

Fiscal Federalism and Decentralization: A Review of Some Efficiency and Macroeconomic Aspects

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Decentralization of fiscal activities has become popular in recent years. This approach to intergovernmental finance can improve the allocation of public spending by making it more consistent with the wishes of citizens, and it can provide political glue for countries with regional ethnic diversity. The case for decentralization is a strong one, but it is based on various implicit and explicit assumptions. This article examines such issues as the taxing ability of local governments, tax sharing arrangements, the performance of national and subnational bureaucracies, and the quality of public expenditure management systems in order to identify conditions and institutions that can significantly reduce the benefits of decentralization. The relationship between decentralization and stabilization is also explored—in several cases decentralization has made it harder for countries to eliminate their structural fiscal deficits.

Until recently issues of fiscal federalism and decentralization received fairly little attention from economists and other students of economic and political developments. Interest in these issues was confined mainly to specialists. Public finance courses typically allocated no more than one lesson to the topic—and at times not even that. In his monumental treatise on public finance, Richard Musgrave dedicated five pages to “multilevel finance” (Musgrave 1959, pp. 179–83).

The topic began to attract more attention in the 1980s, and by the 1990s the topic had become hot. Furthermore, professional interest in the subject crossed the U.S. border. Several countries established national commissions to study decentralization or the possibility of creating some form of fiscal federalism. Others made decentralization or fiscal federalism the centerpiece of their political campaigns.

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Why the Recent Trend to Decentralize?

Many factors account for this change, and some merit brief discussion. Developments in the European Union were one of these factors. The process of creating a central entity that will transcend the European member states in some important economic functions opened up the question of how much economic power to transfer to the European Union. The issues in this debate are similar to those in discussions of the pros and cons of fiscal federalism and fiscal decentralization. Who would be responsible for income redistribution and for stabilization? And which resource allocation functions should be performed by the European Union, and which by the member states? The European debate has forced many European economists (and not just those who specialize in public finance) to look at the fiscal institutions of countries with strong subnational governments and at the literature to see what could be learned that could be relevant to the European question (CEPR 1993).

Another factor was the growing disenchantment with the role of the public sector. The explosive growth of the public sector in many industrial countries during the postwar period, which was associated with the expansion of the central government's role in income maintenance, income redistribution, and stabilization, has recently led to strong reactions. At the political level the 1980s and 1990s have seen a swing toward more conservative attitudes, especially suspicion of powerful central governments. The view that greater reliance should be placed on the market has been accompanied by the parallel view that less power should remain in the hands of the central government. Some influential economists have questioned the effectiveness of government action in stabilizing the economy and improving the distribution of income, thus reducing poverty and unemployment. This challenge has reduced the legitimacy of the central government's action and created a presumption in favor of reducing the size of the public sector while giving more power to both the market and local jurisdictions. Many countries are considering a devolution of some functions to local jurisdictions. In terms of resource allocation various arguments have been advanced to support the view that privatization and decentralization would lead to greater efficiency and a leaner public sector.

Developments in specific countries, such as Canada, China, and some of the new states of the former Soviet Union, have forced a reassessment of multilevel finance. In Canada developments were driven largely by political considerations, with some provinces demanding more independence. In China they were driven by the need to reestablish some control over national public revenue. In the states that emerged from the breakup of the Soviet Union there was a need to create from scratch fiscal arrangements that gave significant responsibilities to subnational governments, especially in Russia, with its regions of widely diverse cultural, ethnic, and economic composition. The interest in fiscal federalism in these countries was the logical outcome of discussions about what political organization these countries should have after the breakup of centralized policymaking. Other countries, such as Ethiopia, have been driven toward decentralization (or regionalization) by ethnic diversity and by the belief that decentralization would help hold the country together.

During the 1980s another group of countries, including Argentina, Brazil, India, and Nigeria, experienced macroeconomic problems that required major adjustments in their fiscal account, through revenue increases or expenditure cuts. These countries were often constrained in their policy choices by constitutional or legal arrangements among governments at different levels. As structural and macroeconomic problems worsened and the need for adjustment grew, so did the attention directed at the legal constraints that limited the central government's scope for policy action. Although not as significant as the factors mentioned above, the World Bank's research and lending policies, which have emphasized the benefits of decentralization, may also have contributed to the present trend. Whatever the causes, the debate on decentralization raises serious questions about its potential impact, merits, and dangers. Whether decentralization is appropriate often depends on many country-specific factors. Still, some general issues are relevant to all countries.

Decentralization and Economic Efficiency

Before discussing the relationship between decentralization and economic efficiency, it is useful to distinguish between *fiscal* and *administrative* decentralization. Fiscal decentralization exists when subnational governments have the power, given to them by the constitution or by particular laws, to raise (some) taxes and carry out spending activities within clearly established legal criteria. Examples of fiscal decentralization include the fiscal federations in Argentina, Australia, Brazil, Canada, India, Germany, Nigeria, Switzerland, and the United States. Administrative decentralization exists when most taxes are raised centrally, but funds are allocated to decentralized entities that carry out their spending activities as agents of the central government and according to the guidelines or controls imposed by the central government. An example of administrative decentralization is provided by Italy, where in 1992 local entities raised about 8 percent of the total net revenue of the general government but spent about 37 percent of total net expenditure. The issues discussed in this article involve both kinds of decentralization but are more concerned with fiscal decentralization.

The main economic justification for decentralization rests largely on allocative or efficiency grounds. There can also be a political argument for decentralization if a country's population is not homogeneous and if ethnic, racial, cultural, linguistic, or other relevant characteristics are regionally distributed (as they are in Russia and Ethiopia). Decentralization may be needed to induce various regions to remain part of a federation. According to this argument, decentralization would be more desirable in, say, Russia than in Japan. By the same token the goal of national unity often has pushed nondemocratic governments toward the forced elimination of regional differences. In democratic societies the economic and political arguments for decentralization tend to converge, since it is argued that decentralization strengthens democracy. Most people are more inclined to engage in local political activities because local policies have a more direct impact on their daily life.

The normative, economic argument for decentralization can be based on both an *ex ante* and an *ex post* case (Cremer, Estache, and Seabright 1994). The *ex ante* theoretical case was best made by Wallace Oates in his classic 1972 book, *Fiscal Federalism*. The *ex post* case is essentially the one outlined by Tiebout (1956).

The Ex Ante Argument

Oates's case is based on the realization that not all public goods have similar spatial characteristics. Some, such as defense, benefit the entire country. Others, such as regional transportation systems or forestry services, benefit regions. Still others, such as street lighting or cleaning, benefit only municipalities or particular districts. Furthermore, different areas have different preferences for public goods. Thus the supply of public goods must be fitted to the different requirements of different groups. A centralized government might ignore these spatial characteristics and this diversity of preferences, or it might not be well informed about them and thus might supply a uniform package to all citizens. A one-size-fits-all approach does not deliver a basket of public goods that is optimal for all citizens. When "the jurisdiction that determines the level of provision of each public good includes precisely the set of individuals who consume the good" there is "perfect correspondence" in the provision of public goods (Oates 1972, p.34).

In this ideal, normative model, if the spatial characteristics of the public goods differed, at the limit, one might wish to have as many jurisdictions as public goods. Thus, in theory, one would need a highly decentralized public sector with many sub-national jurisdictions of varying sizes. In this ideal, theoretical world, "each level of government, possessing complete knowledge of the tastes of its constituents and seeking to maximize their welfare, would provide the Pareto-efficient level of output . . . and would finance this through benefit pricing" (Oates 1972, pp. 34–35). Oates's normative policy conclusion is that "for a public good—the consumption of which is defined over geographical subsets of the total population, and for which the costs of providing each level of output of the good in each jurisdiction are the same for the central or the respective local government—it will always be more efficient (or at least as efficient) for local governments to provide the Pareto-efficient levels of output for their respective jurisdictions than for the central government to provide *any* specified and uniform level of output across all jurisdictions" (Oates 1972, p. 35, italics in original).

The basic message of Oates's decentralization policy is that centralization is costly if it leads the government to provide a bundle of public goods different from the preferences of the citizens of particular regions, provinces, or municipalities. If these preferences vary geographically, a uniform package chosen by a national government is likely to force some localities to consume more or less than they would prefer to consume. As Cremer, Estache, and Seabright (1994, p. 5) put it, "each type of good should be provided by a level of government . . . enjoying a comparative advantage in accounting for the diversity of preferences in its choice of service delivery."

This interpretation assumes that subnational governments already exist, so the relevant question becomes: Which of the existing government levels should be responsible for particular forms of spending? The problem would be much more difficult in trying to determine the degree of decentralization desirable in a world where the spatial characteristics of public goods vary among different public goods and over time and where the preferences of various regions may also change. One could argue that not only should there be many decentralized spending units, but that their geographical boundaries and number would have to change over time to reflect the technological developments that change the spatial characteristics of public goods.

Oates's basic argument can be applied to stabilization policy or even to redistributive policy if the preferences of populations living in different regions are not similar. For example, if the European Union were to force Italy and Germany to pursue a similar stabilization policy objective for inflation and unemployment, when in fact Italians might prefer lower unemployment while Germans might prefer lower inflation, some welfare loss would result. Or, if Italians preferred higher assistance for invalids while Germans preferred higher assistance for orphans, a common redistributive package might also imply a loss of welfare relative to the option in which each country chooses its desired package. In both cases there is the assumption that the national government would or could choose just one package and that local jurisdictions would base their choices on citizen preferences.

The Ex Post Argument

In addition to Oates's theoretical argument, which is based largely on the spatial characteristics of public goods, decentralization can be defended on the basis of other, more practical considerations. Some observers have argued that a decentralized system can become a surrogate for competition, bringing to the public sector some of the allocative benefits that a competitive market brings to the private sector (Israel 1992). There are many angles to this argument, one of them Tiebout's. The final outcome will approach that of an efficient market to the extent that decentralization can help identify different population groups' preferences for public goods, local governments supply these goods, these groups can be made to pay a price (tax) based on the benefit they receive from the public goods, and individuals vote with their feet, by moving to the jurisdiction that best reflects their preferences. At the margin the benefit from consuming the public good or service will be equal to the cost in terms of benefit taxes—in other words, approaching a Pareto optimal solution.

Another potentially important advantage of decentralization is that it allows experimentation in the provision of the output. When the provision of a public service (say, education) is the responsibility of local jurisdictions and when these jurisdictions are free to provide the service in any way they see appropriate, some jurisdictions will discover better ways of providing the service, and other jurisdictions will emulate the successful ones. The more jurisdictions there are, the more

simultaneous experiments will take place. When the service is imposed by a national monopoly, which adopts a uniform approach to providing the service, there will be little or no experimentation, and thus dated methods may continue to be used even when there are better alternatives. This outcome is often noted by the supporters of decentralization, who point to the outmoded curriculums in countries with centralized educational systems.

Still another argument in favor of decentralization emphasizes that individuals who are responsible for the results of their actions, and who thus have ownership rights over the outcome, are likely to have stronger incentives to perform better. Therefore, when local officials are directly responsible for providing a public service, and are praised for success and blamed for failure, they will have a greater interest in succeeding. In such cases the community may develop a sense of pride in successful service delivery. Additionally, when the cost of providing a service is borne by the local jurisdiction, the service is more likely to be provided cost-efficiently—to the point where marginal benefits equal marginal costs. This view, that accountability brings responsibility, motivates much of the support for the decentralization of various functions (Shaw and Qureshi 1994). Finally, at a time when large public sectors are considered wasteful and inefficient, some literature has argued that decentralization is desirable because it is likely to be associated with a smaller public sector and a more efficient economy (Brennan and Buchanan 1980; Ehdaie 1994).

Challenges to Decentralization

These powerful arguments help explain why decentralization has become so popular in recent years. Some writers, however, have advanced counterarguments that challenge some of the above conclusions or, at least, outline conditions in which decentralization could be a less attractive policy. The point of this discussion is to identify situations in which decentralization might not lead to the expected results unless important changes are made in the existing conditions.

Many countries have decentralized fiscal structures. Decentralization has worked well in some industrial countries (Austria, Germany, the Scandinavian countries, Switzerland, and the United States) and in Indonesia and perhaps Malaysia among the developing countries, and less well in others (Argentina and Brazil).

While the theoretical case for decentralization is relatively straightforward, the practical case may be less so (Prud'homme 1994; Bird 1994; Oates 1994). As Oates (1994, p. 1) puts it, "fiscal decentralization has much to offer, but it is a complicated enterprise" (see Boadway, Roberts, and Shah 1994 for a discussion of the pros and cons of decentralization).

Insufficient information. As discussed earlier, part of the case for decentralization rests on the spatial characteristics of public goods—some benefit only certain areas of a country. As a result the central government may tend to underproduce or overproduce them because it does not have the necessary information on local preferences, or it may not have the right incentives to act on the available information.

The argument related to lack of information has been challenged on the grounds that central governments can and do assign government officials to local offices and that these officials may be capable of determining local preferences. The central governments of unitary countries often have representatives (for example, the *préfets* in France and Italy or the *intendentes* in Chile) who closely follow local developments and assess local needs. These agents are often highly trained and might even have an incentive to exaggerate the local demand for some public services in order to increase their own power or importance. Therefore, the main question is whether the information these individuals send back to the center is any more or less correct or biased than that available to local policymakers.

Whether local governments are more or less likely than the central government to respond to local preferences depends, of course, on the strength of various incentives and on how political decisions are made. A national government interested in local votes may have a strong interest in meeting local needs. A local government that is not democratic may have little interest in meeting these needs. It should not be automatically assumed that subnational governments are made up of democratically elected officials who necessarily have the public (though local) interest in mind. Where they do, decentralization has a greater chance of succeeding. The basic presumption behind the arguments made by proponents of decentralization is that local democracies are in place and do work. When they do not, the case for decentralization becomes weaker.

Corruption. Prud'homme (1994) and Oates (1994) also mention corruption. Oates does not conclude whether corruption is likely to be greater at the local or central level. Prud'homme believes that corruption is a greater problem at the local level and mentions France and Italy to support his view. This issue cannot be settled by empirical evidence, so we must rely on impressions. In my view corruption may be more common at the local level than at the national level, especially in developing countries (Tanzi 1994). The reason is that corruption is often stimulated by contiguity, that is, by the fact that officials and citizens live and work close to one another in local communities. They have often known each other all their lives and may even come from the same families. Contiguity brings personalism to relationships, and personalism is the enemy of arm's length relationships. When this occurs the public interest often takes a back seat, and decisions are made that favor particular individuals or groups. It should be emphasized that governance issues are problems at all levels of government in many countries; the local bureaucracy is certainly more honest than the national bureaucracy in some countries.

The quality of local bureaucracies. Prud'homme (1994, p. 9) discusses another factor that may reduce the benefits of decentralization: the quality of local bureaucracies relative to national bureaucracies. As he puts it, "Decentralization not only transfers power from central to local government, but also from central to local bureaucracies." And "central government bureaucracies are likely to attract more qualified people . . . because they offer better careers . . . more possibilities of promotion [and better salaries]." Prud'homme's conclusion is strengthened by the

argument of Murphy, Shleifer, and Vishny (1991) that talented individuals tend to choose fields that offer better opportunities for advancement over the longer run. To the extent that national bureaucracies offer better opportunities to able individuals than do local bureaucracies, they may attract more qualified and more able individuals. But where qualified individuals are abundant, as is often the case in industrial countries, subnational governments may have staff as qualified as do national governments.¹ On the other hand, where educational standards are low and there is a smaller pool of potentially efficient employees, Prud'homme's point carries more weight. This scarcity of local talent may impede decentralization efforts in, say, Ethiopia and other African countries.

Within countries there are often wide differences across regions in the quality of the personnel of local administrations. In Italy, for example, there is a huge difference in the quality of the local public administrations between, say, Emilia-Romagna, where the quality is very good (perhaps even better than at the national level), and some southern regions, where it is poor (Putnam 1993). In Argentina there is a huge difference between Buenos Aires and some of the other provinces, and in Colombia between Bogota or Medellin and some other provinces. These differences are partly explained by differences in available resources, but cultural factors also play a role.

Another practical issue is that in most countries the composition of local jurisdictions is based on past political, rather than economic, considerations (apart from exceptional circumstances in which multilevel arrangements can be created from scratch and can thus be influenced by knowledge about the spatial characteristics of important public goods). Thus the sizes of states, provinces, regions, and metropolitan areas are fixed and largely the result of historical accidents. These are the subnational governments to which decentralization allocates fiscal responsibilities. The chance that the spatial characteristics of the public goods or services whose responsibility is assigned to the subnational jurisdictions will match the areas covered by these jurisdictions—and so achieve the “perfect correspondence” described by Oates—seems slim indeed. The smaller is the degree of correspondence, the smaller are the potential economic advantages of decentralization.

Technological change and increased mobility. Two other aspects are important in today's world. First, the characteristics of public goods and services are subject to rapid change. Technological and economic developments ensure that new needs for public sector intervention arise continuously. For example, in the past there was a need to protect a city's population from outside attacks and to provide it with information about the time of day. Walls were built around cities and clocks were placed on bell towers to satisfy these needs. The public goods provided by these public services are no longer needed. On the other hand, the need to protect citizens from crime and pollution has become more important.

Second, changing technology, combined with greater mobility on the part of citizens, implies that the spatial characteristics of public goods are also likely to change. For example, when mobility is limited, many of the benefits associated with public education are internalized by the jurisdiction that provides the service. But when

mobility is high, extrajurisdictional externalities become important. The jurisdiction that finances education may not reap its benefits if those who are educated in its public schools move to another jurisdiction. Similar considerations apply to spending for health and many other services. On the other hand, this spillover problem can be partly solved through a reciprocity rule, especially if services can be standardized across regions. In such cases the existence of the spillover does not reduce the advantage of providing the service locally. But standardization eliminates one of the basic reasons for decentralization.

These two aspects imply that, to be optimal, decentralization arrangements should be flexible over time. Either the geographical areas covered by local jurisdictions—and thus the number of these jurisdictions—should change over time, or the characteristics of public goods should be continuously reexamined in order to reallocate some of them across the existing jurisdictions. There is no simple mechanism that allows this process to take place. Once a federal structure is determined, local politicians and officials fiercely oppose major changes to borders and tasks. Consequently, fiscal federalism is at times characterized by a mismatch between the spatial characteristics of public goods and the responsible jurisdictions.

Public expenditure management systems. It was mentioned earlier that a strong argument in favor of decentralization is that it allows subnational jurisdictions to experiment with new ways of providing public services. Such experimentation can lead to progress for some jurisdictions and to imitation by others through demonstration effects. Of course, if the quality of local bureaucracies is not as good as that of the national bureaucracy, and if the public interest is not the guiding principle of local officials, independence and experimentation by local jurisdictions may not achieve the desired results.

By definition, decentralization implies that subnational governments or entities take over functions from the national government and thus come to manage larger financial resources than would be the case under a centralized government. Both the flow of revenues necessary to finance these functions and the flow of expenditures to carry them out increase—at times, significantly. Are subnational jurisdictions capable of handling these flows? Public expenditure management systems are not very good in many countries. They are particularly deficient in developing countries (especially in Africa) and transition economies.

In their broadest functions, good public expenditure management systems must include budget offices that are capable of forecasting expected revenue and anticipated spending. They must include budgetary classifications that allow the controlling authorities to determine whether money is actually going to the budgeted items and functions. They must include accounting systems that allow for the monitoring and control of cash flows and that provide, in a timely fashion, information on the status of expenditures and revenues. They must also provide controls over other commitments, even when these commitments do not contribute to additional cash spending in the current fiscal year. The skills required to perform these tasks are scarce in most countries; they are especially scarce in developing countries and transition economies, especially at the local level.

The decentralization of responsibilities to subnational jurisdictions that have not yet developed adequate public expenditure management structures is likely to run into difficulties.² Technical assistance missions often have found poor public expenditure management systems and thus a lack of local financial accounting and accountability, especially in developing countries. The most basic statistical information is not often available, even on money spent. There is no information on commitments. When information on cash spending is available, it is often impossible to determine the items or functions for which the money has been spent.

The lack of arm's length relationships between local government officials and local suppliers or banks leads to the creation of "hidden" debt—that is, debt that has not yet shown up in the statistical information available. When, for political reasons, local budgets are soft over the long run, financial difficulties and misallocation of resources are likely to result. Thus the potential benefits of decentralization may be reduced or even disappear if the minimum public expenditure management infrastructure is not in place. Brazil (after the 1988 Constitution decentralized spending decisions) and Italy (after the 1979 reform decentralized some spending decisions) are examples of this problem. Advocates of decentralization would be well advised to pay close attention to this problem.

Decentralization and Stabilization

The relation between decentralization and stabilization has not received the attention it deserves, especially in developing countries. This section identifies some characteristics of decentralization that may have an impact on stabilization.

Assume that subnational governments with clear expenditure responsibilities have been established and that they have been given the exclusive use of a relatively robust tax base from which they can finance some or most of their expenditures. Also assume that the subnational governments can share other tax bases with the national government. The national government provides the subnational governments with relevant information on taxpayers or other technical assistance so that, within limits, they can profitably exploit these shared tax bases. The subnational governments are run by competent officials who are democratically elected or appointed and are thus responsive to the preferences of the taxpayers. Finally, assume that constitutional or legal limitations require that the subnational governments balance their budgets annually.

This description conforms fairly closely to the U.S. situation, which much of the literature on fiscal federalism and stabilization has dealt with or been influenced by. In this literature the responsibility for fiscal policy has been assumed to rest with the central (federal) government (Musgrave 1959; Oates 1972; Commission of the European Communities 1993).

In this context subnational governments cannot take an active part in trying to stabilize the economy. In fact, because they have to balance their budgets annually, they must raise taxes or cut spending during a recession and cut taxes or raise spending during a boom (Bayoumi 1992; de Callatay and Ribe 1994). The question is

whether subnational governments should play a more positive, active role in countercyclical fiscal policy.

Suppose that in large countries, such as Canada and the United States, business cycles are not strongly correlated across regions, perhaps because some regional economies depend on the price of particular commodities (say, oil in Texas) that can move independently of the country's general economic conditions, or because different regions trade with different partners that experience unsynchronized cycles. Suppose also that, as argued earlier, different regions have different preferences for macroeconomic variables (some prefer less inflation, others prefer less unemployment). Some economists have argued that under these circumstances a role can be assigned to subnational governments in the pursuit of stabilization policy (Gramlich 1987). The government of the region undergoing the recession may try to stimulate the local economy even though the multiplier effect associated with its efforts may be low.

I have summarized the discussion on stabilization in order to show that it is very much U.S. (or, perhaps, Canadian or European Union) specific and to argue that the issues that are relevant to developing countries are often different from those connected with Keynesian countercyclical policy. In developing countries and in an increasing number of industrial countries, the basic macroeconomic need is not to counter cycles, but to bring about a fiscal adjustment that reduces chronic fiscal imbalances. The issue then is the relationship between decentralization and structural, rather than cyclical, fiscal deficits. Does decentralization contribute to structural macroeconomic problems? Does it make it more difficult to adjust fiscal accounts once a structural deficit has developed?

The experience of many countries suggests that under the circumstances often found in developing countries subnational governments are likely to contribute—sometimes significantly—to the aggravation of macroeconomic problems. Or they make it difficult to correct problems. In several cases local governments have spent more than they have raised in revenue, thus increasing their debt and occasionally forcing the central government to come to their rescue.³ In other cases the relationship between subnational governments and the central government has constrained the central government's ability to maneuver. At times this outcome is the consequence of arrangements that have shifted spending responsibilities to subnational governments without providing them with adequate resources. At other times political forces push subnational governments toward higher spending or lower taxes.⁴ In still other cases poor public expenditure management systems make it difficult to control spending. Weak incentives and lack of information also have played key roles.

When decentralization is based on a clear and comprehensive contract between central and subnational governments that spells out the subnational government's obligations, assigns them sufficient resources to fulfill their responsibilities, and makes it explicit that they must live within the means stipulated in the contract and under no circumstances will they receive additional resources from the national government, then the situation approaches that prevailing in the United States. In this situation local spending can be increased mostly by increasing locally controlled

taxes. This constraint forces the subnational governments to behave responsibly in a macroeconomic sense and efficiently in an allocative sense. In the absence of "tax exporting," an extrajurisdictional externality would not arise on the revenue side, and the responsibility for any sustained national fiscal imbalance would fall squarely on the central government.

In many countries, however:

- There is no such contract (explicit or implicit).
- The assignment of spending responsibilities is vague and subject to change by new, unfunded mandates.
- The incentives for local policymakers and officials may induce them to overspend or undertax.
- The budgets for subnational governments tend to be relatively soft.
- The information needed to guide local policies is often missing, of poor quality, or not timely.
- Public expenditure management systems are not developed or sophisticated enough to support the needed accounting and managerial controls.

When clear and firm constitutional or legal guidelines are missing, decentralization may create a situation in which local governments can gain by increasing spending while shifting the financing cost to the whole country. The possibility that the financing for the extra spending will be provided mostly by those outside the jurisdiction creates an important externality that gives each local government a strong incentive to push for additional resources and to increase spending. When the resources are not available *ex ante* from the national government, they may become available *ex post*, after the spending has taken place and the debt has accumulated.⁵ The political power of many local governments and the systemic and political implications of letting them go broke make it difficult for the national government to resist these pressures.

In addition to the revenue they raise from their own tax bases, fees, resources, and shared revenue, subnational governments often depend on grants from the central government. They often can make a strong case for these grants because the national government may require them to perform certain functions or to comply with certain standards without directly providing funds for them. Such unfunded mandates create implicit claims for future grants or for soft budgets. Designing an optimal grant structure is very difficult, however (Bahl and Linn 1992; Ahmad forthcoming). Thus, grants may introduce inefficiencies and create political pressures to increase their size.

There are many channels through which fiscal decentralization may aggravate structural fiscal problems. Here we discuss three: the assignment of major tax bases to subnational governments, the sharing of major tax bases, and the *ex post*, implicit servicing of debt incurred by subnational governments.

Assignment of Major Tax Bases

A number of decentralized countries (Brazil, India, Russia) have assigned major tax bases to subnational governments for their exclusive use. In Brazil the general value-

added tax is assigned to the states. In India the sales tax is assigned to the states. In Russia the individual income tax and many excise taxes have been assigned to the subnational governments (Bahl 1994).

In India the central government has been left mainly with income taxes (which have never been very productive), foreign trade taxes (which ought to fall or even disappear over time), and highly distortive excise taxes (which are in need of reform). At the same time, the central government is responsible for servicing a progressively more burdensome public debt. Thus central government spending has tended to grow as its share of total tax revenue has been falling.

In Brazil the share of total taxes received by the central government fell from 69.2 percent in 1980 to 57.5 percent in 1990. The states' share rose from 22.2 percent to 27.9 percent during the same period, while that of the municipalities rose from 6.6 percent to 14.6 percent. The 1988 Brazilian Constitution accelerated the decline in centrally retained tax revenue, contributing to larger fiscal deficits and macroeconomic problems.

If the tax bases that are assigned exclusively to subnational governments are large and dynamic, and if the spending responsibilities of central governments (debt servicing, pensions, national public goods) cannot be easily compressed, macroeconomic problems are often inevitable. Brazil, India, and Russia have experienced macroeconomic difficulties that were caused or worsened by tax assignments. Similar difficulties may arise in China. When macroeconomic adjustment requires that a central government increase its tax levels, it will find it difficult to do so if important tax bases are not available to it. (This has been the experience in Brazil and India.) In this situation the central government will be forced to rely on less efficient or less productive tax bases. Thus either the level of taxation will be lower than desired or the structure of taxation will be less efficient than it could be.

Sharing of Major Tax Bases

While some tax bases are assigned to the exclusive use of particular levels of government, other tax bases may be shared. The sharing may be of (at least) two kinds. Different levels of government may tax the same base, or one level may collect the tax from a given base and share the revenue with other levels.

Examples of the first kind are the taxing of personal income in the United States and the taxing of sales in Argentina. In the United States personal income is taxed by both the federal government and by most states. Counties and municipalities piggy-back on states' income taxes. In Argentina sales are taxed with a value-added tax at the national level and with a cascading turnover tax at the provincial level.

When two government levels tax the same tax base, each retains its independence of action even though an increase by one level in its dependence on that base may limit the scope for the other level to tax the same base. At the subnational level the limits on effective tax rates on a given tax base are generally imposed by tax competition and by the potential mobility of the tax base.

Examples of the second kind of tax sharing are quite common. They exist in Argentina, Brazil, Colombia, Pakistan, Russia, and other countries. In Argentina the federal government collects the income tax, the value-added tax, excise taxes, foreign trade taxes, liquid fuel and energy taxes, the gross assets tax (levied on companies), the personal assets tax (levied on individuals), social security taxes, and some minor taxes. Of these, the income tax, the value-added tax, the excise taxes, the gross assets tax, and the personal assets tax are subject to sharing arrangements with other parts of the public sector. In 1993 federal government revenue, before sharing and transfers, accounted for 81 percent of all tax revenue. After revenue sharing and transfers it accounted for 54 percent.⁶

The Argentine experience captures the essence of the problem with these arrangements. When faced with the need to correct large macroeconomic imbalances, the Argentine authorities introduced major tax reforms and made highly successful administrative reforms. These policies sharply raised the share of taxes in gross domestic product (GDP). But the potential impact of this effort on reducing the public sector's fiscal deficit was dissipated by the revenue-sharing arrangement, which required that 57 percent of any additional tax revenue coming from the central government's effort be shared with the provincial governments, which immediately spent the additional revenue. The subnational governments view economic stabilization as a national public good and thus as the responsibility of the national government.

The Argentine central government also tried to reduce its spending through privatization, employment reductions, and other ways. But at the same time, partly as a result of the additional tax revenue received, provincial governments were increasing their employment and spending. Furthermore, the provinces with the lowest revenue mobilization were those that increased the size of their civil services the most. At the margin, the benefits lost by reducing central government employment probably exceeded the benefit gained by increasing provincial-level employment. The Argentine sharing arrangements ultimately magnified the effort necessary at the central level to reduce the country's fiscal deficit and have probably reduced the efficiency of public spending.

These tax-sharing arrangements, which are limited to specific taxes rather than to the entire tax revenue, also have important efficiency implications on the revenue side. The central government that finds itself in great need of raising revenue but that also has to share some tax revenue with subnational governments will have a strong incentive to raise revenue from the taxes that are not shared or from taxes that will go mostly to the central government. As a result the structure of the tax system will be distorted, and unshared taxes will acquire a greater weight in the tax system even when they are less efficient.

There is another side to this problem. A federal government that finds itself in the situation described above is prone to grant exemptions from the taxes from which it retains only a small share of the revenue raised. This seems to have happened in Pakistan in connection with the general sales tax. The central government has full legislative authority over this tax, but transfers 80 percent of its revenue to

the provinces. In other words, the federal government's direct revenue cost of providing incentives is very low. Perverse incentives also occur when subnational governments are able to grant exemptions from national taxes, thus passing on the cost of the lost revenue to the nation. This problem is common in China and existed in Argentina when four provinces had the legal authority to grant exemptions from the national value-added tax. In Argentina this led to a considerable erosion of the revenue from the value-added tax, thus aggravating the fiscal crisis. In the above examples, revenue losses—and thus stabilization problems—compounded the efficiency problems. When tax sharing applies to total tax revenue, rather than to specific taxes, these problems tend to become less serious.

Borrowing by Local Governments

If strictly applied constitutional limitations prevent subnational governments from borrowing, if the market is able to impose discipline on borrowing by subnational governments, or if national governments never intervene when subnational governments get into trouble, then borrowing by subnational jurisdictions does not contribute to a country's macroeconomic difficulties. But few countries have such strict constitutional limitations, markets have proven unable to discipline borrowing (in part because of informational deficiencies; Lane 1993), and central governments are often unable to refuse assistance to subnational governments that get into trouble.

There is a lot of variety in subnational governments' borrowing experience. In Argentina, for example, all levels of government can borrow both domestically and abroad. In 1994 the Argentine provinces were able to finance a deficit of about 0.7 percent of GDP. In Brazil the states can borrow from many sources. São Paulo alone is reported to have accumulated a debt of some \$40 billion (*Financial Times*, 25 March 1995, p. 4). In India the states and the center can both borrow domestically (Chelliah 1991). In Pakistan constitutional controls over provincial borrowing do not seem to have been effective. In Mexico the finances of its thirty-two states have been described as "precarious," and some states as "bankrupt" (*Financial Times*, 7 April 1995, p. 7). In Italy borrowing by subnational jurisdictions has contributed to a deterioration in the fiscal situation and has led to the emergence of "hidden" debt. Some municipalities and regions (Naples, Puglia) have encountered major financial difficulties.

There are several complex reasons for this state of affairs. In some cases they may have to do with revenue assignments that do not match expenditure assignments. More often, however, there are more proximate reasons:

- An absence of good public expenditure management systems within the subnational jurisdictions to monitor and register debt obligations and commitments.
- A lack of incentives for local policymakers not to borrow. The borrowing often gives immediate benefits to those in power while the costs are paid later, perhaps by a different administration.
- An implicit assumption that the central government will ultimately foot the bill. As long as those who lend to the governments and the officials who do

the borrowing believe that the central government will eventually come in, the budget will be soft and borrowing will be excessive.

- A lack of good subnational budgetary systems to prepare competent projections for revenue and expenditure.
- A multitude of ways in which "loans" can be obtained. Loans have come from the national government, the central bank, national or foreign banks, provincial banks, suppliers, the capital market, pension funds, arrears on civil servants' salaries, arrears on payments to utilities, and so on. At times these "loans" are voluntary; at other times they are compulsory.

As long as all these possibilities of borrowing exist, as long as there is the belief that the central government will honor subnational governments' obligations, and as long as the incentives for these governments encourage higher spending, decentralization will contribute to macroeconomic instability.

Financing the Activities of Local Governments

In much of the literature on decentralization the determination of the spending responsibilities—if not the precise levels of spending—of subnational governments precedes the question of how resources will be generated to pay for the spending. The financing of the spending is often almost an afterthought. Yet for decentralization to be successful, it must include the decentralization of both spending and revenue, and these decisions must be made at the same time.

It has generally been argued that local governments should finance their spending through "benefit pricing" or benefit taxation. For example, Musgrave and Musgrave (1984, p. 517) write that "the choice of tax instruments to be used by 'local' jurisdictions . . . should conform to the rule that each jurisdiction pay for its own benefits." This is necessary because "benefit taxation—requiring as it does a balance of tax burdens and benefit gains—neutralizes the impact of fiscal operations on location choice" (p. 518). This is, of course, necessary for the result to be Pareto-optimal. Musgrave and Musgrave also recognize, however, that "the assumption of universal benefit taxation . . . is unrealistic" (p. 518).

Assigning Tax Powers

The question of tax assignments by level of government has been discussed by many authors. While such general or theoretical discussions of tax assignments are useful, in practice country-specific factors play a large role. Local jurisdictions raise whatever taxes they are capable of raising, often without worrying much about the economic distortions that these taxes may create. The search for good taxes that can be exploited by local government has not yielded very good results (Bahl and Linn 1992; Bird 1986).

The conclusion that the kind of taxes local governments often raise, especially in developing countries, tend to be of poor quality and thus to generate many economic distortions leads to the obvious question: If decentralization is defended

because it improves the allocation of resources on the expenditure side, how much of this efficiency gain is lost when the financing of that expenditure is highly distorted? This is not an easy question to answer, but it is one that must be addressed when the costs and benefits of decentralization are discussed. The easier it is to assign "good" taxes to local jurisdictions, the more justified it is to assign expenditure responsibilities to them. It is also important not to create an imbalance between expenditure responsibilities and the means available to local jurisdictions to carry them out. The assignment of tax revenue to multilevel governments can follow several options.

The first option is to assign all tax bases to the local jurisdictions and ask them to transfer some of the revenue to the national government to allow it to meet its spending responsibilities. The amount transferred upward could be determined by rule, formula, or negotiation. This option is often unattractive and inefficient for a number of reasons. It is inconsistent with a national policy that aims to redistribute income through the tax system. It is inconsistent with a policy that calls on the public sector to stabilize the economy, using the tax system to achieve this objective. It may result in excessive fragmentation of the tax system, and it may provide the wrong incentives to the subnational jurisdictions if they know that part of the taxes they collect will be shared with the national government. There is also evidence from some countries (for example, China and Mexico) that this policy leads to inefficient tax administration.

The second option is for the national government to collect all taxes and transfer some of the revenue to the local jurisdictions. The transfer of funds to the local jurisdictions can be done by sharing total tax revenue or by sharing specific taxes. As argued earlier, the first approach is superior because it gives local governments a more stable revenue source and gives the national government more freedom in pursuing its tax policy options. Still, there are problems with this option. Breaking the connection between decisions to collect tax revenue and decisions to spend that revenue destroys the concept of the tax price for public spending (that is, the idea that spending decisions carry a specific cost expressed through the taxes paid). Local officials and taxpayers may not connect the benefits they derive from public spending with the taxes they pay. Therefore local officials may not exercise the required restraint on spending, and taxpayers will be less willing to pay taxes.

A third, more common option is to assign local jurisdictions some taxing power and, if necessary, to complement the revenue raised locally with grants from the national government. The taxing power can be provided to the local jurisdictions by assigning them exclusive use of some tax bases, allowing them to share some bases with the national government, or allowing local governments to piggy-back on some national taxes. All three approaches are used in some countries.

Assigning Tax Bases

If specific tax bases are assigned to local jurisdictions, the jurisdictions would, in principle, have the option of increasing their spending by raising their taxes. Their

perception of the costs and benefits of this action would presumably guide their spending and taxing decisions.

The assignment of tax bases to local jurisdictions must take into account several considerations. The first is the importance of the objectives (other than raising revenue) being pursued through taxation. The more important these other objectives are, the less advantageous it is to leave these tax bases to local jurisdictions. For example, if the government assigns considerable weight to income redistribution (through progressive taxation) or stabilization (through built-in stabilizers), certain tax bases, such as the progressive income tax and the corporate income tax, should be left to the national government.

The second consideration is the mobility of the tax base. If a tax base can easily escape taxation at the local level by moving to another jurisdiction, that base is not a good candidate for local taxation. Thus, the more mobile the tax base, the more desirable that it remain at the national level.

The third consideration involves economies of scale. Depending on informational requirements (for example, the need for a national taxpayer identification number), technical requirements (the use of large computers), or other factors, economies of scale in tax administration for a given tax argue for leaving that tax to the national government. This consideration implies that the value-added tax and the global income tax should be nationally collected taxes.

Keeping in mind these premises, we can quickly survey the assignment of tax bases, starting from the simplest.

Import and export taxes. Economists generally consider import and export taxes to be inefficient and undesirable sources of revenue, but they still account for a large share of revenue in developing countries. These taxes should always be imposed by the national government to reduce the possibility of major distortions from differential foreign trade taxes imposed by different jurisdictions.

Taxes on land and real property. Land and structures (such as buildings) are among the most immobile of tax bases. Where they are used, taxes on real property are often—but not always—imposed by local jurisdictions. Of course, while land and existing structures cannot move, new structures will not be built if a jurisdiction taxes them considerably more than other jurisdictions do. Thus, while old structures cannot move out, new structures may not move in. This limits the tax rates that can be imposed. Assessments of property values to determine the tax liability often create major difficulties. Some countries assess property values nationally but let the local jurisdictions determine the tax rate.

Natural resource taxes. Because natural resources are immobile, it could be argued that, as with land and buildings, natural resources could easily be taxed by the subnational government in which they are located. But it has been argued that these taxes should be assigned to the national government because natural resources are concentrated in particular areas, revenue from them varies, and these taxes, if collected locally, could make a particular region an attractive place to move to because of its better public services (Shah and Qureshi 1994). However, the subnational governments that control resource-rich areas are often reluctant to give up their claims to

these resources. Major political conflicts have developed in some federations (Canada, Nigeria, Russia) over who should benefit from these resources. Decentralization is likely to reinforce local claims over these resources. Where the political obstacles can be surmounted, however, these taxes should go to the national government.

Sales taxes. Among sales taxes, single-stage taxes (excise and retail) must be distinguished from multistage taxes (turnover and value added). Excise and retail sales taxes can be assigned to local jurisdictions, provided that neighboring jurisdictions do not use highly different rates. If a jurisdiction uses higher rates than its neighbors, its citizens will be inclined to shop in the lower-rate jurisdictions. Factors influencing these decisions are the vicinity of the other jurisdictions, the cost of travel, and the value of the goods purchased (Tanzi 1995b). Competition among jurisdictions generally limits the scope for rate differentials and thus the freedom of actions of local jurisdictions.

Excise and retail sales taxes are generally relatively simple taxes. But retail sales taxes may be difficult to administer in economies with many small sellers—as in most developing countries—especially if rates are high. For this reason retail sales taxes are not likely to generate much revenue in developing countries. Local excise taxes, however, have proved to be useful revenue sources for subnational governments. Gasoline, alcohol, cars, hotels, and public utilities may provide convenient tax bases for subnational governments.

Imposed with a credit mechanism, value-added taxes are generally rebated on exports and imposed on imports. They follow the so-called destination principle, which stipulates that, to avoid distorting trade relations, these taxes should be paid by the final consumer. The application of the destination principle requires border checks by the jurisdiction that imposes the tax. However, it is neither feasible nor desirable to impose border checks on trade within a country because this would impose excessive costs and would impede trade flows. For these reasons value-added taxes are best left to national governments, especially in developing countries.

Personal income taxes. Personal income taxes can be global—that is, imposed on the total income received by a taxpayer (wages, salaries, interest, dividends, and income from all other activities)—or schedular—imposed separately on each type of income.

Schedular income taxes can be used by the subnational jurisdictions of developing countries if the taxes on incomes such as interest, dividends, wages, and salaries are withheld at the source by those who pay these incomes and the taxes withheld become final taxes. The tax rates must be competitive, however, or individuals will invest in other jurisdictions.

For global income taxes to operate well, all the income that a taxpayer receives from different sources and jurisdictions must be combined before the tax is calculated. The tax administration of the jurisdiction where the taxpayer resides is unlikely to have information about income earned outside the jurisdiction unless this information is provided by the national government. Thus tax evasion can be significant. For this reason it is better to leave this tax base to the national government, which is in a better position to get the relevant information.⁷

Other taxes and fees. Many smaller tax bases lend themselves more easily to exploitation by local governments. These range from relatively important ones (such as those related to the use of cars) to relatively insignificant ones (such as license fees for dogs). The better application of fees for activities that require some use of social services (such as education, health, and commercial activities) can provide important resources that come in the form of benefits received and are therefore consistent with the basic principles behind decentralization.

Efficiency losses. Thus there are serious limitations to the tax revenue that local governments can raise if they limit themselves to taxes that are efficient, easy to administer, and of a benefit-received nature. Most local jurisdictions raise only a fraction—and sometimes a small fraction—of their revenue needs from own-tax sources. Furthermore, the revenue raised is often collected with taxes that are inefficient, poorly administered, and bear little relationship to the benefit received. This conclusion relates to the question raised earlier: If decentralization is defended not on political grounds, but because it improves the allocation of resources on the expenditure side, how much of that efficiency gain is lost when the financing of that expenditure imposes significant welfare costs on the economy? This question can only be answered on a case-by-case basis, but it must be considered whenever decentralization is actively pursued.

Conclusion

Decentralization is a kind of contract whose details and implications often are not precisely spelled out. Decentralization can live up to its promise—if the constitutional and legal frameworks are clearly defined and enforced, if local governments are given access to the necessary resources, if public expenditure management systems can both monitor and control the pace and allocation of spending, and if local bureaucrats and national bureaucrats are of equal quality. Otherwise, the results tend to be disappointing. The key to successful decentralization is good planning: decentralization should mean devolving both spending responsibilities and revenue sources—and determining the magnitude of both simultaneously and in advance. Despite the difficulties in implementation, the arguments for decentralization are sound and powerful. The process can and does live up to its promises. Properly implemented, it provides important economic and political benefits as local jurisdictions improve the efficiency and accountability of public spending.

Notes

1. The subnational governments in Germany and in the Scandinavian countries, for example, are probably as competently staffed as the national governments.
2. This is the case in several Latin American countries, including Colombia and Peru, and in other regions.
3. This is the case in Argentina and in Brazil, where the net debt of subnational governments is nearly \$60 billion. In Canada provincial governments have run large deficits and accumulated substantial debts. The same experience is shared by Italy's subnational jurisdictions or entities.
4. In some countries a political cycle has been identified at the local level of taxes falling and expenditure rising before elections. Of course, such cycles are not limited to subnational governments.

- Gramlich, Edward M. 1987. "Federalism and Federal Deficit Reduction." *National Tax Journal* 40(3): 299-313.
- Hirsch, Werner. 1968. "The Supply of Urban Public Services." In Harvey S. Perloff and Lowdon Wingo, Jr., eds., *Issues in Urban Economics*. Baltimore, Md.: Johns Hopkins University Press.
- Israel, Arturo. 1992. *Issues for Infrastructure Management in the 1990s*. World Bank Discussion Paper 171. Washington, D.C.
- Lane, Timothy D. 1993. "Market Discipline." *IMF Staff Papers* 40(1): 53-88.
- Liukkala, Claire. Forthcoming. "Argentina: Intergovernmental Fiscal Relations—A Case Study." International Monetary Fund, Fiscal Affairs Department, Washington, D.C.
- Lotz, Jorgen. 1995. "Equalization Grants to Local Governments in Denmark and Other Scandinavian Countries." International Monetary Fund, Fiscal Affairs Department, Washington, D.C.
- Ma, Jun. 1995. "Macroeconomic Management and Intergovernmental Relations in China." Policy Research Working Paper 1408. World Bank, Economic Development Institute, New Products and Outreach Division, Washington, D.C.
- McLure, Charles E., Jr., ed. 1983. *Tax Assignment in Federal Countries*. Centre for Research on Federal Financial Relations. Canberra, Australia: Australian National University Press.
- Ministry of Economics and Public Works and Services, Argentina. 1994. *Cambios Estructurales en la Relacion Nacion-Provincias*. Buenos Aires.
- Murphy, Kevin M., Andrei Shleifer, and Robert W. Vishny. 1991. "The Allocation of Talent: Implications for Growth." *Quarterly Journal of Economics* 106(May): 503-30.
- Musgrave, Richard A. 1959. *The Theory of Public Finance: A Study in Public Economy*. New York: McGraw-Hill.
- Musgrave, Richard A., and Peggy B. Musgrave. 1984. *Public Finance in Theory and Practice*. New York: McGraw-Hill.
- Oates, Wallace E. 1972. *Fiscal Federalism*. New York: Harcourt, Brace, Jovanovich.
- . 1994. "The Potential and Perils of Fiscal Decentralization." University of Maryland, Department of Economics, College Park, Md.
- Porto, Alberto, and Pablo Sanguinetti. 1993. "Decentralización Fiscal en América Latina: El Caso Argentino." *Serie Política Fiscal* 45. Comisión Económica para América Latina, Santiago, Chile.
- Prud'homme, Rémy. 1994. "On the Dangers of Decentralization." Policy Research Working Paper 1252. World Bank, Transportation, Water, and Urban Development Department, Transport Division, Washington, D.C.
- Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton, N.J.: Princeton University Press.
- Shah, Anwar, and Zia Qureshi. 1994. *Intergovernmental Fiscal Relations in Indonesia: Issues and Reform Options*. World Bank Discussion Paper 239. Washington, D.C.
- Shome, Parthasarathi. 1994. "Fiscal Federalism—Revenue, Expenditure, and Macro Management: Selected Latin American Experiences and Recent Discussions in India." International Monetary Fund, Fiscal Affairs Department, Washington, D.C.
- Tanzi, Vito. 1994. "Corruption, Governmental Activities, and Markets." IMF Working Paper 94/99. International Monetary Fund, Washington, D.C.
- . 1995a. "Basic Issues of Decentralization and the Tax Assignment." In Ehtisham Ahmad, Gao Qiang, and Vito Tanzi, eds., *Reforming China's Public Finances*. Washington, D.C.: International Monetary Fund.
- . 1995b. *Taxation in An Integrating World*. Washington, D.C.: The Brookings Institution.
- Tanzi, Vito, and Domenico Fanizza. 1995. "Fiscal Deficit and Public Debt in Industrial Countries." IMF Working Paper 95/49. International Monetary Fund, Washington, D.C.
- Tiebout, C.M. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 5(October): 416-24.

5. Once again, the experiences of Argentina, Brazil, and Italy since 1979 provide relevant examples. In these situations there are always local suppliers available to provide the services on credit or local banks willing to extend loans.

6. A good description of the revenue sharing arrangements in Argentina is provided by Liuksila (forthcoming) and by Porto and Sanguinetti (1993); for information on tax assignments in Brazil, see Bomfim and Shah (1994); for Russia, see Bahl (1994); for Colombia, see Ferreira and Valenzuela (1993).

7. In the United States special factors allow both the states and the counties or municipalities to tax global income by using information provided by the national authorities. These special factors are often missing in developing countries.

References

- Ahmad, Ehtisham, ed. Forthcoming. *Financing Decentralized Expenditure*. Aldershot, U.K.: Edgar Elgar.
- Artana, Daniel, and Ricardo López Murphy. 1994. "Fiscal Decentralization: Some Lessons for Latin America." Fundación de Investigaciones Económicas Latino Americanas, Buenos Aires, Argentina.
- Bahl, Roy W. 1994. "Revenue Sharing in Russia." Reprint Series 61. Georgia State University, College of Business Administration, Atlanta, Georgia.
- Bahl, Roy W., and Johannes F. Linn. 1992. *Urban Public Finance in Developing Countries*. New York: Oxford University Press.
- Bayoumi, Tamin A. 1992. "U.S. State and Local Government Finances over the Current Cycle." IMF Working Paper 92/112. International Monetary Fund, Washington, D.C.
- Bird, Richard. 1986. *Federal Finance in Comparative Perspective*. Toronto: Canadian Tax Foundation.
- . 1994. "Decentralizing Infrastructure: For Good or for Ill?" Policy Research Working Paper 1258. World Bank, Washington, D.C.
- Boadway, Robin, and David E. Wildasin. 1984. *Public Sector Economics*. Boston: Little, Brown, and Company.
- Boadway, Robin, Sandra Roberts, and Anwar Shah. 1994. "The Reform of Fiscal Systems in Developing and Emerging Market Economies: A Federalism Perspective." Policy Research Working Paper 1259. World Bank, Office of the Vice President, Development Economics, Washington, D.C.
- Bomfim, Antulio, and Anwar Shah. 1994. "Macroeconomic Management and the Division of Powers in Brazil: Perspectives for the 1990s." *World Development* 22 (April): 535–42.
- Brennan, Geoffrey, and James M. Buchanan. 1980. *The Power to Tax: Analytical Foundations of a Fiscal Constitution*. Cambridge: Cambridge University Press.
- CEPR (Centre for Economic and Policy Research). 1993. *Making Sense of Subsidiarity: How Much Centralization for Europe?* London: CEPR.
- Chelliah, Raja J. 1991. "Intergovernmental Fiscal Relations and Macroeconomic Management in India." Indian Institute of Public Policy and Finance, New Delhi, India.
- Commission of the European Communities. 1993. "The Economics of Community Public Finance." European Economy Reports and Studies 5. Commission of the European Communities, Brussels.
- Cremer, Jacques, Antonio Estache, and Paul Seabright. 1994. "The Decentralization of Public Services: Lessons from the Theory of the Firm." Policy Research Working Paper 1345. Office of the Vice President, Development Economics, World Bank, Washington, D.C.
- de Callatay, E., and F. Ribe. 1994. "How Intergovernmental Fiscal Relations Affect Macroeconomic Stabilization: An Overview." International Monetary Fund, Fiscal Affairs Department, Washington, D.C.
- de la Cruz, Rafael, and Armando Barrios, eds. 1994. *Federalismo Fiscal: El Costo de la Decentralización en Venezuela*. Caracas, Venezuela: Nueva Sociedad.
- Ehdaie, Jaber. 1994. "Fiscal Decentralization and the Size of Government: An Extension with Evidence From Cross-Country Data." Policy Research Working Paper 1387. World Bank, Policy Research Department, Public Economics Division, Washington, D.C.
- Ferreira, Ana María, and Luis Carlos Valenzuela. 1993. *Decentralización Fiscal: El Caso Colombiano*. Serie Política Fiscal 49. Comisión Económica para América Latina, Santiago, Chile.
- FIEL (Fundación de Investigaciones Económicas Latino Americanas). 1993. *Hacia Una Nueva Organización del Federalismo Fiscal en la Argentina*. Buenos Aires: FIEL.