1995

Comparative Federalism: Trends and Issues in the United States, China, and Russia

Roy W. Bahl
Georgia State University, rbahl@gsu.edu

EDI Seminar Series

Macroeconomic Management and Fiscal Decentralization

Edited by
Jayanta Roy

The World Bank
Washington, D. C.

Manufactured in the United States of America
First printing December 1995
Second printing January 1997

The Economic Development Institute (EDI) was established by the World Bank in 1955 to train officials concerned with development planning, policymaking, investment analysis, and project implementation in member developing countries. At present the substance of the EDI's work emphasizes macroeconomic and sectoral economic policy analysis. Through a variety of courses, seminars, and workshops, most of which are given overseas in cooperation with local institutions, the EDI seeks to sharpen analytical skills used in policy analysis and to broaden understanding of the experience of individual countries with economic development. Although the EDI's publications are designed to support its training activities, many are of interest to a much broader audience. EDI materials, including any findings, interpretations, and conclusions, are entirely those of the authors and should not be attributed in any manner to the World Bank, to its affiliated organizations, or to members of its Board of Executive Directors or the countries they represent.

Because of the informality of this series and to make the publication available with the least possible delay, the manuscript has not been edited as fully as would be the case with a more formal document, and the World Bank accepts no responsibility for errors.

The complete backlist of publications from the World Bank is shown in the annual *Index of Publications*, which contains an alphabetical title list (with full ordering information) and indexes of subjects, authors, and countries and regions. The latest edition is available free of charge from the Distribution Unit, Office of the Publisher, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A., or from Publications, Banque mondiale, 66, avenue d'Iéna, 75116 Paris, France.

At the time of writing, Jayanta Roy was principal economist in the Macroeconomic Management and Policy Division of the World's Economic Development Institute.

Library of Congress Cataloging-in-Publication Data

Macroeconomic management and fiscal decentralization / edited by
Jayanta Roy.
p. cm.
Papers presented at a Senior Policy Seminar on Intergovernmental
Fiscal Relations in China, held in Dalian, China, Sept. 12-17, 1994.
Includes bibliographical references.
ISBN 0-8213-3409-3
1. Intergovernmental fiscal relations—Case studies—Congresses.
2. Decentralization in government—Case studies—Congresses.
I. Roy, Jayanta, 1943- . II. Senior Policy Seminar on
Intergovernmental Fiscal Relations in China (1994 : Dalian, China)
HJ193.M33 1995
339.5—dc20
95-34038
CIP

4

Comparative Federalism: Trends and Issues in the United States, China, and Russia

Roy Bahl

The United States, China, and Russia share some features: large populations, large land areas, and historical pressures for decentralization in governance. The United States and Russia are formally federal countries, and China in many ways behaves as though it is a fiscal federalism.[1] In the past few years, all three countries have undergone substantial changes in their intergovernmental systems, and central governments in all three countries are under fire from lower level governments.

Many observers would see intergovernmental fiscal relations in the United States vs. Russia and China, as being so different as to be incomparable. Likewise, it might be argued that the same theoretical model cannot explain changes in central-local relations in a capitalist transition and socialist economy. The objective of this paper is to compare the systems of intergovernmental fiscal relations in these three countries and to ask whether the theory of fiscal federalism can explain the differences and similarities in the structures of tax and expenditure assignment, and the recent trends that have occurred. The next section deals with the theoretical model, that is, the reasons why one would expect more or less decentralization in government finance from countries such as these. I then turn to a description of each of the fiscal systems, and recent trends in each country, and finally to some attempt at explaining the impacts and potential reasons for these changes.

Theory and Fiscal Decentralization

Fiscal decentralization has to do with the amount of fiscal autonomy and responsibility given to subnational governments. It is a subject on the policy agenda in many developing, transition, and industrialized countries. There always has been a cry for more decentralization of government, resulting from a combination of people wanting to get

---

The author is a professor of economics and the director of the Policy Research Center at Georgia State University. A version of this paper was originally presented at a conference on decentralization in Washington, DC, in August 1994 sponsored by the National Academy of Public Administration (Washington, D. C.) and the National Institute of Research Advancement (Tokyo).

1. In fact, China is a unitary state. It is part of this comparison because its fiscal system shares many of the features of fiscal systems in federal countries.

more involved in the process of government and the inability of central governments to "get the job done."

Many countries around the world have moved toward more decentralized structures in the past two decades, but quite different paths have been taken. Many other countries have remained highly centralized and have been loathe to relinquish any taxing and spending powers to lower level governments. China and Russia are examples of countries that have been decentralizing the flow of resources, that is, subnational governments have been claiming an increasing share. Current policy, however, seems to be in the direction of finding a way to reclaim a larger share for the center. In the United States, policy and practice have been in the direction of cutting the dependence of the state and local sectors on the federal government. Unlike the United States, neither China nor Russia has granted taxing autonomy to their subnational units of government.

Empirical research has shown that countries that have given greater fiscal powers to their state and local units tend to be higher income, larger in population and land area, and to have a more heterogeneous mix in their populations. It also has shown that countries at war or threatened by war tend to be more centralized (Bahl and Nath 1986). By these criteria, Russia, China, and the United States are all countries that would seem to be candidates for a strong degree of fiscal decentralization.

Another way to examine the determinants of fiscal decentralization is to consider the *a priori* reasons why a country might choose decentralization of its fiscal structure, that is, the theory of fiscal federalism (Oates 1972). These reasons might be broken down, as below, into the advantages and disadvantages of fiscal decentralization.[2]

Advantages of Decentralization

Economists would invoke efficiency criteria in arguing for smaller local government, that is, in arguing for fiscal decentralization. If preferences for public services do differ across subgroups of the population, and if externalities are not present, then national welfare is maximized if local communities vote their preferences and provide the level and mix of public services that they want. Noneconomists might take the same view but couch it in different terms: getting government closer to the people will lead to more participation in government, will likely provide an outcome that is closest to the preferences of the median voter, and will allow the political process to guarantee a more efficient operation of local government. Either way, the results should be the same:

- The mix of services provided will match the demands of the local population.
- Government officials will become more accountable to voters for the quality of services they provide.
- Local populations will be more willing to pay for public services, since their preferences will be honored.

A second argument for fiscal decentralization, not often made, is that it can enhance revenue mobilization. Some taxes are suited to local government in that their assessment and collection require familiarity with the local economy and population, and because they are perceived as quasi-benefit charges that finance local area services. The property

2. The arguments concerning the advantages of decentralization are developed more fully in Bahl and Linn (1992, 385-427).

tax and other land based taxes are usually thought of as local government taxes. It is also true that central government value added and income taxes often do not reach far down in terms of the amount of the tax base that they pick up. Typically, small firms and workers outside the larger formal sector firms are left out of the tax net for administrative reasons. Local governments, it is argued, might be able to capture this untapped fiscal capacity because of their greater familiarity with the local tax base. The United States, Russia, and China all have capitalized on this advantage of fiscal decentralization but in different ways. Only the United States among this group, however, makes extensive use of property taxation.

Are these arguments really valid? Can local governments actually respond to citizens' preferences for many or few local services, or to a willingness to pay more tax to receive local services? In fact, the efficiency case for fiscal decentralization is much stronger in industrial than in developing or transition countries. Consider first the notion that moving service provision closer to the people can lead to gains in the welfare of consumer-voters. Because the theory of fiscal assignment was developed in industrialized countries, it was heavily influenced by democratic processes of budgetmaking (for example, the median voter theories of public expenditure determination). In this model, the level of tax effort and the expenditure mix in local areas are responsive to changes in relative prices and income, and the potential losses in efficiency caused by interference from a higher level of government can be substantial (as can the potential efficiency gains from the greater fiscal autonomy of local government). Although the model is based on a number of questionable assumptions, empirical research has shown that the behavior of U.S. state and local governments more or less squares with it (Bocherdering and Deacon 1972).

The model does not so easily fit transition countries such as China and Russia, however, and the efficiency gains from decentralization therefore may not be so great. This is partly because voter preferences are not as readily translated into budget outcomes in transition countries as in industrial countries. Local councils are often not elected, chief officials are often not locally appointed, and adjustments in the allocation of local resources are often severely constrained by central government controls. These controls include approval of the budget, central appointment of chief local government officers, central government regulations of tax administration, mandates as to salary levels of local government employees, and the general absence of a mechanism by which local voters can reveal their preferences for a larger or smaller government. In this setting—where the devolution of revenue authority and expenditure responsibility is not accompanied by a relaxation of central government control over local fiscal decisionmaking—there is less to be gained from decentralization of taxes and expenditure than would be the case in industrial countries.

Given this state of affairs, a transition country that could derive maximum gains from a more decentralized local government structure would have the following characteristics: (a) enough skilled labor, access to materials, and capital to expand public service delivery when desired, (b) an efficient tax administration, (c) taxing power able to capture significant portions of community income increments, (d) an income-elastic demand for public services, (e) popularly elected local officials, and (f) some local discretion in shaping the budget and setting the tax rate. This list suggests that the setting for decentralization is clearly present in the United States, but that the case for efficiency gains in China and Russia is much less easy to make.

Advantages of Centralization

The arguments for fiscal centralization are stronger in transition countries than in industrial countries. As recent history has shown, stabilization is especially important in such countries. This argues for central government control of the main tax and borrowing instruments. It has also become a concern in the United States as the federal government tries to cope with a substantial budget deficit.

In transition countries that are undergoing privatization and building a public and industrial infrastructure, the need for a coherent growth policy is also an argument for fiscal centralization, because investment capital is scarce and must be controlled by the central government to maximize returns. If local governments are given access to major tax bases, they may compete with the central government and therefore limit the amount available for the central tax. As a corollary, centralization allows the national government to allocate fiscal resources to goods and services with national benefits, whereas local autonomy would inevitably lead to greater expenditures on those services that have more local benefits. The struggle over financing health care in the United States is a good example of this issue.

Several arguments for income distribution also support fiscal centralization. The most important is that regional (and rural-urban) disparities in income and wealth may be accentuated by fiscal decentralization because wealthier urban governments will benefit most from greater taxing powers. Centralization allows the national government more discretion in shaping regional differences in levels of public service and taxation, which is an especially important consideration for governments that intend to use tax and subsidy policy to shape the spatial distribution of economic development. China, Russia, and the United States are all characterized by significant fiscal disparities. China and Russia in particular have faced difficult choices as regards equalization. China was forced to choose between funneling more resources to the lower income provinces or to leave the retained revenues higher in the coastal growth provinces. Russia has faced the difficult decision of choosing among equalization, central government fiscal solvency, and appeasing the potential breakaway provinces. In both cases, the central governments retained control over the fiscal resources and were in a position to make the decision. The U.S. federal government would have been in much less of a position to affect a regional redistribution of resources.

The U.S. Federal System

The system of fiscal federalism in the United States gives substantial autonomy to subnational governments on both the tax and expenditure sides of the budget and relies heavily on these governments for revenue mobilization and the provision of social and infrastructure services. The subnational government sector is composed of fifty states and, within each, numerous local governments (counties, cities, towns, school districts, and other special districts). Each state may decide on the powers and responsibilities that it will give to its local governments.

Tax and Expenditure Structure

Subnational governments in the United States (states and local governments) spend an amount equivalent to 13 percent of GNP (1993), less than the federal government share when defense and international assistance are excluded (18.4 percent). State and local governments raised about 41 percent of all tax revenues in 1993. For every one federal government employee, there are 5.5 state and local government employees (1993). Clearly, the state and local government sector is an important part of the American economy.

The federal government relies almost exclusively on income taxation, with almost two-thirds of tax revenues coming from the individual income tax. None of the revenue is directly shared with state and local governments, and collections are made by a federal agency, the Internal Revenue Service. Many subnational governments have chosen to adopt the same base as the federal income tax for their own individual and corporate taxes, and there is a system of information sharing between the Internal Revenue Service and the states' tax collection agencies.

State and local governments have chosen a wide variety of tax structures and depend, to varying degrees, on taxes on individuals and businesses (see Table 4-1). There is a relatively even split among income, consumption, wealth taxes, user charges, and intergovernmental assistance. The U.S. fiscal system is relatively balanced. State governments tend to rely heavily on income and sales taxation, though six states impose no income tax, and four do not impose a retail sales tax—the preferred form of indirect tax in the United States. Local governments tend to rely heavily on the property tax, user charges, and state government grants.

Table 4-1. The United States: State and Local Government Fiscal Structure, 1991

Category	*State and local governments*	*Local governments*
Total revenue (millions)	$902,177	$541,791
Income tax	14.6%	2.2%
Sales tax	13.9	4.1
Property	18.6	29.8
Federal (and state) grants	17.1	37.3
User charges	13.9	14.4
Other	10.8	8.7
Total expenditures (millions)	$908,470	$542,045
Education	32.7%	39.9%
Highways	7.1	4.8
Health	8.9	7.9
Police and fire	—	5.2
Public welfare	14.0	5.0
Interest on debt	5.7	5.3
Other	31.2	31.1
Total	99.6%	99.2%

Note: In 1993, state and local government expenditures as a share of GNP = 13.9%; state and local government taxes as a percentage of personal income = 11.8%; and federal grants as a percentage of state and local government revenues = 21.0%.
Source: U.S. Department of Commerce (1994).

Fiscal Autonomy

State and local governments have substantial fiscal autonomy. They are free to choose their own tax structures, so long as they do not violate the federal Constitution. The primary issues of concern here are that states not restrict interstate commerce and that they not discriminate against any subgroup of the population. Likewise, they may deliver expenditures in any manner they desire, except that the federal Constitution requires that they provide citizens "equal protection." In recent years, the courts have been hearing challenges against the method of financing public schools in U.S. states. In some cases, they have ordered states to change the method of financing to provide more equal services to all students in the state.

Tax rates, tax bases, and user charges may be set by states without approval by the federal government. States may borrow from whatever source they choose, subject only to the limitations on general financial practices (for example, disclosure) laid down by federal agencies. Finally, states have independent tax collection agencies and are only loosely tied to the federal government (information sharing).

On the expenditure side, the states may select whatever number of employees, and whatever compensation rates for those employees, it chooses. Likewise, it is free to deliver services at whatever level it chooses. There are, however, some restrictions on expenditure autonomy. States have restricted themselves, through state constitutions, to disallow deficit financing. In other words, states must balance their recurrent budgets every year. Borrowing is only for capital financing purposes. Moreover, the federal government has laid down some mandates that restrict state and local government expenditure decisions: environmental and health regulations; conditionality on the receipt of federal grants, particularly for health and welfare services, and so on. Likewise, state governments have mandated certain actions by their local governments. Various analysts have estimated the costs of such mandates at substantial levels.

The fiscal autonomy of local governments is more limited and is determined by each state. The taxes that local governments may levy are prescribed, and though there is usually some freedom in choosing tax rates, the state usually provides for a maximum levy. The rules under which local governments must seek voter approval for fiscal actions (tax rates, annexations, new borrowing, and so on) are carefully prescribed. The fiscal importance of local governments in the United States varies widely, from 40 percent of total state and local government spending in Vermont to 68 percent in Nevada. State governments also give grants to local governments, and sometimes share the proceeds of tax revenues on a derivation basis, but there is no single pattern that best describes the practice.

Recent Trends

Over the past fifteen years, the federal government has reduced the level of its explicit and implicit transfers to state and local governments. This has had important effects on the activities of the state and local government sectors. Three important issues stand out: the decline in the federal subsidy, the pattern of disparities and interstate competition that has accompanied this "fend-for-yourself" federalism, and the offsetting pattern from federal mandates and court cases on school finance.

Fiscal Dependence

The federal government has taken a series of actions to increase the fiscal independence of state and local governments, that is, to make them more independent. It has reduced the rate of increase of federal assistance, particularly the level of federal grants to state and local governments. It also has eliminated the only program of general assistance to state and local governments (general revenue sharing), and it has all but eliminated the direct flow of aid to local governments.

Between the late 1960s and the late 1970s, federal grants increased dramatically in real terms, as a share of the federal budget and as a share of state and local government expenditures (see Table 4-2). The 1980s saw a decline in the reliance on federal grants by state and local governments, and a declining emphasis on grants in the federal budget. The real level of grants was lower in 1990 than in 1980. The first three years of this decade saw a resurgence in federal grants to state and local governments, by all indicators, except that the increase was concentrated in grants that are passed to individuals rather than grants to the governmental units.

The federal government also reduced an implicit subsidy that operated through the federal income tax. In the past, all state and local government general purpose taxes were allowed as deductions on the federal individual income tax. This preferential treatment was available to those who itemized deductions (approximately the one-third highest income taxpayers). At a 50 percent marginal income tax rate, this meant that itemizers could shift, at the margin, about half of their taxes on to the federal government. This reduced the resistance to higher state taxes and, therefore, acted as a subsidy to state and local governments. The 1986 federal tax reform eliminated the deductibility provision for general sales taxes[3] and reduced the top marginal income tax rate to 33 percent, thereby reducing the value of the remaining deductibility provision for income and property taxes.[4]

Table 4-2. The United States: Federal Grants to State and Local Governments, Selected Years 1970–1993

Year	*Real amount (billions)*	*Percentage of state and local expenditures*	*Percentage of federal government expenditures*	*Grants for payments to individuals (% of total)*
1970	73.6	19.0	11.5	36.3
1975	105.4	22.6	13.7	33.7
1980	127.6	25.8	15.2	35.7
1985	113.0	20.9	10.8	46.6
1990	119.7	19.4	10.7	57.0
1993	163.2	23.0	13.6	62.0

Source: U.S. Department of Commerce, *Survey of Current Business,* National Income and Product Accounts, Tables 3.2 and 3.3, selected years; and Advisory Commission on Intergovernmental Relations (1993).

3. The gasoline tax deduction had been disallowed earlier.
4. The Clinton Tax Reform of 1993 increased the top marginal tax rate to 39 percent thereby restoring some of the value to deductibility.

The net effect of these changes is to increase the price that a state resident must pay to buy a dollar's worth of public expenditures. This means that states must be more hesitant to propose budget increases, and there is a kind of dampening effect introduced into state and local government fiscal decisionmaking. On the other hand, state government officials must be more accountable to their constituencies. Even so, the state and local government tax share of personal income rose from $19.90 per $100 of personal income in 1986 to $22.40 in 1991.

Disparities and Interstate Competition

The United States has always been characterized by wide fiscal disparities. There has been no major trend of lessening these disparities, even though personal income disparities among the states are converging. Per capita expenditures vary from highs of $5,482 and $5,064 in New York and Wyoming to lows of $2,664 in Missouri and $2,440 in Arkansas, a range equivalent to approximately 77 percent of the mean. The federal grant system is not systematically related to the level of personal income and therefore does not equalize these fiscal disparities.

Interstate competition for industry is a significant part of state tax policy in the United States. To some extent, this competition is regulated by interstate compact, under which states share the proceeds of corporate income taxes according to a three-factor formula based on the share of a multistate company's activities in each state. States compete aggressively with one another to attract industry by giving preferential tax treatment—most notably income and property taxes—and direct subsidies for infrastructure development and worker training.

The Russian Federal System

The Russian Federation is a three-tiered federal state, consisting of ninety-one provinces or states directly subordinate to the federal government. With varying degrees of administrative autonomy, the ninety-one states "directly subordinate" to the federal government comprise (1) the oblasts, okrugs, and krais, (2) metropolitan cities with "oblast status" (Moscow and St. Petersburg), (3) republics, which until mid-1992 were called "autonomous republics," (4) autonomous regions, and (5) national regions. Some republics have their own governments (Soviets) with defined degrees of autonomy, and some have declared independence (although these declarations have not been recognized by the Supreme Soviet of the Russian Federation or by any other country). Within each oblast are local governments, cities, and smaller units called rayons.[5]

Tax and Expenditure Structure

Most subnational government revenues are derived from four shared taxes whose rates and bases are set by the federal government. The system is not well balanced, and about two-thirds of all tax revenues come from two taxes—the enterprise income tax and the value added tax. All taxes are shared on a derivation basis (that is, by point of collection),

5. In this section on Russia, I draw heavily from Bahl and Wallich (1995); Bahl and Wallace (1994); and Bahl (1994b, 129-180).

and the sharing rates are set by the government and the Parliament. The basic sharing system is summarized in Table 4-3.

The individual income tax is fully retained by local governments (rayons) on the basis of place of employment. Coverage of the self-employed and small firms is limited, and revenue yield is sensitive to the present high rates of inflation and to the resulting changes in the tax brackets, personal exemption levels, and wage levels. The tax is largely administered by the enterprises, which collect it on a withholding basis and keep all employee records. Most workers are subject to a 12 percent rate.

The enterprise income tax is levied at a 35 percent rate on company profits. Oblast level governments may retain an amount equivalent to that derived from a 22 percent tax, and they must turn the remainder over to the federal government. Oblasts may increase the tax rate to 38 percent or reduce it to 33 percent, but the federal claim must remain at 13 points. Revenues from the enterprise income tax are sensitive to federal decisions about input and output prices, capital allocations (past and present), and redefinitions of the tax base. In 1992, about two-thirds of the enterprise income tax was retained by local governments (Table 4-4).

Table 4-3. Russia: Revenue Sharing by Revenue Source

Revenue source	*Amount allocated to subnational governments*	*Method of distribution among oblasts*	*Comments*
Individual income tax	100 percent	Derivation, by place of employment	Fully allocated to the rayon level
Company income tax	Tax rate is 32 percent; 22 percent rate belongs to the oblast	Derivation	Oblast may reduce rate by 2 percent
Value added tax	20 to 50 percent of collections, depending on the oblast	Derivation, with an ad hoc determination of the percentage for each oblast	
Excise on vodka	50 percent of collections	Derivation	
Other excises	100 percent of collections	Derivation	Excise on motor vehicles to center
Subventions and transfers to autonomous regions	Ad hoc determination	Ad hoc determination	Distribution largely based on "approved" deficits, and special projects

Source: Bahl and Wallace (1994).

Table 4-4. Russia: Revenue Structure and Revenue Sharing in 1992
(in billions of rubles)

Tax/revenue	*Total collections*	*Subnational amount*	*Percentage retained by subnational governments*	*Budgeted average retention rate for 1993*
Individual income tax	31.3	431.3	100.0	100.0
Enterprise income tax	1,566.8	920.9	58.8	66.7
Value added tax	1,998.9	498.7	24.9	30.4
Excises	211.5	110.8	52.3	61.5
Foreign trade taxes	467.4	8.0	1.7	n.a.
All other taxes	573.8	374.3	65.2	n.a.
Total revenue	5,249.7	2,344.0	44.7	43.4[a]

a. This total refers only to the income and value added taxes and excises.
Source: Bahl and Wallace (1994).

The value added tax is shared among subnational governments on a derivation basis, but the percentage of collections that may be retained varies by oblast. These retention rates have been established in an ad hoc way and have been changed frequently in the past two years. In 1993, most oblasts retained half of VAT collections, but in 1992, only about 30 percent was locally retained.

Until November 1991, tax administration was the responsibility of the Ministry of Finance, and the State Tax Service (STS) was a department within that ministry. Highly decentralized oblast and rayon (local) offices were supervised by their respective oblast and rayon level Departments of Finance *and* by finance officers of the federal ministry. No single authority (such as a "revenue commissioner") was in charge of all tax administration activities. This "dual leadership" of the tax officers was a source of major conflict of interest, often resolved by giving precedence to interests of the lower level. Since 1991, the STS has been an autonomous agency with ministerial ranking, and it is now in charge of administering all taxes in the Russian Federation. Its organizational structure has three levels: central, oblast, and rayon.

The assignment of public expenditure responsibility to different levels of government in Russia is based on the principle of geographical dimension of benefits (Martinez-Vasquez 1994). This economic efficiency rule, rather than an equalization rule, was inherited from the former Soviet Union. Public service activities whose "benefit area" is the entire nation are provided by the central government. Those with a regional dimension (for example, universities and tertiary and psychiatric hospitals) are provided by the oblast and autonomous republic level of government; and those with a local dimension (elementary schools and parks) are provided by rayon and city governments.

The federal budget includes large and important enterprises, pipelines, electric power, marine transport, and national (but not local) environmental problems. The federal government also is responsible for international trade activities (export and trade subsidies) and fundamental science. In the social sector, the federal budget accounts for a small share of financing universities, higher learning institutions, specialized health-care facilities, and culture and museums. This is in keeping with the principle of minimizing federal involvement in cases where the "benefit zone" is local or regional.

The oblast level is responsible for facilities of an interjurisdictional nature: river transport, oblast roads, environment at the oblast level, the preservation of forests, oblast-run vocational schools, health care for oblast hospitals, and specialized clinics. The oblasts and republics are also responsible for small and medium enterprises—local light industry and consumer goods. Oblasts are increasingly transferring such enterprises down to the rayon level. The expenditure responsibilities of rayons and townships are concentrated in the social services area. Rayon budgets account for almost 100 percent of total expenditures on basic education, 85 percent of total expenditures on health, 60 percent of kindergarten services, 60 percent of housing expenditures, and 80 percent of public utility expenditures.

While this basic assignment fits the accepted norms, the actual practice does not. There is a lack of clarity in the assignment of specific service responsibilities to specific levels of government. This has led in some cases to provision by more than one level of government and in others to provision at the "wrong" level. To make matters more complicated, the assignment of responsibility has included not only the traditional public service functions, but also ownership of certain commercial and industrial enterprises and the expenditure responsibilities related to that ownership.

Fiscal Autonomy

Subnational governments have relatively little autonomy on the revenue side of the budget. All tax rates are set at the federal level, and taxation is uniform across the country. All major user charge rates are nationally set. Subnational governments must simply adjust to the level of taxation chosen by the federal government. Technically, subnational governments may not borrow, although they do manage some credit financing by borrowing through their enterprises.

The level of expenditures is largely controlled by the federal government in four ways. First, the sharing rates for all major taxes are determined by the federal government. Second, the oblasts are required to gain federal approval for their budgets each year. Third, the federal government provides a set of ad hoc grants to supplement shared taxes. Fourth, the assignment of expenditure responsibilities is determined by the federal government. This is not to say that the subnational government sector has no voice in the determination of the budget, because these decisions are all negotiated and subnational governments are an important force in Russia.

Subnational governments have much more discretion when it comes to the composition of government expenditures. Basic pay rates are centrally set, but otherwise local governments have a good deal of flexibility in choosing how to allocate their budgets among competing expenditure needs. While the unit cost "expenditure norms" of the past have been rendered obsolete by high rates of inflation, the federal government still imposes some mandates on the subnational governments.

Each oblast may decide how it will treat its constituent local government units. Oblasts determine the tax sharing rates, give grants to the local governments under ad hoc distributions, and approve the budgets of local units. Cities and rayons have relatively little discretion when it comes to determining the overall size of the budget but considerable discretion when it comes to determining the mix of expenditures used.

Recent Trends

The Russian Federation is too new to be characterized by fiscal trends. All changes in fiscal structure now are driven by the transition to a market economy and by the extremely unstable macro economy. There have been major annual changes in the tax structure, and frequent changes in both the system of revenue sharing and the assignment of expenditure responsibilities to lower level governments. The underlying theme of these policy changes seems to be a mix between finding the right balance of fiscal powers between the levels of government and holding the federation together by quieting the calls for separation with revenue sharing devices. The constraint, however, is the pressure on the central government to find resources to resolve its economic problems.

SHIFTING CENTRAL FUNCTIONS DOWNWARD. Recent changes in the assignment of expenditure responsibility have violated these principles in very fundamental ways. For example, in early 1992, the central government shifted responsibility to the oblast and rayon governments for most of the price subsidy and income maintenance programs. These programs had previously been financed with transfers from the central government (equivalent to about 5 percent of GDP). While the burden of price subsidies will cease after prices are freed, the underlying problem of financing social protection for those most hurt by economic change will not. The government has neither generated estimates of the cost of financing this social protection nor developed a plan as to how this cost might be matched with revenues available in each oblast.

Until recently, the federal level was responsible for approving, financing, and implementing all subnational capital investment. In mid-1992, many investment responsibilities—both those with national significance (such as highways, military housing, and airports) and those with local significance—were shifted to subnational budgets. This policy decision took place after the second quarter (1992) revenue-sharing agreement yielded apparent budgetary surpluses for many oblasts. Shifting these responsibilities down to lower-level governments may have been a response to short-run budget pressures, but it is inconsistent with expenditure assignment principles.[6]

Moreover, it was a badly timed action. The assignment of fixed and uniform sharing rates to oblasts from the second quarter of 1992 made oblasts much less willing to accept additional expenditure responsibilities. The main rationale for the reassignment of expenditure responsibilities appears to have been to balance the budget of the central government and to "claw back" the apparent surpluses of subnational governments, which were thought to have been created by the introduction of fixed sharing rates. In fact, the shift in responsibilities appears to have placed serious budget pressures on some subnational governments, creating the risk that important social expenditures (health care and education) would be crowded out.

The more general issue here is the absence of concreteness in assigning responsibilities. Both subnational and central governments reap advantages from the continued

6. This discussion, and later references to intergovernmental fiscal relations in Russia, draw from Wallich, ed., *Russia and the Challenge of Fiscal Federalism* (Washington, D.C.: World Bank, 1994), Chapter 1, "Russia's Dilemma," pp. 9-10. —Christine Wallich.

murkiness. Subnational governments use their broader responsibilities to bargain for a larger share of revenue, and the federal government has an additional instrument—jettisoning expenditure responsibilities—to balance its own budget. This lack of definition cannot be perpetuated much longer if the system of intergovernmental relations in the Russian Federation is to move away from a "bargaining" mode of budget determination toward greater certainty and predictability.

More important, if this trend persists, what important expenditure functions will the central government perform to justify its existence to skeptical regional governments? By eschewing the concrete assignment of responsibilities, the federal government may inadvertently be contributing to its worst fear — the disintegration of the Russian Federation (Martinez-Vazquez 1994). An important part of social expenditures and most capital expenditures have been delegated to the subnational governments; however, revenues provided to subnational governments may not have taken these new responsibilities into account.

REVENUE SHARING. The Russian system of revenue sharing has two distinct features. First, unlike most systems of intergovernmental finance, in which the center collects and shares most national revenue with lower levels of government, revenue in the Russian system is "shared upward" from rayons, to oblasts, and then to the federal budget. Second, the system is not a "system," but a collection of ad hoc, bargained, nontransparent agreements whose effects are not well understood. The bargaining inherent in this system makes subnational governments highly dependent on the center and creates considerable uncertainty about their fiscal autonomy and responsibilities.

The sharing rates for the enterprise income tax and the VAT changed significantly during 1992 and early 1993. The direction appears to favor subnational governments, though it is not clear whether the increased claim on local revenues has been adequate to offset the increased expenditure responsibilities assigned (Martinez-Vazquez 1994). The retention rate on the enterprise income tax increased from 15 to 22 points (on the 32 percent rate) between early 1992 and early 1993. The increase in the value added tax sharing rate is more difficult to estimate because the sharing rate varies by oblast. However, the median VAT retention rate doubled during this period (Bahl 1994b).

REVENUE DETERMINATION. Is there some rough justice in the present system of revenue sharing? In other words, are revenues implicitly distributed among the oblasts in some systematic way? To try and answer this question, Bahl and Wallace (1994) carried out a multiple regression analysis on actual 1992 data for eighty-eight oblasts with per capita retained revenues (excluding subventions) as the dependent variable.

Three results from this analysis stand out. First, oblasts with a larger population retain more revenue on a per capita basis. Second, oblasts with a higher average wage, and with a higher growth rate in the average wage, retain significantly more on a per capita basis. Third, there does not appear to be a strong association between indicators of need in the population and per capita retained revenues. Neither hospital beds, infant mortality rates, nor highway density turned out to be significant determinants of the share of retained revenues. Taken together, these results suggest that in 1992, revenue distributions were driven in significant part by the strength of the economic base (wage levels, wage growth, and population size). This finding is consistent with the results of a similar analysis carried out by the World Bank on data for the first half of 1992 (Bahl 1994b).

Equalization

The assignment of the individual and corporate taxes to the subnational level on a derivation basis necessarily means that higher income territories will derive more revenue. Since this system is likely to allocate more revenues to higher income oblasts, some form of subvention must be provided to protect the budgetary position of territories whose economic base is not strong enough to support an adequate level of public services. In fact, the federal government undertakes three types of discretionary action to equalize the distribution of fiscal resources. First, it approves the final budget expenditures of each oblast. Second, it determines the level of subventions that will flow to each oblast, and this is partly determined by the approved budget level. Third, it determines the VAT retention rates.

How does one measure the "success" of the Russian system in equalization? First, in an equalizing system, oblasts with a higher level of expenditure needs and a lower level of fiscal capacity would have a greater tax retention rate. Bahl and Wallace attempted to measure this effect by regressing the ratio of taxes retained to taxes collected, against general indicators of need and fiscal capacity.

The multiple regression results showed that relatively little of the variation in the level of the retention rate across oblasts could be explained, suggesting that much of the process is ad hoc. However, there were some systematic relationships. The tax retention rate was significantly higher where the rate of urbanization was lower and where there was a smaller concentration of elderly population. The results also indicated that, other things being equal, the autonomous republics have a higher retention rate than do other oblasts. Perhaps the most significant finding here is that the tax-sharing system does not redistribute resources toward oblasts with a lower per capita income. One may not call this tax-sharing system an equalizing scheme.

If the system in operation in 1992 had an equalizing element, it would have to be subventions (grants). The allocation of the subvention among oblasts is not done according to a strict formula but appears to take the form of an ex-post, deficit-filling grant. The (unweighted) mean level of subvention among the eighty-eight oblasts studied was about 25 percent of total revenues, and it ranged from a low of zero to a high of over 90 percent. Were the subventions distributed on an equalizing basis? Bahl and Wallace (1994) estimated that per capita subventions are significantly higher in oblasts with a greater fiscal capacity (measured by enterprise profits), suggesting a counterequalizing pattern.

The Chinese "Federal" System

China is not a federalism. It is a unitary state. But in many ways, the Chinese public finance system has characteristics in common with a fiscal federalism.[7] There is a distinct middle level of government, the Province, which is free to determine the fiscal responsibilities of its subordinate local governments. There is a type of formula system for allocating revenues among provinces, and provincial governments have some discretion in forming their budgets.

7. This section on the Chinese "federal" system draws on Bahl and Wallich (1992) and Bahl (1994a).

Other features make China less of a federal structure. The central government and only the central government sets the tax rates and the tax bases, and it even determines most of the rates of user charges. Provincial and local governments cannot borrow.

Tax and Expenditure Structure

The Chinese tax structure is dominated by the income tax on enterprises and by a family of indirect taxes (the product tax, the business tax, and the value added tax). The enterprise income tax is levied on all companies with a maximum rate of 33 percent. The biggest departure of the Chinese company tax from traditional company income taxes is that all the wages are not deductible, and depreciation rates are low. The indirect taxes are dominated by the value added tax, which is now levied at two rates. Services and small traders are taxed under a "business tax," which is a turnover tax on gross sales, and certain manufacturers are taxed under the product tax, which is a gross receipts tax.

All taxes are collected by the State Tax Administration, a central government agency, but the collection machinery is decentralized to the lowest level. As in Russia, taxes are collected at the bottom and "shared up."

Revenues are shared between the central and provincial governments according to a negotiated formula. Provinces then determine sharing rates in any way they choose. Up until 1994, the tax sharing system involved the determination of tax retention rates by central government negotiation with each province. In addition, there is a system of earmarked grants distributed on an ad hoc basis.

Local Autonomy

By comparison with most countries in the world, subnational governments in China have little formal, or legal, independence in matters of structuring their tax system or deciding on the level and composition of expenditures. All tax rates and bases are set centrally, and so there are no truly local taxes—defined as those whose rate or base the subnational government can unilaterally fix—at the subnational level. Moreover, the central government determines, for each province, a share of taxes to be turned over to the center. In effect, subnational tax collections in China are central government taxes whose revenues are allocated among provinces, municipalities, and the central government.

Even with this degree of centralization in the rules, however, subnational governments have an important impact on spending levels and on the amount of revenues raised within their provincial jurisdiction. This follows because provinces design and implement the system of intergovernmental relations between the province and local governments. Moreover, a substantial amount of autonomy arises because local governments exert some central control over tax collection and assessment. Local governments also have considerable freedom in awarding tax contracts to their enterprises.[8] Responsibility for implementation of the tax system is a very powerful policy instrument in the hands of local governments, and indications are that they use it.

8. A 1994 change in the tax law eliminated this feature.

Expenditure Autonomy

Autonomy on the expenditure side of the budget is limited for provinces. Subnational government budgets are determined as part of a consolidated central, provincial, and local budget and as such must satisfy the (negotiated) fiscal targets laid down by higher level government. The budgetary choices of provincial governments are further limited by expenditure rules, mandates, and monitoring by higher level government.

Within the province, there is more room for discretion. At the local level, provincial governments are responsible for approving the budgets and financial plans of municipal and county governments. This means they can control the spatial distribution of expenditures within the province. There appears to be great variation in the system of provincial-local relations across provinces, suggesting that the provincial governments have significant room to adjust fiscal decisions to accommodate local needs and preferences within the parameters set by the central government.

Within the system of "vertical" responsibility, each province must account to the central government for its activities. In this process of vertical accountability, the following principles restrain, or guide, budgetary choices of provincial governments: (a) there cannot be a deficit; (b) current expenditures to maintain infrastructure have the highest priority among urban construction-related expenditures; (c) the provision of social overhead facilities (such as education, scientific research institutes, and hospitals) take a high priority; expenditures on culture and education are mandated to increase by at least the same rate as total expenditures; (d) employment levels and wage rates are fixed by the central and provincial governments; (e) all revenues from the urban maintenance and construction tax must be spent for urban maintenance and construction, that is, for public utilities and public facilities.

Recent Trends

The intergovernmental fiscal arrangement has remained a point of debate in China during much of the past decade. With rapid economic growth has come a demand for more resources to cover central government needs, and a demand for a greater share of revenues at the lower levels to support local projects. Three important issues have arisen: the shifting balance between the central and subnational level, continuing fiscal disparities among the provinces, and equalization policies.

THE DIVISION OF REVENUES: VERTICAL BALANCE. Between 1983 and 1992, real expenditures of provincial and local governments increased by 35 percent. While many countries in the world could not boast such an increase, it is in some respects modest for China. The data in Table 4-5 show that, between 1983 and 1992, budgetary revenues collected by local governments have not grown as fast as total output, or as fast as local government budgetary expenditures. In fact, at the time of the income tax reform in 1983, the local government *sector* was spending an amount equivalent to 73 percent of what it collected and turning a net amount of 27 percent over to the central government for national purposes. By 1992, the local government sector was spending an amount equivalent to their total collections and was receiving an additional subsidy from the center equivalent to about 6 percent of expenditures (See Table 4-5).

Table 4-5. China: Revenue Collections as a Percentage of GNP

Year	*Total budgetary revenues collected*	*Local government budgetary collections*	*Central government budgetary collections*[b]	*Local collections as a percentage of total collections*	*Local government expenditure as a percentage of local government collections*
1983	27.4	15.1	12.3	55.1	83
1988	19.9	11.2	8.7	56.3	106
1992	16.6	10.1	6.5	60.8	106
Income elasticity (1983-1992)[a]	0.57*	0.76*	0.47*		

* Statistically significant at the .05 level.
a. Estimated from
ln R= a + b ln GNP
where R = revenues (with 0 adjustment for discretionary changes)
b= revenue-income elasticity
b. Estimated as the difference between total revenue for the consolidated government sector (IMF definition) and local government budgetary revenue (Chinese definition).
Source: World Bank estimates and Bahl (1994b).

The problem that has arisen is that the central government share of total revenue is not sufficient to cover central government expenditures. Historically (through the mid-1980s), central fixed revenues were considerably less than central government expenditures, and the difference was made up with net transfers from the local government sector. For example, in 1984, the local governments ran a "collections surplus" of about 17 billion yuan, while the central government ran a "collections deficit" of about 21 billion yuan (see Table 4-6). The net transfer was from local to center. However, by 1989, the situation was reversed: the central government was collecting more than it spent, and the local government sector was running a collection deficit. In fact, in 1990, there was a net transfer from the center to the local sector (excluding any earmarked grants) equivalent to about 10 percent of central collections. It is this change in the division of revenues, and the consequent growth in extrabudgetary revenues, that has prompted a proposed reform of the revenue sharing system.

FISCAL DISPARITIES. Revenue collections are roughly proportional to income level. The five highest income provinces in China account for 18 percent of local government revenue collections and 19 percent of national income. However, these provinces account for only 10 percent of the national population. This suggests that there are significant disparities in per capita revenue collections among the provinces. In fact, this disparity is from 1,180 yuan in Shanghai to 96 yuan in Anhui and 8 yuan in Tibet—a substantial range (see Table 4-7).

Table 4-6. China: Tax Collection and Expenditure of Central and Local Governments, 1984, 1989, 1990
(in billions of yuan)

Category	*1984*	*1989*	*1990*
Central government			
Revenue collections	52.4	110.6	136.8
Expenditures	72.8	110.5	137.3
Collections deficit/surplus	-21.4	0.1	-1.5
Local government			
Revenue collections[a]	97.7	184.2	194.5
Expenditures	80.8	193.5	207.9
Collections deficit/surplus	16.9	-9.3	-13.4

Note: The difference between the local governments' surplus and the central government's deficit is the central government's foreign borrowing and domestic budget deficit.
a. Central and local government collections are before transfer from local governments to the central government, and before earmarked grant distribution to the local governments.
Source: World Bank estimates and Bahl (1994b).

What are the determinants of this variation in per capita revenue collections across provinces? The revenue collection statistics and income rankings shown in Table 4-7 suggest that per capita income is a major determinant. Provinces with higher per capita incomes, other things being equal, collect more revenue. One might also argue that the rate of urbanization (or conversely the agricultural share of GDP) would be major determinants because the tax system covers urban industrial and commercial activity, and urban business activity, to a much greater extent than it does rural and agricultural activity. Finally, because some of the less populous provinces tend to have greater rates of urbanization and less of an agricultural sector, one would expect them to raise more on a per capita basis.

We have tested these hypotheses by estimating an ordinary least squares (OLS) regression of per capita budgetary collections against per capita income, the rate of urbanization, and population size. The results of this OLS regression, presented in Table 4-8, more or less confirm these hypotheses. There is a strong significant relationship between per capita revenue collections and per capita income. The relationship holds over the 1987 and 1990 period, and it was also reported for 1985 (Bahl and Wallich 1992). The income elasticities are high. In 1990, a 10 percent difference in per capita income tended to be associated with a 16 percent difference in per capita revenue collections.[9] Population size did show the expected negative relationship with revenues but was not significant in either the 1987 or the 1990 equations.[10]

9. Hofman (1993) has pointed out that virtually all of the variation in per capita collections can be explained by a *squared* per capita income term.
10. Urbanization was not included in the final equations because of collinearity with income.

Table 4-7. China: Collection and Expenditure Disparities Among Provinces

	Collections		*Budgetary expenditures*			
Province	*Per capita amount (in yuan)*	*Percentage of total*	*Per capita amount (in yuan)*	*Percentage of total*	*Percentage of total population*	*Per capita income rank*
Beijing	702	3.85	633	3.22	0.95	2
Tianjin	508	2.27	455	1.88	0.78	3
Hebei	132	4.11	142	4.09	5.40	20
Shanxi	185	2.72	196	2.67	2.54	12
Inner Mongolia	151	1.66	282	2.86	1.90	16
Liaoning	326	6.54	308	5.73	3.48	4
Jilin	204	2.56	289	3.36	2.18	9
Heilongjiang	216	3.87	262	4.35	3.11	6
Shanghai	1180	7.98	566	3.55	1.17	1
Jiangsu	201	6.89	149	4.73	5.94	10
Zhejiang	244	5.14	192	3.76	3.66	5
Anhui	96	2.76	108	2.89	4.98	29
Fujian	187	2.87	225	3.21	2.66	11
Jiangxi	107	2.05	133	2.38	3.34	27
Shandong	129	5.55	146	5.81	7.45	21
Henan	99	4.35	106	4.31	7.59	28
Hubei	143	3.94	156	3.98	4.77	18
Hunan	118	3.66	134	3.86	5.38	22
Guangdong	206	6.63	237	7.06	5.57	8
Guangxi	112	2.41	154	3.08	3.74	24
Hainan	111	0.37	263	0.82	0.58	26
Sichuan	111	6.06	132	6.69	9.48	25
Guizhou	113	1.87	149	2.28	2.87	23
Yunan	208	3.92	243	4.26	3.27	7
Tibet	8	0.01	582	0.61	0.19	30
Sha'anxi	134	2.25	172	2.68	2.91	19
Gansu	152	1.73	204	2.15	1.98	15
Qinghai	163	0.37	382	0.80	0.39	14
Ningxia	143	0.34	318	0.70	0.41	17
Xingjiang	165	1.28	313	2.24	1.34	13

Source: Computed from data provided by Ministry of Finance.

Table 4-8. China: OLS Regression Results for Local Government Revenues and Expenditures Against Selected Independent Variables, 1987 and 1990

Dependent variable	*1990* Per capita collections	*1987* Per capita collections	*1990* Per capita expenditure	*1987* Per capita expenditure	*1990* Per capita collections	*1987* Per capita collections
Constant	-113.70 (1.82)	-156.330 (2.65)	244.245 (3.23)	217.856 (3.61)	80.987 (2.15)	28.46 (0.86)
Per capita income	0.250 (17.63) [1.605]	0.362 (21.73) [1.933]	0.088 (5.14) [0.487]	0.07 (4.13) [0.377]	...	...
Per capita income squared	...	...	...	...	0.052 (31.36)	0.131 (45.74)
Population	-0.454 (1.01)	-0.478 (1.05)	-2.974 (5.493)	-2.707 (5.79)	...	...
R^2	0.93	0.95	0.74	0.73	0.97	0.99
N	30	30	30	30	30	30

Note: The t-statistics are shown in parenthesis below the regression coefficients. Elasticities are shown in brackets.

There appears to be some weakening in the relationship between collections and income. In 1985, the four provinces with the highest levels of per capita income (Shanghai, Beijing, Tianjin, and Liaoning) raised 31.7 percent of revenues and accounted for only 6.4 percent of the national population. In 1990, these same provinces raised only 20.6 percent of locally raised revenues. In fact, virtually all of the higher income provinces had growth rates in budgetary collections that were below the 1987-92 average (see Table 4-9).

Disparities are much less pronounced on the expenditure side, with a per capita variation from 633 yuan in Beijing to 106 yuan in Henan and 108 yuan in Anhui (Table 4-7).[11] The five highest income provinces, with 10 percent of the population, account for 17 percent of the expenditures. The pattern of variation across provinces might be explained in the following way. Higher income provinces spend more because of the greater demand for public services by their citizens and their enterprises, their ability to raise more "local fixed" revenues, their ability to attract more grants, and very importantly, their ability to slow the flow of revenues from the center. More urbanized provinces spend

11. The range in 1991 per capita state and local government expenditures in the United States (excluding Alaska) was from $6,525 in New York to $2,715 in Arkansas.

Table 4-9. China: Percentage Increase in Revenues and Expenditures, by Provinces, 1987-92

	Budgetary collections			Budgetary expenditures			Per capita income
Province	Percentage increase	Relative (average = 100)	Rank	Percentage increase	Relative (average = 100)	Rank	rank (1990)
Beijing	28.36	44.12	27	46.57	59.01	27	2
Tianjin	12.85	19.99	28	49.29	62.47	26	3
Hebei	72.87	113.37	16	87.60	111.00	6	20
Shanxi	72.51	112.80	17	54.58	69.16	23	12
Inner Mongolia	101.13	157.33	8	58.19	73.73	21	16
Liaoning	40.34	62.76	26	84.78	107.44	9	4
Jilin	51.89	80.73	22	53.21	67.42	24	9
Heilongjiang	57.27	89.10	20	55.24	70.00	22	6
Shanghai	6.59	10.25	29	70.55	89.40	16	1
Jiangsu	42.12	65.53	24	85.09	107.32	8	10
Zhejiang	55.00	85.57	21	86.01	108.99	7	5
Anhui	41.97	65.29	25	66.43	84.18	19	29
Fujian	130.25	202.63	4	111.30	141.04	3	11
Jiangxi	75.08	116.80	15	80.95	102.58	12	27
Shandong	91.40	142.19	10	94.10	119.24	4	21
Henan	64.73	100.71	19	78.50	99.48	13	28
Hubei	44.06	68.54	23	62.30	78.95	20	18
Hunan	70.61	109.85	18	77.19	97.81	14	22
Guangdong	132.21	205.67	3	127.36	161.40	1	8
Guangxi	100.39	156.18	9	15.92	20.18	29	24
Hainan	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	25
Sichuan	86.34	134.32	12	82.16	104.11	10	26
Guizhou	119.45	185.83	6	91.87	116.41	5	23
Yunan	191.60	298.07	2	125.70	159.28	2	7
Tibet	2,825.00	4,394.86	1	81.93	103.82	11	30
Sha'anxi	80.80	125.70	13	72.63	92.03	15	19
Gansu	75.95	118.16	14	70.54	89.38	17	15
Qinghai	103.49	161.00	7	51.88	65.74	25	14
Ningxia	88.08	137.02	11	33.95	43.03	28	17
Xingjiang	125.13	194.66	5	66.49	84.25	18	13

more, arguably because urbanization reflects a greater capacity to raise and retain taxes. Again, less populous provinces would be expected to spend more on a per capita basis, if the effects on income level are controlled. The regression results, presented in the middle two panels of Table 4-8, confirm these expectations. About three-fourths of the inter-province variations in per capita expenditures can be explained by variations in per capita income and in population size. The income elasticities for expenditure variations are much less strong than in the case of collections, suggesting some degree of equalization in the system. In 1990, a 10 percent difference in per capita income was, on average, associated with a 4.8 percent difference in per capita expenditures.

One might also ask whether the share of expenditures accruing to each province has changed significantly during recent years. The answer is that it has, as is shown in Table 4-10 for the 1987-92 period. There is no apparent pattern to this change.[12]

EQUALIZATION. Evaluation of the equalization features of the present system is no straightforward matter. A central question is whether the system presents a significant potential for redistribution. That is, does the central government take back enough in transfers and give enough in earmarked grants to significantly alter the disparities in fiscal capacity among the provinces? There are three ways in which redistribution might take place:

- earmarked grants to the local governments, which augments their resources;
- an increased tax sharing rate for local governments, which augments their resources; and
- transfers to the center, which reduces the resources of each province.

The total of transfers and grants was equivalent in amount to about 30 percent of local government collections in 1990. This suggests a significant potential for redistribution. Whether or not redistribution occurs, however, depends on how the transfers are extracted and how the grants are allocated.

Bahl's (1994b) empirical analysis gives mixed results. A simple correlation analysis shows that per capita transfers to the center are significantly higher in provinces with higher per capita incomes. There is some equalization in the distribution of transfers. However, the same is not true of earmarked grants. On a per capita basis, higher income provinces receive significantly more in earmarked grants. The pattern is counter-equalizing. These results also show that less populous provinces receive significantly less in per capita grants.

Extrabudgetary Revenue

Another important source of revenue for local governments in China is extrabudgetary revenues. These are of two types. The first are the "fiscal extrabudgetary funds" of the government. They are earmarked for capital purposes and include a set of taxes and charges that are controlled by the local government finance department. The most im-

12. I correlated the changing share of total expenditures with per capita income and with population but could find no significant relationship.

Table 4-10. China: Changes in Expenditure Shares, 1987-92

Province	*Percentage shares of total budgetary expenditures* 1987	1992	Change
Beijing	3.49	2.83	-0.66
Tianjin	2.19	1.81	-0.38
Hebei	3.73	3.88	0.15
Shanxi	2.92	2.50	-0.42
Inner Mongolia	3.20	2.80	-0.40
Liaoning	5.65	5.77	0.12
Jilin	3.67	3.11	-0.56
Heilongjiang	4.64	3.98	-0.66
Shanghai	3.52	3.33	-0.19
Jiangsu	4.78	4.89	0.11
Zhejiang	3.60	3.71	0.11
Anhui	3.13	2.88	-0.25
Fujian	2.81	3.29	0.48
Jiangxi	2.65	2.66	0.01
Shandong	5.28	5.68	0.40
Henan	4.58	4.53	-0.05
Hubei	4.28	3.85	-0.43
Hunan	3.93	3.85	-0.08
Guangdong	6.79	8.54	1.75
Guangxi	4.76	3.05	-1.71
Hainan	0.00	0.99	n.c.
Sichuan	6.17	6.22	0.05
Guizhou	2.22	2.36	0.14
Yunan	3.78	4.73	0.95
Tibet	0.64	0.65	0.01
Sha'anxi	2.66	2.54	-0.12
Gansu	2.20	2.08	-0.12
Qinghai	0.86	0.72	-0.14
Ningxia	0.83	0.62	-0.21
Xinjiang	2.37	2.18	-0.19

Source: Computed from data provided by Ministry of Finance.

portant are the public utility surcharge—a 10 percent tax on the utility bills of consumers—and the urban construction and maintenance tax. There also are some minor revenues received from public housing and public property, and some institutional income that accrues to the various city enterprises. The latter include such items as fees and charges from hospitals, road maintenance charges, advertisement fees, and so on.

Fiscal extrabudgetary revenues are relatively small compared with other revenue sources. The World Bank (1986 p. 259) estimated that in 1986, these extrabudgetary revenues of local governments accounted for less than 3 percent of total state budgetary revenue.

The other type of extrabudgetary revenues is the retained earnings and depreciation funds of locally owned enterprises. In principle, these funds should not be classified as part of the government budget because they are not resources over which the local governments have complete control. On the other hand, they are funds that may be used for social purposes and to support the economic development goals of the local government administration, and their growth may be heavily influenced by local taxing and contracting practices.

Extrabudgetary funds of the second type expanded very rapidly in the 1980s because of the objective of the reform program to give SOEs more flexibility in managing social funds and in revitalizing their operations (World Bank 1990, pp. 17-19). The enterprise contracting system that grew out of this economic reform allowed the local governments to shift funds from the budgetary to the extrabudgetary side.

Extrabudgetary funds are by their very nature sensitive to the business cycle, as is shown by the time series data in Table 4-11. In 1992, extrabudgetary revenues of local governments were equivalent to about 89 percent of local government budgetary collections. This share appears to have trended upward after 1986 when enterprise contracting began to grow significantly. The responsiveness of extrabudgetary revenues to GNP would appear to be greater than the responsiveness of budgetary revenues. I found a positive and significant relationship between the ratio of local government extrabudgetary revenues to budgetary collections, and GNP, over the 1983-92 period.[13]

Table 4-11. China: Extrabudgetary Revenues of Local Governments, 1984-92

Year	*Total (in billions of yuan)*	*Per capita (in yuan)*	*Percentage of budgetary revenue*	*Percentage of central government extrabudgetary revenues*
1984	71.8	69	74	151
1985	89.4	86	76	141
1986	102.0	97	77	143
1987	120.1	111	82	146
1988	145.3	133	92	161
1989	157.5	142	84	148
1990	163.5	143	83	152
1991	186.2	161	76	n.a.
1992	214.7	183	89	n.a.

13. The ratio of extrabudgetary to budgetary revenue increased with GNP over the 1983-92 period, as indicated by the following regression results:

$$EXB/B = 69.8 + 0.00093\ GNP \qquad R^2 = 0.43$$
$$(2.45)$$

Where: EXB = extrabudgetary revenue; B = budgetary revenue; and the figure in parenthesis is the t-statistic

Finally, it can be seen from Table 4-11 that local government extrabudgetary revenues are about 1.5 times greater than central government extrabudgetary revenues. This spread has remained approximately constant over the past decade.

Tax Sharing: 1988-92

The tax sharing system was changed beginning in 1988 to a much more negotiated approach. The basic idea is still to allow the local governments to retain an amount of revenues that will enable them to cover a basic level of expenditure needs. The base year chosen to define the expenditure amount was 1987. Local governments may retain this amount plus a share of any increase in revenues, according to a pre-determined negotiation. This agreement, originally planned to be in force for three years, led to the following six arrangements for tax sharing.[14]

1. Revenue growth up to a defined limit is divided between center and province according to a formula. Both the limit and the sharing ratio are negotiated. The province may retain all collections above the limit. Ten areas use this method of tax sharing.
2. The ratio of provincial revenue collections to provincial approved expenditures defines the local retention rate. In effect, the local government retains a fixed percent of total collections no matter what the increment (or lack of an increment). The share is determined from approved base figures for the previous two years. Three areas use this method.
3. The retained share of revenues is based on the ratio of revenues to approved expenditures in 1987. A retained share of all incremental revenues is negotiated separately. Three areas use this method.
4. The amount to be paid to the central government in the first year is determined by base year revenues and expenditures. This amount then increases at an agreed rate in later years. Two areas use this method.
5. Provincial governments retain an amount equivalent to (a) approved expenditures in the base year, and (b) a fixed amount of revenues raised that are in excess of this level. Thus, the central government receives a fixed payment each year. Three areas use this method.
6. The central government provides a fixed subsidy, of an amount equal to the difference between actual collections and expenditure needs in the base year. This method is used by sixteen areas.

Earmarked Grants

Local governments receive earmarked grants from the central government for a variety of purposes. These include appropriations for capital construction projects, price subsidies for urban grain consumption, social relief funds, and special subsidies for health and education of the poor, minority, and border provinces (Hofman 1993). There is no set formula to determine the amount of earmarked grants to distribute in any given year,

14. This description is elaborated in Qiang (1993).

and the distribution among the provinces appears to be ad hoc rather than formula-based.

Earmarked grants have grown significantly, as may be seen in Table 4-12, and they are now greater in magnitude than tax sharing transfers to the central government. In 1990, earmarked grants were equivalent in amount to 14.4 percent of local government budgetary expenditures, slightly less than in 1985.

Some would argue that a primary purpose of earmarked grants is equalization. As may be seen from the simple correlations in Table 4-13, however, per capita earmarked grants are distributed in significantly heavier amounts to higher income provinces. These are project rather than entitlement grants, and it is not unusual for more developed regions to absorb these because of their greater capability at project preparation and their greater ability to "buy in" on a matching basis.

Conclusions

There are great differences in the systems of intergovernmental fiscal relations in the United States, Russia, and China. The major difference is the degree of autonomy afforded to subnational governments in the United States, where taxing powers and expenditure discretion reside at the subnational level. In both Russia and China, all tax rates are set at the central level, and they are applied uniformly across the country.

Second, the tax administration machinery in the United States is three-leveled with independent federal, state, and local administrations. Each level collects its own revenue. In Russia and China, all revenues are collected by a central administration, but collection is at the bottom and shared up to the top.

Third, in the United States revenue sharing is by the assignment of taxes to the subnational level and a system of grants in aid to local governments. In both Russia and China, there is a combination of derivation tax sharing and grants to local governments.

Table 4-12. China: Estimated Net Redistribution, 1985–90
(in billions of yuan)

Year	*Local government budgetary revenue*	*Contracted transfers (local to central)*	*Earmarked grants (central to local)*	*Net transfer to central*
1985	1176.55	310.52	182.98	127.54
1986	1325.59	303.67	244.26	59.41
1987	1465.69	171.38	268.24	-96.86
1988	1582.48	254.41	263.71	-9.30
1989	1881.31	262.02	277.73	-15.71
1990	1976.83	267.83	285.13	-17.30

Source: Computed from data provided by Ministry of Finance.

Table 4-13. China: The Ratio of Expenditures to Collections, 1987 and 1992, by Province

Province	*Ratio* *1987*	*1992*	*Change 1987-92*
Beijing	0.78	0.89	0.11
Tianjin	0.56	0.74	0.18
Hebei	0.92	1.00	0.08
Shanxi	1.24	1.11	-0.13
Inner Mongolia	2.34	1.84	-0.50
Liaoning	0.74	0.98	0.24
Jilin	1.39	1.40	0.01
Heilongjiang	1.23	1.21	-0.02
Shanghai	0.30	0.49	0.19
Jiangsu	0.63	0.83	0.20
Zhejiang	0.67	0.81	0.14
Anhui	1.15	1.34	0.19
Fujian	1.21	1.11	-0.10
Jiangxi	1.34	1.38	0.04
Shandong	1.03	1.05	0.02
Henan	1.03	1.12	0.09
Hubei	0.93	1.05	0.12
Hunan	1.03	1.07	0.04
Guangdong	1.01	0.99	-0.02
Guangxi	2.22	1.28	-0.94
Hainan	n.c.	1.69	n.c.
Sichuan	1.16	1.13	-0.03
Guizhou	1.47	1.28	-0.19
Yunan	1.44	1.11	-0.33
Tibet	n.c.	n.c.	n.c.
Sha'anxi	1.34	1.28	-0.06
Gansu	1.39	1.35	-0.04
Qinghai	3.06	2.28	-0.78
Ningxia	2.88	2.05	-0.83
Xinjiang	2.91	2.15	-0.76
Mean	0.97	1.06	0.09

Source: Computed from data provided by Ministry of Finance.

Because of these differences, it is not possible in Russia or China to separate the issues of tax policy, tax administration, and intergovernmental fiscal relations. In the United States, it is possible to treat reform in each of these areas independently of the other two.

There are also similarities in the systems of the three countries. In the United States and in Russia, about 40 percent of expenditures are made by subnational governments, while in China, the share of local governments is over half. At least on the expenditure side, all are highly decentralized systems.

All three countries have intergovernmental transfer systems that to some extent are not transparent. Part of the U. S. grant system is distributed on an ad hoc basis, while all of the Chinese and Russian systems of grants are distributed on an ad hoc basis. In all three countries there are large disparities among subnational units in fiscal capacity, and in none of the three countries is there any evidence that the intergovernmental transfer system is equalizing.

In all three countries it is left to the middle level of government to decide how revenue and expenditure responsibility should be distributed among its local governments. In all three countries the middle level governments have made a variety of choices.

Finally, on the issue of trends, both China and Russia are still on a path toward increased fiscal decentralization, at least in terms of how much of their total resources is allocated to the subnational government level, while the United States apparently is recentralizing. This raises an interesting question in light of the conventional theory of fiscal federalism, which suggests that the efficiency objectives of decentralization should be much weaker in China and Russia.

References

Advisory Commission on Intergovernmental Relations. 1992. *Intergovernmental Perspective*. Vol. 18, No. 4 (Fall). Washington, DC.

_____. 1993. *Significant Features of Fiscal Federalism.* Vol. 2 (September). Washington, DC.

Bahl, Roy. 1994a. "China: Tax Structure and Intergovernmental Fiscal Relations." Paper prepared for the World Bank (March).

_____. 1994b. "Revenues and Revenue Assignment: Intergovernmental Fiscal Relations in the Russian Federation." In *Russia and the Challenge of Fiscal Federalism,* ed. Christine Wallich. Washington, DC: The World Bank.

Bahl, Roy, and Johannes F. Linn. 1992. *Urban Public Finance in Developing Countries,* 385-427. New York: Oxford University Press.

Bahl, Roy, and Shyam Nath. 1986. "Public Expenditure Decentralization in Developing Countries." *Government and Policy* 4: 405-418.

Bahl, Roy, and Sally Wallace. 1994 "Revenue Sharing in Russia." *Environment and Planning: Government and Policy* 12 (3): 293-307.

Bahl, Roy, and Christine Wallich. 1992. "Intergovernmental Fiscal Relations in China," PRE Working Paper 863 (February). Washington, DC: The World Bank, Policy Research Department.

_____. 1995 "Intergovernmental Fiscal Relations in the Russian Federation." In *The Decentralization of the Socialist State: Intergovernmental Finance in Transition Economies,* ed. Richard M. Bird, Robert D. Ebel, and Christine I. Wallich. Washington, DC: The World Bank.

Bocherdering, T.E., and R.T. Deacon. 1972. "The Demand for the Services of Non-Federal Governments." *American Economic Review* 62 (5): 891-901.

Hofman, Bert. 1993. "China: Budgetary Policy and Intergovernmental Fiscal Relations," World Bank paper (July), 72-78.

Martinez-Vazquez, Jorge. 1994. "Expenditures and Expenditure Assignment." *Russia and the Challenge of Fiscal Federalism,* ed. Christine Wallich. Washington, DC: The World Bank.

Oates, W.E. 1972. *Fiscal Federalism*. New York: Harcourt Brace Jovanovich.

Quiang, Gao. 1993. "Problems in Chinese Inter-governmental Fiscal Relations and the Main Difficulties in Future Reform." Paper presented at Shanghai conference sponsored by the Ministry of Finance on October 25, 1993.

U.S. Department of Commerce. 1994. *Survey of Current Business*. Vol. 74, No. 6 (June), Economics and Statistics Administration, Bureau of Economic Analysis. Washington, DC.

U.S. Department of Labor. 1994. *Employment and Earnings*. Vol. 41, No. 6 (June), Bureau of Labor Statistics. Washington, DC.

World Bank. 1986. *China: Revenue Mobilization and Tax Policy*. Washington, D.C.

———. 1990. *Budgetary Policy*. Washington, D.C.

———. 1992. "Russia: Intergovernmental Fiscal Relations in the Russian Federation," Report 11302-RU. Washington, D.C.