Inter-American Development Bank
Banco Interamericano de Desarrollo

Office of the Chief Economist
Working paper #368

Fiscal Decentralization and Government Size in Latin America

By
Ernesto Stein

—

Inter-American Development Bank
January 1998

© 1998
Inter-American Development Bank
1300 New York Avenue, N.W.
Washington, D.C. 20577

The views and interpretations in this document are those of the authors and should not be attributed to the Inter-American Development Bank, or to any individual acting on its behalf.

The Office of the Chief Economist (OCE) publishes working paper series and books on diverse economic issues. To obtain a complete list of OCE publications, please visit our Web Site at:
http:\\www.iadb.org\oce

Fiscal Decentralization and Government Size in Latin America[1]

Introduction

Latin America has had a long tradition of centralization, which dates back to the period of colonial administration. After the independence movement, centralized fiscal structures remained in place, partly due to colonial inheritance, and partly to the need that countries had to keep distant provinces together under one power. Even today, when compared with the industrialized world, the region as a whole remains highly centralized. While, on average, subnational levels of government are responsible for over 35 percent of total government expenditure in industrialized countries, in Latin America the corresponding figure is less than 15 percent.

However, during the past decade, together with the widespread return of democracy, several countries in the region have been going through significant processes of political and fiscal decentralization. The increase in political autonomy of subnational governments is reflected in Figure 1, which shows the number of countries in Latin America in which the local government executive authorities (mayors) are elected by the local population, as opposed to appointed by the central authorities. This number has grown from 3 in 1980, to 17 in 1995.[2] The trend toward fiscal decentralization is illustrated in Figure 2, which shows the unweighted average and the median of the degree of expenditure decentralization for fourteen Latin American countries, for which data was available for 1985, 1990 and 1995. The degree of expenditure decentralization, measured as the proportion of total government expenditures executed by subnational governments, increased by 4 percentage points during the last decade.

These figures suggest that, although the region remains highly centralized, the tendency toward decentralization is quite strong: not only is a larger portion of the general government budget executed from the subnational government levels; the autonomy that these governments have in deciding how much to spend and what to spend on is increasing as well. In this context, a very important question is that of the possible effects of the move toward decentralization on fiscal performance. In particular,

---

[1]This paper draws from work on decentralization for the Report on Economic and Social Progress in Latin America (IADB, 1997), in which I participated together with Alejandro Grisanti, Moritz Kraemer, Claudia Piras, Arnaldo Posadas and Ernesto Talvi. I am grateful for their input into this paper. All errors, of course, are mine.

[2]In six other countries, mayors are elected by the municipal councils, which in turn are elected by the population.

in this paper we will concentrate on the effects on government size.[3]

In contrast to the OECD countries where government size has experienced continuous growth in the last 35 years, reaching on average 49% of GPD in 1995, its evolution has been uneven in Latin America. After very rapid growth grew through the seventies and early eighties, the size of governments in Latin America declined significantly in the late eighties following the debt crisis, and has remained fairly stable since the beginning of the nineties. The average size of government --as measured by the expenditures of the consolidated public sector-- stands today at 28% of GDP.[4] There are, however, very wide differences across countries in this respect. Government size ranges from 12% of GDP in Guatemala and Haiti to numbers in excess of 40% of GDP in Belize, Guyana, Nicaragua and Suriname. The average government expenditure of the consolidated public sector for each country in 1990-95 is presented in Figure 3.

The rationale for decentralization is not generally one of improving fiscal discipline or reducing the size of government. Out of the three functions into which government activities are typically divided for conceptual purposes —the stabilization function, the redistribution function, and the allocation function— it is in the last one where most benefits of decentralization emerge. Most authors agree that there are serious limitations regarding the ability of subnational governments to provide stabilization and redistribution services. With regard to allocation, decentralization can allow a closer match between the preferences of the population and the bundle of public goods and services chosen by government. If preferences are heterogeneous across jurisdictions, the decentralized decision maker can tailor the bundle of goods and services, in particular those whose benefits are geographically concentrated, to better suit the preferences of the population, instead of providing a "one size fits all" bundle for the country as a whole.[5] While this effect of decentralization may have a very important impact on the efficiency with which public monies are spent, it does not have a clear effect on

---

[3]We could have focused, instead, on the effects of decentralization on government deficits, rather than the size of government. As we will see, however, the main channels we identify below through which decentralization can affect fiscal performance variables are more naturally linked to the size of government than to deficits. Nonetheless, we also tested for the effects of decentralization on deficits, but failed to find any significant effects.

[4]Given the lack of coverage of existing sources for public sector data, we use a database which was constructed based on the Recent Economic Development reports of the IMF, for 26 countries in Latin America and the Caribbean (See Stein, Talvi and Grisanti (1997) and IADB (1997)).

[5]See Oates (1972) for a very comprehensive treatment of the case for decentralization.

aggregate fiscal performance variables such as government size and deficits. Decentralization, however, can potentially have important effects on aggregate fiscal performance, because it can affect the degree to which government decisions are subject to agency problems, and to coordination problems.

Before discussing the different channels through which decentralization can affect the size of government, it is important to point out that the issue of decentralization is a very complex one, involving a variety of dimensions: the assignment of expenditure and revenue responsibilities among different levels of government, the degree of political autonomy enjoyed by lower levels, the nature of intergovernmental transfers, and the degree of borrowing autonomy granted to lower level governments. It is not only the degree of expenditure decentralization, the most used decentralization variable, that may have an impact on aggregate fiscal performance. The way in which intergovernmental fiscal relations are organized, i.e., the way in which the different dimensions of decentralization are combined, may have an impact as well.

Decentralization and agency

Decentralization can contribute to contain agency problems through different channels, by introducing elements of competition which increase the incentives of governments to do the right thing. If there are democratic institutions at the subnational levels, and these work fairly well, decentralization increases the visibility and accountability of government actions, and endows voters with more power to discipline public officials when they are acting according to self-interest.[6] The local population will be in a better position to discipline local public officials, rather than lower level bureaucrats of the central government which, under centralization, would be responsible for similar tasks. To the extent that local services are financed by the jurisdiction's own revenues, so there is a close link between the benefits provided by these services and the costs to the local tax-payers, citizens will have strong incentives to monitor the local authorities closely. Thus, decentralization can lead to higher civic participation, and to better citizen control over the actions of the public officials. If in fact public officials have a preference for large governments, then decentralization could, through this channel, lead to smaller governments.

---

[6]If local democracies do not work well, however, decentralization could lead to capture of the local governments by special interest groups, clientelistic relationships between elected officials and powerful minorities, and other forms of corruption (See Prud'homme (1995) and Tanzi (1995)).

There is some evidence that suggests that increased political participation is associated to smaller governments. Pommerhenne and Schneider (1983) have explored the impact of direct democracy on government size for a sample of Swiss Cantons. Cantons that practice direct democracy, as opposed to representative democracy, have other things equal smaller governments. This evidence is illuminating since, in the absence of agency problems, one might expect decentralization and increased participation to have the opposite effect on government size. The argument has been made in Oates (1985), and goes as follows: under decentralization, and in particular in cases where civic participation is high, the preferences of the population will be better taken into account than under centralization, provided preferences within jurisdictions are more homogeneous than preferences across jurisdictions. If this is the case, it makes sense for people to entrust the government with more tax resources, since they know these resources are going to be spent in a way that closely matches their preferences.[7] Under this public-interest view of government, then, decentralization would lead to larger governments, although in this case the increase in the size of government would obviously not be welfare-reducing.

Is Oates' argument incompatible with the evidence mentioned above? Not necessarily. Let us assume that, as in the Brennan and Buchanan view, public officials have a preference for larger government. In this case, a higher degree of participation (the highest possible being direct democracy) could have two different effects: on the one hand, it would increase the control of the population over the actions of the public officials, reducing the agency problem. This ensures that the *actual* size of the government will be closer to the population's *desired* size. But at the same time, it may increase the population's *desired* size, as suggested by Oates. Therefore, the effect on *actual* government size of an increase in political participation will be ambiguous.

But there are other ways in which decentralization, by inducing competition, may reduce agency problems. Brennan and Buchanan (1980) have depicted the government as a monolithic "Leviathan" seeking to maximize revenues by exploiting its monopoly power over the tax base. Under decentralization, mobility across jurisdictional borders assures some degree of competition for the tax base among governments, who compete to lure taxpayers into their territory by providing a more attractive fiscal bundle. This competition imposes constraints on the fiscal appetite of governments. In this way, mobility of individuals across jurisdictions brings the market for public goods and services

[7] Oates actually attributes this argument to John Wallis.

closer to the "perfectly competitive" outcome. An important implication of the Leviathan hypothesis, then, is that "total government intrusion into the economy should be smaller, *ceteris paribus*, the greater the extent to which taxes and expenditures are decentralized" (Brennan and Buchanan, 1980, p.15). Naturally, this argument should be more powerful in societies where mobility of individuals across jurisdictions is high (as is the case in the U.S.), and less so in societies where mobility of individuals accross jurisdictions is smaller, as is probably the case in most of the Latin American countries considered in this study.

Several authors have tested the "Leviathan" hypothesis, with diverse results. The original test was performed by Wallace Oates (1985), who explored the relationship between decentralization and government size for a cross-section sample of 43 countries, as well as for the U.S. states, finding no support for the Leviathan hypothesis. More recent studies such as Marlow (1988), Grossman (1989), and Ehdaie (1994) do find support for the Leviathan. While Marlow and Grossman use a time-series approach for the US, Ehdaie explores the hypothesis in a cross section of 30 countries.[8]

The studies by Grossman and Ehdaie are particularly interesting, since they explicitly explore Brennan and Buchanan's caveat that the possibility of collusion among different units of government should be included among "other things equal."[9] Collusion, in this framework, is given by tax-sharing arrangements among different units of government. Consider a country where expenditures are fairly decentralized, but the central government collects all the taxes, which are then shared with lower level governments. This form of decentralization would not be constraining the monopoly power of the taxing authority, since it introduces no competition for the tax base. To control for the possibility of collusion, Grossman includes in his analysis a variable which captures the degree of vertical fiscal imbalance of state and local governments: the share of grants-in-aid in their total receipts. He finds that the larger the share of grants, the larger the government, lending support to the hypothesis that decentralization can restrain the behavior of revenue-maximizing governments, but tax-collusion can weaken this restraint. In contrast to Grossman's findings, in Ehadie (1994) the collusion variable does not have significant effects.

[8] Forbes and Zampelli (1989) and Zax (1989) studied the Leviathan hypothesis at the county level in the US. Here, again, the evidence is mixed.

[9] See Brennan and Buchanan (1980, p.185)

In summary, there are two potentially important channels through which decentralization could lessen the effects of agency problems, thus reducing the size of government.[10] The first one involves increased political competition and participation. The second one involves tax competition. Interestingly, while through these two channels decentralization will presumably have constraining effects on the size of government, these effects could disappear if the degree of revenue decentralization is much smaller than that of expenditure decentralization, i.e., if there is a large degree of vertical fiscal imbalance. In the first case, because the incentives for the population to closely monitor the performance of the local public officials will be much greater if the local government expenditures are financed through local taxes. People will be very interested in ensuring that the government does a good job in spending their money. They may be less concerned about the efficiency with which the government is spending other people's money (such as that which is transferred from the central government). Similarly, the degree of tax competition does not really increase if expenditures are decentralized, while revenues stay concentrated in the hands of the central government, who then shares the taxes with lower level governments via transfers.

Decentralization and the problem of the commons

The control of the Leviathan has been the most widely studied link between decentralization and the size of government. Another important way in which decentralization could affect government size is through its effect on the problem of the commons. This problem arises due to an important characteristic of many government programs: while they tend to generate benefits which are concentrated geographically (or sectorally), they are often financed from a common pool of resources. Under some institutional arrangements regarding the process of fiscal decision-making, this can lead to overutilization of the common pool of resources, as those who benefit from the programs fail to internalize their full cost. Weingast, Shepsle and Johnsen (1981), for example, have studied the commons problem at the level of the legislature, showing how it can lead to excessive spending due to the geographical interests represented by the legislators. Concentrating fiscal decisions in one central figure such as the Finance Minister, who typically responds to general interests rather than to geographical or sectoral interests, should reduce the extent to which fiscal decisions are subject to the commons problem.[11]

---

[10] As we mentioned in the introduction, neither of these channels should be expected to affect deficits.

[11] For models of the commons problem at the level of the cabinet, see Velasco (1994) and von Hagen and Harden (1995).

How does decentralization affect the degree to which an economy is subject to the commons problem? Consider first a country where all government programs with national benefits (such as defense and foreign relations) are centralized, while all programs with local benefits are decentralized. Assume also that all local programs are financed with local revenues. In such an ideal case, decentralization would reduce the problem of the commons to a smaller local game, since there are no programs with local benefits financed with national resources. Local authorities would not have incentives to overexpand the budget, since they cannot shift the costs of government programs onto others outside their jurisdiction.

However, the ideal case depicted above is quite far from the reality of most countries: decentralization is typically much higher in the expenditure dimension than in the revenue dimension. Inherent to the decentralization process is the following asymmetry: on the expenditure side, there are a large number of important "local" public goods and services which are in principle better provided by lower level governments. On the revenue side, however, finding good tax bases for state and local governments is a difficult task. Taxes that are perfectly suitable to be applied at the national level can, because of mobility, introduce serious distortions and locational inefficiencies when applied in a decentralized fashion. Equity considerations and economies of scale in tax administration further limit the set of "good" tax bases to be assigned to lower level governments.[12] This asymmetry between expenditure responsibilities and revenue capacity at the subnational level generates a gap, known as vertical fiscal imbalance, which is typically bridged through the use of transfers from the central government.

The problem is that heavy reliance on transfers, unless these are very clearly defined, with resources allocated according to objective criteria which cannot be easily manipulated by recipient governments, and with little room for discretionality and bargaining between the different levels of government, may weaken the budget constraints of the subnational governments. When this happens, there is scope for lower level governments to shift the cost of local programs onto others outside the jurisdiction, which constitutes the basis of the commons problem. This problem may become even more serious in cases where subnational governments have a large degree of borrowing autonomy, in particular if the central government finds it difficult to commit not to bail them out in case of financial trouble. In this case,

[12] On the problem of tax assignment among levels of government, see for example Musgrave (1983), Shah (1994), Oates (1994) and Norregaard (1997)

subnational governments may overborrow and overspend, and then shift the burden onto the central government.

The problem of the commons for the fiscal federalism case, where there are multiple layers of government, and the related problem of bailouts of lower level governments has been receiving increased attention in recent years, in part as a result of the advance toward monetary integration in the European Union. In fact, one of the most important arguments in favor of the controversial fiscal constraints included in the Maastricht criteria is the potential for bailouts (or inflationary financing of deficits) by a European Central Bank.

There are several versions of the problem, which introduce different forms of interaction between the central government and the lower level jurisdictions, or among these jurisdictions, which result in different sources of coordination problems. For example, Canzoneri and Diba (1991), who study the effects of financial integration in the European Union and explore the rationale for fiscal constraints, assume that countries decide on their expenditures independently, and do not take into account the effect of their own spending on the common interest rate. This leads to overspending. Under certain conditions, they show that governments may also compete for Central Bank seignorage, which exacerbates the incentives to overspend. Sanguinetti (1994), who studied the problem of the commons associated to decentralization in Argentina, compares the uncooperative (decentralized) solution with the cooperative (centralized) solution, where all externalities are internalized. In his uncooperative case, he assumes that each jurisdiction can in effect decide over the size of the transfer they receive from the central government. This assumption, which at first sight may seem somewhat unrealistic, is similar to the one made by Weingast, Shepsle and Johnsen (1981) in their influential paper about pork barrel projects. In their work, each jurisdiction defines the size of their project, and then Congress validates these demands. This feature of the model is justified by the authors on the basis of evidence on the prevailing practices of universalism (by which every jurisdiction receives a project) and reciprocity (by which even those who do not benefit from a program support it in exchange for reciprocal support by other districts).

Persson and Tabellini (1994) present a different kind of model, but with similar results.[13] They assume, following work on political economy of trade policy by Grossman and Helpman (1994), that instead of being able to completely control transfers sent to them, the jurisdictions will bribe the federal decision-makers to obtain a larger amount of common resources. As a result, the size of government ends up being too large.[14]

As we discuss the different variables that characterize the nature of intergovernmental relations in Latin America, including the nature of transfers, the degree of borrowing autonomy enjoyed by the lower level governments, and the commitment capacity of the federal government in terms of a no- bailout rule, we will see that while the Persson and Tabellini (1994) story seems more appropriate for some intergovernmental arrangements, the Sanguinetti (1994) story seems more appropriate for others.

Decentralization in Latin America[15]

In this section, we will characterize the extent and nature of decentralization in Latin American countries, based on the following four variables:

a) the degree of expenditure decentralization

b) the degree of vertical fiscal imbalance

c) the degree of discretionality in the transfer system

d) the degree of borrowing autonomy of state and local governments

Most of the data was obtained from a decentralization survey conducted at the IADB, which was responded by government officials in 20 countries in the region. Where data needed to calculate expenditure decentralization or vertical imbalance was missing from the survey, we relied on a variety of country studies to fill in the blanks.

---

[13] For other formalizations of coordination or bailout problems applied to decentralization see Gamboa (1995), Wildasin (1997) and Barrow (1986).

[14] Different authors endow different meanings to the centralization and decentralization labels. Persson and Tabellini (1994) use the term "centralization" to depict the situation where revenues are centralized, and local programs for each jurisdiction (which one could also interpret as transfers) are chosen by the federal government, as a function of the "compensation" schedule offered by the different jurisdictions. In their "decentralized" case, all expenditures are decentralized, and are financed with local revenues. The main difference among these two situations is given by the centralization or decentralization of the revenue sources. In Sanguinetti (1994), in contrast, the revenue sources in his cooperative and uncooperative regimes are national, and the difference pertains to which level of government determines local expenditure.

[15] This section draws heavily on Stein, Talvi and Grisanti (1997)

a) The degree of expenditure decentralization

In spite of recent trends toward decentralization in several countries, Latin America is still characterized by a high degree of centralization. Figure 4 shows the degree of decentralization, measured as the percentage of total government spending executed by state and local governments, in countries in Latin America and the Caribbean. For the sake of comparability, we included in the figure the average degree of decentralization for the countries in the OECD. As we mentioned in the introduction, the difference between the two sets of countries is substantial. Perhaps more important for the purposes of our paper, the figure also shows the wide variety of experiences in the region regarding the degree of decentralization. While in most countries less than one government dollar out of ten is spent by subnational governments, there are others, particularly Argentina, Brazil and Colombia, that are quite decentralized.[16]

b) The degree of vertical fiscal imbalance

The problem of decentralization goes beyond the assignment of expenditure responsibilities among the different levels of government, according to the level which, given the characteristics of each public good or service, will be in a better position to provide it efficiently. How the provision of these services by each level are financed is a crucial dimension of decentralization. The literature on fiscal federalism offers important guidance on the issue of tax assignment. In a nutshell, subnational governments should avoid collecting taxes on mobile tax bases, redistributive taxes, taxes which are liable to be exported to other jurisdictions, taxes on unevenly distributed tax bases, those subject to large cyclical fluctuations, and those that involve significant economies of scale in tax administration, or that require information at the national level. All these taxes, for efficiency or equity considerations, should ideally be left to the central government.

It should be clear from the above list that the conditions for a tax to be a "good" local tax are rather restrictive. As a result, the potential revenue from the tax bases that can efficiently be exploited locally, which include property taxes, vehicle taxes and user charges, is more limited than the spending obligations typically assigned to subnational governments in decentralized economies. For this reason, decentralized countries often end up having a large degree of vertical imbalance, which is generally

---

[16]Probably the most important determinant of decentralization is country size. The political organization of government (unitary or federal) is also important. Federal countries, indicated in the figure by grey bars, are typically more decentralized than unitary ones.

bridged through the use of central government transfers. The degree of vertical imbalance for each country in Latin America is presented in Figure 5. For comparison, we included in the figure the average for the OECD countries.[17]

Two things can be concluded from the figure. The first is that vertical imbalance in the region is higher than that in industrialized countries. While the average fiscal imbalance for countries in Latin America is 52%, that in OECD countries is 42%. The second is that, within our region, the degree of vertical imbalance varies substantially from country to country. Among decentralized countries, the difference in vertical imbalance between Latin America and the OECD seem to be even greater. This suggests that finding good tax bases to assign to subnational governments is more difficult in the case of developing countries.[18]

The high degree of vertical imbalance in decentralized countries in the region creates potential for a commons type problem to develop, in particular when combined with highly discretional transfer systems, or a large degree of borrowing autonomy at the subnational level.

c) Discretionality in the transfer system.

Vertical imbalances are mostly covered through transfers from the central government. There are many important angles to the design of intergovernmental transfers. Given the scope of our paper, here we concentrate on just one which, we believe, may have an important impact on aggregate fiscal performance: the degree to which transfers are discretional. The issue is potentially important, since more than a third of the transfers in Latin America are discretional in nature.[19]

Transfers can be discretional in terms of the determination of the total amount to be transferred, or with respect to the allocation. Transfers which are discretional in both dimensions leave the central government a lot of flexibility to determine the amount to be transferred, and to direct resources to

---

[17]The measure of vertical imbalance is defined as the ratio of intergovernmental transfers from the central government, including tax sharing, over total revenues (own plus transferred) of the subnational level.

[18]While we do not find a clear association between decentralization and vertical imbalance in our sample of Latin American countries, other authors report finding a positive association for developing countries. Using a larger database Kim (1995) finds that, in developing countries, vertical imbalance increases with decentralization, and Bahl and Linn (1992) find a similar pattern in a sample of city governments. Their evidence suggests that, in the developing world, countries that go through a process of decentralization will tend to worsen the vertical imbalance.

[19]See IADB (1997), table 3.4, p. 169.

the jurisdictions with the greatest needs. But for the same reason, unless the central government is very strong vis a vis the subnational governments, they are more likely to result in soft budget constraints for the subnational governments, and thus do not provide adequate incentives for fiscal responsibility. Our view is based on the belief that, under discretion, transfers will tend to be allocated to those jurisdictions that are in financial strain, or simply have a gap between their expenditures and their available resources.

A subnational government could spend excessively, declare that it has no money to pay salaries of public employees, and ask the central government for a bailout. They could cast the blame on the central government, claiming that they did not get their fair share to begin with. It may be more difficult for the central government to commit not to extend a supplementary transfer to subnational governments when they have the discretion to do so, compared to a rules-based approach given by predetermined formulas. If commitment on the part of the central government is weak, the different jurisdictions will feel that they can shift part of the costs of the programs they undertake onto the rest of the country. In this case, subnational governments may spend beyond their means, and then receive ex-post transfers from the central government. This can lead to excessive spending.

Alternatively, discretional transfers could be allocated according to political considerations. For example, they could be used as retribution for favorable votes by the district's representatives in Congress. In this case, a system with discretional transfers would correspond quite well to what Persson and Tabellini consider the "centralized" case, where districts have to bribe the federal authorities in order to obtain a larger transfer.

In some cases, the total pool of the transfer is defined in an ad-hoc way, but the allocation follows a pre-specified formula. In such cases, the different jurisdictions will probably bargain with the central government for an increased pool, but the expected returns from this process are smaller than under full discretion, as they will only receive a small part of any increase in the total transfer. In very few cases, discretionality applies to the allocation, but not to the total amount. If these transfers are small, the consequences for aggregate fiscal performance will not be too large. However, they may not generate the right incentives for fiscal discipline, at least in the smaller jurisdictions, as the transfer may

still be large compared to the budgets of some of them.[20]

Figure 6 shows the extent to which the transfer systems in each country is characterized by discretionality, both in the determination of the total pool, and its allocation. The source for this information is our survey, which provided us with data on the most important transfers, including the method of determination of the total pool, of the allocation among the different jurisdictions, and the total amount corresponding to each transfer in 1995.[21]

While there are many countries where discretionality does not play a role, there are several where discretional transfers represent a significant part of total transfers, and a few, in particular Trinidad and Tobago and Peru, where all transfers are discretional. An index of discretionality of transfers will be later used in the regressions for the size of government, as part of a measure of soft budget constraints.

d) Subnational government borrowing autonomy

The rules regarding borrowing by subnational governments in Latin America vary considerably from country to country. Borrowing autonomy, like discretional transfers, can potentially lead to soft budget constraints for the subnational governments. At the heart of the issue is a commitment problem: it is often very difficult for central governments to commit not to bail out state and local governments when they are in financial trouble.

A case can be made for state and local governments to have some capacity to borrow. Because the benefits of investments such as schools or roads are spread over time, it makes sense to borrow (at least to some extent) so that payments are spread over time as well, rather than have the current taxpayers foot the whole bill today. However, state and local governments should not borrow past the point where the rate of return (economic and social) on the marginal investment project to be undertaken with the borrowed funds is equal to the interest rate. These governments, however, might want to borrow beyond this point if they think they can shift part of the cost of repayment onto others outside the jurisdiction. Moreover, when the risk of bailouts exists, markets are clearly not an adequate

[20] An example of these are the Aportes del Tesoro Nacional in Argentina. They are a small portion of total transfers, but represent la large share of the revenue sources of some of the smaller provinces.

[21] The figure excludes those countries for which we did not have complete information on the amounts transferred, such as Brazil, Paraguay and Uruguay.

disciplining device. If a lender expects the central government to bailout the local governments in the case of default, they will gladly accommodate the borrower.[22] In this case, constraints on subnational government borrowing may be the right policy.[23]

What determines the ability of central governments to commit not to bailout local governments? Eichengreen and von Hagen (1996) have argued that an important factor is the degree of vertical imbalance. If the subnational governments have robust tax bases available to them, and generate a large part of their revenues themselves, central governments will find it easier to ask them to bear the cost of adjustment in case of financial difficulties. If, in contrast, subnational governments have weak tax bases, and most of their resources are transfers from the central government, it will be very costly for the subnational government to resolve the crisis by itself, and therefore it will become difficult for the central government not to extend a bailout. This idea has been used by these authors to argue against the need for numerical fiscal constraints in the European Union.[24]

Another factor that affects the degree of commitment of the central government is the existence of public banks owned by subnational governments. In cases where the subnational governments own banks, often these banks are the primary source of government debt. Particularly in the case of large jurisdictions, it might be difficult for the Central Bank not to rescue a financially troubled state bank, since failure to do so might result in a widespread bank run. Knowing this, state banks and governments may not be facing hard budget constraints. Central bank bailouts to state banks that are "too big to fail" have been important in some of the larger Brazilian states, such as Sao Paulo and Rio de Janeiro.[25]

In cases where subnational governments have a large degree of borrowing autonomy and the federal government cannot commit to a no-bailout rule, the assumption in Sanguinetti (1994) that subnational

[22]Lane (1993) and Ter-Minassian and Craig (1997) discuss the conditions under which market discipline can be effective.

[23]See Ter-Minassian (1995) for a description of different types of arrangements regarding subnational government borrowing, and their effectiveness.

[24]Probably what matters is not just vertical imbalance, but also the capacity of subnational governments to decide on issues of tax policy. There are several countries where subnational governments collect important taxes, but do not control tax rates or the tax base. An example is Colombia.

[25]See Wildasin (1997) for a model of bailouts that delivers the "too big to fail" result, in the presence of important inter-jurisdictional externalities.

governments get to choose their own transfers may not be that unrealistic.

The previous discussion has focused on the conditions for borrowing autonomy to be problematic. We will now focus on the extent to which there is borrowing autonomy at the subnational level in Latin American countries. For this purpose, we obtained through our survey detailed information on a variety of aspects that can affect the degree of borrowing autonomy. The first four aspects relate to constraints on subnational borrowing. Are subnational governments allowed to borrow at all? To what degree is the borrowing decision autonomous, and which level of government has to authorize borrowing operations? Are there numerical constraints on borrowing by subnational governments, and what do they consist of? Are there limitations on the use of debt by these governments? (For example, limits such as the "golden rule", which limits borrowing to investment purposes). The last two aspects relate to borrowing practices which might weaken these constraints: Do subnational governments own banks, and are these important? Do they own public enterprises with liberal borrowing procedures? Table 1 summarizes the information gathered for each country.[26]

Taking into account all the aspects mentioned above, we built an index of borrowing autonomy at the subnational government level for the countries in Latin America and the Caribbean. Obviously, countries where subnational governments cannot borrow have 0 autonomy. Out of the other criteria, higher weights were given to the issue of bank ownership by subnational governments, and the issue of government authorization. The values of the index (which has a maximum of 4 points) for each of the countries are presented in figure 7:[27]

These four variables, expenditure decentralization, vertical imbalance, discretionality in the transfer system and borrowing autonomy characterize the extent and nature of decentralization in the region. In the next section, we will explore the impact that combinations of these variables have on the size of government.

Decentralization and the size of government

Most of the empirical work linking decentralization and government size, starting with Oates (1985)

[26]More detailed and complete information is available upon request.

[27]For a detailed explanation of the formula used to construct the index, see IADB (1997).

attempts to examine Brennan and Buchanan's Leviathan hypothesis. Instead, the main channel that we have in mind when exploring the relationship between these variables is the potential of decentralization to aggravate the commons problem. We should note, however, that our purpose is not that of testing a well specified theory of decentralization and government size, but rather to uncover some interesting stylized facts regarding the relationship between these variables.

What impact would we expect our variables to have on the size of government? Let us begin with expenditure decentralization. Our discussion suggests that decentralization could reduce government size if the degree of vertical imbalance is low, but increase it if the degree of vertical imbalance is large. So the theory behind the commons problem does not give us a clear prior of what to expect in terms of the pure effect of the degree of expenditure decentralization on government size.

The expected effects of vertical imbalance are more clear-cut. The larger the degree of vertical imbalance, the larger the potential for a commons problem, since a large vertical imbalance increases the incongruence between those who benefit and those who pay for government programs. However, we do not expect this effect to be the same for countries with different degrees of decentralization. For example, in a country where 95 percent of government spending corresponds to the central government, we would not expect large differences in government size, whether the remaining 5 percent spent at the local level is financed with own revenues, or through central government transfers. In contrast, vertical imbalance is expected to have a larger impact in cases where the extent of expenditure decentralization is larger. For this reason, rather than exploring the effects of vertical imbalance alone, we will instead consider the product of decentralization and vertical imbalance as an explanatory variable. This product represents the extent to which there are government programs characterized by local benefits (and provided by the local governments) which are financed out of national taxation.

Finally, we also want to capture in some way the effect of having hard or soft budget constraints at the subnational level. Following the arguments in Eichengreen and von Hagen (1996), we use the product of vertical imbalance and borrowing autonomy as an indicator of soft budget constraints. We expect, then, that the product of vertical imbalance and borrowing autonomy will have a positive impact on government size. This impact, however, should be larger the larger the degree of decentralization. For

this reason, we will explore the impact of the product of these three variables on government size. This triple product, we believe, is the variable which captures more fully the likelihood that decentralization will result in a commons problem. As an alternative, we used the degree of discretionality in transfers in place of borrowing autonomy, to capture the stringency of the budget constraints. One drawback of discretionality is that data is available for a smaller set of countries, because a few of them did not report the value of each of its transfers, a necessary ingredient to calculate this variable.

Since we only had cross-sectional data for 20 countries in Latin America and the Caribbean, we obviously face a problem of lack of degrees of freedom. For this reason, we added to the sample the countries in the OECD.[28] Table 2 presents the results of our regressions for our sample of Latin America and OECD countries. The dependent variable is the size of the public sector, averaged between 1990 and 1995. As control variables, we used the level of public debt in 1989, the degree of openness of the economy, measured as the share of exports plus imports over GDP, and the share of the population over 65 years of age.[29] Initial public debt is expected to have positive effects on total public expenditures through its effect on interest payments. Openness is expected to have positive effects on the size of government, following recent findings by Rodrik (1996).[30] The age variable is expected to have positive effects as well, through its effect on the social security sector. All control variables have the expected sign, and are significant in most regressions.

The degree of expenditure decentralization has a positive effect on the size of government. These effects appear to be quite large: if the difference between two countries in terms of the degree of decentralization is 20 percentage points, the more decentralized one is expected to have, on average, a government sector which is four percentage points of GDP larger than in the less decentralized country.[31] As we expected, the product of decentralization and vertical imbalance has positive and

---

[28]Data on decentralization and vertical imbalance for the OECD countries was obtained from the IMF Government Financial Statistics (1996). Data on the size of the public sector comes from OECD National Accounts (1996). Data on borrowing autonomy was kindly provided by Jurgen von Hagen.

[29]As an alternative to the age variable, we also performed another set of regressions using per capita GDP as a control variable. These two variables are highly correlated, as countries with higher per capita income are those with a larger share of older population reason. The reason we use the age variable in our main regressions is that when both variables were included together, in most regressions the per capita income variable loses significance, while the age variable remains significant at the 1 percent level.

[30]Rodrik argues that the explanation for this empirical regularity is that open economies are exposed to significant external risk, and that a large government sector reduces the exposure to this risk.

[31]Similar results were obtained when GDP per capita was used as a control variable, instead of the age variable.

significant effects on government size. This means that decentralized countries with a high degree of vertical imbalance have, on average, larger governments.

The interaction between decentralization, vertical imbalance and borrowing autonomy also has the expected sign, and is highly significant for the case of Latin America.[32] We should note that, for this variable, we allowed different coefficients for Latin America and the OECD. The reason is that the measure of borrowing autonomy is not perfectly comparable across regions. In contrast to the Latin America results, the effects are positive but not significant in the case of the OECD countries. If we include in the analysis both expenditure decentralization and the triple interaction term, decentralization loses significance. This suggests that, although decentralization matters, whether intergovernmental fiscal relations are structured in a way which promotes fiscally responsibility matters even more. Results are similar when discretionality in transfers is used instead of borrowing autonomy as an indicator of soft budget constraints, for the case of Latin American countries.[33]

It could be argued that these results could be due in part to differences across regions, rather than differences across countries in Latin America. In fact, OECD countries have larger public sectors, and they also tend to be more decentralized. In order to check this, in Table 3 we present the results of our regressions when only Latin American countries are included, even though we realize that we are seriously lacking in terms of degrees of freedom. The results are even stronger, with most decentralization variables significant at the 1 percent level, whether the age variable or per capita income are used as controls.[34]

Concluding Remarks

Decentralization has the potential to improve on resource allocation by bringing fiscal decisions closer to voter preferences. It can also improve on the agency problem by making governments more

[32]Argentina is an outlier in regressions (5) through (8), and was excluded from the sample. In this country, the size of government is much smaller than would be predicted according to variables in the regression. A possible interpretation for this is that the 1991 Convertibility Law increased the commitment of the central government not to bail out provinces in financial trouble, as it restricts the ability of the Central Bank to increase the monetary base without backing of international reserves. In fact, the central government extended extraordinary transfers to provincial governments in 1989 and 1990, but has not done so since 1991. In this case, then, the product of vertical imbalance and borrowing autonomy may be underestimating the stringency of the budget constraint.

[33]Our budget constraint variables kept the correct sign, but lost significance when GDP per capita was used instead of the age variable.

[34]We also performed our regressions using a different definition of government size, one that excludes interest payments and the social security sector. In this case, the age variable and the initial debt variable were dropped as controls, and we obtained qualitatively similar results.

accountable. However, by creating the possibility of interaction between different jurisdictions, decentralization may give rise to potential coordination problems which may manifest themselves in soft budget constraints. In this paper, we have analyzed the impact of decentralization and the nature of intergovernmental relations on government size, for the case of Latin America. We have found that decentralized governments tend to be larger. This result is consistent with different interpretations. One of them is that because local governments can be trusted to deliver public goods that are more in line with voter preferences, they are given more resources to manage. Hence, this result per se is no indication of inefficiency.

However, we have also found that the form that decentralization takes also affects size. In particular, arrangements that are more likely to lead to soft budget constraints seem to be associated with larger size. This evidence is a clearer indication of political distortions at work. Our findings suggest that countries that want to advance in the process of decentralization should make sure that the form that decentralization takes is not inconsistent with the objective of imposing hard budget constraints on lower level jurisdictions. This may be done by limiting the degree of vertical fiscal imbalance, assigning to the lower levels all the revenue bases they can efficiently collect, by reducing the degree of discretionality in the intergovernmental transfer system, and by limiting the degree of borrowing autonomy of subnational governments.

References

Bahl, R. and Linn, J. 1992. *Urban Public Finance in Developing Countries*. Washington D.C.: World Bank.

Barrow, M (1986), "Central Grants to Local Governments: A Game Theoretic Approach", *Environment and Planning C: Government and Policy*, Vol. 4, 155-164.

Brennan, J.and Buchnan, J. (1980) *The Power to Tax: Analytical Foundations of a Fiscal Constitution*. Nueva York: Cambridge University Press.

Canzoneri, M. and Diba, B (1991). "Fiscal Deficits, Fiscal Integration, and a Central Bank for Europe", *Journal of the Japanese and International Economics*, 5, PP. 381-403.

Ehadie, J. (1994), "Fiscal Decentralization and the Size of Government", Policy Research Working Paper No. 1387, World Bank.

Eichengreen and von Hagen (1996), "Federalism, Fiscal Restraints and European Monetary Union", *American Economic Review*, 86 (2), May.

Forbes, K. and Zampelli, E (1989) "Is Leviathan a Mythical Beast?", *American Economic Review*, 79.

Gamboa, R. (1995), "Fiscal Federalism in Mexico", Ph.D. Thesis, University of California, Berkeley.

Grossman, G. and Helpman, E. (1994) "Protection for Sale", *American Economic Review*, Vol 84, No 4 (September).

Grossman, P. (1989), "Fiscal Decentralization and Government size: An Extension", *Public Choice*, 62.

IMF (1996), *Government Financial Statistics*.

Inter-American Development Bank (1997) "Fiscal Stability with Democracy and Decentralization", Part 3 of Report on Economic and Social Progress in Latin America, Washington D.C.: Johns Hopkins University Press for the Inter-American Development Bank.

Kim, S. (1995), "Fiscal Decentralization, Fiscal Structure and Economic Performance: Three Empirical Studies," PH.D. Dissertation, University of Maryland.

Lane T. (1993), "Market Discipline", *International Monetary Fund Staff Papers*, 40 (1), March, p 53-88.

Marlow (1988) "Fiscal Decentralization and Government size", *Public Choice*, 56.

Musgrave, R. (1983). "Who Should Tax, Where, and What?", in McLure Jr. C. (ed.) *Tax Assignment in Federal Countries*. Canberra: Australian National University Press.

Norregaard, J. (1997) "Tax Assignment", in T. Ter-Minassian (ed.), *Fiscal Federalism in Theory and Practice,* International Monetary Fund, forthcoming.

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

Oates, W. (1985). "Searching for Leviathan: An Empirical Study," *American Econmic Review*, 75, 748-57

Oates, W. (1989). "Searching for Leviathan: A Reply and Some Further Reflections," *American Econmic Review*, 79, 578-83.

Oates, W, (1994). "Federalism and Government Finance, " in J. Quigley and E. Smolensky, eds., *Modern Public Finance*. Cambridge, Mass.: Harvard University Press.

OECD (1996) *National Accounts*.

Persson, T. and Tabellini, G. (1994) "Does Centralization Increase the Size of Government?", *European Economic Review*, 38, 765-773.

Pommerhene, W. y F. Schneider (1983) "Does Government in a representative Democracy Follow a Majority of Voter's Preferences? An Empirical Examination: in H. Hanusch, ed. *Anatomy of Government Deficiencies***,** Berlin: Springer, 61-84

Prud'homme, R. (1995) "On the Dangers of Decentralization," *The World Bank Research Observer*, Voln 10, No. 2.

Rodrik, D. (1996), "Why do More Open Economies Have Bigger Governments?", NBER Working PaperNo. 5537, April.

Sanguinetti, P. (1994), "Intergovernmental Transfers and Public Sector Expenditures: A Game Theoretic Approach", Estudios de Economía, Vol. 21, No. 2, December.

Shah, A. (1994) "The Reform of Intergovernmental Fiscal Relations in Developing and Emerging Market Economies", Policy and Research Series, 23, World Bank.

Stein, E., Talvi, E, and Grisanti, A. (1997) "Institutional Arrangements and Fiscal Performance: The Latin American Experience", unpublished.

Tanzi, V. (1995) "Fiscal Federalism and Decentralization: A review of Some Efficiency and Macroeconomic Aspects." In World Bank Annual Conference on Development Economics, Washington, D.C.

Ter-Minassian, T. and Craig, J. (1997), "Control of Subnational Government Borrowing", in T. Ter-Minassian (ed.), *Fiscal Federalism in Theory and Practice,* International Monetary Fund, forthcoming.

Ter-Minassian, T. (1995) "Borrowing by Subnational Governments: Issues and Selected International Experience." Mimeo, International Monetary Fund.

Velasco, A. (1994) "A model of Endogenous Fiscal Deficits and Delayed Fiscal Reforms", unpublished.

Von Hagen, J. and Harden, I. (1995) "Budget Processes and Commitment to Fiscal Discipline", European Economic Review, 39, 771-79.

Weingast, B., Shepsle, K. and Johnsen, C. (1981) "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics", *Journal of Political Economy*, 89, 642-64 (August).

Wildasin (1997) "Externalities and Bailouts: Hard and Soft Budget Constraints in Intergovernmental Fiscal Relations", unpublished.

Zax, J. (1989) "Is there a Leviathan in Your Neighborhood?", *American Econmic Review*, 79.