita (Hypothesis 8).

First, a county's fiscal power is positively related to its local revenue per capita (Hypothesis 7). It indicates that a county with a higher local revenue level literally means that that county has more fiscal power at its hand. Second, a county's budget balance negatively influences its fiscal power, i.e., the more revenue surplus is left without spending by a county, the less fiscal power it actually wields (Hypothesis 9). Third, a county's revenue retention rate, which describes a county's share of its total revenue, is positively related to its fiscal power (Hypothesis 10).

Hypothesis 11 is set to understand how a county's revenue base influences its fiscal power. The regression rejects the proposed positive relationship between them. In fact, a county with a larger revenue base (GDP per capita) does not have command of a comparatively larger share of revenue that it can spend at its discretion. Instead, it receives a proportionally *smaller* amount of revenue generated from its larger revenue base. This outcome obviously betokens a strange irony. If the regression results for Hypothesis #'s 4 and 11 are combined, they show quite clearly that the public sector of a county with a strong economic position (wealthy and larger revenue base) does not necessarily have a larger amount of fiscal power in Jiangsu Province. Instead, these do-well counties end up transferring more of their revenue to their superior governments.

Now, how do the superior governments spend the revenue extracted from the wealthier counties? While there is no available information about its destination, the regression has discovered that at least a portion of the revenue has been spent to assist those counties with financial difficulty. As Hypothesis 12 illustrates when tested by the regression, counties in poverty in Jiangsu Province enjoy a higher level of fiscal decentralization than other counties, when other conditions are equal.

Finally, did fiscal decentralization occur at the county level in Jiangsu Province during the period 1994 to 2003? The regression results, when taking account for time sequencing year by year, give a negative answer. In 1994, the amount of fiscal power of Jiangsu counties was inversely related to the amount of fiscal power they had in the following years 1995 to 2003. In fact, the level of fiscal power in 2003 was even *lower* than what it was in 1994. There is no evidence to support the argument that fiscal power

trickled down from the central government to provincial governments, or further to the county governments in the 1990s or for the first several years in the new century.

In order to better understand this trend of centralization as opposed to decentralization at the county level, there is an interesting scenario that is worth discussing. Starting in the year 1996, China's economic growth entered a slow period, marked by deflation and low demand. In order to stimulate the economy, then Premier Zhu Rongji adopted a fiscal expansion policy, which encouraged public investment in infrastructure and other huge public projects. The once tight controls that existed with regard to public investment were substituted with moderate measures of fiscal expansion. Under such a policy, if the trickle-down scenario were actually accurate, we should have been able to see fiscal expansion at the county level, i.e., a higher level of fiscal decentralization as the result of an overall policy of fiscal expansion.

However, what really happened at the county level was just the opposite of what would be predicted by the trickle-down scenario. The central government, as the decision-maker who initiated the policy of expansion, actually gained its share from the policy. For example, the center's share of national expenditure jumped from twenty-seven percent in 1997 to twenty-nine percent in 1998 and thirty-two percent in 1999. Rather than decentralizing fiscal power and letting provinces and localities expand their spending, the center increased its own share of expenditure, and thereby put great stress on its subordinates which all had to adjust their own spending behavior in light of the five percent of spending increase which originated from the central government.

Among the subordinate governments, the Jiangsu provincial government did not share this fiscal stress. Instead, it also significantly increased its spending level under the expansion policy in 1998. In 1997, the provincial government got six percent of Jiangsu's total local revenue and spent fifteen percent of Jiangsu's total expenditure. The province's revenue and spending level jumped to eight percent and twenty percent respectively in 1998. As the result of the expansion policy of 1998, the provincial government increased not only its revenue and expenditure levels, but also the revenue-expenditure gap. As of 2001, the revenue-expenditure gap at the provincial level has widened to thirteen percent. This means that the provincial government has increasingly spent more than it has received in revenue. These facts indicate that the provincial government, like the central government, put additional stress on the intergovernmental fiscal relationship as it greatly expanded its share of revenue and expenditure.

If both the central and the provincial governments began appropriating a larger chunk of the available fiscal resources in China, that inevitably means that localities were going to be forced to eat from a smaller pie. This partially explains why fiscal decentralization has not occurred at the county level. Fiscal expansion at the superior levels of government either masked it or eliminated the possibility for it altogether.

Indeed, the intergovernmental fiscal arrangement looks to be a narrow pipeline with several pumps connected to it. The pumps represent different levels of government. Each pump draws resources from the pipeline according to its place in the government hierarchy, or in the order of its proximity to the source, as it were. The higher levels of government, of course, are accorded the position and the priority from

which they may draw first. When the upriver "pumps" draw too much, they leave too little in the pipeline. They might not feel the pressure, but the pressure would flow down through the pipeline to the lower pumps. The lower position a pump has, the smaller the amount of resources it would have to draw from. All pressure would be pressed down to the last pump in the line, for the purposes of this metaphor, down to the county governments. As a result, they would have experienced fiscal centralization rather than decentralization over the years.

Since 1949 China has traditionally had a highly centralized fiscal system. Even though market reforms have fundamentally changed the economic system as a whole, the intergovernmental fiscal relationship still operates primarily by following the old doings. Those governments with lower administrative status, especially counties, are vulnerable to their superiors' encroachments. Since counties have few means with which to protect their fair share of the resource chain, the whole system depends on the fiscal self-discipline of their superior governments. However, as the superior governments are more interested in spending themselves rather than decentralizing their resources down to the localities, it is not surprising to behold the fiscal difficulties had by counties in China.

Conclusion

This chapter presents a longitudinal analysis of public finance at the county level in Jiangsu Province. The regression employed in this analysis has rejected the argument that fiscal decentralization has been the trend for Jiangsu counties between 1994 and 2003. It provides a useful complement to the findings from nationwide county data as they were explicated in the last chapter.

Table 3-3 summarizes the regression results both for the nationwide county data and for the Jiangsu province regressions. There are several aspects of this collection of findings that are particularly interesting. First, Jiangsu counties have shown many similarities to the nationwide counties in terms of their public finance-situations. For example, both the Jiangsu and nationwide regressions have found a positive relationship between a county's fiscal power and its physical dimensions (i.e., land and population). The factors of wealth (saving per capita and geographic location) also exhibit the same relationship to a county's fiscal power, be they in Jiangsu province or in other provinces nationwide. In addition, the Jiangsu and nationwide counties demonstrate some similar patterns when the impacts of their own finance and macro economic policies are considered. This reflects a simple fact that characterizes most unitary systems: the variation observed between different local administrations is only a variation of degree, and not of kind. Although China has a very large territory, its fiscal arrangements at the county level exhibit rather consistent patterns due to the nature of its unitary system.

Table 3-3: Nationwide and Jiangsu Province Regressions Compared

Nationwide	Nationwide regression	Projected Relationship	Jiangsu regression	Jiangsu Province
Land		+	+	Land
Population	+	+		Population
Number of townships		+		
Saving per capita	+	-	+	Saving per capita
Western China	(omitted)			
Middle China	+	-		
Eastern China	-	-	-	South
Municipality		-		
Urbanization rate	-	+	-	Urbanization rate
Hospital beds per 10,000		-	-	Hospital beds per 10,000
Local revenue per capita	+	+	+	Local revenue per capita
Expenditure per capita	-	+		Expenditure per capita
Budget balance	+	-	-	Budget balance
		+	+	Revenue retention rate
Ratio of non-farming labors	-	+	-	GDP per capita
CAP	-	+	+	County-in-poverty
Minority county		+		
Year 1992	+			
			(omitted)	Year 1994
Year 1995	+		-	Year 1995
			-	Year 1996
			-	Year 1997
			-	Year 1998
Year 1999	(omitted)		-	Year 1999
			-	Year 2000
			-	Year 2001
			-	Year 2002
			-	Year 2003

Second, all hypotheses in both chapters are derived from what classical welfare theory says about what a rational intergovernmental fiscal arrangement should look like in an ideal polity. Among the twelve hypotheses in the Jiangsu analysis, only three

(saving per capita, urbanization rate, and GDP per capita) have been proved to be wrong, and seven of them have been confirmed (land, South, hospital beds per 10,000, local revenue per capita, budget balance, the revenue retention rate, and county-in-poverty). In contrast, among the thirteen hypotheses posited in the nationwide analysis, only three have been upheld (population, east China, and local revenue per capita). Six of the hypotheses have been proven inaccurate for characterizing the nationwide situation (saving per capital, urbanization rate, expenditure per capita, budget balance, ratio of non-farming labors, and CAP). Therefore, it is clear that Jiangsu Province displays a more rational public financial system, i.e., more consistent with classical welfare theory, at the county level than nationwide counties do when taken together generally.

This result should not surprise many China observers. Jiangsu Province, being one of the most developed regions in China, is has been pioneering many experiments in this era of economic reform. Its rapid economic growth and accumulated wealth allow the province to undertake more rational approaches to public finance than less developed provinces. In addition, the practices in Jiangsu, because of its advanced nature as a province, are likely to be expanded out to the rest of China sometime in the near future. In China, most reform agendas are first tested out in pilot regions, such as Jiangsu Province, before final policies are adopted nationwide. Therefore, the experiments in pilot cases such as these have clear implications for future Chinese policy direction, if the experiments included in them succeed. Jiangsu Province, particularly southern Jiangsu, is widely acknowledged to be a successful story of the

development of county economy. Therefore, what has been observed in the Jiangsu counties presents a possibility for wide application at the county level in the other regions.

Third, the nationwide and Jiangsu regressions reveal things happening at the county level that are not consistent with classical welfare theory. For example, the theory states that there is a negative relationship between fiscal decentralization and a jurisdiction's wealth. However, the reality in China is the opposite of what is predicted by the theory. Fiscal decentralization in Chinese counties also contradicts the proposed positive relationship between a county's revenue base and its fiscal power. Also, those counties with a higher demand for public services often obtain proportionally less resources for fulfilling that demand, which also reflects the inefficiency inherent in the present intergovernmental fiscal arrangement. These irrationalities at the level of county finance are the areas which future reforms should target and attempt to change.

Finally, both regressions have identified the same trend of fiscal transition at the county level in China. Contrary to the commonly accepted argument, the fiscal status of the counties has been worsened rather than strengthened in terms of the intergovernmental fiscal hierarchy. This is the most important conclusion of the analyses. The trickle-down scenario, which is widely used to partially account for China's economic success, fails to capture the realities present at the county level. Compared with the situation of the early 1990s, today's counties are witness to fiscal centralization rather than decentralization. This is true for nationwide counties, including those in Jiangsu Province.

Chapter Four

Fiscal Decentralization at the Levels of City Governments

The Labyrinth of "City" in China

Like other large countries in the world, China has created a multi-layer and overlapping administrative hierarchy with many kinds of local governments, including city governments. China has 662 cities that are recognized by the Ministry of Civil Affairs as government units unto themselves. However, these cities do not represent a single type of administrative unit. Indeed, they consist of a spectrum of local governments, ranging from metropolitan areas which are home to tens of millions of urban residents to small towns with just a few thousand residents. Some of the cities are directly administered by the central government and therefore they obtain huge economic and political influence. In contrast, many more cities have a much lower administrative status. Cities at different administrative levels have distinctive administrative powers, and these include wide varieties of, among other things, fiscal power. Depending upon their positions in the administrative hierarchy, Chinese cities are divided into five types: two special types of cities and three regular ones (Figure 1-2).

The first special type of city is the municipality. It is the city that is directly under the administration of the central government. A municipality's administrative status is equal to that of a provincial government. As a result, a municipality is the city with the highest administrative status in China. There used to be only three

municipalities: Beijing (the capital of China), Shanghai (the economic center of China) and Tianjin. Chongqing was added as the fourth municipality in 1997. These four municipalities together have significant economic and political power in China.

A vice-provincial city is the second special type of city. These are usually a provincial capital or a regional city with a strong economy. A vice-provincial city was traditionally subject to the direct control of a province. However, the State Department changed the rule in 1983 by giving vice-provincial cities more fiscal power. Under the new rule, a vice-provincial city has been advanced to the same level as a provincial government in terms of economic power. It means that a vice-provincial city will directly report its economic activities to the central government, not to the provincial government. For example, its annual budget is sent to the central government for approval and the provincial government does not have the authority to interfere it. However, compared to a municipality which is totally independent from any province, a vice-provincial city is still subject to the rule of the province in those non-economic respects.

The regional city is the first regular type of city in China. Its administrative status is beneath that of a province; indeed, the province exercises full control over the regional city. Essentially, a regional city constitutes the next conventional rung beneath a province in the Chinese administrative hierarchy. A regional city usually consists of several urban districts, prefectures and counties.

The district government is the second regular type of city. It often includes the urban core and its close suburbs *within* a regional city. The third regular type of city

is the prefecture, which is an urban entity that grew out of a rural county (See Chapters Two and Three). Some rural counties have now been designated "prefectures" because of their rapid economic growth and rate of urbanization. A prefecture is positioned at the same administrative status-rung in the hierarchy as a district and a county.

Table 4-1 lists all Chinese cities by their administrative status, circa 2001. This chapter will focus on understanding the intergovernmental fiscal relationship that exists with regard to the five types of city governments. It includes a regression analysis that covers all of them. Of particular interest is the study of the level of regional city and the level of district and prefecture, since they represent the vast majority of the cities in China. As a result, this chapter spends major energy on them, although the other levels of city governments are examined too.

One thing needs to be explained about Figure 1-2. It shows that the municipality has its own districts, prefectures, and counties. Because the municipality has the same administrative status as a provincial government, its subordinate governments are one level higher than those regular districts, prefectures and counties under the regional city. Indeed, they enjoy similar administrative power to regional cities.

Table 4-1: Chinese Cities By Their Administrative Categories (2001)

Province	Total	City with different administrative status			
		Municipality	Vice-provincial city	Regional city[17]	Prefecture
Nationwide	662	4	15	250	393
Beijing	1	1			
Tianjin	1	1			
Hebei	34			11	23
Shanxi	22			10	12
Neimenggu	20			7	13
Liaoning	31		2	12	17
Jilin	28		1	7	20
Heilongjiang	31		1	11	19
Shanghai	1	1			
Jiangsu	41		1	12	28
Zhejiang	33		2	9	22
Anhui	22			17	5
Fujian	23		1	8	14
Jiangxi	21			11	10
Shandong	48		2	15	31
Henan	38			17	21
Hubei	36		1	11	24
Hunan	29			13	16
Guangdong	52		2	19	31
Guangxi	19			9	10
Hainan	9			2	7
Chongqing	5	1			4
Sichuan	32		1	17	14
Guizhou	13			4	9
Yunnan	15			5	10
Xizang	2			1	1
Shaanxi	13		1	9	3
Gansu	14			6	8
Qinghai	3			1	2
Ningxia	6			4	2
Xinjiang	19			2	17

(Source: *Urban Statistical Yearbook of China*, 2002)

[17] A regional city includes several urban district governments. There is no information about the exact number of district governments in China. Therefore, this chapter takes all district government under the same regional city as a single unit of analysis.

Trends of Fiscal Relations in Cities

This part is a historical overview of the trends in fiscal decentralization in cities since the late 1980s. From the outset, let it be known that I acknowledge the difficulty of finding a universal measure of fiscal decentralization, given the complexity of the concept. The selection of measures is dictated by many factors, such as validity, availability and interpretability of the measurement.

In the studies of center-province (or federal-state) fiscal power, the share of the central government (or the federal government) of GDP is commonly used to measure the degree of fiscal decentralization that exists from the central (federal) government to the local governments (Ma, 1997; Wallis and Oates, 1988; Wang and Hu, 2001). Given the available resources, this chapter chooses two parameters to measure fiscal decentralization: a city's local revenue over its GDP and its expenditure over its GDP. The first measure represents the city's capacity to extract money from its jurisdiction and the second describes the city's spending scale.

I start the investigation with an overview of the trend of the overall levels of the government's revenue and expenditures as a portion of national GDP. Figure 4-1 covers the period between 1978 when China's economic reforms officially began and 2001. The general trend of the overall government revenue/expenditure levels during this period exhibits a three-stage progression: a sharp decline before 1988, a mild decrease between 1988 and 1995, and a relatively rapid recovery that has been underway since 1995.

The overall governmental revenue or spending level was above thirty percent of the national GDP at the beginning of the economic reform era. However, both measurements dropped quickly in the next decade, except for a temporary increase in the expenditure level which took place in 1979. The government's share of fiscal resources in 1988 was only half of what it was in 1978. The pace of decline in the government's share of the national GDP has slowed since 1988, although the overall trend was still loosening. A new trend was set in motion in 1995 when the government's share of fiscal resources started bouncing back quickly. By 2001, the government was again using the roughly the same share of GDP that it had prior to 1988. The general loosening trend (as opposed to the rapid one that characterized 1979-1988) ended and all the slight decrease in GDP share that the government had let go of between 1988 and 1995 was reclaimed.

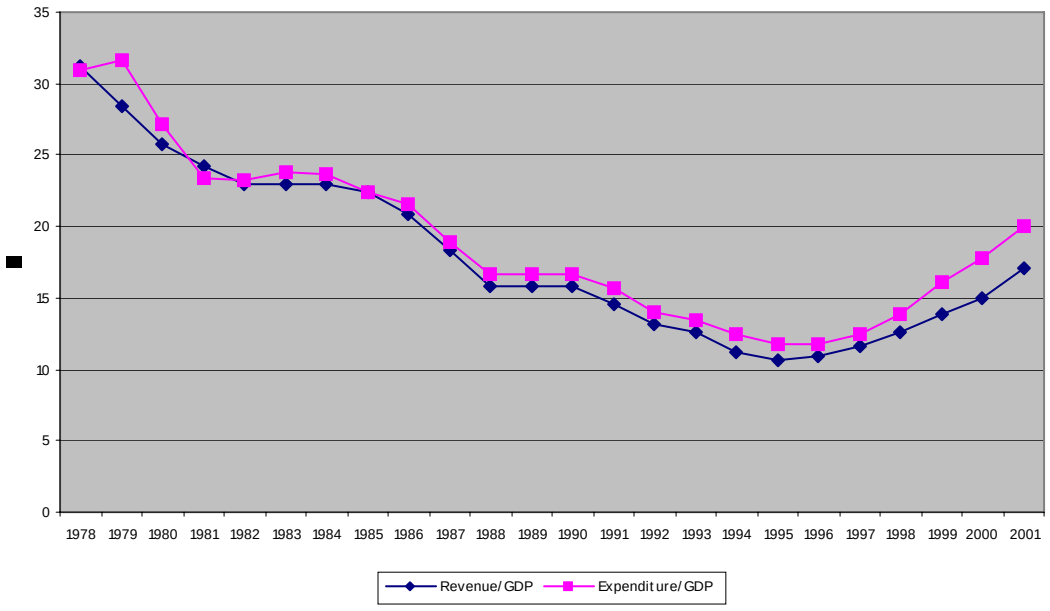

Figure 4-1: All Governments Revenue & Expenditure Over National GDP (1978-2001)

There is another interesting pattern exhibited in Figure 4-1, that is, the consistent gap between revenue/GDP and expenditure/GDP throughout the period. The two parameters closely match each other, with the expenditure level being only slightly higher than the revenue level for most of the years. This implies a general balance between governmental revenue and spending in the reform era. Finally, the moderate deficit gap has gradually begun to widen since 1996. In 2001, the spending level was three percent higher than the revenue level, which is the largest gap since 1979 (3.3%). It will be interesting to see if this foreshadows a new trend in the realm of public finance in the coming years in China.

Figure 4-2 presents the central government's share of revenue and expenditure levels over the national GDP. Since it is the ultimate authority in China, the central government legally controls the revenue and expenditure of all levels of governments. Therefore, the portion of the revenue and expenditure that the central government consumes will directly determine the size of the remaining sources that are available to its subordinate governments.

There are several distinctive features of the central government's revenue and spending patterns, if we compare Figure 4-2 to Figure 4-1. First, the trend of the expenditure levels of the central government is similar to that of the overall governments' trend: a rapid decline before 1989 followed by a moderate decrease till 1996 and a rebound after 1997. However, the center's revenue levels show a different three-stage pattern. The first stage of a steady increase between 1978 and 1984 saw

the center's revenue share nearly double from five percent to nine percent. Since then, this number tumbled to only three percent in 1993. The 1994 tax reforms doubled the center's revenue share, which kept increasing up to a level of nearly eight percent in 2001.

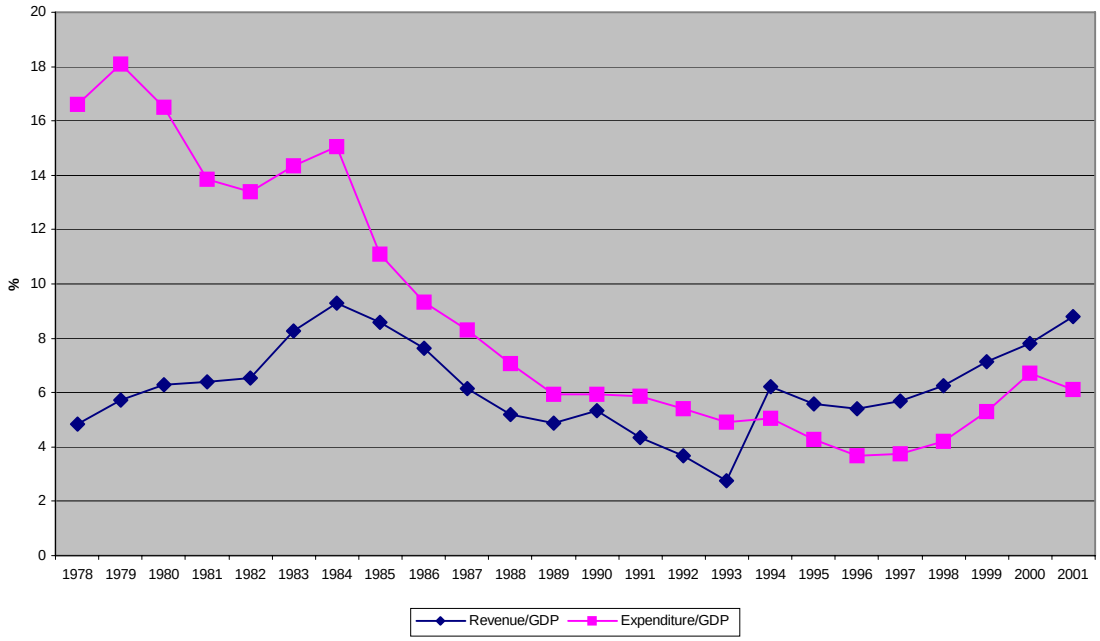

Figure 4-2: Central Government's Revenue or Expenditure of National GDP (1978-2001)

Second, the revenue-expenditure gap at the level of the central government has been much more unstable than that of the overall government. In 1978, the central government's revenue share was only five percent of the national GDP; and yet, its expenditure level was seventeen percent. This implies that the central government spent much more than it collected. However, this gap was steadily narrowed down to

just one percent in 1986. Since then, the revenue-expenditure gap of the central government has remained rather stable, a gap within a range of two percent.

Third, there was a distinctive shift in the central revenue and expenditure levels in 1994. Before 1993, the central government's expenditure level was constantly higher than its revenue level, although the gap had been rapidly reduced. This is consistent with the national pattern displayed in Figure 4-1. However, the center's revenue share jumped four percent in 1994, which surpassed its expenditure share for the first time in the reform era. Indeed, it was the result of the 1994 tax-sharing system, in which the center significantly expanded its revenue share of the national revenue from twenty-two percent in 1993 to fifty-six percent in 1994. Since then, the central government's revenue as a percentage of the national GDP has been consistently higher than its expenditure level.

In general, the overall revenue/expenditure gap at the central level shows a clear trend of fiscal decentralization between 1978 and 2001: the overall expenditure level of the center dropped from seventeen percent to six percent while its revenue level had only increased from five percent to about nine percent. However, for the period I study in this project (1987 to 2001), a scenario of fiscal decentralization constitutes only half of the real story. It does accurately portray the situation before 1994. However, there has been a discernable trend of fiscal centralization measured by both revenue and expenditure levels since 1994.

Given the trends illustrated by Figures 4-1 and 4-2, how have the revenue/expenditure levels of the city at various levels been influenced? This is the question I attempt to answer in this chapter.

Working Towards Testable Hypotheses

This chapter adopts a similar approach to the last two chapters, that is, to identify the conditions that enhance the welfare gains from fiscal decentralization and then to empirically test if these conditions can explain the observed variation both over time and across regions in the cities.

As discussed before, the optimal degree of fiscal decentralization depends on at least five categories of primary determinants:

1. Basic conditions relating to the land area of the city and the size of its population
2. The wealth of the city
3. The city's demand for public services
4. A city government's financial conditions
5. Macroeconomic and fiscal policies of city governments

The first category deals with the impact of land and population size on a city's fiscal power. As well stated in the last two chapters, these two factors should be positively related to a jurisdiction's fiscal power. It suggests

Hypothesis 1*: The larger the land size a city has, the more decentralized, other things being equal, should be the fiscal power of the city.*

Hypothesis 2*: The larger the population the city has, other things being equal, the more decentralized should be the fiscal power of the city.*

The second category of factors focuses on a city's wealth and its fiscal power. In a rational intergovernmental fiscal structure, a wealthier city should remit more

resources to its superior governments for the sake of fiscal equalization across cities. I will still use personal savings per capita as an indicator of a city's wealth. It suggests

Hypothesis 3*: The greater the level of personal saving per capita in a city, the less decentralized, other things being equal, should be the fiscal power of the city, as a result of a higher level of involvement in redistributive efforts.*

Geographic location is another wealth factor with potential influence upon a city's fiscal power. According to their geographic location, Chinese cities are divided into three regions in the *Urban Statistical Yearbook of China*: eastern China, middle China, and western China. The eastern region includes cities from twelve provinces and three municipalities: Beijing, Tianjin, Hebei, Liaoning, Shanghai, Jiangsu, Zhejiang, Fujian, Shandong, Guangdong, Guangxi, and Hainan. The middle region includes nine provinces: Shanxi, Inner Mongolia, Jilin, Heilongjiang, Anhui, Jiangxi, Henan, Hubei, and Hunan. The western region includes ten provinces and one municipality: Sichuan, Chongqing, Guizhou, Yunnan, Tibet, Shaanxi, Gansu, Ningxia, Qinghai, and Xinjiang. Generally, the eastern region is economically advanced and the western one is economically underdeveloped in China. The economic status of the middle region is just what its geographical location implies: a middle ground between the prosperous east and the poor west. Figure 4-3 shows the level of personal savings per capita at the level of district governments in China.

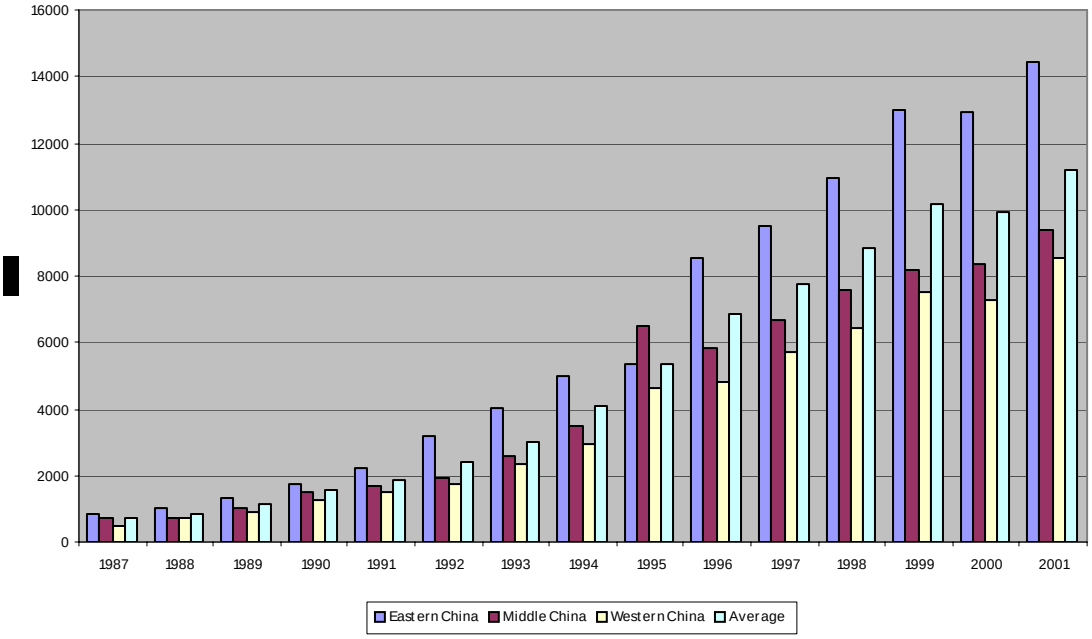

Figure 4-3: Personal Saving Per Capita at the Levels of District by Regions (1987-2001)

It is clear that the wealth gap between the eastern districts and the middle and western districts has increased over the years. According to classical welfare theory, such an accelerating wealth disparity between cities should raise policy makers' concerns. One of the most common solutions is to transfer fiscal resources from the wealthier cities to assist those cities with fiscal difficulties. It suggests

Hypothesis 4: *Cites in eastern China should, other things being equal, have more centralized fiscal systems than those in middle and western China.*

The third category of factors considers a city's demand for public services and its fiscal power. According to classical welfare theory, a decentralized intergovernmental system rests upon the assumption of decentralized public service provision. Fiscal decentralization is believed to provide a means to increase the level

of economic welfare by differentiating levels of public outputs according to the demands of local constituencies (Giertz, 1976). The magnitude of the potential gains from the decentralization depends on the variation in the optimal levels of public outputs across cities. If the optimal level of output varies little from one jurisdiction to another, then the welfare losses from providing a uniform level of output of public services across all jurisdictions will tend to be relatively small. The case for a decentralized provision will, in such an instance, be less compelling than where desired outputs vary widely from one area to another. Otherwise, fiscal decentralization will be more efficient to meet diverse service demands.

In order to maintain consistency with the regression analyses in the last two chapters, this chapter uses the same parameters to measure a city's demand for public services: the urbanization rate and the hospital beds per 10,000 capita. Again, they propose

Hypothesis 5: *The larger the fraction of a city's population residing in urban areas, the more decentralized, other things being equal should be the fiscal power of the city*; and

Hypothesis 6*: A city with a higher number of hospital beds per 10,000, other things being equal, should have a less decentralized fiscal system.*

The fourth category of factors includes local revenue per capita, expenditure per capita, budget balance, and GDP per capita. Each of them touches a specific aspect of a city's fiscal conditions. As discussed in the last two chapters, there are four hypotheses derived from those conditions.

Hypothesis 7: *A city with a greater level of local revenue per capita, other things being equal, should have a more decentralized fiscal system*;

Hypothesis 8: A city with a greater level of expenditure per capita, other things being equal, should have a more decentralized fiscal system;

Hypothesis 9: The greater budget balance a city creates, the less fiscal decentralization it has, other things being equal; and

Hypothesis 10*: A city with a greater GDP per capita, other things being equal, should have more fiscal power at its hand.*

The last hypothesis is related to macro fiscal and economic policies and a city's fiscal power. This chapter uses one parameter to measure the relationship: a city located in a minority region. It suggests

Hypothesis 12*: A city in a minority region should have a more decentralized fiscal system than a regular city, other things being equal.*

The hypotheses in this chapter are summarized into Table 4-2.

Table 4-2: Summary of the Hypotheses for All Levels of Cities

Hypothesis	Independent Variable	Fiscal decentralization	Description
1	Land size	+	A decentralized fiscal system is more efficient in a larger geographic location.
2	Population	+	Greater population often exhausts the scale of economy in public service better.
3	Saving per capita	-	Wealthier cities are "welfare benefit" exporters in fiscal equalization.
4	Eastern cities	-	Wealthier cities in eastern China are subject to fiscal equalization.
5	Urbanization rate	+	Urban residents need more public services than rural residents, hence a greater expenditure level.
6	Hospital beds per 10,000	-	A lower hospital bed ratio implies higher demand on medical service expenditure.
7	Local revenue per capita	+	Greater local revenue per capita means greater potential capacity to spend.
8	Expenditure per capita	+	Higher expenditure per capita means more actual spending at the city level.
9	Budget balance	-	The revenue budget surplus implies less expenditure.
10	GDP per capita	+	A higher GDP per capita means larger revenue base.
11	Cities in a minority region	+	A minority city should enjoy a higher level of "autonomy," including fiscal autonomy.

Fiscal Decentralization at Different Levels of City Governments, Nationwide and Regional Evidence

Data

In order to test the hypotheses in Table 4-2, I use a large panel dataset on the various cities in China. Drawing primarily from the *Urban Statistical Yearbook of China* (various years), I have manually assembled a broad range of socioeconomic variables pertaining to cities beginning with data from 1987. The Yearbook is compiled by the Statistical Bureau of China, the highest Chinese statistical authority; therefore, the data from the Yearbook is believed to be the most authoritative and comprehensive information about Chinese cities. This dataset covers all levels of cities between 1987 and 2001. The final data structure consists of fifteen annual cross-sectional observations of cities, which allows for a systematic analysis of fiscal decentralization at all levels of cities, and it allows for such an analysis to assess these things in a very comprehensive way in terms of time.

Regression Model

The univariate and multivariate ordinary least squares regressions (OLS) are utilized to test the eleven hypotheses. I also include year factors into the model to see if there are consistent time patterns that emerge from the fifteen years worth of data.

The regression analysis in this chapter has five sections. The first section analyzes fiscal decentralization at the district and prefecture level; the second section targets the regional cities; the vice-provincial cities are the subjects of the third section; the fourth section studies fiscal decentralization across all levels of cities, and

finally I examine the provincial level fiscal situation, although a province is not a city. These five sections together constitute a comprehensive picture of the intergovernmental fiscal relationship at all levels of cities (including provinces) in the reform era.

Fiscal Decentralization at the Level of District and Prefecture Governments

Districts and prefectures are the major subjects of this study for several reasons. First, they constitute the vast majority of the cities in China. Second, they are the mostly referred to as "cities" in the literature. Third, the situation at this level represents major aspects of the functions of urban governments. Those cities (including the regional cities, vice provincial cities, and municipalities) cover a large portion of rural functions. Since the caliber of the statistics for these cities includes both their urban and rural areas, they are not typical candidates for urban studies. Finally, since districts and prefectures are the lowest level of governments in urban China, the *Urban Statistical Yearbook of China* keeps fairly consistent records on them. Unlike the inconsistency or indiscreteness of the datasets for the other levels of cities, the information at this level of government (district and prefecture) allows for a more robust statistical analysis over a longer period of time.

(1) Univariate Analysis. The analyses of fiscal decentralization at the district and prefecture levels start with simple regression equations involving each of the variables chosen to test one of the hypotheses.

Table 4-3: Simple Univariate Regressions, Fiscal Decentralization at the Level of District and Prefecture

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent Variable	Constant	Coefficient	Constant	Coefficient
Land	-2.793314	-1.15e-06	-2.6481	7.75e-07
	0	0	0	0.010
Population	-2.69261	-.0015878	-2.465451	-.0025477
	0	0	0	0
Saving per capita	-2.752793	-.0000144	-2.652621	3.22e-06
	0	0	0	0.081
Eastern China	-2.774014	-.0696653	-2.573521	-.1668772
	0	0	0	0
Middle China	-2.815414	.0323596	-2.665158	.0596092
	0	0.095	0	0.001
Western China	-2.813641	.058586	-2.67329	.1665877
	0	0.015	0	0
Urbanization rate	-3.190127	.8350203	-2.982443	.7300719
	0	0	0	0
Hospital beds per 10,000	-3.144954	.0082353	-2.902998	.0062709
	0	0	0	0
Local revenue per capita	-3.011666	.0004953	-2.778168	.0003219
	0	0	0	0
Expenditure per capita	-2.93577	.0002673	-2.836248	.0003964
	0	0	0	0
Budget balance	-2.763803	.0000133	-2.6516	-3.37e-06
	0	0	0	0
GDP per capita	-2.754559	-6.06e-06	-2.596382	-5.64e-06
	0	0	0	0
Minority city	-2.823807	.1938321	-2.674142	.2955455
	0	0	0	0

Notes: Every row represents two univariate regressions. In columns (1) and (2) the constant and coefficient are from a regression of the percentage of a city's local revenue/GDP, which is regressed on the individual independent variables. In columns (3) and (4) the constant and coefficient are from a regression of the percentage of a city's expenditure/GDP, which is regressed on the individual independent variables.

The results of the univariate regressions are listed in Table 4-3. The regressions are based on the combination of data from districts and prefectures. Each

row in the table represents results from the regressions for one of the proposed explanatory variables: the first two columns show the results using the portion of the local revenue over a city's GDP while the second two columns show the results using a portion of expenditure over a city's GDP.

The first category of hypotheses, Hypothesis 1 and 2, study the impact of the land and population size of the city. The regressions confirm none of the hypotheses. At the level of district and prefecture, a city's size of population is negatively related to its fiscal power. The regressions dealing with the issue of land size produce a mixed result. If we use expenditure/GDP as a measurement, there is a proposed positive relationship. However, if the other measurement—local revenue/GDP is used—the regression result is the opposite of what is predicted by Hypothesis 1.

The second category of hypotheses, Hypothesis #'s 3 and 4, deals with the relationship between a city's fiscal power and its wealth. The regressions dealing with the personal savings per capita indicator yield contradictory results. Hypothesis 3 is affirmed if local revenue/GDP is used as the dependent variable, but rejected if expenditure/GDP is used. However, both regressions confirm Hypothesis 4 that a city at the level of district and prefecture would have *less* decentralized fiscal power if it was located in eastern China.

The third category of hypotheses, Hypothesis #'s 5 and 6, study the impact of the demand for public services on a city's fiscal structure. The regressions prove Hypothesis 5… they prove that a larger urbanization rate is positively associated with

fiscal decentralization at the level of district and prefecture. However, Hypothesis 6 (hospital beds per 10,000) is rejected.

The fourth category of hypotheses, Hypothesis #'s 7, 8, 9, and 10 focuses on the connection between a city's fiscal decentralization and its various fiscal conditions. The regressions show that both local revenue/capita and expenditure/capita are positively associated with a city's fiscal power, as Hypothesis #'s 7 and 8 presuppose. However, the budget balance displays distinctive influence over a city's fiscal power. The regression applying to local revenue/GDP disproves Hypothesis 9 while the other regression on expenditure/GDP confirms it. The proposed positive relationship between a city's revenue basis (GDP/capita) and its fiscal power, as Hypothesis 10 projects, is found to be just the opposite. A city with a greater revenue base at the level of district and prefecture actually is witness to less fiscal decentralization than a city with a lower revenue base.

Finally, a district or a prefecture in a minority region is positively correlated with comparatively more fiscal power, as Hypothesis 11 proposes.

While Table 4-3 shows how individual factors influence fiscal decentralization at the level of district and prefecture combined, it is interesting to further analyze their influence if they are separated.

Table 4-4 shows the separate results of the univariate regressions on district and prefecture. The structure of Table 4-4 is similar to that of Table 4-3. The results in Table 4-4 basically repeat the patterns seen in Table 4-3 where district and prefecture are combined and analyzed. This structure conveys a simple fact. There is

very little variation between a district and a prefecture in terms of their fiscal situations corresponding to the above hypotheses, since they both are under the control of the same regional city.

Table 4-4 displays only one difference between the fiscal situations of districts and prefectures. The regressions outline the fact that if a prefecture is located in east China that fact is negatively related to its fiscal power, comparatively speaking. This result is consistent with Hypothesis 4 as well as the results detailed in Table 4-3 where prefecture and district data are combined. However, the regressions using district data alone reach the opposite conclusion. A district in eastern China enjoys a higher level of fiscal decentralization than a district in other regions.

While the univariate regressions have provided valuable information about the paired relationship between a district (prefecture) and its fiscal power, they are certainly inadequate for answering the dynamic and cross-sectional questions about fiscal power distribution at the level of district and prefecture through the study period. Therefore, a multiple-regression analysis containing a set of control variables is needed to further test the hypotheses in a more holistic way and in order to better answer the major research questions posited at the introduction of this chapter.

Table 4-4: Simple Univariate Regressions, Fiscal Decentralization at the Level of District vs. Prefecture

	District				Prefecture			
	Revenue/GDP		Expenditure/GDP		Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Constant	Coefficient	Constant	Coefficient	Constant	Coefficient	Constant	Coefficient
Land	-2.54737	-1.36e-06	-2.440191	1.65e-07	-3.001522	-1.79e-06	-2.838147	2.15e-06
	0	0	0	0.549	0	0.016	0	0.004
Population	-2.392353	-.0021326	-2.211941	-.0028936	-2.839742	-.0028739	-2.590286	-.0038158
	0	0	0	0	0	0	0	0
Saving per capita	-2.391029	-.000033	-2.380704	-.0000112	-2.948969	-.000032	-2.80724	-6.78e-06
	0	0	0	0	0	0	0	0.132
Eastern China	-2.6175	.1318758	-2.451471	.0292167	-2.898253	-.3054873	-2.671393	-.3987188
	0	0	0	0.170	0	0	0	0
Middle China	-2.528637	-.0777193	-2.438107	-.0013957	-3.067496	.1310716	-2.868745	.1169788
	0	0.002	0	0.948	0	0	0	0
Western China	-2.543149	-.101764	-2.430479	-.0504728	-3.066543	.2392507	-2.905354	.3817284
	0	0.003	0	0.078	0	0	0	0
Urbanization rate	-2.992089	.7222315	-2.633376	.3250824	-3.174125	.4594003	-3.052552	.6591583
	0	0	0	0	0	0	0	0
Hospital beds per 10,000	-2.99564	.0081767	-2.587212	.0027853	-3.18449	.0054153	-2.996097	.0055478
	0	0	0	0	0	0	0	0
Local revenue per capita	-2.772234	.0003259	-2.55849	.0001836	-3.212318	.0008915	-2.932642	.0004972
	0	0	0	0	0	0	0	0
Expenditure per capita	-2.634766	.0001035	-2.607618	.0002311	-3.105647	.0002968	-3.027067	.0007361
	0	0	0	0	0	0	0	0
Budget balance	-2.508742	.0000126	-2.446438	-1.88e-06	-2.967566	.0000255	-2.843322	-9.98e-06
	0	0	0	0	0	0	0	0
GDP per capita	-2.443801	-.000013	-2.325935	-.0000127	-2.976276	-5.49e-06	-2.78586	-5.02e-06
	0	0	0	0	0	0	0	0
Minority city	-2.566938	.0880089	-2.441334	.0325009	-3.061842	.3505094	-2.894688	.5321674
	0	0.054	0	0.398	0	0	0	0

Notes: Every row represents two univariate regressions. The columns (1) – (4) show the regressions results on district. In columns (1) and (2) the constant and coefficient are from a regression of the percentage of a city's revenue over it GDP, which is regressed on the individual independent variables. In columns (3) and (4) the constant and coefficient are from a regression of the percentage of a city's expenditure over it GDP, which is regressed on the individual independent variables. The columns (5) – (8) show the regressions results on prefecture. The structure of the regressions on prefecture is analogous to the structure of the regressions on city.

(2) Multivariate Analysis. In order to explain more variation in the dependent variables, I decided to include two additional sets of independent variables into the regression model. They are: (1) the dummy variables determined by the population size of district and prefecture; and (2) the year factors.

According to the *Urban Statistical Yearbook of China*, all cities in China are divided into five categories based upon the size of their populations. They are labeled as follows: a super large city of more than two million; a very large city with more than one million but less than two million urban inhabitants; a large city with an urban population of between half a million and one million; a middle-size city with more than two hundred thousand but less than a half million inhabitants; and finally there is the small city of less than two hundred thousand urban population.

The year factors refer to the calendar years from which the data are drawn. They are the key factors according to which I am able to make observations about the trends/dynamics of fiscal decentralization in cities. With the above two new sets of variables incorporated, I present regression results in Table 4-5.

The multivariate regressions exhibit some very interesting findings. First, the original regression results are only slightly different from the univariate regressions presented in Table 4-3 and Table 4-4. According to Table 4-5, a city's fiscal power is positively correlated with its land size (Hypothesis 1). However, a larger population negatively contributes to the fiscal power of a city, which disconfirms Hypothesis 2.

Table 4-5: Multivariate Regressions, Fiscal Decentralization at the Level of District and Prefecture (1987-2001)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent Variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	**1.45E-06**	**0**	**1.15E-06**	**0**
Population	**-0.0007265**	**0.002**	**-0.0012396**	**0**
Saving per capita	**-0.0000275**	**0**	**-0.0000494**	**0**
Eastern China	(omitted)		(omitted)	
Middle China	**0.035739**	**0.014**	**0.0696189**	**0**
Western China	**0.0681818**	**0**	**0.169693**	**0**
Urbanization rate	**0.4341128**	**0**	**0.370655**	**0**
Hospital beds per 10,000	**0.00246**	**0**	**0.0019912**	**0**
Local revenue per capita	**0.0004435**	**0**	**-0.0006718**	**0**
Expenditure per capita	**0.000135**	**0.001**	**0.0012329**	**0**
Budget balance	**4.50E-06**	**0**	**2.21E-06**	**0.001**
GDP per capita	**-6.03E-06**	**0**	**-5.87E-06**	**0**
City in a minority region	0.0069694	0.736	**0.092002**	**0**
Super large city	(omitted)		(omitted)	
Very large city	-0.2804944	0.168	**-0.6375687**	**0.003**
Large city	-0.2764925	0.191	**-0.6591709**	**0.003**
Mid-size city	-0.2818595	0.194	**-0.7063592**	**0.002**
Small city	-0.3400196	0.128	**-0.7429446**	**0.001**
Year 1987	**0.8771801**	**0**	**0.4358537**	**0**
Year 1988	**0.8463967**	**0**	**0.3854928**	**0**
Year 1989	**0.8502841**	**0**	**0.4658425**	**0**
Year 1990	**0.8376056**	**0**	**0.4615339**	**0**
Year 1991	**0.8263828**	**0**	**0.4454196**	**0**
Year 1992	**0.3170082**	**0**	-0.023356	0.563
Year 1993	**0.3133312**	**0**	-0.0248062	0.545
Year 1994	**0.1576421**	**0**	**0.0640911**	**0.067**
Year 1995	**0.1549585**	**0**	0.0288642	0.406
Year 1996	**0.1288934**	**0**	0.0371053	0.279
Year 1997	**0.22133**	**0**	**0.1350385**	**0.003**
Year 1998	**0.2896003**	**0**	**0.2132994**	**0**
Year 1999	**0.3202265**	**0**	**0.2453037**	**0**
Year 2000	**0.3052182**	**0**	**0.2103997**	**0**
Year 2001	(omitted)		(omitted)	
Constant	**-3.288275**	**0**	**-2.454715**	**0**
Adjusted R-squared	0.5841		0.4688	
N	6,018		6,015	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

The two hypotheses regarding the wealth factors (Hypothesis 3 and 4) are supported in the multivariate regressions. A wealthier city, measured either by its personal savings rate per capita or its geographic location in eastern China, tends to have a less decentralized fiscal structure than a poorer city.

The multivariate regressions also support Hypothesis 5, which predicts a positive relationship between a city's urbanization rate and its fiscal power. However, Hypothesis 6 is proved wrong (Hypothesis 6 involves the number of hospital beds per 10,000).

Among the four hypotheses relating to a city's fiscal conditions, only Hypothesis 8 (expenditure per capita) is confirmed by the multivariate regressions. In contrast to Hypothesis #'s 9 and 10, a city's fiscal power is positively related to its budget balance but is negatively related to its revenue base (GDP/capita). The impact of local revenue per capita on a city's fiscal power is mixed (Hypothesis 7). The regression exhibits a positive relationship between this variable and a city's local revenue/GDP, but a negative one between it and the city's expenditure/GDP.

Finally, Hypothesis 11 is affirmed only when a city's expenditure/GDP is used as the dependent variable.

The second finding of interest involves the impact of the dummy variable, the size of urban population in a city. The regression based on local revenue/GDP fails to produce any statistically significant result. However, the regression addressing expenditure/GDP shows a clear pattern: the level of fiscal decentralization increases as a city's urban population becomes larger. It shows that a middle size city enjoys more fiscal decentralization than a small size city. Similarly, a large city is better

positioned than a middle-sized city in terms of its fiscal power. The super-large city is privileged to the highest level of fiscal decentralization of all the cities addressed by the regression. In fact, the factor of being a super large city imposes the strongest influence in determining a city's degree of fiscal decentralization of all the other factors in the multivariate regression based on expenditure/GDP.

The third and the most important finding involves the trends/dynamics of fiscal power at the level of the districts and prefectures that have characterized them over the years. Compared with the year 2001, all the rest of the year factors are positively correlated to local revenue/GDP. It indicates a clear trend of fiscal centralization, rather than fiscal decentralization, in districts and prefectures between 1987 and 2001. The regression addressing expenditure/GDP basically displays the same trend, although the regression cannot reach statistically significant results for the years 1992, 1993, 1995, and 1996. The regressions in Table 4-5 provide solid evidence for disproving the trickle-down scenario at the level of districts and prefectures.

In order to further test the findings of Table 4-5, another useful approach to observing fiscal decentralization at the district and prefecture levels is to run regressions by regions. By splitting them into three regional groups, Table 4-6 shows not only the longitudinal but also cross-sectional evidence regarding fiscal decentralization trends/dynamics.

Table 4-6: Multivariate Regressions, Fiscal Decentralization at the Level of District and Prefecture by Regions

	Eastern China				Middle China				Western China			
Independent Variable	**Revenue/GDP**		**Expenditure/GDP**		**Revenue/GDP**		**Expenditure/GDP**		**Revenue/GDP**		**Expenditure/GDP**	
	Coefficient	**P>|t|**	**Coefficient**	**P>|t|**	**Coefficient**	**P>|t|**	**Coefficient**	**P>|t|**	**Coefficient**	**P>|t|**	**Coefficient**	**P>|t|**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**	**(7)**	**(8)**	**(9)**	**(10)**	**(11)**	**(12)**
Land	**1.31E-06**	**0.001**	**8.10E-07**	**0.048**	-1.91E-07	0.731	-4.74E-07	0.462	7.28E-07	0.268	8.87E-07	0.184
Population	**-0.00115**	**0.001**	**-0.00116**	**0.001**	**-0.00082**	**0.014**	**-0.00144**	**0**	0.000379	0.553	-0.00087	0.18
Saving per capita	**-3.1E-05**	**0**	**-4.7E-05**	**0**	**-7.3E-05**	**0**	**-9.4E-05**	**0**	**-2.4E-05**	**0.005**	**-7.1E-05**	**0**
Urbanization rate	**0.25297**	**0.002**	**0.318646**	**0**	**0.311553**	**0**	**0.432908**	**0**	**0.20705**	**0.061**	-0.10515	0.347
Hospital beds per 10,000	**0.003446**	**0**	**0.002488**	**0**	**0.001058**	**0**	**0.00091**	**0.003**	**0.006882**	**0**	**0.006448**	**0**
Local revenue per capita	**0.000437**	**0**	**-0.00043**	**0**	**0.001255**	**0**	**-0.00023**	**0.005**	**0.000509**	**0**	**-0.00076**	**0**
Expenditure per capita	**0.000208**	**0.001**	**0.001079**	**0**	**0.000268**	**0**	**0.001454**	**0**	**-0.0002**	**0.015**	**0.001071**	**0**
Budget balance	**2.70E-06**	**0.001**	4.38E-07	0.613	**2.20E-06**	**0.034**	**-2.56E-06**	**0.035**	**6.21E-06**	**0**	1.86E-06	0.195
GDP per capita	**-4.39E-06**	**0**	**-4.10E-06**	**0**	**-1.1E-05**	**0**	**-1.1E-05**	**0**	**-8.90E-06**	**0**	**-8.66E-06**	**0**
City in a minority region	**0.110453**	**0.001**	**0.173856**	**0**	0.034197	0.264	0.031004	0.382	**-0.131**	**0.001**	**0.090162**	**0.029**
Super large city	(omitted)		(omitted)		(omitted)		(omitted)		(omitted)		(omitted)	
Very large city	-0.1185114	0.658	-0.25786	0.34	**-0.8670654**	**0.002**	**-1.37033**	**0**	-0.05809	0.646	**0.223395**	**0.083**
Large city	-0.0908706	0.738	-0.22878	0.403	**-0.924487**	**0.002**	**-1.55188**	**0**				
Mid-size city	-0.1585094	0.567	-0.28104	0.314	**-0.9246705**	**0.003**	**-1.56202**	**0**	-0.00206	0.984	-0.0512	0.615
Small city	-0.2542733	0.370	-0.3273	0.252	**-0.8942343**	**0.005**	**-1.52218**	**0**	-0.05537	0.626	-0.10105	0.382
Y1987	**0.973186**	**0**	**0.39105**	**0**	**0.769392**	**0**	**0.438025**	**0**	**0.410803**	**0**	0.008285	0.935
Y1988	**0.985532**	**0**	**0.470498**	**0**	**0.679131**	**0**	**0.277593**	**0**	**0.366753**	**0**	-0.15656	0.101
Y1989	**0.935892**	**0**	**0.510317**	**0**	**0.704048**	**0**	**0.374116**	**0**	**0.390213**	**0**	0.012437	0.895
Y1990	**0.879754**	**0**	**0.474139**	**0**	**0.690541**	**0**	**0.358149**	**0**	**0.438873**	**0**	0.066647	0.472
Y1991	**0.864689**	**0**	**0.467629**	**0**	**0.707901**	**0**	**0.370084**	**0**	**0.402248**	**0**	0.007998	0.931
Y1992	**0.505424**	**0**	**0.215103**	**0.001**	0.026162	0.613	**-0.29533**	**0**	**-0.31754**	**0.001**	**-0.70144**	**0**
Y1993	**0.450334**	**0**	**0.217664**	**0.002**	-0.07313	0.169	**-0.40966**	**0**	**-0.25955**	**0.006**	**-0.63291**	**0**
Y1994	0.081304	0.132	0.041087	0.451	**0.157582**	**0**	0.042328	0.415	**-0.22861**	**0.006**	**-0.31549**	**0**
Y1995	**0.140195**	**0.009**	0.0154	0.777	**0.10344**	**0.02**	-0.00356	0.945	**-0.21322**	**0.008**	**-0.30599**	**0**
Y1996	**0.088873**	**0.095**	0.033462	0.534	0.069911	0.109	-0.01377	0.785	**-0.15777**	**0.042**	**-0.25722**	**0.001**
Y1997	**0.233909**	**0**	**0.172678**	**0.009**	**0.114301**	**0.048**	0.053267	0.426	**-0.20145**	**0.06**	**-0.23175**	**0.033**
Y1998	**0.36284**	**0**	**0.288257**	**0**	**0.225041**	**0**	**0.183194**	**0.007**	**-0.24886**	**0.02**	**-0.21898**	**0.044**
Y1999	**0.355538**	**0**	**0.291516**	**0**	**0.197244**	**0.001**	**0.146594**	**0.03**	**-0.1961**	**0.058**	-0.16205	0.123
Y2000	**0.305018**	**0**	**0.216134**	**0.002**	**0.184328**	**0.001**	0.085819	0.189	-0.10116	0.295	-0.05491	0.576
Y2001	(omitted)		(omitted)		(omitted)		(omitted)		(omitted)		(omitted)	
Constant	**-3.411948**	**0**	**-2.98189**	**0**	**-2.579007**	**0**	**-1.52736**	**0**	**-3.09354**	**0**	**-2.38533**	**0**
Adjusted R-squared	0.6746		0.5624		0.6906		0.5616		0.5397		0.4365	
N	2,447		2,445		2,412		2,411		1,159		1,159	

Notes: Regressions for columns (1), (2), (3) and (4) are based on East region; for columns (5), (6), (7) and (8), Middle region; (9), (10), (11) and (12), West region. The dependent variable for columns (1) (2), (5) (6), and (9) (10) is the local revenue/GDP and for columns (3) (4), (7) (8), and (11) (12) is the expenditure/GDP.

Is there a clear disparity in terms of fiscal decentralization present at the level of districts and prefectures across the regions? The regressions in Table 4-6 provide negative answers. Indeed, the regressions by regions demonstrate patterns that are rather with those in Table 4-5. Without considering the few undeterminable factors, most explanatory factors display the same kinds of correlations with fiscal decentralization as they do in Table 4-5. This further reinforces the argument that fiscal decentralization did not occur at the level of district and prefecture in the years addressed by the regressions.

The only inconsistency appears in the regressions dealing with the western region of China. The regressions in columns 9 and 11 of Table 4-5 indicate that a moderate degree of fiscal decentralization happened between 1992 and 1999 at the levels of district and prefecture in western China. This differs from the nationwide trends and the trends that marked the fiscal situations of the eastern and middle regions. Fiscal decentralization in the western districts and prefectures contradicts the common conception that economically less developed areas should have a more centralized fiscal system (Montinola, Qian, and Weingast, 1995; Lin and Liu, 2000). The so-called incentive theory, which highlights fiscal decentralization as a major institutional arrangement for explaining the rapid economic growth that has taken place in coastal China should be subjected to a second thought, as this chapter has revealed.

So far, the multivariate regressions have dealt with districts and prefectures together. In reality, they are different types of city governments, although they exist at

the same level of the administrative hierarchy. How do they differ from each other? The following section deals with this question.

Table 4-7 lists the results of two separate sets of multivariate regressions applied to districts and prefectures. Except for those coefficients which are statistically insignificant, these regressions show rather similar results for districts and prefectures vis-à-vis the eleven hypotheses. The only major difference is the factor of geographic location. As with the results of the univariate analysis which are presented in Table 4-4, the multivariate regressions have found that there is a negative correlation between a prefecture being one from the east and its fiscal power, which is consistent with Hypothesis 4. However, an eastern district exhibits a positive relationship with its fiscal power, if it is measured by local revenue/GDP. Therefore, geographic location has quite different implications for fiscal decentralization at the level of district and prefecture.

The regressions testing for the effect of the factor of city size show almost no significant impact on fiscal decentralization at the level of district. However, a prefecture with a larger urban population enjoys a higher level of fiscal decentralization. This reiterates one of the findings presented in Table 4-5 that the size of an urban population is positively related to a city's fiscal power.

Table 4-7: Multivariate Regressions, Fiscal Decentralization at the Level of District vs. Prefecture

	District				Prefecture			
	Revenue/GDP		Expenditure/GDP		Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Independent Variable	Coefficient	P > |t|	Coefficient	P > |t|	Coefficient	P > |t|	Coefficient	P > |t|
Land	**1.15E-06**	**0**	**7.87E-07**	**0.012**	-3.76E-07	0.571	-4.96E-07	0.49
Population	**-0.001822**	**0**	**-0.001933**	**0**	**-0.001417**	**0**	**-0.002053**	**0**
Saving per capita	**-1.21E-05**	**0**	**-2.54E-05**	**0**	**-5.98E-05**	**0**	**-8.11E-05**	**0**
Eastern China	**0.1018919**	**0**	0.0165841	0.471	**-0.194694**	**0**	**-0.2642893**	**0**
Middle China	**0.0469143**	**0.037**	0.0215607	0.349	**-0.05621**	**0.01**	**-0.1369448**	**0**
Western China	(omitted)		(omitted)		(omitted)		(omitted)	
Urbanization rate	0.0321124	0.631	0.0464744	0.497	**0.2978712**	**0**	**0.3372042**	**0**
Hospital beds per 10,000	**0.0035437**	**0**	**0.0018312**	**0**	**0.0006701**	**0.02**	**0.0009641**	**0.002**
Local revenue per capita	**0.0004124**	**0**	**-0.000447**	**0**	**0.0013562**	**0**	**-0.0002**	**0.009**
Expenditure per capita	-0.000042	0.357	**0.0008015**	**0**	**0.000162**	**0.005**	**0.0013844**	**0**
Budget balance	**2.95E-06**	**0**	5.81E-07	0.354	**7.29E-06**	**0**	**-8.80E-06**	**0**
GDP per capita	**-1.33E-05**	**0**	**-1.41E-05**	**0**	**-5.30E-06**	**0**	**-5.05E-06**	**0**
Minority city	0.0223021	0.413	0.0128017	0.646	0.0222491	0.386	**0.146304**	**0**
Super large city	(omitted)		(omitted)		(omitted)		(omitted)	
Very large city	**0.4776923**	**0.042**	0.2279447	0.342	**-1.029851**	**0.001**	**-2.323358**	**0**
Large city	0.3365811	0.161	0.1292679	0.598	**-1.062305**	**0**	**-2.416465**	**0**
Mid-size city	0.267998	0.273	0.0510474	0.838	**-1.016783**	**0.001**	**-2.457111**	**0**
Small city	0.2465034	0.324	0.1128879	0.658	**-0.988554**	**0.002**	**-2.448892**	**0**
Year 1987	**0.6691099**	**0**	**0.1673656**	**0.003**	**0.7649935**	**0**	**0.5576838**	**0**
Year 1988	**0.6723307**	**0**	0.0666408	0.222	**0.7038998**	**0**	**0.5245947**	**0**
Year 1989	**0.6196839**	**0**	**0.1989787**	**0**	**0.7503329**	**0**	**0.5942742**	**0**
Year 1990	**0.6473006**	**0**	**0.2351016**	**0**	**0.7007913**	**0**	**0.5344506**	**0**
Year 1991	**0.6117912**	**0**	**0.2136443**	**0**	**0.7102386**	**0**	**0.5392855**	**0**
Year 1992	**0.618784**	**0**	**0.3225788**	**0**	**-0.203975**	**0**	**-0.376472**	**0**
Year 1993	**0.6505605**	**0**	**0.416244**	**0**	**-0.202647**	**0**	**-0.407476**	**0**
Year 1994	-0.001333	0.979	-0.070106	0.172	**0.0746734**	**0.094**	**0.1329878**	**0.006**
Year 1995	0.0239843	0.629	-0.067567	0.185	0.0572204	0.192	**0.0886372**	**0.06**
Year 1996	0.0023987	0.961	-0.068703	0.171	0.0341512	0.426	**0.0839644**	**0.069**
Year 1997	0.0420863	0.388	-0.028199	0.573				
Year 1998	**0.1209733**	**0.014**	0.0558338	0.267				
Year 1999	**0.1364638**	**0.005**	0.0760486	0.126				
Year 2000	**0.1339309**	**0.005**	0.0600779	0.219				
Year 2001	(omitted)		(omitted)		(omitted)		(omitted)	
Constant	**-3.34725**	**0**	**-2.663989**	**0**	**-2.396144**	**0**	**-0.609619**	**0.091**
Adjusted R-squared	0.6606		0.4959		0.6357		0.5752	
N	2,838		2,835		3,180		3,180	

Notes: The dependent variable for columns (1) and (2) is revenue/GDP and in columns (3) and (4) is expenditure/GDP for city. The dependent variable for columns (5) and (6) is the local revenue/GDP and in columns (7) and (8) is the expenditure/GDP for prefecture. The dependent variables in columns (7) and (8) are missing from 1997 to 2001.

Finally, the separate regressions display slightly different trends/dynamics in terms of fiscal decentralization for the years 1987 to 2001. For the district, there was a clear trend of fiscal centralization between 1987 and 1993. The year 1994 was a watershed year, since the level of fiscal power has generally shown no statistically significant difference since then. However, if measured by local revenue/GDP, districts have begun a new round of fiscal centralization since 1998.

For prefectures, the situation is a bit more complicated. They initially witnessed a huge amount of fiscal centralization between 1987 and 1991, followed by a moderate period of fiscal decentralization which took place between 1992 and 1993. Fiscal power for prefectures seems to have experienced a re-centralization again between 1994 and 1996. However, since the *Urban Statistical Yearbook of China* does not provide fiscal information about prefectures for any years past 1996, the regressions cannot test for the continuation of this latest trend of fiscal centralization past 1996.

However, if the separate regressions dealing with districts and prefectures are compared, we can still be cautiously confident in arguing that the overall trends of the fiscal dynamics for both types of cities lean towards being trends of centralization, rather than decentralization. This result can be further supported by the regressions presented in Table 4-5.

Fiscal Decentralization at the Level of Regional City

A regional city is the superior government to districts and prefectures in the Chinese administrative hierarchy. The challenge inherent in studying the regional city involves its changing definition in the *Urban Statistical Yearbook of China*. As Figure 1-2 shows, a regional city usually consists of three types of government: district, prefecture, and county. Since the *Urban Statistical Yearbook of China* has changed the definition of a regional city in terms of which of these three subordinate governments should be included under the authority-umbrella of a regional city, this section has to be divided into two parts. The first part deals with the years 1987 to 1993. During this period, the definition of a regional city included all three types of subordinate governments—districts, prefectures, and counties. That is to say, the label of 'regional city' before 1993 applies not only to narrowly defined urban areas, but also to the rural areas that fell under its jurisdiction.

The second part of this section deals with the years between 1994 and 2000. The definition of a regional city was changed during this time to include districts and prefectures only in the *Urban Statistical Yearbook of China*. Therefore, the label 'regional city' after 1994 referred only to traditionally urban areas.

Starting in 2001, the *Urban Statistical Yearbook of China* changed the definition of a regional city again. It basically equated a regional city with the districts under its administration only. Therefore, it is inappropriate to compare what was called a 'regional city' in 2001 to the same city before 2001. As a result, the analysis in this section does not include the data for 2001.

Table 4-8 displays the regression results applying to regional cities for the years 1987 to 1993. The two regressions account for the variation in the dependent variables between sixty-six percent and seventy-five percent, which are statistically significant percentages.

The regressions in Table 4-8 show that a regional city's fiscal power is negatively related to its size of population, in contrast to what is predicted by Hypothesis 2. Its land size is also inversely connected to its fiscal power, which constitutes a negation of Hypothesis 1, if local revenue/GDP is used.

In terms of the two factors of wealth, the personal savings rate per capita and geographic location, the regressions produce mixed results. On the one hand, the regressions uphold Hypothesis 4, which implies a negative relationship between an eastern regional city and its fiscal power. On the other hand, the regressions reject Hypothesis 3. They find that a wealthier regional city tends to have proportionally more fiscal power than a poorer regional city. Here, fiscal equalization imposes little effect on a regional city's fiscal power.

Hypothesis #'s 5 and 6 are aimed at gauging how the demand for public services can change a regional city's fiscal power situation. Interestingly, both hypotheses are rejected by the regression. A regional city with a greater urbanization rate enjoys less fiscal power. Coordinately, if it has a lower number of hospital beds per 10,000, it also has access to less fiscal power with which to provide them.

Table 4-8: Multivariate Regressions, Fiscal Decentralization at the Level of Regional City (1987-1993)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent Variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	**-3.74E-06**	**0**	1.18E-07	0.906
Population	**-0.0006557**	**0**	**-0.0006758**	**0**
Saving per capita	**0.0000677**	**0**	**0.0000442**	**0**
Eastern China	(omitted)		(omitted)	
Middle China	0.0352754	0.136	0.0356138	0.121
Western China	**0.0570559**	**0.063**	**0.104583**	**0**
Urbanization rate	**-0.4901555**	**0**	-0.1587169	0.131
Hospital beds per 10,000	**0.0042361**	**0**	**0.0031248**	**0.003**
Local revenue per capita	0.000012	0.928	**-0.0013727**	**0**
Expenditure per capita	0.0002137	0.111	**0.0015956**	**0**
Budget balance	**5.87E-06**	**0**	-9.70E-07	0.107
GDP per capita	**-0.0000182**	**0**	**-0.0000196**	**0**
City in a minority region	**0.2143814**	**0**	**0.1430964**	**0**
Super large city	(omitted)		(omitted)	
Very large city	**0.4672672**	**0.049**	0.2080741	0.365
Large city	0.3119374	0.186	0.0734619	0.748
Mid-size city	0.0628671	0.79	-0.1091454	0.633
Small city	-0.0726985	0.76	-0.1242127	0.589
Year 1987	**1.398681**	**0**	**1.089993**	**0**
Year 1988	**1.378038**	**0**	**0.8593368**	**0**
Year 1989	**1.451951**	**0**	**1.181694**	**0**
Year 1990	**1.3492**	**0**	**1.117862**	**0**
Year 1991	**1.381109**	**0**	**1.162392**	**0**
Year 1992	**1.769639**	**0**	**1.553427**	**0**
Year 1993	**1.884879**	**0**	**1.713818**	**0**
Constant	**-3.742586**	**0**	**-3.411314**	**0**
Adjusted R-squared	0.7576		0.6612	
N	2,619		2,617	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

The regressions further reject Hypothesis #'s 7 (local revenue/capita) and 9 (budget balance), and confirm Hypothesis 8 (expenditure/capita). However, these are less robust conclusions, since they are not supported by both of the two regressions. However, both regressions firmly reject Hypothesis 10, which states that there is a positive relationship between a regional city's revenue base and its fiscal power.

Finally, the regression confirms Hypothesis 11, that is, being a regional city in a minority region benefits its fiscal power.

Does the size of a regional city, categorized by its urban population, affect its fiscal power? The regressions provide little evidence to support the argument.

Has fiscal power been decentralized down to regional cities between 1987 and 1993? The regressions give positive answers. Table 4-8 shows that the year factors between 1987 and 1993 have strongly positive coefficients with a regional city's degree of fiscal power, which implies a trend of fiscal decentralization during this period. Indeed, a close look at Table 4-8 further reveals that the pace of fiscal decentralization increased during this seven-year period. This means that regional cities had benefited from a trickle-down effect before 1993 when the central government delegated more fiscal power to the provincial governments.

Has this trend of fiscal decentralization at the level of regional city continued since 1993? The data in the *Urban Statistical Yearbook of China* does not allow me to fully address this question, since the definition of a regional city changed in 1994. However, I still can get some approximate ideas about what has happened after 1993 at the level of regional city.

Table 4-9 lists the regressions applied under the second definition of 'regional city' which applied between the years 1994 and 2000. Here, the term 'regional city' did not include its subordinate counties. Interestingly enough, the new regressions reach the identical conclusions as the regressions applied to data from the years 1987-1993. The only difference between them, which is also the most interesting one, involves the year factors. The coefficients of the year factors from 1994 to 2000 are the complete opposite of those that apply to the years 1987-1993. The regressions in Table 4-9 indicate that regional cities have not witnessed any degree of fiscal decentralization since 1994. Instead, there has been a moderate process of fiscal centralization going on during this period of time.

Now, does this trend of fiscal centralization since 1994 parallel the quick shift from the trend of fiscal decentralization as observed before 1993 at the level of regional city? There is no firm answer to this question, since the definition of a regional city was different in each of the two periods. However, I can still comfortably claim that the course of fiscal dynamics at the level of regional city dramatically turned over between the pre-1993 and post-1993 periods, if the fiscal dynamics occurring at the county level is also considered.

Table 4-9: Multivariate Regressions, Fiscal Decentralization at the Level of Regional City (1994-2000)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent Variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	**-3.44E-06**	**0.001**	4.25E-07	0.69
Population	**-0.0006401**	**0**	**-0.000659**	**0**
Saving per capita	**0.0000632**	**0**	**0.0000383**	**0**
Eastern China	(omitted)		(omitted)	
Middle China	0.0353006	0.149	0.0353348	0.148
Western China	**0.0580479**	**0.067**	**0.1046269**	**0.001**
Urbanization rate	**-0.5267745**	**0**	**-0.2080078**	**0.062**
Hospital beds per 10,000	**0.0044119**	**0**	**0.003281**	**0.004**
Local revenue per capita	0.0000224	0.87	**-0.0013102**	**0**
Expenditure per capita	**0.0002347**	**0.09**	**0.0015753**	**0**
Budget balance	**5.81E-06**	**0**	**-1.29E-06**	**0.045**
GDP per capita	**-0.0000176**	**0**	**-0.0000188**	**0**
City in a minority region	**0.2160363**	**0**	**0.1463741**	**0**
Super large city	(omitted)		(omitted)	
Very large city	0.2791367	0.253	-0.0365772	0.881
Large city	0.123069	0.613	-0.1771942	0.465
Mid-size city	-0.1317944	0.588	-0.3664259	0.131
Small city	-0.2874608	0.24	**-0.4120735**	**0.091**
Year 1994	**-1.436141**	**0**	**-1.156724**	**0**
Year 1995	**-1.469285**	**0**	**-1.203559**	**0**
Year 1996	**-1.578468**	**0**	**-1.305335**	**0**
Year 1997	**-1.568251**	**0**	**-1.292943**	**0**
Year 1998	**-1.502143**	**0**	**-1.230518**	**0**
Year 1999	**-1.547369**	**0**	**-1.275822**	**0**
Year 2000	**-1.53729**	**0**	**-1.262971**	**0**
Constant	**-2.030601**	**0**	**-1.906736**	**0**
Adjusted R-squared	0.742		0.618	
N	2,619		2,617	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

The last two chapters have found that counties actually experienced a period of fiscal centralization in the 1990s. The two definitions of a regional city in the *Urban Statistical Yearbook of China* differ in one respect. A "regional city" after 1993 excludes its subordinate counties which are included in the label "regional city" before 1993. Therefore, if fiscal centralization at the level of the county is excluded, it is still reasonable to argue that regional cities experienced a sharp reversal in terms of fiscal dynamics from fiscal decentralization to a fiscal centralization in the 1990s. This argument can be further upheld if the regression results in Table 4-8 and Table 4-9 are compared. Both regressions show that almost all explanatory factors except the year factors impose the same impact on the fiscal situation of regional cities, despite the fact that there was variation in the definition of what constituted a regional city before and after 1993.

Fiscal Decentralization at the Level of Vice-Provincial Cities

This section studies fiscal decentralization at the level of the vice-provincial city. As in the case of a regional city, the definition of a vice-provincial city has not been consistent in the *Urban Statistical Yearbook of China*. As a result, the analysis in this section has to be divided into three parts: one for a vice-provincial city including its subordinate districts only (1987-2001), one for a vice-provincial city which includes its districts, prefectures, and counties (1987-1993), and one for a vice-provincial city that includes its subordinate districts and prefectures (1994-2001).

Regression type – 1: Vice-provincial city including its subordinate districts only (1987-2001). This type of vice-provincial city in the *Urban Statistical Yearbook of China* excludes its subordinate prefectures and counties (Table 4-10).

Regression type – 2: Vice-provincial city with its subordinate cities, prefectures, and counties (1987-1993). This type of vice-provincial city represents its most comprehensive definition. Such an inclusive definition was used between 1987 and 1993; therefore, the following regressions only cover seven-year factors starting from 1987 (Table 4-11).

Regression type – 3: Vice-provincial city with its subordinate districts and prefectures (1994-2001). This part lists regression results since the definition change which excludes counties in a vice-provincial city (Table 4-12).

Table 4-10: Multivariate Regressions, Fiscal Decentralization at the level of Vice-Provincial City with Its Subordinate Districts Only (1987-2001)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	1.65E-07	0.256	9.05E-08	0.495
Population	-0.0005411	0.103	**-0.0008584**	**0.005**
Saving per capita	**-0.0000241**	**0.001**	**-0.0000382**	**0**
Eastern China	(omitted)		(omitted)	
Middle China	-0.0838843	0.219	-0.0266019	0.669
Western China	**-0.1603145**	**0.036**	**-0.1668221**	**0.017**
Urbanization rate	-0.3276527	0.139	**-0.5460236**	**0.007**
Hospital beds per 10,000	-9.94E-06	0.997	0.0030404	0.18
Local revenue per capita	**0.0002258**	**0.049**	0.0001177	0.26
Expenditure per capita	-0.0000529	0.638	0.0001079	0.294
Budget balance	**-1.11E-06**	**0.024**	**-2.45E-06**	**0**
GDP per capita	**-1.11E-06**	**0**	**-1.14E-06**	**0**
Minority city	(omitted)		(omitted)	
Super large city	(omitted)		(omitted)	
Very large city	-0.1076	0.162	**-0.1901306**	**0.007**
Large city	**-0.2452747**	**0.088**	**-0.3875255**	**0.003**
Mid-size city	-0.24749	0.137	-0.1313289	0.387
Small city	**-0.5841096**	**0.075**	**-0.6749794**	**0.025**
Year 1987	**1.211655**	**0**	**0.3292546**	**0.081**
Year 1988	**1.040757**	**0**	**0.6037016**	**0.001**
Year 1989	**1.128241**	**0**	**0.4106971**	**0.032**
Year 1990	**1.02644**	**0**	**0.3726011**	**0.047**
Year 1991	**1.08117**	**0**	**0.4447724**	**0.019**
Year 1992	**1.077448**	**0**	**0.4581247**	**0.028**
Year 1993	**0.9620733**	**0**	**0.3994981**	**0.056**
Year 1994	0.0531646	0.79	-0.1171349	0.521
Year 1995	0.1996509	0.313	0.0017214	0.992
Year 1996	0.0895038	0.648	-0.0652754	0.715
Year 1997	0.1054397	0.598	-0.0230147	0.9
Year 1998	**0.3317222**	**0.099**	0.178656	0.329
Year 1999	0.2546841	0.211	0.0787448	0.671
Year 2000	0.1824646	0.371	0.0348955	0.851
Year 2001	(omitted)		(omitted)	
Constant	**-2.345831**	**0**	**-1.965483**	**0**
Adjusted R-squared	0.8033		0.7634	
N	217		217	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

Table 4-11: Multivariate Regressions, Fiscal Decentralization at the Level of Vice-Provincial City with Its Subordinate Districts, Prefectures, and Counties (1987-1993)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	1.73E-06	0.19	1.94E-06	0.151
Population	-0.0001607	0.318	0.0000134	0.935
Saving per capita	**0.0000471**	**0**	**0.0000235**	**0.006**
Eastern China	(omitted)		(omitted)	
Middle China	**-0.177244**	**0.003**	-0.0826308	0.168
Western China	-0.0630636	0.462	-0.08291	0.347
Urbanization rate	**2.016926**	**0**	**1.700673**	**0**
Hospital beds per 10,000	**-0.0167782**	**0**	**-0.0087382**	**0.058**
Local revenue per capita	-0.0000603	0.676	-0.0000691	0.641
Expenditure per capita	0.000209	0.171	**0.0002687**	**0.086**
Budget balance	**7.32E-07**	**0.05**	**-1.07E-06**	**0.006**
GDP per capita	**-0.0000448**	**0**	**-0.0000393**	**0**
Minority city	(omitted)		(omitted)	
Super large city	(omitted)		(omitted)	
Very large city	0.0498312	0.485	0.0623245	0.395
Large city	0.1724235	0.203	**0.2337427**	**0.094**
Mid-size city	0.1900628	0.206	**0.4814866**	**0.002**
Small city	**0.5136525**	**0.041**	**0.6828506**	**0.008**
Year 1987	**1.036216**	**0**	**0.5113786**	**0**
Year 1988	**0.9720978**	**0**	**0.7882987**	**0**
Year 1989	**1.015488**	**0**	**0.6096502**	**0**
Year 1990	**0.9816852**	**0**	**0.6162796**	**0**
Year 1991	**0.9098321**	**0**	**0.5771764**	**0**
Year 1992	**1.445819**	**0**	**1.054526**	**0**
Year 1993	**1.446038**	**0**	**1.079197**	**0**
Constant	**-3.087476**	**0**	**-3.343608**	**0**
Adjusted R-squared	0.8646		0.7648	
N	204		204	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

Table 4-12: Multivariate Regressions, Fiscal Decentralization at the Level of Vice-Provincial City with Its Subordinate Districts and Prefectures (1994-2001)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	3.91E-07	0.778	6.68E-07	0.641
Population	0.0000153	0.93	0.0001715	0.343
Saving per capita	**0.0000319**	**0**	4.57E-06	0.608
Eastern China	(omitted)		(omitted)	
Middle China	**-0.1573092**	**0.014**	-0.0705201	0.281
Western China	-0.1358751	0.14	**-0.1680725**	**0.077**
Urbanization rate	**1.534738**	**0.001**	**1.1237**	**0.022**
Hospital beds per 10,000	**-0.0095455**	**0.043**	-0.0010526	0.828
Local revenue per capita	-0.0000251	0.875	-0.0000874	0.594
Expenditure per capita	0.0002312	0.169	**0.0003566**	**0.04**
Budget balance	**1.10E-06**	**0.011**	**-8.51E-07**	**0.056**
GDP per capita	**-0.0000434**	**0**	**-0.0000374**	**0**
Minority city	(omitted)		(omitted)	
Super large city	(omitted)		(omitted)	
Very large city	0.0298612	0.701	0.0267205	0.739
Large city	0.1844573	0.216	0.1981742	0.197
Mid-size city	0.2595583	0.12	**0.5065899**	**0.004**
Small city	0.4072844	0.137	**0.5617479**	**0.047**
Year 1994	**-1.121312**	**0**	**-0.7648366**	**0**
Year 1995	**-1.016927**	**0**	**-0.6942934**	**0**
Year 1996	**-1.117628**	**0**	**-0.7757773**	**0**
Year 1997	**-1.040224**	**0**	**-0.6788994**	**0**
Year 1998	**-0.9291076**	**0**	**-0.5742647**	**0**
Year 1999	**-0.873789**	**0**	**-0.5795773**	**0**
Year 2000	**-0.8450166**	**0**	**-0.5270534**	**0**
Year 2001	**-2.178599**	**0**	**-2.73251**	**0**
Adjusted R-squared	0.8395		0.7187	
N	204		204	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

The regression results for the three types of vice-provincial city are presented in Tables 4-10, 4-11, and 4-12, respectively. Compared with the previous regressions which applied variously to districts, prefectures, and regional cities, regressions applying to vice provincial cities produce less consistent and significant results. Such an outcome is understandable for two reasons. The first involves the inconsistent definitions of a vice-provincial city offered over the years in the *Urban Statistical Yearbook of China*. The second involves the fact that the smaller populations of vice-provincial cities increase the difficulties associated with reaching statistically significant results.

The regressions applying to vice-provincial cities can only consistently reject or prove four out of the eleven hypotheses presented in this chapter. Hypothesis 5 (the urbanization rate) and 9 (budget balance) are confirmed, and Hypothesis 4 (geographic location) and 10 (GDP/capita) are rejected.

Has fiscal power been decentralized to the vice-provincial city during this period of study? This question has to be answered with caution because of the variation in the definition of what has constituted a vice-provincial city over the years.

If the vice-provincial city is defined only as its subordinate districts, its fiscal power after 1993 is certainly weaker than what it was between 1987 and 1993 (Table 4-10). This result is same as the results given by the regressions applying to nationwide district governments (Table 4-7). If the vice-provincial city is defined as its subordinate districts, prefectures, and counties, its fiscal power steadily increased

between 1987 and 1993 (Table 4-11). The situation after 1993, however, is unknown because of the changing definition. If the vice-provincial city is defined as its subordinate districts and prefectures, its fiscal power was reduced after 1993 (Table 4-12).

The question is, what is the connection between the trend of decentralization before 1993 and the trend of centralization after 1993? If only the districts under a vice-provincial city are considered, it is true that they have experienced fiscal decentralization first and then an opposite process later. However, if a vice-provincial city is understood to include more of its subordinates, such as prefectures and/or counties, the situation becomes similar to what faces the regressions that apply to a regional city. Although the inconsistency in the definition does not allow for direct proof, the three types of separate regressions still strongly indicate a sharp shift in fiscal power distribution at the level of the vice-provincial city around 1993.

Fiscal Decentralization Across All Levels of City Governments

Instead of focusing on a single level of city government as the last three sections have done, this section studies fiscal decentralization across all levels of city government, including municipalities, vice-provincial cities, regional cities, and districts (and prefectures). As argued at the beginning of this chapter, Chinese cities are positioned in a strictly hierarchical structure. Cities at different administrative levels enjoy rather distinctive kinds of authority, despite the fact they are all referred to as “cities.”

Table 4-13: Multivariate Regressions, Fiscal Decentralization Across the Levels of Municipality, Vice-Provincial City, Regional City, District (and Prefecture)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	**2.15E-07**	**0.035**	**3.67E-07**	**0**
Population	**-0.0019576**	**0**	**-0.0014652**	**0**
Saving per capita	**-0.0000207**	**0**	**-0.0000483**	**0**
Eastern China	(omitted)		(omitted)	
Middle China	**0.0420455**	**0.007**	**0.0646218**	**0**
Western China	**0.0620611**	**0.001**	**0.1557919**	**0**
Urbanization rate	**-0.1001222**	**0.01**	**0.187804**	**0**
Hospital beds per 10,000	**0.0018519**	**0**	**0.0016797**	**0**
Local revenue per capita	**0.0003236**	**0**	**-0.0007319**	**0**
Expenditure per capita	-0.0000184	0.569	**0.0010912**	**0**
Budget balance	**4.34E-07**	**0.012**	**8.58E-07**	**0**
GDP per capita	**-2.29E-06**	**0**	**-2.34E-06**	**0**
City in a minority region	**0.1283548**	**0**	**0.1667888**	**0**
Super large city	(omitted)		(omitted)	
Very large city	**-0.3874625**	**0**	**-0.3150511**	**0**
Large city	**-0.5791406**	**0**	**-0.4308326**	**0**
Mid-size city	**-0.7128165**	**0**	**-0.4928437**	**0**
Small city	**-0.7874855**	**0**	**-0.4546143**	**0**
Year 1987	**0.73653**	**0**	**0.2559609**	**0**
Year 1988	**0.7135868**	**0**	**0.2236566**	**0**
Year 1989	**0.7329125**	**0**	**0.3107615**	**0**
Year 1990	**0.6964953**	**0**	**0.2899421**	**0**
Year 1991	**0.7116454**	**0**	**0.3021359**	**0**
Year 1992	**0.2405287**	**0**	**-0.140804**	**0**
Year 1993	**0.3119344**	**0**	**-0.0926342**	**0.023**
Year 1994	0.0169283	0.621	**-0.0752622**	**0.026**
Year 1995	0.0242335	0.473	**-0.0991981**	**0.003**
Year 1996	-0.0169651	0.608	**-0.0925742**	**0.005**
Year 1997	-0.0504484	0.261	**-0.0918365**	**0.038**
Year 1998	0.052372	0.246	0.0172749	0.699
Year 1999	0.0389297	0.38	0.0229654	0.6
Year 2000	0.0131329	0.761	-0.0038659	0.928
Year 2001	(omitted)		(omitted)	
Municipality	**1.372597**	**0**	**1.11936**	**0**
Vice-provincial city	**0.4050864**	**0**	**0.3275944**	**0**
Regional city	**0.3825602**	**0**	**0.3240868**	**0**
District and prefecture	(omitted)		(omitted)	
Constant	**-2.517566**	**0**	**-2.553524**	**0**
Adjusted R-squared	0.5014		0.4178	
N	6,278		6,275	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

The major goal of this section is to understand how the administrative hierarchy influences the distribution of fiscal resources across the four levels of administration in a city. The regression results are displayed in Table 4-13. They show that almost all eleven hypotheses can be either statistically rejected or confirmed. This is because for each hypothesis there are four types of city government being tested altogether. Therefore, the test results for the eleven hypotheses have little real meaning. For example, the regressions confirm Hypothesis 1. However, we cannot then argue that land size is positively related to fiscal decentralization at all four levels of city governments. The previous regressions conducted according to individual levels of city government have demonstrated different patterns of correspondence between land size and a city's fiscal power.

What really makes Table 4-13 interesting are the regression results divided up according to the different levels of city government. It shows that a regional city enjoys a higher level of fiscal power than a district (and prefecture), and so too do vice-provincial cities and a municipalities. This is true when both local revenue/GDP and expenditure/GDP are used in the regressions. More importantly, the level of fiscal power increases by degrees as we analyze progressively higher levels of city government. A regional city enjoys more fiscal power than a district (and prefecture), and so too does a vice-provincial city enjoy more than a regional city. In turn, a municipality, which is the highest level of city government in China, has the highest amount of fiscal autonomy and power. Therefore, the regressions show that the distribution of fiscal power across different levels of city administration leans towards

those cities with a higher level of administrative status. The characteristics of this situation are exactly opposite those which would be seen inside a scenario of fiscal decentralization, in which a lower level of city government enjoys a proportionally larger share of the public sources.

Fiscal Decentralization at the Level of Provincial Governments

This section studies fiscal decentralization in province-level governments, which includes twenty-seven actual provinces and three municipalities.[18] Strictly speaking, this section is somewhat unrelated to the study of fiscal decentralization at the level of "city." Except for the three municipalities, the provincial government level of analysis has little in common with the concept of "city," and therefore is largely incomparable to the findings above. However, the eleven hypotheses are still appropriate for testing for the presence fiscal decentralization in province level governments, which constitute an integral part of what local government looks like in China.

Incorporating provincial governments into the analysis is desirable, since this project then touches on all levels of government subordinate to the center in Beijing in China. However, two things should be mentioned regarding the analysis of the provincial government. First, the provincial data contained in the *Urban Statistical Yearbook of China* is only usable for the pre-1993 period. Since then, the yearbook provides information only for the urban portions of a province. Second, the fourth

[18] Given the few number of municipalities (three before 1997 and four after 1997), the sample is too small for hypothesis testing. Since a municipality is at the same administrative level with a province, I decide to combine them together in the analysis.

municipality, Chongqing, is treated as a part of Sichuan Province, since this section does not cover the post-1993 period when Chongqing was promoted to the status of municipality in 1997.

Table 4-14 shows the regression results for the provinces. Hypothesis 1(the size of land) shows no statistically significant signs of correspondence. The other ten hypotheses are either proved or disproved by at least one regression. A province's fiscal power (as measured by its expenditure/GDP) is negatively related to its population size, which the opposite of what is predicted by Hypothesis 2.

A province's wealth, represented by its personal savings rate per capita and by whether or not its location is in eastern China, is positively connected to its fiscal power. There is little sign of the process of fiscal equalization across provinces as Hypothesis #'s 3 and 4 propose.

In terms of public service demand, the regression concerning expenditure/GDP finds that both Hypothesis 5 (urbanization rate) and Hypothesis 6 (hospital beds per 10,000) are helpful for predicting the level of fiscal decentralization present at the provincial level.

Among the four hypotheses dealing with a province's fiscal situation, only one is rejected. A province's revenue base (GDP/capita) is negatively related to its fiscal power, which contradicts Hypothesis 10. Hypothesis 7 (local revenue per capita), Hypothesis 8 (expenditure per capita), and Hypothesis 9 (budget balance) are all confirmed.

Finally, in contradiction to what Hypothesis 11 predicts, being a minority province actually reduces its fiscal power.

Table 4-14: Multivariate Regressions, Fiscal Decentralization at the Level of Provincial Government (1987-1993)

	Revenue/GDP		Expenditure/GDP	
	(1)	(2)	(3)	(4)
Independent variable	**Coefficient**	**P > |t|**	**Coefficient**	**P > |t|**
Land	-2.75E-07	0.375	-1.44E-07	0.475
Population	-0.0000221	0.104	**-0.000044**	**0**
Saving per capita	**0.0000214**	**0.05**	**0.0000182**	**0.01**
Eastern China	(omitted)		(omitted)	
Middle China	**-0.1712392**	**0.001**	**-0.1646447**	**0**
Western China	-0.0610012	0.248	-0.0532108	0.121
Urbanization rate	0.0600703	0.844	**0.9142567**	**0**
Hospital beds per 10,000	0.0032624	0.321	**-0.0050194**	**0.019**
Local revenue per capita	**0.0012903**	**0**	**0.000268**	**0.049**
Expenditure per capita	-0.0002536	0.195	**0.0005568**	**0**
Budget balance	-1.42E-07	0.208	**-4.57E-07**	**0**
GDP per capita	**-0.0000934**	**0**	**-0.0001039**	**0**
Minority province	**-0.1153034**	**0.037**	-0.0084837	0.814
Year 1987	**0.9922712**	**0**	**0.5307295**	**0**
Year 1988	**0.7932235**	**0**	**0.490142**	**0**
Year 1989	**0.8253939**	**0**	**0.4709388**	**0**
Year 1990	**0.7810905**	**0**	**0.4393344**	**0**
Year 1991	**0.7571376**	**0**	**0.4358816**	**0**
Year 1992	**0.5971235**	**0**	**0.3133158**	**0**
Year 1993	**0.595331**	**0**	**0.3728959**	**0**
Year 1994	(omitted)		(omitted)	
Constant	**-2.98692**	**0**	**-2.692364**	**0**
Adjusted R-squared	0.8014		0.82	
N	339		338	

Notes: The dependent variable for columns (1) and (2) is the local revenue/GDP and in columns (3) and (4) is the expenditure/GDP.

Table 4-14 also shows that fiscal decentralization occurred at the provincial level between 1987 and 1993, although the pace of fiscal decentralization gradually slowed during the same period. It confirms the common consensus in the field that the central government has decentralized fiscal power to the provinces in order to provide incentives for regional developments at the early stage of the reform era.

Conclusion

This chapter has conducted a series of analyses related to the intergovernmental fiscal relationship in the five types of cities in China in the period since 1987. Echoing the revenue and spending trends at both the national level and the level of the central government, this chapter reveals how the revenue and spending levels of different types of cities are influenced. Figure 4-1 and 4-2 show a general trend of fiscal decentralization during the period between 1987 and 1993 both nationwide and at the level of the central government. The regressions find roughly a similar pattern in all five types of city governments during the same period. It indicates that fiscal power had trickled down from the center to province, and then to regional city, and finally to district and prefecture between 1987 and 1993.

The year of 1993 was a turning point for the trend of fiscal decentralization, when tax reforms significantly increased the central government's share of fiscal power. As a result, fiscal centralization has occurred nationwide since 1993. My analysis finds that there was a consistent reduction of revenue and expenditure levels in all levels of city government from municipalities all the way down to prefectures and districts after 1993.

This finding implies that different levels of city governments together are inversely related to the central government's share of the state revenue or expenditure. This chapter further examines how the administrative hierarchy can influence a city's fiscal power. It finds that the four levels of city, municipality, vice-provincial city, regional city, and district (and prefecture) have rather distinct degrees of fiscal power.

The higher an administrative level a government entity in a city occupies, the more fiscal power it enjoys. In a unitary system like China, a higher-level government can often expand its fiscal power at the cost of the fiscal power of its subordinate governments. As a result, those governments at the bottom of the administrative hierarchy, such as districts and prefectures, have to endure the most strenuous of fiscal pressures as they undertake their varied tasks of governance.

Chapter Five

Conclusion

This project is an empirical study of what the intergovernmental fiscal relationship looks like in various Chinese local governments in the reform era. Besides examining the patterns of public finance of these entities of government from the perspective of classical welfare theory, the major thrust of this project has been to study the dynamics of public finance along the vertical administrative hierarchy, i.e., the fiscal (de)centralization among levels of governments. Chapters Two, Three, and Four have each targeted a type(s) of local governments so as to understand the fiscal dynamics present at that particular level government. This chapter attempts to integrate the separate conclusions of the three chapters into a holistic picture of the fiscal power distribution along the Chinese administrative hierarchy.

The level of county, prefecture, and district governments. Chapters Two and Three deal with nationwide counties and counties in Jiangsu Province, respectively. Prefecture and district governments are examined in Chapter Four. These three types of governments are the lowest levels of government and constitute the building blocks of the Chinese state, since the vast majority of Chinese citizens are under their direct administrative control.

Central-local studies on China have rarely touched on these levels of government, despite their extremely important status in the Chinese administrative hierarchy. The available studies on the central-provincial relationship suggest that a broad trend of fiscal decentralization has taken place, which has been widely considered to be a major

institutional factor which facilitated the rapid economic growth of China during the reform period. To put it simply, many China observers argue that the economic growth of China is partially the result of a policy of decentralization pursued by the central government. In their eyes, it has been this policy which has enabled and stimulated local governments to tailor their economic plans according to their local preferences and endowments. If China's economic growth has indeed followed this local-driven pattern, as the literature believes, we should have witnessed the further decentralization of public resources down to the levels of county, prefecture, and district on the basis of an already decentralized intergovernmental fiscal relationship between the central and provincial governments.

The analyses conducted in the last three chapters, however, cannot support this trickle-down scenario. These three chapters employ different measurements of fiscal decentralization and run regressions on different datasets. The time frames of these analyses also differ from each other. However, the regression results in these three chapters point in the same direction, that is, fiscal decentralization in general has not happened to this level of government. On the contrary, the three types of governments have experienced a trend of fiscal centralization to various degrees.

The county level governments nationwide have witnessed a moderate fiscal decentralization from 1993 to 1995. However, this process was quickly replaced by a steep centralization which took place between 1995 and 1999. The regressions conducted according to data from Jiangsu counties reveal a consistent pattern of fiscal centralization taking place from 1994 to 2003. Furthermore, the regressions done on district and prefecture governments, whether they are viewed separately or together, basically reach

the similar conclusion: these governments witnessed their fiscal power gradually weaken between 1987 and 2001.

In addition, this project finds that this general process of fiscal centralization is rather universal regardless the specific region a county is located in. More interestingly, being located in western China actually benefits a district or prefecture government in terms of its relative fiscal power. This is rather counterintuitive to what the prevailing literature suggests when it posits that a government in poor west China should have a less decentralized fiscal system than a government in a more economically affluent region.

In sum, the three types of local governments, county, district, and prefecture, have demonstrated consistent patterns of fiscal centralization for most of 1990s and the early years of the new century, even though they administer citizen groups of rather different compositions. Figure 1-2 displays the fact that these three governments belong to the same administrative hierarchy under regional cities (or vice-provincial cities). Given the nature of the unitary system that China exhibits, it is not very surprising to observe these similar patterns that have been delineated as having taken place in all three of these types of government.

The level of regional city governments and vice-provincial city governments. ‘Regional city’ governments represent an intermediate level of the Chinese administrative hierarchy, sitting between the provincial governments and the county level governments (including district and prefecture). Has fiscal power been decentralized down to the regional cities? Chapter Four answers this question from two angles.

First, if the regional city is defined as a comprehensive entity that includes all of its subordinate counties, districts, and prefectures, the regressions uncovered a clear trend of fiscal decentralization having taken place between 1987 and 1993. However, the limitations of the available statistical information do not allow this project to test the situation beyond the year of 1993, a dynamic that should be examined in a separate analysis.

The definition of the regional city was narrowed down only to include its urban sections only after 1994, which meant that it was analyzed including its districts and prefectures. The regressions found that the regional city experienced a sharp period of fiscal centralization between 1994 and 2000.

While the definition of a regional city in *Urban statistical yearbook of China* was changed in 1994, it is still reasonable to argue that two stages of fiscal transformation, one of decentralization first and centralization later, are actually representative of the same process, i.e., the regional cities at the two stages are comparable.

Unlike the purely fiscal centralization that took place at the level of the county government, this two-stage dynamic at the level of the regional city points to a more complicated process in terms of fiscal power distribution. The terms 'fiscal centralization' or 'fiscal decentralization' are only able to capture half the story. The regional city benefited from a trickle-down period of decentralization which took place in the pre-1993 period. However, it began suffering the fiscally constricting effects of a strong period of centralization which began after 1994.

The case of the vice-provincial city governments is very similar to that of the regional city governments. The vice-provincial city governments experienced a period of fiscal decentralization before 1993 and then entered a period of fiscal centralization post-1994. Although the definition of a vice-provincial city was changed in terms of statistics, the regressions indicate that the two-stage fiscal transition was actually a continuing process at the vice-provincial city level.

The overall progression of the intergovernmental fiscal relationship in China. So far, discussions of fiscal (de)centralization at each level of local government have established a solid basis from which to generalize about the overall trend of public finance between levels of governments in China in the reform period.

First of all, neither the concepts of centralization or decentralization can fully explain the trends associated with the intergovernmental fiscal relationship in China in the 1990s. By looking at various levels of local government, this project argues that there has been a two-stage transformation that characterizes the overall fiscal trends of this period of time. The regressions applied to the levels of regional cities and vice-provincial cities have demonstrated this pattern clearly. In both analyses, the year 1994 represents the watershed year when the fiscal trend sharply turned around from being one characterized by fiscal decentralization to one characterized by substantial fiscal centralization.

This argument echoes the fiscal trends witnessed at the national level (Figure 5-1). In general, the central government decentralized fiscal power to the local governments for most of the time throughout the 1980s and the early 1990s. However, the year 1994 completely changed this decentralization course. This is particularly true if we look at the

center's revenue share over the national revenue. In that year, the center radically expanded its revenue share from twenty-two percent to nearly fifty-six percent, which is the highest percentage revenue share on record in the post-1978 reform era.

In order to comprehend this radical shift in the intergovernmental fiscal relationship, the 1994 tax reforms have to be mentioned. The new tax system was called a "tax-sharing" system, and it essentially attempted to achieve two things: to clarify central-local responsibilities and then to divide tax revenue according to those responsibilities. These were the reasons employed by the central government to justify the implementation of the tax-sharing system. However, behind the policy is hidden the center's desire to regain the fiscal power that had been gradually lost during the early years of the reform. Table 1-1 shows how taxes are divided between the central and local governments. It is clear that most of the lucrative taxes are preserved for filling the state's coffers. That is why the tax reforms met with strong resistance from many local governments, particularly those in the economically prosperous regions.

It is not the goal of this project to evaluate the 1994 tax-sharing system. However, one thing regarding the fiscal power situation of various levels of local governments should be mentioned. As has been discussed in the last three chapters, most local governments, regardless their positions in the vertical administrative hierarchy, have fallen into a steadily increasing situation of deficit since 1994 as a result of the new tax system. It is certainly not a sign which supports the argument of local-driven economic growth, given the worsening fiscal situation locally.

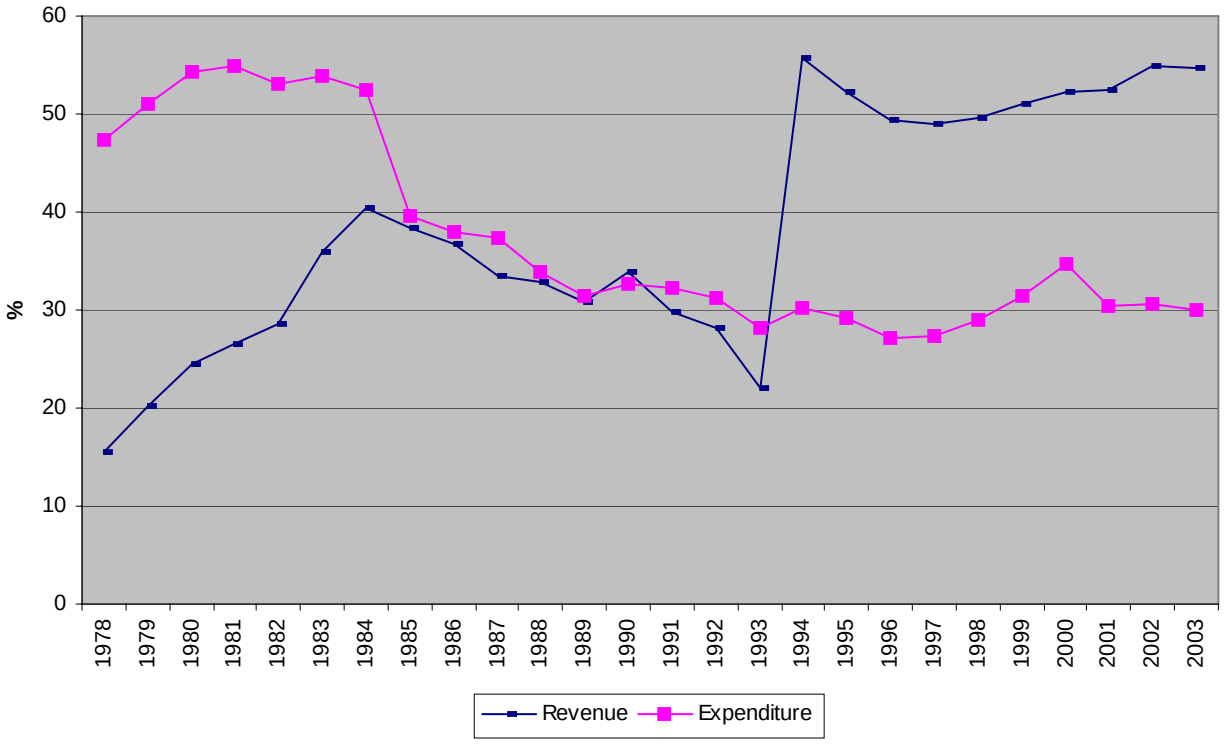

Figure 5-1: Central Government's Revenue or Expenditure Share Over the National Revenue or Expenditure (1978-2003)

Figure 5-1 shows that the central government's expenditure level has been gradually reduced in the reform era. It is a natural result of the fact that the Chinese economy is moving from its previous status as a strictly state-planned and highly centralized economy to being a market-based and free economy. It indicates that more and more expenditure occurs at the level of local governments. According to classical welfare theory, this increase in local spending should improve the overall efficiency of government spending, as local governments are more familiar with their own preferences. However, the new tax system places a serious question mark upon proposals which would further rationalize the current situation of public finance in China. Nowadays, all levels of local

governments are facing many responsibilities that they do not have the financial resources to deal with, partially because the central government has taken the lion's share of the available revenue. Until this extreme imbalance between responsibilities and resources at the level of local government is addressed, the sustainability of local public finance and its current pattern of deficit is by no means guaranteed.

Finally, this project reveals a very interesting phenomenon of the Chinese intergovernmental fiscal relationship. The fiscal power of a particular level of government is closely tied to its position in the administrative hierarchy. The outcome of the 1994 tax-sharing reforms clearly shows that the central government still wields a predominant amount of power in determining the level of fiscal power distribution between levels of governments. In a unitary system like China, there is no significantly effective mechanism which can counter the influence of the central state.

This project finds that even the fiscal distribution at various levels of local governments also follows this top-down pattern of management closely. For example, Chapter Four shows that a city's fiscal power is greatly influenced by its administrative status. A vice-provincial city has a higher level of fiscal power than a regional city, as too does a regional city have more than a district government. Another piece of evidence involves the consistent trend of fiscal centralization at the county, district, and prefecture levels of government. As the center decentralized its power down to local governments before 1993, this project has found that the provincial governments, vice-provincial cities, and regional cities all benefited from decentralization. However, since they constitute the bottom layer of administration in China, counties (including districts and prefectures)

experienced little decentralization throughout the 1990s, because of the fact that fiscal resources had dried up long before they could trickle down the pipe to the counties. When the central state started recentralizing the fiscal power, it was very easy to anticipate the fact that a drought would then afflict the localities, and it has.

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